

# glossaries-extra.sty v1.54: documented code

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This is the documented code for the `glossaries-extra` package. See `glossaries-extra-manual.pdf` for the user manual.

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## 1 Main Package Code (glossaries-extra.sty)

### 1.1 Package Initialisation and Options

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossaries-extra-2021-11-22.sty}
```

```
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossaries-extra}[2025/01/03 v1.54 (NLCT)]
```

Requires xkeyval to define package options.

```
\RequirePackage{xkeyval}
```

Requires etoolbox package.

```
\RequirePackage{etoolbox}
```

Has glossaries already been loaded?

```
\@ifpackageloaded{glossaries}
{%
```

Already loaded so pass any options to `\setupglossaries`. This means that the options that can only be set when `glossaries` is loaded can't be used.

```
\newcommand{\glxstr@dooption}[1]{\setupglossaries{#1}}%
\let\@glxstr@declareoption\@gls@declareoption
}
{%
```

Not already loaded, so pass options to `glossaries`.

```
\newcommand{\glxstr@dooption}[1]{%
\PassOptionsToPackage{#1}{glossaries}%
}%
```

Set the defaults.

```
\PassOptionsToPackage{toc}{glossaries}
\PassOptionsToPackage{nopostdot}{glossaries}
\PassOptionsToPackage{noredefwarn}{glossaries}
\@ifpackageloaded{polyglossia}%
{%
}%
\@ifpackageloaded{babel}%
{\PassOptionsToPackage{translate=babel}{glossaries}}%
{}%
}%
\newcommand*{\@glxstr@declareoption}[2]{%
\DeclareOptionX{#1}{#2}%
\DeclareOption{#1}{#2}%
}
}
```

Declare package options.

`\glxstrundefaction` Determines what to do if an entry hasn't been defined. The two arguments are the error or warning message and the help message if an error should be produced.

```
\newcommand*{\glxstrundefaction}[2]{%
\@glxstrundeftag\PackageError{glossaries-extra}{#1}{#2}%
}
```

`\glxstr@warnonexistsordo` If user wants `undefaction=warn`, then `glossaries v4.19` is required.

```
\newcommand*{\glxstr@warnonexistsordo}[1]{}
```

`\glxstrundeftag` Text to display when an entry doesn't exist.

```
\newcommand*{\glxstrundeftag}{??}
\newcommand*{\@glxstrundeftag}{}
```

This text is switched on at the start of the document to prevent unwanted text inserted into the preamble if any tests are made before the start of the document.

```

\@glxtr@warn@undefaction This is how \glxtrundefaction should behave if undefaction=warn is set.
    \newcommand*{\@glxtr@warn@undefaction}[2]{%
        \@glxtrundeftag\GlossariesExtraWarning{#1}%
    }

\@glxtr@err@undefaction This is how \glxtrundefaction should behave if undefaction=error is set.
    \newcommand*{\@glxtr@err@undefaction}[2]{%
        \@glxtrundeftag\PackageError{glossaries-extra}{#1}{#2}%
    }

\@glxtr@warn@onexistsordo This is how \glxtr@warnonexistsordo should behave if undefaction=warn is
set.
    \newcommand*{\@glxtr@warn@onexistsordo}[1]{%
        \GlossariesExtraWarning{\string#1\space hasn't been defined, so
            some errors won't be converted to warnings.
            (This most likely means your version of
            glossaries.sty is below version 4.19.)}%
    }

\@glxtr@redef@forlgsentries
    \newcommand*{\@glxtr@redef@forlgsentries}{}

\@glxtr@do@redef@forlgsentries
    \newcommand*{\@glxtr@do@redef@forlgsentries}{%
        \renewcommand*{\forlgsentries}[3][\glsdefaulttype]{%
            \protected@edef\@glo@list{\csname glist@##1\endcsname}%
            \ifdefstring{\@glo@list}{,}%
            {%
                \GlossariesExtraWarning{No entries defined in glossary '#1'}%
            }%
            {%
                \@for##2:=\@glo@list\do
                    {%
                        \ifdefempty{##2}{##3}%
                    }%
                }%
            }%
        }%
    }%

undefaction
\define@choicekey{glossaries-extra.sty}{undefaction}%
[\@glxtr@undefaction@val\@glxtr@undefaction@nr]%
{warn,error}%
{%
    \ifcase\@glxtr@undefaction@nr\relax
        \let\glxtrundefaction\@glxtr@warn@undefaction
        \let\glxtr@warnonexistsordo\@glxtr@warn@onexistsordo
        \let\@glxtr@redef@forlgsentries\@glxtr@do@redef@forlgsentries
    \or

```

```

\let\glxtrundefaction\@glxtr@err@undefaction
\let\glxtr@warnonexistssordo\@gobble
\let\@glxtr@redef@forglsentries\relax
\fi
}

```

To assist bib2gls, v1.08 introduces the `record` option, which will write information to the aux file whenever an entry needs to be indexed.

```

\@glxtr@record Does nothing by default.
\newcommand*\@glxtr@record}[3]{

```

```

\glxtr@recordsee Does nothing by default.
\newcommand*\glxtr@recordsee}[2]{

```

```

\@glxtr@defaultnumberformat
\newcommand*\@glxtr@defaultnumberformat}{glsnumberformat}%

```

```

\GlsXtrSetDefaultNumberFormat
\newcommand*\GlsXtrSetDefaultNumberFormat}[1]{%
\renewcommand*\@glxtr@defaultnumberformat}{#1}%
}%

```

The `record` option is somewhat problematic. On the first  $\LaTeX$  run the entries aren't defined. This isn't as straight-forward as commands like `\cite` since attributes associated with the entry's category may switch off the indexing or the entry's glossary type might require a particular counter. This kind of information can't be determined until the entry has been defined. So there are two different commands here. One that's used if the entry hasn't been defined, which tries to use sensible defaults, and one which is used when the entry has been defined.

```

\@glxtr@do@record@wrglossary The record=only option sets \@do@wrglossary to this command, which means
it's done within \glsadd and \gls@link, and so is only done if the entry exists.

```

```

\newcommand*\@glxtr@do@record@wrglossary}[1]{%
\begingroup
\ifKV@glslink@noindex
\else

\protected@edef\@gls@label{\glsdetoklabel{#1}}%
\let\glslabel\@gls@label
\glswriteentry{#1}%
{%
\ifdefempty{\@glxtr@thevalue}%
{%
\ifx\@glxtr@org@theHvalue\@glxtr@theHvalue
\else
\let\theHglseentrycounter\@glxtr@theHvalue
\fi

```

```

\glxtr@saveentrycounter
\let\@do@wrglossary\glxtr@dorecord
}%
{%
\let\theglentrycounter\glxtr@thevalue
\let\theHglentrycounter\glxtr@theHvalue
\let\@do@wrglossary\glxtr@dorecordnodefer
}%
\ifx\glxtr@record@setting\glxtr@record@setting@alsoindex
\glxtr@do@wrglossary{#1}%
\else
\@glxtrwrglossmark

```

Increment associated counter.

```

\glxtr@inc@wrglossaryctr{#1}%
\@do@wrglossary
\fi
}%
\fi
\endgroup
}

```

`\glxtr@do@alsoindex@wrglossary` The `record=alsoindex` option needs to both record and index.

```

\newcommand*\glxtr@do@alsoindex@wrglossary}[1]{%
\glxtr@do@wrglossary{#1}%
\glxtr@do@record@wrglossary{#1}%
}

```

`\@glxtr@record` The `record=only` option sets `\glxtr@record` to this. This performs the recording if the entry *doesn't exist* and is done at the start of `\gls@field@link` and commands like `\gls@` (before the existence test). This means that it disregards the `wrgloss` key.

The first argument is the option list (as passed in the first optional argument to commands like `\gls`). This allows the `noindex` setting to be picked up. The second argument is the entry's label. The third argument is the key family (`glslink` in most cases, `glossadd` for `\glsadd`).

```

\newcommand*\@glxtr@record}[3]{%

```

Save the label in case it's needed. This needs to be outside the existence check to allow the post-link hook to reference it.

```

\protected@edef\gls@label{\glsdetoklabel{#2}}%
\let\glslabel\gls@label
\ifglentryexists{#2}{%
{%
\@glxtrwrglossmark
\begingroup
\let\glsnumberformat\glxtr@defaultnumberformat
\def\glxtr@thevalue{%
\def\glxtr@theHvalue{\glxtr@thevalue}%
\let\glxtr@org@theHvalue\glxtr@theHvalue

```

Entry hasn't been defined, so we'll have to assume it's `\glscounter` by default.

```
\let\@gls@counter\glscounter
```

Unless the `equations` option is on and this is inside a numbered maths environment.

```
\if@glsxtr@equations
  \@glsxtr@use@equation@counter
\fi
```

Check for default options (which may switch off indexing).

```
\@gls@setdefault@glslink@opts
```

Implement any pre-key settings.

```
\csuse{@glsxtr@#3@prekeys}%
```

Assign keys.

```
\setkeys{#3}{#1}%
```

Implement any post-key settings. Is the auto-add on?

```
\glsxtr@do@autoadd{#3}%
```

Check post-key hook.

```
\csuse{@glsxtr@#3@postkeys}%
```

Increment associated counter.

```
\glsxtr@inc@wrglossaryctr{#2}%
```

Check if `noindex` option has been used.

```
\ifKV@glslink@noindex
\else
  \glswriteentry{#2}%
  {%
```

Check if `thevalue` has been set.

```
\ifdefempty{\@glsxtr@thevalue}%
  {%
```

Key `thevalue` hasn't been set, but check if `theHvalue` has been set. (Not particularly likely, but allow for it.)

```
\ifx\@glsxtr@org@theHvalue\@glsxtr@theHvalue
\else
  \let\theHglentrycounter\@glsxtr@theHvalue
\fi
```

Save the entry counter.

```
\glsxtr@saveentrycounter
```

Temporarily redefine `\@do@wrglossary` for use with `\glsxtr@do@wrglossary`.

```
\let\@do@wrglossary\@glsxtr@dorecord
}%
{%
```

thevalue has been set, so there's no need to defer writing the location value. (If it's dependent on the page counter, the counter key should be set instead.)

```

\let\theglentrycounter\@glxtr@thevalue
\let\theHglentrycounter\@glxtr@theHvalue
\let\@do@wrglossary\@glxtr@dorecordnodefer
}%
\ifx\@glxtr@record@setting\@glxtr@record@setting@alsoindex
\glxtr@do@wrglossary{#2}%
\else

```

No need to escape special characters.

```

\@do@wrglossary
\fi
}%
\fi
\endgroup
}%
}

```

\@glxtr@glslink@prekeys

```
\newcommand{\@glxtr@glslink@prekeys}{\glslinkpresetkeys}
```

\@glxtr@glslink@postkeys

```
\newcommand{\@glxtr@glslink@postkeys}{\glslinkpostsetkeys}
```

\@glxtr@glossadd@prekeys

```
\newcommand{\@glxtr@glossadd@prekeys}{\glsaddpresetkeys}
```

\@glxtr@glossadd@postkeys

```
\newcommand{\@glxtr@glossadd@postkeys}{\glsaddpostsetkeys}
```

\@glxtr@dorecord If record=alsoindex or record=hybrid is used, then \@glslocref may have been escaped, but this isn't appropriate here.

```

\newcommand*\@glxtr@dorecord{%
\@glxtr@dorecord\@gls@label\glxtr@record\@glxtr@do@nameref@record
}

```

\@@glxtr@dorecord

```

\newcommand*\@@glxtr@dorecord[3]{%
\global\let\@glsrecordlocref\theglentrycounter
\let\@glxtr@orgprefix\@glo@counterprefix
\ifx\theglentrycounter\theHglentrycounter
\def\@glo@counterprefix{}%
\else

```

Protect against non-expandable commands occurring in the location.

```

\protected@edef\@glxtr@theentrycounter{\theglentrycounter}%
\protected@edef\@glxtr@theHentrycounter{\theHglentrycounter}%
\@onelevel@sanitize\@glxtr@theentrycounter

```



```

\@onelevel@sanitize\@glxstr@theHentrycounter
\@xp@gl@getcounterprefix
  {\@glxstr@theentrycounter}{\@glxstr@theHentrycounter}%
\fi

```

Don't protect the `\@gl@recordlocref` from premature expansion. If the counter isn't page then it needs expanding. If the location includes `\thepage` then `\protected@write` will automatically deal with it.

```

\ifx\@glxstr@record@setting\@glxstr@record@setting@nameref
#3%
  {\#1}{\@glo@counterprefix}{\@gl@counter}{\@gl@numberformat}%
  {\@gl@recordlocref}%
\else
  \@bibgl@write@aux{}{\string#2%
    {\#1}{\@glo@counterprefix}{\@gl@counter}{\@gl@numberformat}%
    {\@gl@recordlocref}}%
\fi
\@glxstr@counterrecordhook
\let\@glo@counterprefix\@glxstr@orgprefix
}

```

`\@glxstr@dorecordnodefer` As above, but don't defer expansion of location. This uses `\thegl@entrycounter` directly for the location rather than `\@gl@locref` since there's no need to guard against premature expansion of the page counter.

```

\newcommand*\@glxstr@dorecordnodefer{%
\ifx\thegl@entrycounter\theHgl@entrycounter
\ifx\@glxstr@record@setting\@glxstr@record@setting@nameref
  \@glxstr@do@nameref@record
    {\@gl@label}{\@gl@counter}{\@gl@numberformat}%
    {\thegl@entrycounter}%
\else
  \@bibgl@write@aux{}{\string\@glxstr@record
    {\@gl@label}{\@gl@counter}{\@gl@numberformat}%
    {\thegl@entrycounter}}%
\fi
\else
\@xp@gl@getcounterprefix{\thegl@entrycounter}{\theHgl@entrycounter}%
\ifx\@glxstr@record@setting\@glxstr@record@setting@nameref
  \@glxstr@do@nameref@record
    {\@gl@label}{\@glo@counterprefix}{\@gl@counter}%
    {\@gl@numberformat}{\thegl@entrycounter}%
\else
  \@bibgl@write@aux{}{\string\@glxstr@record
    {\@gl@label}{\@glo@counterprefix}{\@gl@counter}{\@gl@numberformat}%
    {\thegl@entrycounter}}%
\fi
\fi
\@glxstr@counterrecordhook
}

```

`\@glsxtr@ifnum@mmode` Check if in a numbered maths environment. The `amsmath` package is automatically loaded by `datatool-base`, which is required by `glossaries`, so `\ifst@rred` and `\if@display` should both be defined.

```
\newcommand{\@glsxtr@ifnum@mmode}[2]{%
  \ifmmode
    \ifst@rred
      #2%
    \else
```

Non-`amsmath` environments and regular inline math mode isn't flagged as starred by `amsmath`, but we can't use `\mathchoice` in this case as it's not the current style that's relevant. Instead we can use `amsmath`'s `\if@display`. This may not work for environments that aren't provided by `amsmath`.

```
  \if@display #1\else #2\fi
  \fi
\else
  #2%
\fi
}
```

`\@glsxtr@do@nameref@record` With `record=nameref`, the current label information is included in the record, but this may not have been defined, so `\csuse` will prevent an undefined control sequence error and just leave the last two arguments blank if there's no information. In the event that a record is in `amsmath`'s `align` environment `\@currentHref` will be out. There may be other instances where `\@currentHref` is out, so this also saves `\theHglSentrycounter`, which is useful if it can't be obtained by prefixing `\theHglSentrycounter`.

```
\newcommand*{\@glsxtr@do@nameref@record}[5]{%
  \gls@ifnotmeasuring
  {%
    \@bibgls@write@aux{}\string@glsxtr@record@nameref
    {#1}{#2}{#3}{#4}{#5}%
    {\csuse{@currentlabelname}}{\csuse{@currentHref}}%
    {\theHglSentrycounter}}%
  }%
}
```

`\@@glsxtr@recordcounter`

```
\newcommand*{\@@glsxtr@recordcounter}{%
  \@glsxtr@noop@recordcounter
}
```

`\@glsxtr@noop@recordcounter`

```
\newcommand*{\@glsxtr@noop@recordcounter}[1]{%
  \PackageError{glossaries-extra}{\string@GlsXtrRecordCounter\space
  requires record=only or record=hybrid package option}{}%
}
```

```

\@glxtr@op@recordcounter
    \newcommand*{\@glxtr@op@recordcounter}[1]{%
        \protected@eappto\@glxtr@counterrecordhook{\noexpand\@glxtr@docounterrecord{#1}}%
    }

\@glxtr@recordsee Deal with \glssee in record mode. (This doesn't increment the associated
counter.)
    \newcommand*{\@glxtr@recordsee}[2]{%
        \@glxtr@wrglossmark
        \def\@gls@xref{#2}%
        \@onelevel@sanitize\@gls@xref
        \@bibgls@write@aux{}{\string\@glxtr@recordsee{#1}{\@gls@xref}}%
    }

\printunsrtglossaryunit
    \newcommand{\printunsrtglossaryunit}{%
        \print@noop@unsrtglossaryunit
    }

\glxtr@setup@record Initialise.
    \newcommand*{\glxtr@setup@record}{\let\@do@wrglossary\glxtr@do@wrglossary}

@indexonly@saveentrycounter Only store the entry counter information if the indexing is on.
    \newcommand*{\glxtr@indexonly@saveentrycounter}{%
        \ifKV@glslink@noindex
        \else
            \glxtr@saveentrycounter
        \fi
    }

\glxtr@addloclistfield
    \newcommand*{\glxtr@addloclistfield}{%
        \key@ifundefined{glossentry}{loclist}%
        {%
            \define@key{glossentry}{loclist}{\def\@glo@loclist{##1}}%
            \appto\@gls@keymap{, {loclist}{loclist}}%
            \appto\@newglossaryentryprehook{\def\@glo@loclist{}}%
            \appto\@newglossaryentryposthook{%
                \gls@assign@field{\@glo@label}{loclist}{\@glo@loclist}%
            }%
            \glssetnoexpandfield{loclist}%
        }%
        {}%
    }

The loclist field is just a comma-separated list. The location field is the format-
ted list.
    \key@ifundefined{glossentry}{location}%
    {%
        \define@key{glossentry}{location}{\def\@glo@location{##1}}%
    }

```

```

\appto\@gls@keymap{,{location}{location}}%
\appto\@newglossaryentryprehook{\def\@glo@location{}}%
\appto\@newglossaryentryposthook{%
  \gls@assign@field{ }\@glo@label}{location}{\@glo@location}%
}%
\glssetnoexpandfield{location}%
}%
{}%

```

Add a key to store the group heading.

```

\key@ifundefined{glossentry}{group}%
{%
  \define@key{glossentry}{group}{\def\@glo@group{##1}}%
  \appto\@gls@keymap{,{group}{group}}%
  \appto\@newglossaryentryprehook{\def\@glo@group{}}%
  \appto\@newglossaryentryposthook{%
    \gls@assign@field{ }\@glo@label}{group}{\@glo@group}%
  }%
  \glssetnoexpandfield{group}%
}%
{}%
}

```

`\@glsxtr@record@setting` Keep track of the record package option.

```

\newcommand*\@glsxtr@record@setting{off}

```

`\@glsxtr@record@setting@alsoindex` As from v1.46, the `record=alsoindex` is renamed to `record=hybrid` with `record=alsoindex` as a deprecated synonym to avoid confusion. The internal commands that include `alsoindex` in the name will remain unchanged to avoid breaking things, but this command will need to be redefined by `record=hybrid`.

```

\newcommand*\@glsxtr@record@setting@alsoindex{alsoindex}

```

`\@glsxtr@record@setting@only`

```

\newcommand*\@glsxtr@record@setting@only{only}

```

`\@glsxtr@record@setting@nameref`

```

\newcommand*\@glsxtr@record@setting@nameref{nameref}

```

`\@glsxtr@if@record@only`

```

\newcommand*\@glsxtr@if@record@only}[2]{%
  \ifx\@glsxtr@record@setting\@glsxtr@record@setting@only
    #1%
  \else
    \ifx\@glsxtr@record@setting\@glsxtr@record@setting@nameref
      #1%
    \else
      #2%
    \fi
  \fi
}

```

```

\@glxtr@record@setting@off
    \newcommand*{\@glxtr@record@setting@off}{off}

tr@warn@hybrid@noprintgloss Used by hybrid method if \printglossary isn't used.
\newcommand\@glxtr@warn@hybrid@noprintgloss{%
  \ifdefstring{\@glo@types}{,}%
  {%
    \GlossariesExtraWarningNoLine{No glossaries have been defined}%
  }%
  {%
    \GlossariesExtraWarningNoLine{No \string\printglossary\space
      or \string\printglossaries\space
      found. ^^JYou have requested the hybrid setting
      record=\@glxtr@record@setting\space which requires a
      combination of bib2gls (to fetch entries) and makeindex/xindy
      (to sort and collate the entries). If you only want to use
      bib2gls then change the option to record=only or record=nameref}%
  }%
}

\@glxtr@record@only@setup Initialisation code for record=only and record=nameref
\newcommand*{\@glxtr@record@only@setup}{%
  \def\glxtr@setup@record{%
    \@glxtr@autoseeindexfalse
    \let\@do@seeglossary\@glxtr@recordsee
    \let\@glxtr@record\@glxtr@record
    \let\@do@wrglossary\@glxtr@do@record@wrglossary
    \let\@gls@saveentrycounter\relax
    \let\glxtrundefaction\@glxtr@warn@undefaction
    \let\glxtr@warnonexistsordo\@glxtr@warn@onexistsordo
    \glxtr@addloclistfield
    \renewcommand*{\@glxtr@autoindexcrossrefs}{}%
    \let\@glxtr@recordcounter\@glxtr@op@recordcounter
    \def\printunsrtglossaryunit{\print@op@unsrtglossaryunit}%
  }

  Switch off the index suppression for aliased entries. (bib2gls will deal with
  them.)
  \def\glxtrsetaliasnoindex{}%

  \@gls@setupsort@none was only introduced to glossaries v4.30, so it may not be
  available. If it's defined, use it to remove the unnecessary overhead of escaping
  and sanitizing the sort value.
  \ifdef\@gls@setupsort@none{\@gls@setupsort@none}{}%

  Warn about using \printglossary:
  \def\glxtrNoGlossaryWarning{\@glxtr@record@noglossarywarning}%

  Load glossaries-extra-bib2gls:
  \RequirePackage{glossaries-extra-bib2gls}%
}%
}

```

`record` Now define the `record` package option. As from v1.46, `record=alsoindex` is a deprecated synonym of `record=hybrid` to avoid confusion.

```
\define@choicekey{glossaries-extra.sty}{record}
  [\@glxtr@record@setting\@glxtr@record@nr]%
  {off,only,alsoindex,nameref,hybrid}%
  [only]%
  {%
    \ifcase\@glxtr@record@nr\relax
```

Don't record.

```
\def\@glxtr@setup@record{%
  \renewcommand*{\@do@seeglossary}{\@glxtr@doseeglossary}%
  \renewcommand*{\@glxtr@record}[3]{%
    \let\@do@wrglossary\@glxtr@do@wrglossary
    \let\@glxtr@saveentrycounter\@glxtr@indexonly@saveentrycounter
    \let\@glxtrundefaction\@glxtr@errundefaction
    \let\@glxtr@warnonexistsordo\@gobble
    \let\@glxtr@recordcounter\@glxtr@noop@recordcounter
    \def\printunsrtglossaryunit{\print@noop@unsrtglossaryunit}%
    \undef\@glxtrsetaliasnoindex
  }%
\or
```

Only record (don't index).

```
\@glxtr@record@only@setup
\or
```

Record and index. This option doesn't load `glossaries-extra-bib2gls` as the sorting is performed by `xindy` or `makeindex`. Index in this sense refers to the indexing mechanism used with indexing applications such as `makeindex` and `xindy`, but this could be confused with recording locations so "alsoindex" is now deprecated in favour of "hybrid", which is more obvious.

```
\def\@glxtr@setup@record{%
  \renewcommand*{\@glxtr@record@setting@alsoindex}{alsoindex}%
  \renewcommand*{\@do@seeglossary}{\@glxtr@dosee@alsoindex@glossary}%
  \let\@glxtr@record\@glxtr@record
  \let\@do@wrglossary\@glxtr@do@alsoindex@wrglossary
  \let\@glxtr@saveentrycounter\@glxtr@indexonly@saveentrycounter
  \let\@glxtrundefaction\@glxtr@warnundefaction
  \let\@glxtr@warnonexistsordo\@glxtr@warn@onexistsordo
  \glxtr@addloclistfield
  \let\@glxtr@recordcounter\@glxtr@op@recordcounter
  \def\printunsrtglossaryunit{\print@op@unsrtglossaryunit}%
  \undef\@glxtrsetaliasnoindex
}%
\or
```

Only record (don't index) but also include `nameref` information.

```
\@glxtr@record@only@setup
\ifundef\hyperlink
{\GlossariesExtraWarning{You have requested record=nameref but
```

```

    the document doesn't support hyperlinks}}%
  {}%

```

```

\or

```

Hybrid record (use bib2gls to fetch definitions) and index (use makeindex/xindy to sort and collate).

```

\def\glxtr@setup@record{%
  \renewcommand*{\@glxtr@record@setting@alsoindex}{hybrid}%
  \renewcommand*{\@do@seeglossary}{\@glxtr@dosee@alsoindex@glossary}%
  \let\@glxtr@record\@glxtr@record
  \let\@do@wrglossary\glxtr@do@alsoindex@wrglossary
  \let\@gls@saveentrycounter\glxtr@indexonly@saveentrycounter
  \let\glxtrundefaction\glxtr@warn@undefaction
  \let\glxtr@warnonexistsordo\glxtr@warn@onexistsordo
  \glxtr@addloclistfield
  \let\@glxtr@recordcounter\glxtr@op@recordcounter
  \def\printunsortedglossaryunit{\print@op@unsortedglossaryunit}%
  \undef\glxtrsetaliasnoindex
}%
\fi
}

```

**bibglsaux** Provide an option to put the records in a different aux file that will only be read by bib2gls and not by L<sup>A</sup>T<sub>E</sub>X. A large number of records in the aux file can slow down the document build as L<sup>A</sup>T<sub>E</sub>X has to parse it all. This will require an extra write register, so may not be so desirable for documents with small glossaries but a large number of temporary files.

```

\define@key{glossaries-extra.sty}{bibglsaux}{%
  \glxtrsetbibglsaux{#1}%
}

```

```

\glxtrsetbibglsaux

```

```

\newcommand{\glxtrsetbibglsaux}[1]{%
  \renewcommand{\@glxtr@setup@bibglsaux}{\@glxtr@setup@bibglsaux{#1}}%
}

```

```

\@glxtr@setup@bibglsaux

```

```

\newcommand{\@glxtr@setup@bibglsaux}{%
  \renewcommand{\glxtrsetbibglsaux}[1]{%
    \@glxtr@setup@bibglsaux{#1}%
  }%
}
\AtBeginDocument{\@glxtr@setup@bibglsaux}

```

```

\@glxtr@setup@bibglsaux

```

```

\newcommand{\@glxtr@setup@bibglsaux}[1]{%
  \ifstrempy{#1}%
  {\renewcommand{\@bibgls@write@aux}{\protected@write\@auxout}}%
  {\@set@bibgls@write@aux{#1.aux}}%
}

```

`\@bibgls@write@aux` Just used for writing records.

```
\newcommand{\@bibgls@write@aux}{\protected@write\@auxout}
```

`\@set@bibgls@write@aux`

```
\newcommand{\@set@bibgls@write@aux}[1]{%
\protected@write\@auxout{%
{\string\providecommand{\string\@bibgls@input}[1]{}}%
\protected@write\@auxout{\string\@bibgls@input{#1}}%
\global\newwrite\@bibgls@auxout
\openout\@bibgls@auxout=#1
\AtEndDocument{\closeout\@bibgls@auxout}%
\gdef\@bibgls@write@aux{\protected@write\@bibgls@auxout}%
\gdef\@set@bibgls@write@aux##1{\GlossariesExtraWarning{repeated
invocation of bibglsaux option ignored}}%
}
```

Version 1.06 changes the `docdef` option to a choice rather than boolean setting. The available values are: `false`, `true` or `restricted`. The `restricted` option permits document definitions as long as they occur before the first glossary is displayed.

`\@glsxtr@docdefval` The `docdef` value is stored as an integer: 0 (`false`), 1 (`true`) and 2 (`restricted`).

```
\newcommand*{\@glsxtr@docdefval}{0}
```

Need to provide conditional commands that are backward compatible:

`\if@glsxtrdocdef`

```
\newcommand*{\if@glsxtrdocdef}{\ifnum\@glsxtr@docdefval>0 }
```

`\@glsxtrdocdeftrue`

```
\newcommand*{\@glsxtrdocdeftrue}{\def\@glsxtr@docdefval{1}}
```

`\@glsxtrdocdeffalse`

```
\newcommand*{\@glsxtrdocdeffalse}{\def\@glsxtr@docdefval{0}}
```

`docdef` By default don't allow entries to be defined in the document to encourage the user to define them in the preamble, but if the user is really determined to define them in the document allow them to request this.

```
\define@choicekey{glossaries-extra.sty}{docdef}
[\@glsxtr@docdefsetting\@glsxtr@docdefval]%
{false,true,restricted,atom}[true]%
{%
\ifnum\@glsxtr@docdefval>1\relax
\renewcommand*{\@glsdoifexistsorwarn}{\glsdoifexists}%
\else
\renewcommand*{\@glsdoifexistsorwarn}{\glsdoifexistsorwarn}%
\fi
}
```





```

        \let\@float\glsxtr@float
        \let\@dblfloat\glsxtr@dblfloat
    \fi
}
\@glsxtr@floatsfalse

\GlossariesExtraInfo Allow users to suppress information messages.
    \newcommand*\GlossariesExtraInfo}[1]{\PackageInfo{glossaries-extra}{#1}}

\GlossariesExtraWarning Allow users to suppress warnings.
    \newcommand*\GlossariesExtraWarning}[1]{\PackageWarning{glossaries-extra}{#1}}

\GlossariesExtraWarningNoLine Allow users to suppress warnings.
    \newcommand*\GlossariesExtraWarningNoLine}[1]{%
    \PackageWarningNoLine{glossaries-extra}{#1}}

    \@glsxtr@declareoption{nowarn}{%
    \let\GlossariesExtraWarning\@gobble
    \let\GlossariesExtraWarningNoLine\@gobble
    \glsxtr@doooption{nowarn}%
    }

\@glsxtr@defpostpunc Redefines \glspostdescription. The postdot and nopostdot options will have
to redefine this.
    \newcommand*\@glsxtr@defpostpunc}{

    postdot Shortcut for nopostdot=false
        \@glsxtr@declareoption{postdot}{%
        \glsxtr@doooption{nopostdot=false}%
        \renewcommand*\@glsxtr@defpostpunc}{%
        \renewcommand*\glspostdescription}{%
        \ifglsnopostdot\else.\spacefactor\sfcode‘\.\ \fi}%
        }%
    }

    nopostdot Needs to redefine \@glsxtr@defpostpunc
        \define@choicekey{glossaries-extra.sty}{nopostdot}{true,false}[true]{%
        \glsxtr@doooption{nopostdot=#1}%
        \renewcommand*\@glsxtr@defpostpunc}{%
        \renewcommand*\glspostdescription}{%
        \ifglsnopostdot\else.\spacefactor\sfcode‘\.\ \fi}%
        }%
    }

    postpunc Set the post-description punctuation. This also sets the \ifglsnopostdot con-
    ditional, which now indicates if the post-description punctuation has been sup-
    pressed.
        \define@key{glossaries-extra.sty}{postpunc}{%
        \glsxtr@doooption{nopostdot=false}%

```

```

\ifstrequal{#1}{dot}%
{%
  \renewcommand*{\@glsxtr@defpostpunc}{%
    \renewcommand*{\glspostdescription}{.\spacefactor\sfcode`. }%
  }%
}%
{%
  \ifstrequal{#1}{comma}%
  {%
    \renewcommand*{\@glsxtr@defpostpunc}{%
      \renewcommand*{\glspostdescription}{,}%
    }%
  }%
  {%
    \ifstrequal{#1}{none}%
    {%
      \glsxtr@dooption{nopostdot=true}%
      \renewcommand*{\@glsxtr@defpostpunc}{%
        \renewcommand*{\glspostdescription}{}%
      }%
    }%
  }%
  {%
    \renewcommand*{\@glsxtr@defpostpunc}{%
      \renewcommand*{\glspostdescription}{#1}%
    }%
  }%
}%
}

```

`\glsxtrabbrvtype` Glossary type for abbreviations.

```
\newcommand*{\glsxtrabbrvtype}{\glsdefaulttype}
```

`\@glsxtr@abbreviationsdef` Set by abbreviations option.

```
\newcommand*{\@glsxtr@abbreviationsdef}{}
```

`\abbreviationsname` v1.50 unconditionally provide this command, so it can be redefined by a language module.

```

\@ifpackageloaded{babel}%
{\providecommand{\abbreviationsname}{\acronymname}}%
{\providecommand{\abbreviationsname}{Abbreviations}}%

```

`\@glsxtr@doabbreviationsdef`

```

\newcommand*{\@glsxtr@doabbreviationsdef}{%
  \newglossary[glg-abr]{abbreviations}{gls-abr}{glo-abr}{\abbreviationsname}%
  \renewcommand*{\glsxtrabbrvtype}{abbreviations}%
  \newcommand*{\printabbreviations}[1][1]{%
    \printglossary[type=\glsxtrabbrvtype,##1]%
  }%
  \disable@keys{glossaries-extra.sty}{abbreviations}%
}

```

If the acronym option hasn't been used, change `\acronymtype` to `\glsxtrabbrvtype`.

```

\ifglsacronym
\else
\renewcommand*\acronymtype{\glsxtrabbrvtype}%
\fi
}%

```

**abbreviations** If abbreviations, create a new glossary type for abbreviations.

```

\@glsxtr@declareoption{abbreviations}{%
\let\@glsxtr@abbreviationsdef\@glsxtr@doabbreviationsdef
}

```

`\shortcut@gls`

```
\newcommand{\shortcut@gls}{\cglgs}
```

`\shortcut@glspl`

```
\newcommand{\shortcut@glspl}{\cglspl}
```

`\shortcut@Gls`

```
\newcommand{\shortcut@Gls}{\cGls}
```

`\shortcut@Glspl`

```
\newcommand{\shortcut@Glspl}{\cGlspl}
```

`\shortcut@GLS`

```
\newcommand{\shortcut@GLS}{\cGLS}
```

`\shortcut@GLSpl`

```
\newcommand{\shortcut@GLSpl}{\cGLSpl}
```

**DefineAbbreviationShortcuts** Enable shortcut commands for the abbreviations. Unlike the analogous command provided by glossaries, this uses `\newcommand` instead of `\let` as a safety feature (except for `\newabbr` which is also provided with `\GlsXtrDefineAcShortcuts`).

```

\newcommand*\GlsXtrDefineAbbreviationShortcuts{%
\newcommand*\ab{\shortcut@gls}%
\newcommand*\abp{\shortcut@glspl}%
\newcommand*\as{\glsxtrshort}%
\newcommand*\asp{\glsxtrshortpl}%
\newcommand*\al{\glsxtrlong}%
\newcommand*\alp{\glsxtrlongpl}%
\newcommand*\af{\glsxtrfull}%
\newcommand*\afp{\glsxtrfullpl}%
\newcommand*\Ab{\shortcut@Gls}%
\newcommand*\Abp{\shortcut@Glspl}%
\newcommand*\As{\Glsxtrshort}%
\newcommand*\Asp{\Glsxtrshortpl}%
\newcommand*\Al{\Glsxtrlong}%
}

```

```

\newcommand*\Alp}{\GLSxtrlongpl}%
\newcommand*\Af}{\GLSxtrfull}%
\newcommand*\Afp}{\GLSxtrfullpl}%
\newcommand*\AB}{\shortcut@GLS}%
\newcommand*\ABP}{\shortcut@GLSpl}%
\newcommand*\AS}{\GLSxtrshort}%
\newcommand*\ASP}{\GLSxtrshortpl}%
\newcommand*\AL}{\GLSxtrlong}%
\newcommand*\ALP}{\GLSxtrlongpl}%
\newcommand*\AF}{\GLSxtrfull}%
\newcommand*\AFP}{\GLSxtrfullpl}%
\glsmfuaddmap{ab}{Ab}%
\glsmfublocker{AB}%
\glsmfuaddmap{abp}{Abp}%
\glsmfublocker{ABP}%
\glsmfuaddmap{as}{As}%
\glsmfublocker{AS}%
\glsmfuaddmap{asp}{Asp}%
\glsmfublocker{ASP}%
\glsmfuaddmap{al}{Al}%
\glsmfublocker{AL}%
\glsmfuaddmap{alp}{Alp}%
\glsmfublocker{ALP}%
\glsmfuaddmap{af}{Af}%
\glsmfublocker{AF}%
\glsmfuaddmap{afp}{Afp}%
\glsmfublocker{AFP}%

\providecommand*\newabbr}{\newabbreviation}%

```

Disable this command after it's been used.

```

\let\GLSxtrDefineAbbreviationShortcuts\relax
}

```

`\GLSxtrDefineAcShortcuts` Enable shortcut commands for the abbreviations, but uses the analogous commands provided by glossaries.

```

\newcommand*\GLSxtrDefineAcShortcuts{%
\newcommand*\ac}{\shortcut@gls}%
\newcommand*\acp}{\shortcut@glspl}%
\newcommand*\acs}{\glsxtrshort}%
\newcommand*\acsp}{\glsxtrshortpl}%
\newcommand*\acl}{\glsxtrlong}%
\newcommand*\aclp}{\glsxtrlongpl}%
\newcommand*\acf}{\glsxtrfull}%
\newcommand*\acfp}{\glsxtrfullpl}%
\newcommand*\Ac}{\shortcut@GLS}%
\newcommand*\Acp}{\shortcut@GLSpl}%
\newcommand*\Acs}{\GLSxtrshort}%
\newcommand*\Acsp}{\GLSxtrshortpl}%
\newcommand*\Acl}{\GLSxtrlong}%
}

```

```

\newcommand*\Aclp{\Glsxtrlongpl}%
\newcommand*\Acf{\Glsxtrfull}%
\newcommand*\Acfp{\Glsxtrfullpl}%
\newcommand*\AC{\shortcut@GLS}%
\newcommand*\ACP{\shortcut@GLSpl}%
\newcommand*\ACS{\Glsxtrshort}%
\newcommand*\ACSP{\Glsxtrshortpl}%
\newcommand*\ACL{\Glsxtrlong}%
\newcommand*\ACLP{\Glsxtrlongpl}%
\newcommand*\ACF{\Glsxtrfull}%
\newcommand*\ACFP{\Glsxtrfullpl}%
\glsmfuaddmap{\ac}{\Ac}%
\glsmfublocker{\AC}%
\glsmfuaddmap{\acp}{\Acp}%
\glsmfublocker{\ACP}%
\glsmfuaddmap{\acs}{\Acs}%
\glsmfublocker{\ACS}%
\glsmfuaddmap{\acsp}{\Acsp}%
\glsmfublocker{\ACSP}%
\glsmfuaddmap{\acl}{\Acl}%
\glsmfublocker{\ACL}%
\glsmfuaddmap{\aclp}{\Aclp}%
\glsmfublocker{\ACLP}%
\glsmfuaddmap{\acf}{\Acf}%
\glsmfublocker{\ACF}%
\glsmfuaddmap{\acfp}{\Acfp}%
\glsmfublocker{\ACFP}%

\providecommand*\newabbr{\newabbreviation}%

```

Disable this command after it's been used.

```

\let\GlsXtrDefineAcShortcuts\relax
}

```

`\GlsXtrDefineOtherShortcuts` Similarly provide shortcut versions for the commands provided by the symbols and numbers options.

```

\newcommand*\GlsXtrDefineOtherShortcuts{%
  \newcommand*\newentry{\newglossaryentry}%
  \ifdef\printsymbols
  {%
    \newcommand*\newsym{\glsxtrnewsymbol}%
  }{%
  \ifdef\printnumbers
  {%
    \newcommand*\newnum{\glsxtrnewnumber}%
  }{%
  \let\GlsXtrDefineOtherShortcuts\relax
}

```

Always use the long forms, not the shortcuts, where portability is an issue.

(For example, when defining entries in a file that may be input by multiple documents.)

`\@glsxtr@setupshortcuts` Command used to set the shortcuts option.

```
\newcommand*\@glsxtr@setupshortcuts{}
```

`\@glsxtr@shortcutsval` Store the value of the shortcuts option. (Needed by bib2gls.)

```
\newcommand*\@glsxtr@shortcutsval{\ifglsacrshortcuts acro\else none\fi}%
```

`shortcuts` Provide `shortcuts` option. Unlike the glossaries version, this is a choice rather than a boolean key but it also provides `shortcuts=true` and `shortcuts=false`, which are equivalent to `shortcuts=all` and `shortcuts=none`. Multiple use of this option in the *same* option list will override each other. New to v1.17: `shortcuts=ac` which implements `\GlsXtrDefineAcShortcuts` (not included in `shortcuts=all` as it conflicts with other shortcuts).

```
\define@choicekey{glossaries-extra.sty}{shortcuts}%
  [\@glsxtr@shortcutsval\@glsxtr@shortcutsnr]%
  {acronyms,acro,abbreviations,abbr,other,all,true,ac,acother,abother,none,false}[true]{%
    \ifcase\@glsxtr@shortcutsnr\relax % acronyms
      \renewcommand*\@glsxtr@setupshortcuts){%
        \glsacrshortcutstrue
        \DefineAcronymSynonyms
      }%
    \or % acro
      \renewcommand*\@glsxtr@setupshortcuts){%
        \glsacrshortcutstrue
        \DefineAcronymSynonyms
      }%
    \or % abbreviations
      \renewcommand*\@glsxtr@setupshortcuts){%
        \GlsXtrDefineAbbreviationShortcuts
      }%
    \or % abbr
      \renewcommand*\@glsxtr@setupshortcuts){%
        \GlsXtrDefineAbbreviationShortcuts
      }%
    \or % other
      \renewcommand*\@glsxtr@setupshortcuts){%
        \GlsXtrDefineOtherShortcuts
      }%
    \or % all
      \renewcommand*\@glsxtr@setupshortcuts){%
        \glsacrshortcutstrue

        \GlsXtrDefineAcShortcuts
        \GlsXtrDefineAbbreviationShortcuts
        \GlsXtrDefineOtherShortcuts
      }%
    \or % true
```

```

\renewcommand*\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue

  \GlsXtrDefineAcShortcuts
  \GlsXtrDefineAbbreviationShortcuts
  \GlsXtrDefineOtherShortcuts
}%

\or % ac
\renewcommand*\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAcShortcuts
}%

\or % acother

\renewcommand*\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAcShortcuts
  \GlsXtrDefineOtherShortcuts
}%

\or % abother

\renewcommand*\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAbbreviationShortcuts
  \GlsXtrDefineOtherShortcuts
}%

```

Leave none and false as last option.

```

\else % none, false
  \renewcommand*\@glsxtr@setupshortcuts}{}%
\fi
}

```

`\@glsxtr@doaccsupp`

```
\newcommand*\@glsxtr@doaccsupp}{}
```

`glossaries-accsupp` can't be loaded after `glossaries-extra`. `glossaries-accsupp` v4.29+ checks `\@glsxtr@doaccsupp` to determine if it's been loaded too late.

`accsupp` If `accsupp`, load `glossaries-accsupp` package.

```

\@glsxtr@declareoption{accsupp}{%
  \renewcommand*\@glsxtr@doaccsupp}{\RequirePackage{glossaries-accsupp}}

```

`\@glsxtr@doloadprefix`

```
\newcommand*\@glsxtr@doloadprefix}{}
```

`prefix` If `prefix`, load `glossaries-prefix` package.

```

\@glsxtr@declareoption{prefix}{%
  \renewcommand*\@glsxtr@doloadprefix}{\RequirePackage{glossaries-prefix}}

```



`\glsxtrNoGlossaryWarning` Warning text displayed in document if the external glossary file given by the argument is missing.

```
\newcommand{\glsxtrNoGlossaryWarning}[1]{%
  \GlossariesExtraWarning{Glossary ‘#1’ is missing}%
  \@glsxtr@defaultnoglossarywarning{#1}%
}
```

`nomissingglstext` If true, suppress the text and warning produced if the external glossary file is missing.

```
\define@choicekey{glossaries-extra.sty}{nomissingglstext}
[\@glsxtr@nomissingglstextval\@glsxtr@nomissingglstextnr]%
{true,false}[true]{%
  \ifcase\@glsxtr@nomissingglstextnr\relax % true
  \renewcommand{\glsxtrNoGlossaryWarning}[1]{\null}%
  \else % false
  \renewcommand{\glsxtrNoGlossaryWarning}[1]{%
    \@glsxtr@defaultnoglossarywarning{#1}%
  }%
  \fi
}
```

Provide option to load `glossaries-extra-stylemods` (Deferred to the end.)

`\@glsxtr@redefstyles`

```
\newcommand*{\@glsxtr@redefstyles}{}%
```

`stylemods`

```
\define@key{glossaries-extra.sty}{stylemods}[default]{%
  \ifstrequal{#1}{default}%
  {%
    \renewcommand*{\@glsxtr@redefstyles}{%
      \RequirePackage{glossaries-extra-stylemods}}%
  }%
  {%
    \ifstrequal{#1}{all}%
    {%
      \renewcommand*{\@glsxtr@redefstyles}{%
        \PassOptionsToPackage{all}{glossaries-extra-stylemods}%
        \RequirePackage{glossaries-extra-stylemods}%
      }%
    }%
  }%
  \renewcommand*{\@glsxtr@redefstyles}{}%
  \@for\@glsxtr@tmp:=#1\do{%
    \IfFileExists{glossary-\@glsxtr@tmp.sty}%
    {%
      \eappto\@glsxtr@redefstyles{%
        \noexpand\RequirePackage{glossary-\@glsxtr@tmp}}%
    }%
  }%
```

```

    {%
      \PackageError{glossaries-extra}%
      {Glossaries style package ‘glossary-\@glsxtr@tmp.sty’
       doesn’t exist (did you mean to use the ‘style’ key?)}%
      {The list of values (#1) in the ‘stylemods’ key should
       match the glossary-xxx.sty files provided with
       glossaries.sty}%
    }%
  }%
  \appto\@glsxtr@redefstyles{\RequirePackage{glossaries-extra-stylemods}}%
}
}%
}

```

`\@glsxtr@do@style`

```
\newcommand*\@glsxtr@do@style{}
```

`style` Since the `stylemods` option can automatically load extra style packages, deal with the `style` option after those packages have been loaded.

```
\define@key{glossaries-extra.sty}{style}{%
```

Defer actual style change:

```
\renewcommand*\@glsxtr@do@style{%
```

Set this as the default style:

```
\setkeys{glossaries.sty}{style={#1}}%
```

Set this style:

```
\setglossarystyle{#1}%
}%
}
```

`\glsxtr@inc@wrglossaryctr` Increments the associated counter if enabled. Does nothing by default. The optional argument is the entry label in case it’s required, but the `wrglossary` counter is globally used by all entries.

```
\newcommand*\glsxtr@inc@wrglossaryctr}[1]{}
```

```
\GlsXtrInternalLocationHyperlink{<counter>}{<prefix>}
{<location>}
```

`\GlsXtrInternalLocationHyperlink`

The first two arguments are always control sequences.

```
\newcommand*\GlsXtrInternalLocationHyperlink}[3]{%
\glsxtrhyperlink{#1#2#3}{#3}%
}
```

`\wrglossary@locationhyperlink`

```
\newcommand*\@glsxtr@wrglossary@locationhyperlink}[3]{%
\pageref{wrglossary.#3}%
}
```

`indexcounter` Define the `wrglossary` counter that's incremented every time an entry is indexed, except for cross-references. This is designed for use with `bib2gls v1.4+`. It can work with the other indexing methods but it will interfere with the number list collation. This option automatically implements `counter=wrglossary`.

Since `glossaries` automatically loads `amsmath`, there may be a problem if the indexing occurs in the `equation` environment, because only one `\label` is allowed in each instance of that environment. It's best to change the counter when in maths mode.

```
\@glsxtr@declareoption{indexcounter}{%
  \glsxtr@doooption{counter=wrglossary}%
  \ifundef\c@wrglossary
  {%
    \newcounter{wrglossary}%
    \renewcommand{\thewrglossary}{\arabic{wrglossary}}%
  }%
  {}%
  \renewcommand*\@glsxtr@inc@wrglossaryctr}[1]{%
```

Only increment if the current counter is `wrglossary`.

```
\ifdefstring\@gls@counter{wrglossary}%
  {%
    \refstepcounter{wrglossary}%
    \label{wrglossary.\thewrglossary}%
    \@glsxtrwrglosscountermark{\thewrglossary}%
  }%
  {}%
}%
\renewcommand*\@GlsXtrInternalLocationHyperlink}[3]{%
  \ifdefstring\glsentrycounter{wrglossary}%
  {%
    \@glsxtr@wrglossary@locationhyperlink{##1}{##2}{##3}%
  }%
  {\glsxtrhyperlink{##1##2##3}{##3}}%
}%
}
```

`\@glsxtrwrglossmark` Marks the place where indexing occurs. Does nothing by default.

```
\newcommand*\@glsxtrwrglossmark}{}
```

`\@@glsxtrwrglossmark` Since `\glsadd` can be used in the preamble, this action needs to be disabled until the start of the document.

```
\newcommand*\@@glsxtrwrglossmark}{%
  \AtBeginDocument{\renewcommand*\@glsxtrwrglossmark}{\@glsxtrwrglossmark}}
```

`\glsxtrwrglossmark`

```
\newcommand*\glsxtrwrglossmark{\ensuremath{\cdot}}
```

`\@glsxtrwrglosscountermark` Marks the place where `wrglossary` counter is incremented. Does nothing by default.

```
\newcommand*\@glsxtrwrglosscountermark}[1]{}
```

```

\@glsxtrwrglosscountermark
    \newcommand*\@glsxtrwrglosscountermark[1]{}
    \AtBeginDocument{\renewcommand*\@glsxtrwrglosscountermark{\@glsxtrwrglosscountermark}}

\glsxtrwrglosscountermark
    \newcommand*\glsxtrwrglosscountermark[1]{\glsshowtargetfonttext{[#1]}}

\@glsxtr@doshowtarget
    \newcommand\@glsxtr@doshowtarget[2]{#2}

\glsxtrundefdebug Don't do anything until after the document environment has begun.
    \newcommand*\glsxtrundefdebug[1]{}

\@glsxtrundefdebug Use the same font as the targets.
    \newcommand*\@glsxtrundefdebug[1]{%
    \if@gls@debug \glsshowtargetfonttext{[#1]}\fi
    }

debug Provide extra debug options.
    \define@choicekey{glossaries-extra.sty}{debug}
    [\@glsxtr@debugval\@glsxtr@debugnr]%
    {true,false,showtargets,showwrgloss,all,showaccsupp}[true]{%
    \ifcase\@glsxtr@debugnr\relax % true
    \glsxtr@doooption{debug=true}%
    \renewcommand*\@glsxtrwrglossmark}{}%
    \renewcommand*\@glsxtrwrglosscountermark[1]{}%
    \or % false
    \glsxtr@doooption{debug=false}%
    \renewcommand*\@glsxtrwrglossmark}{}%
    \renewcommand*\@glsxtrwrglosscountermark[1]{}%
    \let\@glsxtr@doshowtarget\@secondoftwo
    \or % showtargets
    \glsxtr@doooption{debug=showtargets}%
    \def\@glsxtr@doshowtarget{\@glsxtr@showtargetleft}%
    \or % showwrgloss
    \glsxtr@doooption{debug=true}%
    \renewcommand*\@glsxtrwrglossmark{\glsxtrwrglossmark}%
    \renewcommand*\@glsxtrwrglosscountermark{\glsxtrwrglosscountermark}%
    \or % all
    \glsxtr@doooption{debug=true,debug=showaccsupp}%
    % debug=showwrgloss:
    \renewcommand*\@glsxtrwrglossmark{\glsxtrwrglossmark}%
    \renewcommand*\@glsxtrwrglosscountermark{\glsxtrwrglosscountermark}%
    % debug=showtargets:
    \def\@glsxtr@doshowtarget{\@glsxtr@showtargetleft}%
    \or % showaccsupp
    \glsxtr@doooption{debug=showaccsupp}%
    \fi
    }

```

```

\glxtrshowtargetouter
\newcommand*\glxtrshowtargetouter{\glsshowtargetouter}

\glxtrshowtargetinner
\newcommand*\glxtrshowtargetinner[1]{\glsshowtargetinner{#1}}

Debugging show targets.

\@glxtrshowtargetleft
\newcommand{\@glxtrshowtargetleft}[2]{\@glsshowtarget{#1}#2\@glxtrshowtargetmark}%

\@glxtrshowtargetright
\newcommand{\@glxtrshowtargetright}[2]{\@glxtrshowtargetmark#2\@glsshowtarget{#1}}%

\@glxtrshowtargetmark
\newcommand{\@glxtrshowtargetmark}{}%

```

`showtargets` Implements `debug=showtargets` and provides extra adjustments.

```

\define@choicekey{glossaries-extra.sty}{showtargets}
[\@glxtr@showtargetsval\@glxtr@showtargetsnr]%
{left,right,innerleft,innerright,annoteleft,annoteright}%
{%
\glxtr@dooption{debug=showtargets}%
\ifcase\@glxtr@showtargetsnr\relax
\def\@glxtr@doshowtarget{\@glxtrshowtargetleft}%
\def\glxtrshowtargetouter{\glsshowtargetouter}%
\def\glxtrshowtargetinner{\glsshowtargetinner}%
\let\@glxtrshowtargetmark\empty
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetright}%
\def\glxtrshowtargetouter{\glsshowtargetouter}%
\def\glxtrshowtargetinner{\glsshowtargetinner}%
\let\@glxtrshowtargetmark\empty
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetleft}%
\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymleft}%
\let\@glxtrshowtargetmark\empty
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetright}%
\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymright}%
\let\@glxtrshowtargetmark\empty
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetleft}%
\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymleft}%
\def\@glxtrshowtargetmark{\@glsshowtargetmarkfmt\glxtrshowtargetsymbolright}%
\or

```

```

\def\@glxtr@doshowtarget{\@glxtr@showtargetright}%
\def\glxtr@showtargetouter{\glxtr@showtargetinner}%
\def\glxtr@showtargetinner{\glsshowtargetinnersymright}%
\def\@glxtr@showtargetmark{\@glsshowtargetmarkfmt\glxtr@showtargetsymbolleft}%
\fi
}

```

Pass all other options to glossaries.

`\glxtr@processunknownoptions` Need to compensate for the problem identified in <https://www.dickimaw-books.com/bugtracker.php?key=171>

```

\newcommand*\glxtr@processunknownoptions{}
\@ifpackageloaded{glossaries}
{
  \DeclareOptionX*{%
    \edef\glxtr@processunknownoptions{%
      \noexpand\setupglossaries{\expandonce\CurrentOption}}
  }
  \DeclareOptionX*{%
    \expandafter\glxtr@dooption\expandafter{\CurrentOption}}
  }
}

```

Process options.

```
\ProcessOptionsX
```

Load glossaries if not already loaded.

```
\RequirePackage{glossaries}
\glxtr@processunknownoptions
```

Load the glossaries-accsupp package if required.

```
\@glxtr@doaccsupp
```

Load the glossaries-prefix package if required.

```
\@glxtr@doloadprefix
```

Redefine `\glspostdescription` if required.

```
\@glxtr@defpostpunc
```

`\glsexindexsetting` This command was new to glossaries v4.50 so may not be defined. Note that `record=only` and `record=nameref` implement `sort=none`, which will change the default definition of `\glsexindexsetting`.

```

\let\@glxtr@org@indexingsetting\glsexindexingsetting
\providecommand{\glsexindexingsetting}{\ifglsexindy xindy\else makeindex\fi}
\ifx\@glxtr@org@indexingsetting\glsexindexingsetting
  \renewcommand{\glsexindexingsetting}{%
    \@glxtr@if@record@only{\bib2gls}{\ifglsexindy xindy\else makeindex\fi}}
  }
\else
  \@glxtr@if@record@only{\renewcommand{\glsexindexingsetting}{\bib2gls}}{}
\fi

```

The following commands are new to glossaries v4.50, so provide them if an older version is present.

```
\glsentencecase
  \providecommand{\glsentencecase}[1]{\makefirstuc{#1}}
```

```
\glslowercase This uses \MakeTextLowercase because if \glslowercase isn't defined then
textcase has been loaded and we might have an older kernel.
  \providecommand{\glslowercase}[1]{\MakeTextLowercase{#1}}
```

```
\glsupercase Not using \unexpanded because ditto the above.
  \providecommand{\glsupercase}[1]{\mfirstucMakeUppercase{#1}}
```

```
\glspdfsentencecase For use in PDF strings. Ensure argument fully expanded first. This command
is provided rather than defined to allow for the possibility that it may be added
to glossaries at a later date.
  \ExplSyntaxOn
  \providecommand{\glspdfsentencecase}[1]{ \exp_args:Ne \MFUsentencecase { #1 } }
  \ExplSyntaxOff
```

```
\@Glsentryfield This command was new to glossaries v4.50 so won't be defined for older versions.
  \def\@Glsentryfield#1#2{%
    \glstexorpdfstring{\@Gls@entry@field{#1}{#2}}%
    {\glspdfsentencecase{\@Gls@entry@field{#1}{#2}}}%
  }
```

```
\glstexorpdfstring
  \ifdef\glstexorpdfstring
  {}
  {
    \ifdef\texorpdfstring
    {\newcommand{\glstexorpdfstring}{\texorpdfstring}}
    {\newcommand{\glstexorpdfstring}[2]{#1}}
  }
```

```
\@glsxtr@org@MakeUppercase Save the original definition of \MakeUppercase in case it needs to be restored.
  \let\@glsxtr@org@MakeUppercase\MakeUppercase
```

```
\glsmeasurewidth \glsmeasurewidth was only introduced to glossaries v4.51 so may not be avail-
able. This provides a definition that simply uses \settowidth.
  \providecommand{\glsmeasurewidth}[2]{%
    \settowidth{#1}{#2}%
  }
```

If `mfirstuc v2.08+` is installed, provide interface commands. The simplest method is to test the existence of `\MFUsentencecase`, which is provided by `mfirstuc v2.08+` but also by `glossaries v4.50+`. So it may be defined because `glossaries v4.50+` is installed, in which case `\glsmfuexcl` etc are also defined,

but it may be defined because `mfirstuc v2.08+` is installed but an older version of glossaries may be present, in which case `\glsmfuexcl` etc won't be defined.

```
\ExplSyntaxOn
\ifdef\MFUsentencecase
{%
```

Automatically identify exclusions, blockers and mappings.

```
\glsmfuexcl
\providecommand{\glsmfuexcl}[1]{\MFUexcl{#1}}

\glsmfublocker
\providecommand{\glsmfublocker}[1]{\MFUblocker{#1}}

\glsmfuaddmap
\providecommand{\glsmfuaddmap}[2]{\MFUaddmap{#1}{#2}}
```

Don't alter `\MakeUppercase`

```
\@glstr@saveMakeUppercase
\newcommand{\@glstr@saveMakeUppercase}{}

\@glstr@restoreMakeUppercase
\newcommand{\@glstr@restoreMakeUppercase}{}

\@glstr@assignMakeUppercase
\newcommand{\@glstr@assignMakeUppercase}{}

}
{
```

Provide `\MFUsentencecase` for use where expandable contexts are required.

```
\MFUsentencecase
\providecommand{\MFUsentencecase}[1]{\text_titlecase_first:n{#1}}
```

Provide support for exclusions with `\MFUsentencecase`.

```
\glsmfuexcl
\providecommand{\glsmfuexcl}[1]{
\tl_if_in:NnF \l_text_case_exclude_arg_tl {#1}
{
\tl_put_right:Nn \l_text_case_exclude_arg_tl {#1}
}
}
```

Just treat blockers and mappings as exclusions.

```
\glsmfublocker
\providecommand{\glsmfublocker}[1]{\glsmfuexcl{#1}}
```



`\glsmfuaddmap`

```
\providecommand{\glsmfuaddmap}[2]{\glsmfuexcl{#1}\glsmfublocker{#2}}
```

With old versions of mfirstuc, save and restore `\MakeUppercase` in the heading hooks.

```
\newcommand{\@glstrsaveMakeUppercase}{%
  \let\@glstr@org@MakeUppercase\MakeUppercase
}
\newcommand{\@glstrrestoreMakeUppercase}{%
  \let\MakeUppercase\@glstr@org@MakeUppercase
}
\newcommand{\@glstrassignMakeUppercase}{%
  \let\MakeUppercase\MakeTextUppercase
}
}
```

Finished L<sup>A</sup>T<sub>E</sub>X3 code.

```
\ExplSyntaxOff
```

`\glsdoshowtarget` Added to glossaries v4.50 so many not be defined. Need to redefine it so use `\def`.

```
\def\glsdoshowtarget{\@glstr@doshowtarget}
```

`\glstrshowtargetsymbolright`

```
\newcommand{\glstrshowtargetsymbolright}{%
  \ifmmode \mbox{\tiny$\triangleleft$}\else {\tiny$\triangleleft$}\fi
}
```

`\glstrshowtargetsymbolleft`

```
\newcommand{\glstrshowtargetsymbolleft}{%
  \ifmmode \mbox{\tiny$\triangleright$}\else {\tiny$\triangleright$}\fi
}
```

`\glsshowtargetinner` Only added to glossaries in v4.50 so may not be defined.

```
\providecommand*\glsshowtargetinner[1]{\glsshowtargetfonttext{[#1]}}
```

`\glsshowtargetfont` Only added to glossaries in v4.45 so may not be defined.

```
\providecommand*\glsshowtargetfont{\tffamily\footnotesize}
```

`\glsshowtargetfonttext` Text-block command that checks for math-mode. Only added to glossaries in v4.50 so may not be defined.

```
\providecommand*\glsshowtargetfonttext[1]{%
  \ifmmode \nfss@text{\glsshowtargetfont #1}\else {\glsshowtargetfont #1}\fi
}
```

`\glsshowtargetinnersymleft`

```
\newcommand*\glsshowtargetinnersymleft[1]{%
  \glsshowtargetinner{#1}\allowbreak\glstrshowtargetsymbolleft}
}
```

```

\glsshowtargetinnersymright
    \newcommand*\glsshowtargetinnersymright[1]{%
        \glxtrshowtargetsymbolright\allowbreak\glsshowtargetinner{#1}}

\glsshowtargetouter Only added to glossaries in v4.45 so may not be defined.
    \providecommand*\glsshowtargetouter[1]{%
        \glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}

\@glsshowtarget Only added to glossaries in v4.32 so may not be defined.
    \providecommand*\@glsshowtarget[1]{%

\glsshowtarget This command was introduced to glossaries v4.32 so it may not be defined.
Therefore it's defined here using \def. \glsshowtargetouter was introduced
in glossaries v4.45, so that also may not be defined.
    \def\glsshowtarget#1{%
        \glxtrtitleorpdforheading
        {%
            \ifmode
                \nfss@text{\glxtrshowtargetinner{#1}}%
            \else
                \ifinner
                    \glxtrshowtargetinner{#1}%
                \else
                    \glxtrshowtargetouter{#1}%
                \fi
            \fi
        }%
        {[#1]}%
        {\protect\glsshowtargetinner{#1}}%
    }

\@glsshowtargetmarkfmt
    \newcommand*\@glsshowtargetmarkfmt[1]{%
        \glxtrtitleorpdforheading
        {%
            \ifmode \nfss@text{#1}\else #1\fi
        }%
        {}%
        {\ifmode \nfss@text{#1}\else #1\fi}%
    }

\@glxtr@org@doseeglossary Save original definition of \@do@seeglossary
    \let\@glxtr@org@doseeglossary\@do@seeglossary

\@glxtr@doseeglossary This doesn't increment the associated counter.
    \newcommand*\@glxtr@doseeglossary[2]{%
        \glstoifexists{#1}%
        {%

```

```

    \@glsxtrwrglossmark
    \@glsxtr@org@doseeglossary{#1}{#2}%
  }%
}

```

tr@dosee@alsoindex@glossary

```

\newcommand*{\@glsxtr@dosee@alsoindex@glossary}[2]{%
  \@glsxtr@recordsee{#1}{#2}%
  \@glsxtr@doseeglossary{#1}{#2}%
}

```

\@glsxtr@org@gloautosee Save and restore original definition of \@glo@autosee. (That command may not be defined as it was only introduced to glossaries v4.30, in which case the synonym won't be defined either.)

```
\let\@glsxtr@org@gloautosee\@glo@autosee
```

Check if user tried autoseeindex=false when it can't be supported.

```

\if@glsxtr@autoseeindex
\else
  \ifdef\@glsxtr@org@gloautosee
  {}%
  {\PackageError{glossaries-extra}{'autoseeindex=false' package
    option requires at least v4.30 of glossaries.sty}%
    {You need to update the glossaries.sty package}%
  }
\fi

```

\@glo@autosee If \@glo@autosee has been defined (glossaries v4.30 onwards), redefine it to test the autoseeindex option.

```

\ifdef\@glo@autosee
{%
  \renewcommand*{\@glo@autosee}{%
    \if@glsxtr@autoseeindex\@glsxtr@org@gloautosee\fi}%
}%
{}

```

\gls@checkseeallowed Don't prohibit the use of the see key before the indexing files have been opened if the automatic see indexing has been disabled, since it's no longer an issue.

```

\renewcommand*{\gls@checkseeallowed}{%
  \if@glsxtr@autoseeindex\@gls@see@noindex\fi
}

```

Define abbreviations glossaries if required.

```

\@glsxtr@abbreviationsdef
\let\@glsxtr@abbreviationsdef\relax

```

Setup shortcuts if required.

```
\@glsxtr@setupshortcuts
```

Redefine `\@glsxtr@redef@forglentries` if required.

```
\@glsxtr@redef@forglentries
```

`\glossariesextrasetup` Allow user to set options after the package has been loaded. First modify `\glsxtr@doooption` so that it now uses `\setupglossaries`:

```
\renewcommand{\glsxtr@doooption}[1]{\setupglossaries{#1}}%
```

Disable options that can only be used when the package is loaded:

```
\disable@keys{glossaries-extra.sty}{accsupp}
```

Now define the user command:

```
\newcommand*{\glossariesextrasetup}[1]{%
  \let\glsxtr@setup@record\relax
  \let\@glsxtr@setup@shortcuts\relax
  \let\@glsxtr@redef@forglentries\relax
  \let\@glsxtr@doload@prefix\relax
  \setkeys{glossaries-extra.sty}{#1}%
  \@glsxtr@abbreviationsdef
  \let\@glsxtr@abbreviationsdef\relax
  \@glsxtr@setup@shortcuts
  \glsxtr@setup@record
  \@glsxtr@redef@forglentries
  \@glsxtr@doload@prefix
}
```

`\glsxtr@org@@do@wrglossary` Save original definition of `\@do@wrglossary`.

```
\let\glsxtr@org@@do@wrglossary\@do@wrglossary
```

`\glsxtr@@do@wrglossary` The new version adds code that can show a marker for debugging and increments the associated counter if enabled.

```
\newcommand*{\glsxtr@@do@wrglossary}[1]{%
  \@glsxtrwrglossmark
  \glsxtr@inc@wrglossaryctr{#1}%
  \glsxtr@org@@do@wrglossary{#1}%
}
```

`\glsxtr@saveentrycounter` Save original definition of `\@gls@saveentrycounter`.

```
\let\glsxtr@saveentrycounter\@gls@saveentrycounter
```

`\@gls@saveentrycounter` Change `\@gls@saveentrycounter` so that it only stores the entry counter information if the indexing is on.

```
\let\@gls@saveentrycounter\glsxtr@indexonly@saveentrycounter
```

`\@xp@gls@getcounterprefix` This command is provided by `glossaries v4.50` so may not be defined. Provide a similar command in case the new version hasn't been installed.

```
\providecommand*\@xp@gls@getcounterprefix[2]{%
  \bgroup
  \glswrglossdisableanchorcmds
  \protected@edef\@do@gls@getcounterprefix{%
```

```

\noexpand\egroup
\noexpand\@gls@getcounterprefix{#1}{#2}%
}%
\do@gls@getcounterprefix
}

```

glswrglossdisableanchorcmds

```

\providecommand{\glswrglossdisableanchorcmds}{\let\glstexorpdfstring\@secondoftwo}

```

`\@gls@getcounterprefix` This command is provided by the base glossaries package, but is redefined here. The standard indexing methods don't directly store the hypertarget but instead need to split it into the counter, prefix and location parts, which can be reconstituted in the location list. Unfortunately, not all targets are in this form, so the links fail. With `record=nameref`, the complete target name can be saved, so this modification adjusts the warning.

The expansion should now be performed in `\@xp@gls@getcounterprefix`. Any commands that were using `\@gls@getcounterprefix` directly need to be use `\@xp@gls@getcounterprefix` instead.

```

\renewcommand*\@gls@getcounterprefix[2]{%
\def\@gls@thisloc{#1}\def\@gls@thisHloc{#2}%
\ifx\@gls@thisloc\@gls@thisHloc
\def\@glo@counterprefix{}%
\else
\def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
\def\@glo@tmp{##2}%
\ifx\@glo@tmp\@empty
\def\@glo@counterprefix{}%
\else
\def\@glo@counterprefix{##1}%
\fi
}%
\@gls@get@counterprefix#2.#1\end@getprefix

```

Warn if no prefix can be formed, unless `record=nameref`.

```

\ifx\@glo@counterprefix\@empty
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@nameref
\else
\GlossariesExtraWarning{Hyper target '#2' can't be formed by
prefixing^^Jlocation '#1'. You need to modify the
definition of \string\theH\@gls@counter^^Jotherwise you
will get the warning: "'name{\@gls@counter.#1}' has been^^J
referenced but does not exist"%
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@only
.You may want to consider using record=nameref instead%
\fi}%
\fi
\fi
\fi
}

```

Provide script dialect hook (does nothing unless redefined by glossaries-extra-bib2gls).

```
\@glsxtrdialecthook
\newcommand*\@glsxtrdialecthook{}

Set up record option if required.
\glsxtr@setup@record
Disable preamble-only options and switch on the undefined tag at the start
of the document.
\AtBeginDocument{%
\disable@keys{glossaries-extra.sty}{abbreviations,docdef,record}%
\def\glsxtrundefdebug{\@glsxtrundefdebug}%
\def\@glsxtrundeftag{\glsxtrundeftag}%
}
```

## 1.2 Extra Utilities

```
\GlsXtrIfUnusedOrUndefined{<label>}{<true>}{<false>}
```

Does *<true>* if the entry given by *<label>* is either undefined or hasn't been used (or has had the first use flag reset).

```
\newcommand*\GlsXtrIfUnusedOrUndefined}[3]{%
\ifglsentryexists{#1}%
{\ifbool{glo@glsetoklabel{#1}@flag}{#3}{#2}}%
{#2}%
}
```

Starred form of `\ifglossaryexists` was only introduced to `glossaries v4.46` so provide it if it hasn't been defined.

```
\ifdef\s@ifglossaryexists
{}
{
```

```
\ifglossaryexists
\renewcommand{\ifglossaryexists}{%
\ifstar\s@ifglossaryexists\@ifglossaryexists
}
```

```
\@ifglossaryexists
\newcommand{\@ifglossaryexists}[3]{%
\ifcsundef{@glotype@#1@out}{#3}{#2}%
}
```

```
\s@ifglossaryexists
\newcommand{\s@ifglossaryexists}[3]{%
\ifcsundef{glolist@#1}{#3}{#2}%
}
```

```
}
```

```
\glxtrifemptyglossary{<type>}{<true>}{<false>}
```

`\glxtrifemptyglossary`

Provide command to determine if any entries have been added to the glossary (where the glossary label is provided in the first argument). The entries are stored in the comma-separated list `\glolist@<type>`. If this hasn't been defined, the glossary doesn't exist. If it has been defined and is simply a comma, the glossary exists and is empty. (It's initialised to a comma.)

```
\newcommand{\glxtrifemptyglossary}[3]{%
  \ifcsdef{glolist@#1}%
  {%
    \ifcsstring{glolist@#1}{,}{#2}{#3}%
  }%
  {%
    \glxtrundefaction{Glossary type '#1' doesn't exist}{}%
    #2%
  }%
}
```

```
\GlsXtrIfInGlossary{<label>}{<type>}{<true>}{<false>}
```

`\GlsXtrIfInGlossary`

Test if the given entry is in the given glossary list. This may not correspond to the `type` key as the entry may have been copied to the list. Does `<false>` and issues warning if the glossary doesn't exist.

```
\ExplSyntaxOn
\clist_new:N \__glossariesxtr_glolist_clist
\newcommand*{\GlsXtrIfInGlossary}[4]{%
  \tl_if_exist:cTF { glolist@#2 }
  {
    \exp_args:NNv \clist_set:Nn
      \__glossariesxtr_glolist_clist { glolist@#2 }
    \clist_if_in:NnTF
      \__glossariesxtr_glolist_clist { #1 }
      { #3 } { #4 }
  }
  {
    \glxtrundefaction{Glossary ~ type ~ '#1' ~ doesn't ~ exist}{%
      #4
    }
  }
}
```

```
\ExplSyntaxOff
```

`\glxtrifkeydefined` Tests if the key given in the first argument has been defined.

```
\newcommand*{\glxtrifkeydefined}[3]{%
  \key@ifundefined{glossentry}{#1}{#3}{#2}%
}
```

```
}
```

`\glxtrprovidestoragekey` Like `\glsaddstoragekey` but does nothing if the key has already been defined.

```
\newcommand*{\glxtrprovidestoragekey}{%
  \ifstar\sglsxtr@provide@storagekey\glxtr@provide@storagekey
}
```

`\@glxtr@provide@storagekey` Unstarred version.

```
\newcommand*{\@glxtr@provide@storagekey}[3]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
    \appto\@gls@keymap{,#{1}{#1}}%
    \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
    \appto\@newglossaryentryposthook{%
      \letcs{@glo@tmp}{@glo@#1}%
      \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
    }%
  }%
```

Allow the user to omit the user level command if they only intended fetching the value with `\glxtrusefield`

```
\ifblank{#3}
{%
  {%
    \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
  }%
}%
{%
```

Provide the no-link command if not already defined.

```
\ifblank{#3}
{%
  {%
    \providecommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
  }%
}%
}
```

`\s@glxtr@provide@storagekey` Starred version.

```
\newcommand*{\s@glxtr@provide@storagekey}[1]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \expandafter\newcommand\expandafter*\expandafter
    {\csname gls@assign@#1@field\endcsname}[2]{%
      \@gls@expand@field{##1}{#1}{##2}%
    }%
  }%
  {}%
  \@glxtr@provide@addstoragekey{#1}%
}
```



The name of a text-block control sequence can be stored in a field (given by `\GlsXtrFmtField`). This command can then be used with `\glstrfmt` [*options*]{*label*}{*text*} which effectively does `\glslink`[*options*]{*label*}{*cs*}{*text*}} If the field hasn't been set for that entry just *text* is done.

`\GlsXtrFmtField`

```
\newcommand{\GlsXtrFmtField}{useri}
```

`\GlsXtrFmtDefaultOptions`

```
\newcommand{\GlsXtrFmtDefaultOptions}{noindex}
```

```
\glstrfmt [options]{entry-label}{text}[insert]
```

`\glstrfmt`

The post-link hook isn't done. This now has a starred form that checks for a final optional argument.

```
\newrobustcmd*{\glstrfmt}{\ifstar\s@glstrfmt\@glstrfmt}
```

`\@glstrfmt` Unstarred form.

```
\newcommand*{\@glstrfmt}[3][[]]{\@@glstrfmt{#1}{#2}{#3}{}}
```

`\s@glstrfmt` Starred form.

```
\newcommand*{\s@glstrfmt}[3][[]]{%
  \new@ifnextchar[{\s@@glstrfmt{#1}{#2}{#3}}%
  {\@@glstrfmt{#1}{#2}{#3}{}}%
}
```

`\s@@glstrfmt` Pick up final optional argument.

```
\def\s@@glstrfmt#1#2#3[#4]{\@@glstrfmt{#1}{#2}{#3}{#4}}
```

`\@@glstrfmt` Actual inner working.

```
\newcommand*{\@@glstrfmt}[4]{%
```

Since there's no post-link hook to worry about, grouping can be added to provide some protection against nesting (but in general nested link text should be avoided).

```
\begingroup
  \def\glslabel{#2}%
  \glsdoifexistsordo{#2}%
  {%
    \ifglshasfield{\GlsXtrFmtField}{#2}%
    {%
      \let\do@gl@link@checkfirsthyper\relax
      \expandafter\@gl@link\expandafter[\GlsXtrFmtDefaultOptions,#1]{#2}%
      {\glstrfmtdisplay{\glscurrentfieldvalue}{#3}{#4}}%
    }%
    {\glstrfmtdisplay{@firstofone}{#3}{#4}}%
  }%
  {%
```

Has the default `noindex` been counteracted? If so, this needs `\glsadd` in case `bib2gls` needs to pick up the record.

```

\begingroup
  \@gls@setdefault@glslink@opts
  \setkeys{glslink}{\GlsXtrFmtDefaultOptions,#1}%
  \ifKV@glslink@noindex\else\glsadd{#2}\fi
\endgroup
\glsxtrfmtdisplay{@firstofone}{#3}{#4}%
}%
\endgroup
}

```

```
\Glsxtrfmt[<options>]{<entry-label>}{<text>}[<insert>]
```

`\Glsxtrfmt`

As `\glsxtrfmt` but applies a sentence-case change to *<text>*. This is provided to allow a mapping with `mfirstuc v2.08+` in the event that an automated case-change is required.

```

\newrobustcmd*{\Glsxtrfmt}{\ifstar\s@Glsxtrfmt@\Glsxtrfmt}
\glsmfuaddmap{\glsxtrfmt}{\Glsxtrfmt}

```

`\@Glsxtrfmt` Unstarred form.

```
\newcommand*{\@Glsxtrfmt}[3][\@Glsxtrfmt{#1}{#2}{\glsentencecase{#3}}{}}{}
```

`\s@Glsxtrfmt` Starred form.

```

\newcommand*{\s@Glsxtrfmt}[3][\@Glsxtrfmt{#1}{#2}{\glsentencecase{#3}}]{%
  \new@ifnextchar[\s@Glsxtrfmt{#1}{#2}{\glsentencecase{#3}}]{%
    {\@Glsxtrfmt{#1}{#2}{\glsentencecase{#3}}}{}}%
}

```

`\glsxtrfmtdisplay` The command used internally by `\glsxtrfmt` to do the actual formatting. The first argument is the control sequence name, the second is the control sequence's argument, the third is the inserted material (if starred form used).

```
\newcommand{\glsxtrfmtdisplay}[3]{\csuse{#1}{#2}#3}
```

`\glsxtrenryfmt` No link or indexing.

```

\newcommand*{\glsxtrenryfmt}[2]{%
  \glstexorpdfstring{\@glsxtrenryfmt{#1}{#2}}{\glsxtrpdfentryfmt{#1}{#2}}%
}

```

`\glsxtrpdfentryfmt` Used for the PDF bookmarks.

```
\newcommand*{\glsxtrpdfentryfmt}[2]{#2}
```

`\@glsxtrenryfmt`

```
\newrobustcmd*{\@glsxtrenryfmt}[2]{%}
```

Locally define `\glslabel` in case the helper command needs to access the label.

```
{%
\protected@edef\glslabel{#1}%
\glstoifexistsordo{#1}%
{%
\ifglshasfield{\GlsXtrFmtField}{#1}%
{%
\csuse{\glscurrentfieldvalue}{#2}%
}%
{#2}%
}%
{#2}%
}%
}
```

`\Glsxtreentryfmt` Sentence-case version.

```
\newcommand*{\Glsxtreentryfmt}[2]{%
\glstexorpdfstring
{\@Glsxtreentryfmt{#1}{\glssentencecase{#2}}}%
{\Glsxtrpdfentryfmt{#1}{#2}}%
}
\glsmfuaddmap{\Glsxtreentryfmt}{\Glsxtreentryfmt}
```

`\Glsxtrpdfentryfmt` Used for the PDF bookmarks.

```
\newcommand*{\Glsxtrpdfentryfmt}[2]{\MFUsentencecase{#2}}
```

`\glsxtrfieldlistadd` If a field stores an etoolbox internal list (e.g. `loclist`) then this macro provides a convenient way of adding to the list via etoolbox's `\listcsadd`. The first argument is the entry's label, the second is the field label and the third is the element to add to the list.

```
\newcommand*{\glsxtrfieldlistadd}[3]{%
\listcsadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
```

`\glsxtrfieldlistgadd` Similarly but uses `\listcsgadd`.

```
\newcommand*{\glsxtrfieldlistgadd}[3]{%
\listcsgadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
```

`\glsxtrfieldlistseadd` Similarly but uses `\listcseadd`.

```
\newcommand*{\glsxtrfieldlistseadd}[3]{%
\listcseadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
```

`\glsxtrfieldlistxadd` Similarly but uses `\listcsxadd`.

```
\newcommand*{\glsxtrfieldlistxadd}[3]{%
\listcsxadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
```

Now provide commands to iterate over these lists.

```

\glxtrfielddolistloop
    \newcommand*\glxtrfielddolistloop}[2]{%
        \dolistcsloop{glo@\glsdetoklabel{#1}@#2}%
    }

\glxtrfieldforlistloop
    \newcommand*\glxtrfieldforlistloop}[3]{%
        \forlistcsloop{#3}{glo@\glsdetoklabel{#1}@#2}%
    }

\glxtrfieldformatlist
    \newrobustcmd*\glxtrfieldformatlist}[2]{%
        \begingroup
        \def\@dtl@formatlist@itemsep{}%
        \def\@dtl@formatlist@lastitem{}%
        \def\@dtl@formatlist@prelastitem{}%
        \def\@dtl@formatlist@prelastitemsep{}%
        \forlistcsloop{\@dtl@formatlist@handler}{glo@\glsdetoklabel{#1}@#2}%
        \@dtl@formatlist@prelastitem\@dtl@formatlist@lastitem
        \endgroup
    }

```

List element tests:

`\glxtrfieldifinlist` First argument label, second argument field, third argument item, fourth true part and fifth false part.

```

\newcommand*\glxtrfieldifinlist}[5]{%
    \ifinlistcs{#3}{glo@\glsdetoklabel{#1}@#2}{#4}{#5}%
}

```

`\glxtrfieldxifinlist` Expands item.

```

\newcommand*\glxtrfieldxifinlist}[5]{%
    \xifinlistcs{#3}{glo@\glsdetoklabel{#1}@#2}{#4}{#5}%
}

```

`\glxtrforcsvfield{<label>}{<field>}{<cs handler>}`

```

\glxtrforcsvfield
    \newcommand*\glxtrforcsvfield){%
        \@ifstar\s@glxtrforcsvfield\@glxtrforcsvfield
    }

```

`\@glxtrforcsvfield` Unstarred version.

```

\newcommand*\@glxtrforcsvfield}[3]{%
    \@glxtrifhasfield{#2}{#1}%
    {%
        \let\glxtrendfor\@endfortrue
    }
}

```

```

\@for\@glstr@label:=\glscurrentfieldvalue\do
  {\expandafter#3\expandafter{\@glstr@label}}}%
{}%
}

```

`\s@glstrforcsvfield` Starred version.

```

\newcommand*\s@glstrforcsvfield}[3]{%
\s@glstrifhasfield{#2}{#1}%
{%
\let\glxtrendfor\@endfortrue
\@for\@glstr@label:=\glscurrentfieldvalue\do
  {\expandafter#3\expandafter{\@glstr@label}}}%
{}%
}

```

`\glstrfieldformatcsvlist`

```

\newrobustcmd*\glstrfieldformatcsvlist}[2]{%
\@glstrifhasfield{#2}{#1}%
{\@dtlformatlist\glscurrentfieldvalue}%
{}%
}

```

`\GlsXtrIfFieldValueInCsvList{<label>}{<field>}{<list>}
{<true>}{<false>}`

`\GlsXtrIfFieldValueInCsvList`

```

\newcommand*\GlsXtrIfFieldValueInCsvList}{%
\ifstar\s@GlsXtrIfFieldValueInCsvList\@GlsXtrIfFieldValueInCsvList
}

```

Note `\DTLifinlist` performs one level on the list but not the element.

`\@GlsXtrIfFieldValueInCsvList` Unstarred version.

```

\newcommand*\@GlsXtrIfFieldValueInCsvList}[5]{%
\@glstrifhasfield{#2}{#1}%
{%
\expandafter\DTLifinlist\expandafter{\glscurrentfieldvalue}%
{#3}{#4}{#5}%
}%
{#5}%
}

```

`\GlsXtrIfFieldValueInCsvList` Starred version.

```

\newcommand*\s@GlsXtrIfFieldValueInCsvList}[5]{%
\s@glstrifhasfield{#2}{#1}%
{%
\expandafter\DTLifinlist\expandafter{\glscurrentfieldvalue}%
{#3}{#4}{#5}%
}%
}

```

```
{#5}%
}
```

```
\GlsXtrIfValueInFieldCsvList{<label>}{<field>}{<value>}
{<true>}{<false>}
```

\GlsXtrIfValueInFieldCsvList

Essentially the reverse. Tests if the given value is in the given field which should contain a comma-separated list.

```
\newcommand*{\GlsXtrIfValueInFieldCsvList}{%
  \ifstar\s@GlsXtrIfValueInFieldCsvList\@GlsXtrIfValueInFieldCsvList
}
```

\GlsXtrIfValueInFieldCsvList Unstarred version.

```
\newcommand*{\@GlsXtrIfValueInFieldCsvList}[5]{%
  \@glsxtrifhasfield{#2}{#1}%
  {%
    \DTLifinlist{#3}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
```

\GlsXtrIfValueInFieldCsvList Unstarred version.

```
\newcommand*{\s@GlsXtrIfValueInFieldCsvList}[5]{%
  \s@glsxtrifhasfield{#2}{#1}%
  {%
    \DTLifinlist{#3}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
```

```
\xGlsXtrIfValueInFieldCsvList{<label>}{<field>}{<value>}
{<true>}{<false>}
```

\xGlsXtrIfValueInFieldCsvList

As above but fully expand *<value>*.

```
\newcommand*{\xGlsXtrIfValueInFieldCsvList}{%
  \ifstar\s@\xGlsXtrIfValueInFieldCsvList\@xGlsXtrIfValueInFieldCsvList
}
```

\GlsXtrIfValueInFieldCsvList Unstarred version.

```
\newcommand*{\@xGlsXtrIfValueInFieldCsvList}[5]{%
  \@glsxtrifhasfield{#2}{#1}%
  {%
    \protected@edef\@gls@tmp{#3}%
    \expandafter\DTLifinlist\expandafter{\@gls@tmp}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
```

`\GlsXtrIfValueInFieldCsvList` Unstarred version.

```
\newcommand*{\s@GlsXtrIfValueInFieldCsvList}[5]{%
\s@glstrifhasfield{#2}{#1}%
{%
\protected@edef\@gls@tmp{#3}%
\expandafter\DTLifinlist\expandafter{\@gls@tmp}{\glscurrentfieldvalue}{#4}{#5}%
}%
{#5}%
}
```

`\glstrifhasfield`

`\glstrifhasfield{<field>}{<label>}{<true>}{<false>}`

A simpler alternative to `\ifglshasfield` that doesn't complain if the entry or the field doesn't exist. (No mapping is used.) Grouping is added to the unstarred version allow for nested use.

```
\newrobustcmd{\glstrifhasfield}{%
\@ifstar{\s@glstrifhasfield}{\@glstrifhasfield}%
}
```

`\@glstrifhasfield` Unstarred version adds grouping.

```
\newcommand{\@glstrifhasfield}[4]{%
\s@glstrifhasfield{#1}{#2}{#3}{#4}%
}
```

`\s@glstrifhasfield` Starred version omits grouping.

```
\newcommand{\s@glstrifhasfield}[4]{%
\letcs{\glscurrentfieldvalue}{glo@\glsdetoklabel{#2}@#1}%
\ifundef\glscurrentfieldvalue
{#4}%
{%
\ifdefempty\glscurrentfieldvalue{#4}{#3}%
}%
}
```

`\GlsXtrIfFieldNonZero` Designed for numeric fields.

```
\newcommand{\GlsXtrIfFieldNonZero}{%
\@ifstar\s@GlsXtrIfFieldNonZero\@GlsXtrIfFieldNonZero
}
```

`\@GlsXtrIfFieldNonZero`

```
\newcommand{\@GlsXtrIfFieldNonZero}[4]{%
\@GlsXtrIfFieldCmpNum{#1}{#2}{=} {0}{#4}{#3}%
}
```

`\s@GlsXtrIfFieldNonZero`

```
\newcommand{\s@GlsXtrIfFieldNonZero}[4]{%
\s@GlsXtrIfFieldCmpNum{#1}{#2}{=} {0}{#4}{#3}%
}
```

```
\GlsXtrIfFieldEqNum{<field>}{<label>}{<value>}{<true>}
{<false>}
```

\GlsXtrIfFieldEqNum

Designed for numeric fields.

```
\newcommand{\GlsXtrIfFieldEqNum}{%
  \@ifstar\s@GlsXtrIfFieldEqNum\@GlsXtrIfFieldEqNum
}
```

\@GlsXtrIfFieldEqNum

```
\newcommand{\@GlsXtrIfFieldEqNum}[5]{%
  \s@GlsXtrIfFieldCmpNum{#1}{#2}{=} {#3}{#4}{#5}%
}
```

\s@GlsXtrIfFieldEqNum

```
\newcommand{\s@GlsXtrIfFieldEqNum}[5]{%
  \s@GlsXtrIfFieldCmpNum{#1}{#2}{=} {#3}{#4}{#5}%
}
```

```
\GlsXtrIfFieldCmpNum{<field>}{<label>}{<comparison>}
{<value>}{<true>}{<false>}
```

\GlsXtrIfFieldCmpNum

Designed for numeric fields.

```
\newcommand{\GlsXtrIfFieldCmpNum}{%
  \@ifstar\s@GlsXtrIfFieldCmpNum\@GlsXtrIfFieldCmpNum
}
```

\@GlsXtrIfFieldCmpNum

```
\newcommand{\@GlsXtrIfFieldCmpNum}[6]{%
  {%
    \letcs{\glscurrentfieldvalue}{glo@\glsdetoklabel{#2}@#1}%
    \ifundef\glscurrentfieldvalue
    {\def\glscurrentfieldvalue{0}}%
    {%
      \ifdefempty\glscurrentfieldvalue
      {\def\glscurrentfieldvalue{0}}%
      {}%
    }%
    \ifnum\glscurrentfieldvalue#3#4\relax #5\else #6\fi
  }%
}
```

\s@GlsXtrIfFieldCmpNum

```
\newcommand{\s@GlsXtrIfFieldCmpNum}[6]{%
  \letcs{\glscurrentfieldvalue}{glo@\glsdetoklabel{#2}@#1}%
  \ifundef\glscurrentfieldvalue
  {\def\glscurrentfieldvalue{0}}%
```



```

    {%
      \ifdefempty\glscurrentfieldvalue
      {\def\glscurrentfieldvalue{0}}%
      {}%
    }%
    \ifnum\glscurrentfieldvalue#3#4\relax #5\else #6\fi
  }

```

```
\GlsXtrIfFieldUndef{<field>}{<label>}{<true>}{<false>}
```

\GlsXtrIfFieldUndef

Just uses \ifcsundef.

```

\newcommand{\GlsXtrIfFieldUndef}[2]{%
  \ifcsundef{glo@\glsdetoklabel{#2}@#1}%
}

```

\glsxtrusefield Provide a user-level alternative to \@gls@entry@field. The first argument is the entry label. The second argument is the field label.

```

\newcommand*\glsxtrusefield}[2]{%
  \@gls@entry@field{#1}{#2}%
}

```

\Glsxtrusefield Provide a user-level alternative to \@Gls@entry@field. Now uses \MFUsentencecase in PDF bookmarks.

```

\newcommand*\Glsxtrusefield}[2]{%
  \@Gls@entry@field{#1}{#2}%
}
\glsmfuaddmap{\glsxtrusefield}{\Glsxtrusefield}

```

\GLSxtrusefield As above but convert to all caps. Note that with mfirstuc v2.08+, \mfirstucMakeUppercase is expandable, so therefore \glsuppercase should also be expandable.

```

\newcommand*\GLSxtrusefield}[2]{%
  \glsuppercase{\csuse{glo@\glsdetoklabel{#1}@#2}}%
}
\glsmfublocker{\GLSxtrusefield}

```

\glsxtrentryparentname

```

\newcommand*\glsxtrentryparentname}[1]{%
  \ifcsdef{glo@\glsdetoklabel{#1}@parent}%
  {\csuse{glo@\csuse{glo@\glsdetoklabel{#1}@parent}@name}}%
  {}%
}

```

\glsxtrdeffield Just use \csdef to provide a field value for the given entry.

```
\newcommand*\glsxtrdeffield}[2]{\csdef{glo@\glsdetoklabel{#1}@#2}}
```

\glsxtredeffield Just use \csedef to provide a field value for the given entry.

```
\newcommand*\glsxtredeffield}[2]{\protected@csedef{glo@\glsdetoklabel{#1}@#2}}
```

`\glxtraptocsvfield` Similar to the above but will append value with a leading comma if the field is already defined. This is used by `bib2gls`. There's no check if the entry has been defined. (Because of the way that `bib2gls`'s `save-from-alias` etc options are implemented, the entry may not have yet been written to the `glstex` file when this command is used.)

```
\newcommand*\glxtraptocsvfield}[3]{%
\ifcsdef{glo@\glsdetoklabel{#1}@#2}%
{\csappto{glo@\glsdetoklabel{#1}@#2}{, #3}}%
{\csdef{glo@\glsdetoklabel{#1}@#2}{#3}}%
}
```

`\glxtrsetfieldifexists`

```
\newcommand*\glxtrsetfieldifexists}[3]{\glsoifexists{#1}{#3}}
```

`\GlsXtrSetField` Allow the user to set a field. First argument entry label, second argument field label, third argument value.

```
\newrobustcmd*\GlsXtrSetField}[3]{%
\glxtrsetfieldifexists{#1}{#2}%
{\csdef{glo@\glsdetoklabel{#1}@#2}{#3}}%
}
```

`\GlsXtrLetField` Uses `\cslet` instead. Third argument should be a macro.

```
\newrobustcmd*\GlsXtrLetField}[3]{%
\glxtrsetfieldifexists{#1}{#2}%
{\cslet{glo@\glsdetoklabel{#1}@#2}{#3}}%
}
```

`\csGlsXtrLetField` Uses `\csletcs` instead. Third argument should be a control sequence name.

```
\newrobustcmd*\csGlsXtrLetField}[3]{%
\glxtrsetfieldifexists{#1}{#2}%
{\csletcs{glo@\glsdetoklabel{#1}@#2}{#3}}%
}
```

`\GlsXtrLetFieldToField` Sets the field for one entry to the field for another entry. Third argument should be the other entry and the fourth argument that other field label.

```
\newrobustcmd*\GlsXtrLetFieldToField}[4]{%
\glxtrsetfieldifexists{#1}{#2}%
{\csletcs{glo@\glsdetoklabel{#1}@#2}{glo@\glsdetoklabel{#3}@#4}}%
}
```

`\gGlsXtrSetField` Allow the user to set a field. First argument entry label, second argument field label, third argument value.

```
\newrobustcmd*\gGlsXtrSetField}[3]{%
\glxtrsetfieldifexists{#1}{#2}%
{\csgdef{glo@\glsdetoklabel{#1}@#2}{#3}}%
}
```

```

\GlsXtrSetField
\newrobustcmd*\xGlsXtrSetField}[3]{%
  \glstrsetfieldifexists{#1}{#2}%
  {\protected@csxdef{glo@\glsetoklabel{#1}@#2}{#3}}%
}

\eGlsXtrSetField
\newrobustcmd*\eGlsXtrSetField}[3]{%
  \glstrsetfieldifexists{#1}{#2}%
  {\protected@csedef{glo@\glsetoklabel{#1}@#2}{#3}}%
}

\GlsXtrIfFieldEqStr Starred version uses starred version of \glstrifhasfield (that is, no group-
ing).
\newcommand*\GlsXtrIfFieldEqStr{%
  \@ifstar\s@GlsXtrIfFieldEqStr\@GlsXtrIfFieldEqStr
}

\@GlsXtrIfFieldEqStr
\newrobustcmd*\@GlsXtrIfFieldEqStr}[5]{%
  \@glstrifhasfield{#1}{#2}%
  {%
    \ifdefstring{\glscurrentfieldvalue}{#3}{#4}{#5}%
  }%
  {#5}%
}

\s@GlsXtrIfFieldEqStr
\newrobustcmd*\s@GlsXtrIfFieldEqStr}[5]{%
  \s@glstrifhasfield{#1}{#2}%
  {%
    \ifdefstring{\glscurrentfieldvalue}{#3}{#4}{#5}%
  }%
  {#5}%
}

\GlsXtrIfFieldEqXpStr Like the above but first expands the string. Starred version uses starred version
of \glstrifhasfield (that is, no grouping).
\newcommand*\GlsXtrIfFieldEqXpStr{%
  \@ifstar\s@GlsXtrIfFieldEqXpStr\@GlsXtrIfFieldEqXpStr
}

\@GlsXtrIfFieldEqXpStr
\newrobustcmd*\@GlsXtrIfFieldEqXpStr}[5]{%
  \@glstrifhasfield{#1}{#2}%
  {%
    \protected@edef\@gls@tmp{#3}%
    \ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
  }%
}

```

```

    }%
    {#5}%
}

```

`\s@GlsXtrIfFieldEqXpStr`

```

\newrobustcmd*{\s@GlsXtrIfFieldEqXpStr}[5]{%
\s@glxtrifhasfield{#1}{#2}%
{%
\protected@edef\@gls@tmp{#3}%
\ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
}%
{#5}%
}

```

`\GlsXtrIfXpFieldEqXpStr` Like the above but also expands the field value. Starred version uses starred version of `\glxtrifhasfield` (that is, no grouping).

```

\newcommand*{\GlsXtrIfXpFieldEqXpStr}{%
\@ifstar\s@GlsXtrIfXpFieldEqXpStr\@GlsXtrIfXpFieldEqXpStr
}

```

`\@GlsXtrIfXpFieldEqXpStr`

```

\newrobustcmd*{\@GlsXtrIfXpFieldEqXpStr}[5]{%
\@glxtrifhasfield{#1}{#2}%
{%
\protected@edef\@gls@tmp{\glscurrentfieldvalue}%
\let\glscurrentfieldvalue\@gls@tmp
\protected@edef\@gls@tmp{#3}%
\ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
}%
{#5}%
}

```

`\s@GlsXtrIfXpFieldEqXpStr`

```

\newrobustcmd*{\s@GlsXtrIfXpFieldEqXpStr}[5]{%
\s@glxtrifhasfield{#1}{#2}%
{%
\protected@edef\@gls@tmp{\glscurrentfieldvalue}%
\let\glscurrentfieldvalue\@gls@tmp
\protected@edef\@gls@tmp{#3}%
\ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
}%
{#5}%
}

```

`\GlsXtrForeignText{<entry label>}{<text>}`

`\GlsXtrForeignText`

If a field is used to store a language tag (such as `en-GB` or `de-CH-1996`) then this command uses `tracklang`'s interface to encapsulate  $\langle text \rangle$ . The field identifying the locale is given by `\GlsXtrForeignTextField`.

```
\ifdef\foreignlanguage
{
  \ifdef\GetTrackedDialectFromLanguageTag
  {
    \newcommand{\GlsXtrForeignText}[2]{%
```

In case this is used inside the argument of `\glxtrifhasfield`, save and restore `\glscurrentfieldvalue`.

```
\let\@glxtr@org@currentfieldvalue\glscurrentfieldvalue
\glxtrifhasfield{\GlsXtrForeignTextField}{#1}%
{%
  \expandafter\GetTrackedDialectFromLanguageTag\expandafter
  {\glscurrentfieldvalue}{\@glxtr@dialect}%
  \let\@glxtr@locale\glscurrentfieldvalue
  \let\glscurrentfieldvalue\@glxtr@org@currentfieldvalue
  \ifdefempty\@glxtr@dialect
  {%
```

An exact match hasn't been found. A partial match can only be obtained with at least `tracklang` v1.3.6.

```
\ifundef\TrackedDialectClosestSubMatch
{%
  \GlossariesExtraWarning{Can't obtain dialect label
  (tracklang v1.3.6+ required)}%
}%
{\let\@glxtr@dialect\TrackedDialectClosestSubMatch}%
}%
{)%
\ifdefempty\@glxtr@dialect
{%
```

No tracked dialect found for the root language.

```
}%
{)%
```

Check if there's a caption hook for the given dialect label.

```
\ifcsundef{captions\@glxtr@dialect}{)%
{)%
```

Dialect label not recognised. Check if there's a known mapping.

```
\IfTrackedDialectHasMapping{\@glxtr@dialect}%
{)%
  \edef\@glxtr@dialect{%
    \GetTrackedDialectToMapping{\@glxtr@dialect}}%
```

Does a caption hook exist for this?

```
\ifcsundef{captions\@glxtr@dialect}{)%
{)%
```

No mapping. Try root language label instead.

```
\ifcsundef{captions\@tracklang@lang}{}%  
{%  
  \let\@glsxtr@dialect\@tracklang@lang  
}%  
}%  
}%  
{%
```

No mapping. Try root language label instead.

```
\ifcsundef{captions\@tracklang@lang}{}%  
{%  
  \let\@glsxtr@dialect\@tracklang@lang  
}%  
}%  
}%  
}%  
\ifdefempty\@glsxtr@dialect  
{%  
  \GlsXtrUnknownDialectWarning{\@glsxtr@locale}{\@tracklang@lang}%  
  #2%  
}%  
  {\foreignlanguage{\@glsxtr@dialect}{#2}}%  
}%  
{#2}% key not set  
}  
}  
{  
  \newcommand{\GlsXtrForeignText}[2]{%  
    \GlossariesExtraWarning{Can't encapsulate foreign text:  
      tracklang v1.3.6+ required}%  
    #2%  
  }  
}  
}  
}  
{
```

\foreignlanguage isn't defined so just do *⟨text⟩*.

```
\newcommand{\GlsXtrForeignText}[2]{#2}  
}
```

`\GlsXtrForeignTextField` This is the user2 field by default but may be redefined as required.

```
\newcommand*{\GlsXtrForeignTextField}{userii}
```

`\GlsXtrUnknownDialectWarning`

```
\newcommand*{\GlsXtrUnknownDialectWarning}[2]{%  
  \GlossariesExtraWarning{Can't determine valid dialect label  
    for locale '#1' (root language: #2)}%  
}
```

`\glstrpageref` Like `\glsrefentry` but references the page number instead (if entry counting is on). The base glossaries package only introduced `\GlsEntryCounterLabelPrefix` in version 4.38, so it may not be defined.

```

\ifdef\GlsEntryCounterLabelPrefix
{%
  \newcommand*\glstrpageref}[1]{%
    \ifglentrycounter
      \pageref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
    \else
      \ifglssubentrycounter
        \pageref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
      \else
        \gls{#1}%
      \fi
    \fi
  }
}%
{%
  \newcommand*\glstrpageref}[1]{%
    \ifglentrycounter
      \pageref{glsentry-\glsdetoklabel{#1}}%
    \else
      \ifglssubentrycounter
        \pageref{glsentry-\glsdetoklabel{#1}}%
      \else
        \gls{#1}%
      \fi
    \fi
  }
}%

```

`\apptoglossarypreable`

```

\newcommand{\apptoglossarypreable}[2][\glsdefaultttype]{%
  \ifcsdef{glolist@#1}%
  {%
    \ifcsundef{@glossarypreable@#1}%
    {\csdef{@glossarypreable@#1}{}}%
    {}%
    \csappto{@glossarypreable@#1}{#2}%
  }%
  {%
    \GlossariesExtraWarning{Glossary ‘#1’ is not defined}%
  }%
}

```

`\pretoglossarypreable`

```

\newcommand{\pretoglossarypreable}[2][\glsdefaultttype]{%
  \ifcsdef{glolist@#1}%
  {%

```

```

\ifcsundef{@glossary preamble@#1}%
{\csdef{@glossary preamble@#1}{}}%
{}%
\cspretto{@glossary preamble@#1}{#2}%
}%
{%
\GlossariesExtraWarning{Glossary ‘#1’ is not defined}%
}%
}

```

`\preglossary preamble` Typo in command name resulted in `\preglossary preamble` being defined when it should have been called `\pretoglossary preamble`. Old name retained for backward compatibility.

```
\newcommand{\preglossary preamble}{\pretoglossary preamble}
```

### 1.3 Modifications to Commands Provided by glossaries

Some of the commands provided by `glossaries` are modified to take into account new options or to change default behaviour.

`\@p@glossary section` Phantom section only needs to be added for starred section commands.

```

\renewcommand*{\@p@glossary section}[2]{%
\gls clearpage
\ifdefempty{\@glossary sec star}
{%
\csname\@glossary sec\endcsname{#2}%
}%
{%
\phantomsection
\@gls@toc{#1}{\@glossary sec}%
\csname\@glossary sec\endcsname*{#2}%
}%
\@glossary sec label
}

```

The original `\@gls@entry@field` causes a problem for undefined entries when used in section headings or captions. Since entries must be defined with just the base package this isn't a significant issue, but it will cause a problem with `bib2gls` where no entries are defined on the first `LATEX` call, so redefine `\@gls@entry@field` to use `\csuse` instead of `\csname`.

```
\@gls@entry@field{\label}{\field}
```

`\@gls@entry@field`

This command was introduced to `glossaries` version 4.03 but older versions are likely to be incompatible with `glossaries-extra`.

```

\ifdef\@gls@entry@field
{

```



```

\renewcommand*{\@gls@entry@field}[2]{\csuse{glo@\glsdetoklabel{#1}@#2}}
}
{}

```

```

\ifglsused{<label>}{<true part>}{<false part>}

```

\ifglsused

In the event that undefined entries should trigger a warning rather than an error, \ifglsused needs to be modified to check for existence. If the boolean variable is undefined, then its state is indeterminate and is neither true nor false, so neither *<true part>* nor *<false part>* will be performed if *<label>* is undefined. See also \GlsXtrIfUnusedOrUndefined.

```

\renewcommand*{\ifglsused}[3]{%
  \glsdoifexists{#1}{\ifbool{glo@\glsdetoklabel{#1}@flag}{#2}{#3}}%
}

```

\@gls@noexpand@field Add check for encapinnerfmt, encapnocase and encapnocaseinnerfmt

```

\renewcommand{\@gls@noexpand@field}[3]{%
  \glsifcategoryattributehasitem{\@glo@category}{encapnocaseinnerfmt}{#2}%
  {%
    \csxdef{glo@#1@#2}{\noexpand\NoCaseChange{\noexpand\glsxtrgenentrytextfmt
      {\expandonce{#3}}}}%
    \glsexclapplyinnerfmtfield{#1}{#2}%
  }%
  {%
    \glsifcategoryattributehasitem{\@glo@category}{encapnocase}{#2}%
    {%
      \glsifcategoryattributehasitem{\@glo@category}{encapinnerfmt}{#2}%
      {%
        \csxdef{glo@#1@#2}{\noexpand\NoCaseChange{\noexpand\glsxtrgenentrytextfmt
          {\expandonce{#3}}}}%
        \glsexclapplyinnerfmtfield{#1}{#2}%
      }%
      {%
        \csxdef{glo@#1@#2}{\noexpand\NoCaseChange{\expandonce{#3}}}%
      }%
    }%
  }%
  {%
    \glsifcategoryattributehasitem{\@glo@category}{encapinnerfmt}{#2}%
    {%
      \csxdef{glo@#1@#2}{\noexpand\glsxtrgenentrytextfmt{\expandonce{#3}}}%
      \glsexclapplyinnerfmtfield{#1}{#2}%
    }%
    {%
      \expandafter\global\expandafter\let\csname glo@#1@#2\endcsname#3%
    }%
  }%
}
}

```

`\@gls@expand@field` Add check for `encapinnerfmt`, `encapnocase` and `encapnocaseinnerfmt`

```

\renewcommand{\@gls@expand@field}[3]{%
\glsifcategoryattributehasitem{\@glo@category}{encapnocaseinnerfmt}{#2}%
{%
\protected@csxdef{glo@#1@#2}{\noexpand\NoCaseChange
{\noexpand\glsxtrgenentrytextfmt{#3}}}%
\glsexclapplyinnerfmtfield{#1}{#2}%
}%
{%
\glsifcategoryattributehasitem{\@glo@category}{encapnocase}{#2}%
{%
\glsifcategoryattributehasitem{\@glo@category}{encapinnerfmt}{#2}%
{%
\protected@csxdef{glo@#1@#2}{\noexpand\NoCaseChange
{\noexpand\glsxtrgenentrytextfmt{#3}}}%
\glsexclapplyinnerfmtfield{#1}{#2}%
}%
{%
\protected@csxdef{glo@#1@#2}{\noexpand\NoCaseChange{#3}}%
}%
}%
{%
\glsifcategoryattributehasitem{\@glo@category}{encapinnerfmt}{#2}%
{%
\protected@csxdef{glo@#1@#2}{\noexpand\glsxtrgenentrytextfmt{#3}}%
\glsexclapplyinnerfmtfield{#1}{#2}%
}%
{%
\protected@csxdef{glo@#1@#2}{#3}%
}%
}%
}%
}

```

Provide a starred version of `\longnewglossaryentry` that doesn't automatically insert `\leavevmode\unskip\nopostdesc` at the end of the description. The unstarred version is modified to use `\glsxtrpostlongdescription` instead.

`\longnewglossaryentry`

```

\renewcommand*\longnewglossaryentry{%
\ifstar\@glsxtr@s@longnewglossaryentry\@glsxtr@longnewglossaryentry
}

```

`\@glsxtr@s@longnewglossaryentry` Starred version.

```

\newcommand{\@glsxtr@s@longnewglossaryentry}[3]{%
\glsdoifnoexists{#1}%
{%
\bgrou

```

```

\let\@org@newglossaryentryprehook\@newglossaryentryprehook
\long\def\@newglossaryentryprehook{%
  \long\def\@glo@desc{#3}%
  \@org@newglossaryentryprehook
}%
\renewcommand*\@gls@assign@desc}[1]{%
  \global\cslet{glo@\glsdetoklabel{#1}@desc}{\@glo@desc}%
  \global\cslet{glo@\glsdetoklabel{#1}@descplural}{\@glo@descplural}%
}
\gls@defglossaryentry{#1}{#2}%
\egroup
}%
}

```

`\glsxtr@longnewglossaryentry` Unstarred version.

```

\newcommand{\@glsxtr@longnewglossaryentry}[3]{%
  \glsdoifnoexists{#1}%
  {%
    \bgroup
    \let\@org@newglossaryentryprehook\@newglossaryentryprehook
    \long\def\@newglossaryentryprehook{%
      \long\def\@glo@desc{#3\glsxtrpostlongdescription}%
      \@org@newglossaryentryprehook
    }%
    \renewcommand*\@gls@assign@desc}[1]{%
      \global\cslet{glo@\glsdetoklabel{#1}@desc}{\@glo@desc}%

```

The following is different from the base glossaries.sty:

```

  \global\cslet{glo@\glsdetoklabel{#1}@descplural}{\@glo@descplural}%
  }
  \gls@defglossaryentry{#1}{#2}%
\egroup
}%
}

```

`\glsxtrpostlongdescription` Hook at the end of the description when using the unstarred `\longnewglossaryentry`.

```

\newcommand*\@glsxtrpostlongdescription{\leavevmode\unskip\nopostdesc}

```

Provide a starred version of `\newignoredglossary` that doesn't add the glossary to the nohyperlist list.

`\newignoredglossary` Redefine to check for star.

```

\renewcommand{\newignoredglossary}{%
  \@ifstar\glsxtr@s@newignoredglossary\glsxtr@org@newignoredglossary
}

```

`\glsxtr@org@newignoredglossary` The original definition is patched to check for existence.

```

\newcommand*\@glsxtr@org@newignoredglossary}[1]{%
  \ifcsdef{glolist@#1}
  {%

```

```

\glxtrundefaction{Glossary type ‘#1’ already exists}{}%
}%
{%
\ifdefempty\@ignored@glossaries
{%
\protected@edef\@ignored@glossaries{#1}%
}%
{%
\protected@eappto\@ignored@glossaries{,#1}%
}%
\csgdef{glolist@#1}{,}%
\ifcsundef{gls@#1@entryfmt}%
{%
\defglentryfmt[#1]{\glentryfmt}%
}%
{}%
\ifdefempty\@gls@nohyperlist
{%
\renewcommand*{\@gls@nohyperlist}{#1}%
}%
{%
\protected@eappto\@gls@nohyperlist{,#1}%
}%
}%
}

```

glxtr@s@newignoredglossary Starred form.

```

\newcommand*{\glxtr@s@newignoredglossary}[1]{%
\ifcsdef{glolist@#1}
{%
\glxtrundefaction{Glossary type ‘#1’ already exists}{}%
}%
{%
\ifdefempty\@ignored@glossaries
{%
\protected@edef\@ignored@glossaries{#1}%
}%
{%
\protected@eappto\@ignored@glossaries{,#1}%
}%
\csgdef{glolist@#1}{,}%
\ifcsundef{gls@#1@entryfmt}%
{%
\defglentryfmt[#1]{\glentryfmt}%
}%
{}%
}%
}

```

`\glssettoctitle` Ignored glossaries don't have an associated title, so modify `\glssettoctitle` to check for it to prevent an undefined command written to the toc file.

```

\glsifusetranslator
{%
  \renewcommand*{\glssettoctitle}[1]{%
    \ifcsdef{gls@tr@set@#1@toctitle}%
    {%
      \csuse{gls@tr@set@#1@toctitle}%
    }%
    {%
      \ifcsdef{glotype@#1@title}%
      {\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}%
      {\def\glossarytoctitle{\glossarytitle}}%
    }%
  }%
}
{
  \renewcommand*{\glssettoctitle}[1]{%
    \ifcsdef{@glotype@#1@title}%
    {\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}%
    {\def\glossarytoctitle{\glossarytitle}}%
  }
}

```

`\provideignoredglossary` As above but won't do anything if the glossary already exists.

```

\newcommand{\provideignoredglossary}{%
  \ifstar\glsxtr@s@provideignoredglossary\glsxtr@provideignoredglossary
}

```

`\glsxtr@provideignoredglossary` Unstarred version.

```

\newcommand*{\glsxtr@provideignoredglossary}[1]{%
  \ifcsdef{glolist@#1}
  {}%
  {%
    \ifdefempty\@ignored@glossaries
    {%
      \protected@edef\@ignored@glossaries{#1}%
    }%
    {%
      \protected@eappto\@ignored@glossaries{,#1}%
    }%
    \csgdef{glolist@#1}{,}%
    \ifcsundef{gls@#1@entryfmt}%
    {%
      \def\glsentryfmt[#1]{\glsentryfmt}%
    }%
    {}%
  }%
  \ifdefempty\@gls@nohyperlist
  {%

```

```

        \renewcommand*{\@gls@nohyperlist}{#1}%
    }%
    {%

        \protected@eappto\@gls@nohyperlist{,#1}%
    }%
}

```

tr@s@provideignoredglossary Starred form.

```

\newcommand*{\glsxtr@s@provideignoredglossary}[1]{%
    \ifcsdef{glolist@#1}
    {}%
    {%

        \ifdefempty\@ignored@glossaries
        {%
            \protected@edef\@ignored@glossaries{#1}%
        }%
        {%
            \protected@eappto\@ignored@glossaries{,#1}%
        }%
        \csgdef{glolist@#1}{,}%
        \ifcsundef{gls@#1@entryfmt}%
        {%
            \defglsentryfmt[#1]{\glsentryfmt}%
        }%
        {}%
    }%
}

```

`\glsxtrcopytoglossary` Adds an entry label to another glossary list. First argument is entry label. Second argument is glossary label. The starred version globally adds the entry label.

```

\newcommand*{\glsxtrcopytoglossary}{%
    \@ifstar\s@glsxtrcopytoglossary\glsxtrcopytoglossary
}

```

`\@glsxtrcopytoglossary`

```

\newcommand*{\@glsxtrcopytoglossary}[2]{%
    \glsdoifexists{#1}%
    {%
        \ifcsdef{glolist@#2}
        {%

            \protected@cseappto{glolist@#2}{#1,}%
        }%
        {%
            \glsxtrundefaction{Glossary type ‘#2’ doesn’t exist}{}%
        }%
    }%
}

```

```

    }%
}

```

`\s@glxtrcopytoglossary`

```

\newcommand*\s@glxtrcopytoglossary[2]{%
  \glsdoifexists{#1}%
  {%
    \ifcsdef{glolist@#2}
    {%
      \protected@csxappto{glolist@#2}{#1,}%
    }%
    {%
      \glxtrundefaction{Glossary type ‘#2’ doesn’t exist}{}%
    }%
  }%
}

```

### 1.3.1 Existence Checks

`\glsdoifexists` Modify `\glsdoifexists` to take account of the undefaction setting.

```

\renewcommand{\glsdoifexists}[2]{%
  \ifglentryexists{#1}{#2}{\glxtr@doifexists{#1}}%
}

```

`\glxtr@doifexists` Provide a robust command for the error/warning in case `\glsdoifexists` is expanded.

```

\newrobustcmd{\glxtr@doifexists}[1]{%
Define \glslabel in case it’s needed after this command (for example in the
post-link hook).
\protected@edef\glslabel{\glsdetoklabel{#1}}%
\expandafter\glxtrundefdebug\expandafter
  {\expandafter\detokenize\expandafter{\glslabel}}%
\glxtrundefaction{Glossary entry ‘\glslabel’
has not been defined}{You need to define a glossary entry before
you can reference it.}%
}

```

`\glsdoifnoexists` Modify `\glsdoifnoexists` to take account of the undefaction setting.

```

\renewcommand{\glsdoifnoexists}[2]{%
  \ifglentryexists{#1}{\glxtr@doifnoexists{#1}}{#2}%
}

```

`\glxtr@doifnoexists` Provide a robust command for the error/warning in case `\glsdoifnoexists` is expanded.

```

\newrobustcmd{\glxtr@doifnoexists}[1]{%
  \glxtrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
has already been defined}%
}

```

`\glsdoifexistsordo` Modify `\glsdoifexistsordo` to take account of the undefaction setting. This command was introduced in glossaries version 4.19, so check if it has been defined first.

```

\ifdef\glsdoifexistsordo
{%
  \renewcommand{\glsdoifexistsordo}[3]{%
    \ifglsentryexists{#1}{#2}%
    {%
      \glstrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
        has not been defined}{You need to define a glossary entry
        before you can use it.}%
      #3%
    }%
  }%
}
{%
  \glsxtr@warnonexistsordo\glsdoifexistsordo
  \newcommand{\glsdoifexistsordo}[3]{%
    \ifglsentryexists{#1}{#2}%
    {%
      \glstrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
        has not been defined}{You need to define a glossary entry
        before you can use it.}%
      #3%
    }%
  }%
}
}

```

`\doifglossarynoexistsordo` Similarly for `\doifglossarynoexistsordo`.

```

\ifdef\doifglossarynoexistsordo
{%
  \renewcommand{\doifglossarynoexistsordo}[3]{%
    \ifglossaryexists*{#1}%
    {%
      \glstrundefaction{Glossary type ‘#1’ already exists}{}%
      #3%
    }%
    {#2}%
  }%
}
{%
  \glsxtr@warnonexistsordo\doifglossarynoexistsordo
  \newcommand{\doifglossarynoexistsordo}[3]{%
    \ifglossaryexists*{#1}%
    {%
      \glstrundefaction{Glossary type ‘#1’ already exists}{}%
      #3%
    }%
    {#2}%
  }%
}

```



```
}%
}
```

There are now three types of cross-references: the `see` key (as original), the `alias` key (from `glossaries-extra` v1.12) and the `seealso` key (from `glossaries-extra` v1.16). The original `see` key needs to have a corresponding field (which it doesn't with the base `glossaries` package).

`\@newglossaryentryposthook` Hook into end of `\newglossaryentry` to add “see” value as a field.

```
\appto\@newglossaryentryposthook{%
  \ifdefvoid\@glo@see
    {\csxdef{glo@\@glo@label @see}{}}%
  {%
    \csxdef{glo@\@glo@label @see}{\@glo@see}%
    \if@glxtr@autoseeindex
      \@glxtr@autoindexcrossrefs
    \fi
  }%
}
```

```
\appto\@gls@keymap{, {see}{see}}
```

```
\glxtrseelistsencap{<content>}
```

`\glxtrseelistsencap`

Encapsulates cross-reference list.

```
\newcommand*{\glxtrseelistsencap}[1]{\space #1}
```

`\glxtrseelistsdelim` Delimiter in cross-reference list.

```
\newcommand*{\glxtrseelistsdelim}{, }
```

```
\glxtrseelists{<label>}
```

`\glxtrseelists`

```
\newcommand*{\glxtrseelists}[1]{%
  \glsdoifexists{#1}%
  {%
    \def\@glxtr@seelists{%
      \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@see}%
      \ifdefempty\@glo@see
        {}%
      {%
        \protected@edef\@glxtr@seelists{%
          \noexpand\glxtr@usesee\@glo@see\noexpand\@end@glxtr@usesee
        }%
      }%
    }%
    \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@seealso}%
    \ifdefempty\@glo@see
```

```

    {}%
    {%
      \ifdefempty\@glxtr@seelists{}%
      {\appto\@glxtr@seelists{\glxtrseelistsdelim}}%
      \protected@edef\@glxtr@seelists{%
        \noexpand\glxtruseeseealsoformat{\@glo@see}%
      }%
    }%
    \letcs{\@glo@see}{glo\glsdetoklabel{#1}@alias}%
    \ifdefempty\@glo@see
    {}%
    {%
      \ifdefempty\@glxtr@seelists{}%
      {\appto\@glxtr@seelists{\glxtrseelistsdelim}}%
      \protected@edef\@glxtr@seelists{%
        \noexpand\glxtruseeseeformat{\noexpand\seename}{\@glo@see}%
      }%
    }%
    \ifdefempty\@glxtr@seelists{}%
    {\glxtrseelistsencap\@glxtr@seelists}%
  }%
}

```

`\glxtruseesee` Apply `\glsseeformat` to the see key if not empty.

```

\newcommand*{\glxtruseesee}[1]{%
  \glsdoifexists{#1}%
  {%
    \letcs{\@glo@see}{glo\glsdetoklabel{#1}@see}%
    \ifdefempty\@glo@see
    {}%
    {%
      \expandafter\glxtr@useesee\@glo@see\@end@glxtr@useesee
    }%
  }%
}

```

`\glxtr@useesee`

```

\newcommand*{\glxtr@useesee}[1][\seename]{%
  \@glxtr@useesee[#1]%
}

```

`\@glxtr@useesee`

```

\def\@glxtr@useesee[#1]#2\@end@glxtr@useesee{%
  \glxtruseeseeformat{#1}{#2}%
}

```

`\glxtruseeseeformat` The format used by `\glxtruseesee`. The first argument is the tag (such as `\seename`). The second argument is the comma-separated list of cross-referenced labels.

```

\newcommand*\glxtruseeseeformat}[2]{%
  \glsseeformat{#1}{#2}{}%
}

```

`\glsseeitemformat` glossaries originally defined `\glsseeitemformat` to use `\glseentryname` but in v3.0 this was switched to use `\glseentrytext` due to problems occurring with the `name` field being sanitized. Since this is no longer a problem, `glossaries-extra` restored the original definition as it makes more sense to use the `name` in the cross-reference list. Unfortunately this doesn't take style changes into account, so as from v1.42, this now uses `\glsfmttext` and `\glsfmtname` instead. (The `text` field is chosen rather than the `short` field to allow for the “noshort” styles.)

```

\renewcommand*\glsseeitemformat}[1]{%
  \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
}

```

```
\glxtrhiername{<label>}
```

`\glxtrhiername`

Displays the hierarchical name for the given entry. The cross-reference format `\glsseeitemformat` may be redefined to use this command to show the hierarchy, if required. This now uses `\glsfmttext` and `\glsfmtname` instead of `\glsaccessshort` and `\glsaccessname` to allow for style formatting.

```

\newcommand*\glxtrhiername}[1]{%
  \glstexorpdfstring
  {\@glxtrhiername{#1}}%
  {\glseentryname{#1}}%
}

```

`\@glxtrhiername` Provide robust inner command.

```

\newrobustcmd*\@glxtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glxtrifhasfield{parent}{#1}%
    {\expandafter\glxtrhiername\expandafter
      {\glscurrentfieldvalue}\glxtrhiernamesep}%
    }%
  \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
  }%
}

```

```
\Glsxtrhiername{<label>}
```

`\Glsxtrhiername`

As above but displays the top-level name with an initial capital.

```

\newcommand*\Glsxtrhiername}[1]{%
  \glstexorpdfstring
  {\@Glsxtrhiername{#1}}%
}

```

```

    {\MFUsentencecase{\glstryname{#1}}}%
  }

```

`\@Glsxtrhiername` Provide robust inner command.

```

\newrobustcmd*{\@Glsxtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glsxtrifhasfield{parent}{#1}%
    {%
      \expandafter\Glsxtrhiername\expandafter
        {\glscurrentfieldvalue}\glsxtrhiernamesep
      \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
    }%
    {\ifglshasshort{#1}{\Glsfmttext{#1}}{\Glsfmtname{#1}}}%
  }%
}
\glsmfuaddmap{\glsxtrhiername}{\Glsxtrhiername}

```

`\GlsXtrhiername{<label>}`

`\GlsXtrhiername`

As above but converts the first letter of each name to a capital. (Note that this isn't applying title case, just capitalising the start of each hierarchical element.)

```

\newcommand*{\GlsXtrhiername}[1]{%
  \glstexpdfstring
  {\@GlsXtrhiername{#1}}%
  {\glstryname{#1}}%
}

```

`\@GlsXtrhiername` Provide robust inner command.

```

\newrobustcmd*{\@GlsXtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glsxtrifhasfield{parent}{#1}%
    {\expandafter\GlsXtrhiername\expandafter
      {\glscurrentfieldvalue}\glsxtrhiernamesep}%
    {}%
    \ifglshasshort{#1}{\Glsfmttext{#1}}{\Glsfmtname{#1}}%
  }%
}
\glsmfublocker{\GlsXtrhiername}

```

`\GLSxtrhiername{<label>}`

`\GLSxtrhiername`

As above but displays the top-level name in all-caps.

```

\newcommand*{\GLSxtrhiername}[1]{%

```

```

\glstexorpdfstring
{\@GLSxtrhiername{#1}}%
{\GLSxtrusefield{#1}{name}}%
}

```

`\@GLSxtrhiername` Provide robust inner command.

```

\newrobustcmd*{\@GLSxtrhiername}[1]{%
\glsdoifexists{#1}%
{%
\glxtrifhasfield{parent}{#1}%
{%
\expandafter\GLSxtrhiername\expandafter
{\glscurrentfieldvalue}\glsxtrhiernamesep
\ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
}%
{\ifglshasshort{#1}{\GLSfmttext{#1}}{\GLSfmtname{#1}}}%
}%
}
\glsmfublocker{\@GLSxtrhiername}

```

`\GLSXTRhiername{<label>}`

`\GLSXTRhiername`

As above but displays all names in all-caps.

```

\newcommand*{\GLSXTRhiername}[1]{%
\glstexorpdfstring
{\@GLSXTRhiername{#1}}%
{\GLSxtrusefield{#1}{name}}%
}

```

`\@GLSXTRhiername` Provide robust inner command.

```

\newrobustcmd*{\@GLSXTRhiername}[1]{%
\glsdoifexists{#1}%
{%
\glxtrifhasfield{parent}{#1}%
{\expandafter\GLSXTRhiername\expandafter
{\glscurrentfieldvalue}\glsxtrhiernamesep}%
}%
\ifglshasshort{#1}{\GLSfmttext{#1}}{\GLSfmtname{#1}}%
}%
}
\glsmfublocker{\@GLSXTRhiername}

```

`\glsxtrhiernamesep` Separator used in `\glxtrhiername` and variants.

```

\newcommand*{\glsxtrhiernamesep}{\,\small\triangleright\,}

```

`\glsxtruseseealso` Apply `\glsseeformat` to the `seealso` key if not empty. There's no optional tag to worry about here.

```

\newcommand*\glxtruseseealso}[1]{%
  \glsdofexists{#1}%
  {%
    \letcs{\@glo@see}{glo\glsdetoklabel{#1}@seealso}%
    \ifdefempty\@glo@see
    {}%
    {%
      \expandafter\glxtruseseealsoformat\expandafter{\@glo@see}%
    }%
  }%
}

```

`\glxtrusealias` Apply `\glsseeformat` to the alias key if not empty. There's no optional tag to worry about here. The value also isn't a comma-separated list, but use the same interface.

```

\newcommand*\glxtrusealias}[1]{%
  \glsdofexists{#1}%
  {%
    \letcs{\@glo@see}{glo\glsdetoklabel{#1}@alias}%
    \ifdefempty\@glo@see
    {}%
    {%

```

Expansion isn't necessary because the value is a single label not a list.

```

      \glxtruseseeformat{\seename}{\@glo@see}%
    }%
  }%
}

```

`\glxtruseseealsoformat` The format used by `\glxtruseseealso`. The argument is the comma-separated list of cross-referenced labels.

```

\newcommand*\glxtruseseealsoformat}[1]{%
  \glsseeformat[\seesalsoname]{#1}{}%
}

```

`\glxtrseelist` Fully expands argument before passing to `\glsseelist`. (The argument to `\glsseelist` must be a comma-separated list of entry labels.)

```

\newrobustcmd*\glxtrseelist}[1]{%
  \protected@edef\@glo@tmp{\noexpand\glsseelist{#1}}\@glo@tmp
}

```

`\glsseelist` Redefine to make `\glsseelist` more flexible.

```

\renewrobustcmd*\glsseelist}[1]{%
  \let\@gls@dolast\relax
  \let\@gls@donext\relax
  \let\@glsseeitem\@glxtr@seefirstitem
  \let\@glsseelastsep\glsseelastsep
  \@for\@gls@thislabel:=#1\do{%
    \ifx\@xfor@nextelement\@nnil

```

```

        \@gls@dolast
    \else
        \@gls@donext
    \fi
    \expandafter\@glsseeitem\expandafter{\@gls@thislabel}%
    \let\@gls@dolast\@glsseelastsep
    \let\@gls@donext\@glsseesep
    \let\@glsseeitem\@glsxtr@seeitem
    \let\@glsseelastsep\@glsseelastoxfordsep
}
}

```

`\glsxtrtaggedlistsep` Separator between the tag and the list in `\glsxtrtaggedlist`

```
\newcommand{\glsxtrtaggedlistsep}{\space}
```

```
\glsxtrtaggedlist{<singular tag>}{<plural
tag>}{<label prefix>}{<label list>}
```

`\glsxtrtaggedlist`

Similar to the above but the tag is selected depending on how many items there are in the list.

```

\newrobustcmd*{\glsxtrtaggedlist}[4]{%
\begingroup
\protected@edef\@gls@taggedlist@labels{#4}%
\let\@gls@dolast\relax
\let\@gls@donext\relax
\let\@glsseeitem\@glsxtr@seefirstitem
\let\@glsseelastsep\@glsseelastsep
\def\@gls@taggedlist@content{}%
\let\@gls@taggedlist@tag\relax
\@for\@gls@thislabel:=\@gls@taggedlist@labels\do{%
\ifx\@xfor@nextelement\@nnil
\ifx\@gls@dolast\relax
\else
\ea\@gls@taggedlist@content{\expandonce\@gls@dolast}%
\fi
\else
\ifx\@gls@dolast\relax
\else
\ea\@gls@taggedlist@content{\expandonce\@gls@donext}%
\fi
\fi
\protected@ea\@gls@taggedlist@content{\noexpand\@glsseeitem
{#3\@gls@thislabel}}%
\let\@gls@dolast\@glsseelastsep
\let\@gls@donext\@glsseesep
\let\@glsseeitem\@glsxtr@seeitem
\let\@glsseelastsep\@glsseelastoxfordsep
\ifx\@gls@taggedlist@tag\relax

```

```

        \def\@gls@taggedlist@tag{#1\glsxtrtaggedlistsep}%
        \else
        \def\@gls@taggedlist@tag{#2\glsxtrtaggedlistsep}%
        \fi
    }%
    \@gls@taggedlist@tag\@gls@taggedlist@content
\endgroup
}

\@glsxtr@seeitem
\newcommand*\@glsxtr@seeitem[1]{%
\glsxtrifmulti{#1}{\mglssseeitem{#1}}{\glsseeitem{#1}}%
}

\@glsxtr@seefirstitem
\newcommand*\@glsxtr@seefirstitem[1]{%
\glsxtrifmulti{#1}{\mglssseefirstitem{#1}}{\glsseefirstitem{#1}}%
}

\mglssseeitem Multi-entry cross-reference
\newcommand*\mglssseeitem[1]{%
\mglssname[all={noindex},setup={hyper=allmain}]{#1}%
}

\mglssseefirstitem Multi-entry cross-reference
\newcommand*\mglssseefirstitem{\mglssseeitem}

\glsseefirstitem
\newcommand*\glsseefirstitem{\glsseeitem}

\glsseelastoxfordsep
\newcommand*\glsseelastoxfordsep{\glsseelastsep}

\seealso In case this command hasn't been defined. Languages packages actually provide
\also so use that if it's defined.
\ifdef\also
{\providecommand{\seealso}{\also}}
{\providecommand{\seealso}{see also}}

\glsxtrindexseealso If \@xdycrossrefhook is defined, provide a seealso crossref class. Otherwise
this just does \glssee with \seealso as the tag. The hook is only defined
if both xindy and glossaries v4.30+ are being used.
\ifdef\@xdycrossrefhook
{
Add the cross-reference class definition to the hook.
\appto\@xdycrossrefhook{%
\write\glswrite{(define-crossref-class \string"seealso\string"
:unverified )}%
}
}

```



```

\write\glswrite{(markup-crossref-list
: class \string"seealso\string"^^J\space\space\space
: open \string"\string\glsxtruseealsoformat\glsopenbrace\string"
: close \string"\glsclosebrace\string")}%
}

```

Append to class list.

```
\appto\@xdylocationclassorder{\space\string"seealso\string"}
```

This essentially works like `\do@seeglossary` but uses the `seealso` class. This doesn't increment the associated counter.

```

\newrobustcmd*{\glsxtrindexseealso}[2]{%
\glsxtr@wrglossary@encap{#1}
{%
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@alsoindex
\glsxtr@recordsee{#1}{#2}%
\fi
\glsdoifexists{#1}%
{%
\@glsxtrwrglossmark
\def\@gls@xref{#2}%
\@onelevel@sanitize\@gls@xref
\@gls@checkmkidxchars\@gls@xref
\gls@glossary{\csname glo@#1@type\endcsname}{%
(indexentry
: tkey (\csname glo@#1@index\endcsname)
: xref (\string"\@gls@xref\string")
: attr \string"seealso\string"
)
}%
}%
}%
}
}
{

```

xindy not in use or glossaries version too old to support this.

```

\newrobustcmd*{\glsxtrindexseealso}{\glssee[\seealsoname]}
}

```

The alias key should be set to the label of the synonymous entry. The `seealso` key essentially behaves like `see=[\seealsoname]{\xr-list}`. Neither of these new keys has the optional tag part allowed with `see`.

If `\gls@set@xr@key` has been defined (glossaries v4.30), use that, otherwise just use `\glsaddstoragekey`.

```

\ifdef\gls@set@xr@key
{

```

We have at least glossaries v4.30. This means the new keys can be governed by the same settings as the `see` key.

```

\define@key{glossentry}{alias}{%
  \gls@set@xr@key{alias}{\@glo@alias}{#1}%
}
\define@key{glossentry}{seealso}{%
  \gls@set@xr@key{seealso}{\@glo@seealso}{#1}%
}

```

Add to the key mappings.

```
\appto@gls@keymap{, {alias}{alias}, {seealso}{seealso}}
```

Set the default value.

```
\appto@newglossaryentryprehook{\def\@glo@alias{}\def\@glo@seealso{}}%
```

Assign the field values.

```

\appto@newglossaryentryposthook{%
  \ifdefvoid\@glo@seealso
  {\csxdef{glo@\@glo@label @seealso}{}}%
  {%
    \csxdef{glo@\@glo@label @seealso}{\@glo@seealso}%
    \ifglsxtr@autoindex
    \@glsxtr@autoindexcrossrefs
    \fi
  }%
}

```

The alias field doesn't trigger the automatic cross-reference indexing performed at the end of the document.

```

\ifdefvoid\@glo@alias
{\csxdef{glo@\@glo@label @alias}{}}%
{%
  \csxdef{glo@\@glo@label @alias}{\@glo@alias}%
  \glsxtr@aliashook{\@glo@label}%
}%
}

```

Provide user-level commands to access the values.

`\glsxtralias`

```
\newcommand*\glsxtralias[1]{\@gls@entry@field{#1}{alias}}
```

`\glsxtrseealsolabels`

```
\newcommand*\glsxtrseealsolabels[1]{\@gls@entry@field{#1}{seealso}}
```

Add to the `\@glo@autosee` hook.

```

\appto@glo@autoseehook{%
  \ifdefvoid\@glo@alias
  {%
    \ifdefvoid\@glo@seealso
    {}}%
  {%

```

```

        \protected@edef\@do@glsee{\noexpand\glxtrindexseealso
        {\@glo@label}{\@glo@seealso}}%
        \@do@glsee
    }%
}%
{%
```

Add cross-reference if see key hasn't been used.

```

        \ifdefvoid\@glo@see
        {%
        \protected@edef\@do@glsee{\noexpand\glsee{\@glo@label}{\@glo@alias}}%
        \@do@glsee
        \glxtraliashook{\@glo@label}%
        }%
        {}%
    }%
}%
}
{
```

We have an older version of glossaries, so just use `\glsaddstoragekey`.

`\glxtralias`

```
\glsaddstoragekey*{alias}{\glxtralias}
```

`\glxtrseealsolabels`

```
\glsaddstoragekey*{seealso}{\glxtrseealsolabels}
```

If `\gls@set@xr@key` isn't defined, then `\@glo@autosee` won't be either, so use the post entry definition hook.

`\@newglossaryentryposthook` Append to the hook to check for the alias and seealso keys.

```

\appto\@newglossaryentryposthook{%
\ifcsvoid{glo@\@glo@label @alias}%
{%
\ifcsvoid{glo@\@glo@label @seealso}%
}%
}%

\protected@edef\@do@glsee{\noexpand\glxtrindexseealso
{\@glo@label}{\csuse{glo@\@glo@label @seealso}}}%
\@do@glsee
}%
}%
{%
```

Add cross-reference if see key hasn't been used.

```

\ifdefvoid\@glo@see
{%
```

```

        \protected@edef\@do@glsssee{\noexpand\glsssee
            {\@glo@label}{\csuse{glo@\@glo@label @alias}}}%
        \@do@glsssee
    }%
    {}%
}
}
}

```

`\glxtraliashook` Provide a hook that's used when the alias field is provided.

```
\newcommand*\glxtraliashook}[1]{}

```

Add all unused cross-references at the end of the document.

```
\AtEndDocument{\ifglxtrindexcrossrefs\glxtraddallcrossrefs\fi}

```

`\glxtraddallcrossrefs` Iterate through all used entries and if they have a cross-reference, make sure the cross-reference has been added.

```

\newcommand*\glxtraddallcrossrefs{%
  \forallglossaries{\@glo@type}%
  {%
    \forglsentries[\@glo@type]{\@glo@label}%
    {%
      \ifglssused{\@glo@label}{\glxtraddunusedxrefs{\@glo@label}}}%
    }%
  }%
}

```

`\glxtraddunusedxrefs` Added user-level command in case user wants to redefine `\glxtraddallcrossrefs`

```
\newcommand*\glxtraddunusedxrefs}[1]{\expandafter\@glxtr@addunusedxrefs\expandafter{#1}}

```

`\@glxtr@addunusedxrefs` If the given entry has a see or seealso field add all unused cross-references. (The alias field isn't checked.)

```

\newcommand*\@glxtr@addunusedxrefs}[1]{%
  \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@see}%
  \ifdefvoid\@glo@see
  {}%
  {%
    \expandafter\glxtr@addunused\@glo@see\@end@glxtr@addunused
  }%
  \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@seealso}%
  \ifdefvoid\@glo@see
  {}%
  {%
    \expandafter\glxtr@addunused\@glo@see\@end@glxtr@addunused
  }%
}

```

`\glsxtr@addunused` Adds all the entries if they haven't been used.

```
\newcommand*{\glsxtr@addunused}[1] [] {%
  \glsxtr@addunused
}
```

`\@glsxtr@addunused` Adds all the entries if they haven't been used.

```
\def\@glsxtr@addunused#1\@endglsxtr@addunused{%
  \for\@glsxtr@label:=#1\do
  {%
    \glsxtrifmulti\@glsxtr@label
    {%
      \letcs\@glsxtr@labellist{\gls@combined@\@glsxtr@label @list}%
      \for\@glsxtr@multilabel:=\@glsxtr@labellist\do
      {\@glsxtr@addunused\@glsxtr@multilabel\@endglsxtr@addunused}%
    }%
    {%
      \ifglsused{\@glsxtr@label}{}%
      {%
        \glsadd[format=glsxtrunusedformat]{\@glsxtr@label}%
        \glsunset{\@glsxtr@label}%
        \expandafter\@glsxtr@addunusedxrefs\expandafter{\@glsxtr@label}%
      }%
    }%
  }%
}
```

`\glsxtrunusedformat`

```
\newcommand*{\glsxtrunusedformat}[1]{\unskip}
```

### 1.3.2 Document Definitions

`\gls@begindocdefs` This command was only introduced to glossaries v4.37, so it may not be defined. If it has been defined, redefine it to check `\@glsxtr@docdefval` so that it only inputs the `.glsdefs` file if `docdef=true`.

```
\ifdef\gls@begindocdefs
{%
  \renewcommand*{\gls@begindocdefs}{%
    \ifnum\@glsxtr@docdefval=1\relax
    \@gls@enablesavenonumberlist
    \edef\@gls@restoreat{%
      \noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
    \makeatletter
    \InputIfFileExists{\jobname.glsdefs}{-}{-}%
    \@gls@restoreat
    \undef\@gls@restoreat
    \gls@defdocnewglossaryentry
  }%
  \else
    \ifnum\@glsxtr@docdefval=3\relax
```

The `docdef=atom` package option has been set. Create the `.glsdefs` file for the autocomplete support but don't read it.

```
\@gls@enablesavenonumberlist
\let\gls@checkseeallowed\relax
\let\newglossaryentry\new@atom@glossaryentry
\global\newwrite\@gls@deffile
\immediate\openout\@gls@deffile=\jobname.glsdefs
```

Write all currently defined entries.

```
\forallglsentries{\@glsentry}{\@gls@writedef{\@glsentry}}%
\fi
\fi
}
}
{%
\ifnum\@glsxtr@docdefval=3\relax
\PackageError{glossaries-extra}{Package option
‘docdef=\@glsxtr@docdefsetting’ requires at least version 4.37
of the base glossaries.sty package}{}
\fi
}
}
```

`\new@atom@glossaryentry`

```
\newrobustcmd{\new@atom@glossaryentry}[2]{%
\gls@defglossaryentry{#1}{#2}%
\@gls@writedef{#1}%
}
```

`\makenoidxglossaries` Modify `\makenoidxglossaries` so that it automatically sets `docdef=false` (unless the restricted setting is on) and disables the `docdef` key. This command isn't allowed with the `record` option.

```
\let\glsxtr@orgmakenoidxglossaries\makenoidxglossaries
\renewcommand{\makenoidxglossaries}{%
\def\glsindexingsetting{noidx}%
\@domakeglossaries
{%
\ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off
{%
\glsxtr@orgmakenoidxglossaries
```

Add marker to `\@do@seeglossary` but don't increment associated counter.

```
\renewcommand{\@do@seeglossary}[2]{%
\@glsxtrwrglossmark

\protected@edef\@gls@label{\glsdetoklabel{##1}}%
\protected@write\@auxout{}{%
\string\@gls@reference
{\csname glo@\@gls@label @type\endcsname}%
{\@gls@label}%
}%
```

```

        \string\glsseeformat##2}%
    }%
} %
} %

```

Check for docdefs=restricted:

```
\if@glxtrdocdefrestricted
```

If restricted document definitions allowed, adjust `\@gls@reference` so that it doesn't test for existence.

```

\renewcommand*{\@gls@reference}[3]{%
  \ifcsundef{@glsref##1}{\csgdef{@glsref##1}{}}{}%
  \ifinlistcs{##2}{@glsref##1}%
  {}%
  {\listcsgadd{@glsref##1}{##2}}%
  \ifcsundef{glo@glsdetoklabel{##2}@loclist}%
  {\csgdef{glo@glsdetoklabel{##2}@loclist}{}}%
  {}%
  \listcsgadd{glo@glsdetoklabel{##2}@loclist}{##3}%
}%
\else

```

Disable document definitions.

```

  \@glxtrdocdeffalse
  \fi
  \disable@keys{glossaries-extra.sty}{docdef}%
}%
{%
  \PackageError{glossaries-extra}{\string\makenoidxglossaries\space
not permitted\MessageBreak
with record=@glxtr@record@setting\space package option}%
{You may only use \string\makenoidxglossaries\ space with the
record=off option}%
}%
\let@gls@warn@noidx@incompatible@gls@warn@noidx@incompatible
}%
}

```

`\gls@warn@noidx@incompatible`

```
\newcommand*{\gls@warn@noidx@incompatible}[2]{}
```

`\gls@warn@noidx@incompatible`

```

\newcommand*{\@gls@warn@noidx@incompatible}[2]{%
  #2\GlossariesExtraWarning{#1\space is incompatible with \string\makenoidxglossaries}%
}

```

`\noidxmakegloss@incompatible`

```

\newcommand*{\gls@warn@noidxmakegloss@incompatible}[2]{%
  \gls@warn@noidx@incompatible{#1}{#2}%
  \gls@warn@makegloss@incompatible{#1}{#2}%
}

```

`\gls@defdocnewglossaryentry` Modify `\gls@defdocnewglossaryentry` so that it checks the `docdef` value.

```
\renewcommand*\gls@defdocnewglossaryentry}{%
  \ifcase\@glsxtr@docdefval
docdef=false:
  \renewcommand*\newglossaryentry}[2]{%
    \PackageError{glossaries-extra}{Glossary entries must
      be \MessageBreak defined in the preamble with \MessageBreak
      package option ‘docdef=false’\MessageBreak(consider using
      ‘docdef=restricted’)}{Move your glossary definitions to
      the preamble. You can also put them in a \MessageBreak separate file
      and load them with \string\loadglsentries.}%
  }%
\or
```

(`docdef=true` case.) Since the `see` value is now saved in a field, it can be used by entries that have been defined in the document.

```
\let\gls@checkseeallowed\relax
\let\newglossaryentry\new@glossaryentry
\else
```

Restricted mode just needs to allow the `see` value.

```
\let\gls@checkseeallowed\relax
\fi
}%
```

Permit a special form of document definition, but only allow it if the glossaries come at the end of the document. These commands behave a little like a combination of `\newterm` and `\gls`. This must be explicitly enabled with the following.

`\GlsXtrEnableOnTheFly`

```
\newcommand*\GlsXtrEnableOnTheFly}{%
  \ifstar\@sGlsXtrEnableOnTheFly\@GlsXtrEnableOnTheFly
}
```

`\@sGlsXtrEnableOnTheFly` The starred version attempts to allow UTF8 characters in the label, but this may break! (Formatting commands mustn't be used in the label, but the label may be a command whose replacement text is the actual label. This doesn't take into account a command that's defined in terms of another command that may eventually expand to the label text.)

```
\newcommand*\@sGlsXtrEnableOnTheFly}{%
  \renewcommand*\glsdetoklabel}[1]{%
    \expandafter\@glsxtr@ifcsstart\string##1 \@glsxtr@end@
    {%
      \expandafter\detokenize\expandafter{##1}%
    }%
    {\detokenize{##1}}%
  }%
  \@GlsXtrEnableOnTheFly
```



```

}
\def\@glxtr@ifcsstart#1#2\@glxtr@end@#3#4{%
  \expandafter\if\glslbackslash#1%
  #3%
  \else
  #4%
  \fi
}

```

`\glxtrstarflywarn`

```

\newcommand*\glxtrstarflywarn{%
  \GlossariesExtraWarning{Experimental starred version of
  \string\GlsXtrEnableOnTheFly\space in use (please ensure you have
  read the warnings in the glossaries-extra user manual)}%
}

```

`\@GlsXtrEnableOnTheFly`

```

\newcommand*\@GlsXtrEnableOnTheFly{%

```

Don't redefine `\glsdetoklabel` if LuaTeX or XeTeX is being used, since it's mainly to allow accented characters in the label.

These definitions are all assigned the category given by:

`\glxtrcat`

```

\newcommand*\glxtrcat{general}

```

`\glxtr`

```

\newcommand*\glxtr[1] []{%
  \def\glxtr@keylist{##1}%
  \@glxtr
}

```

`\@glxtr`

```

\newcommand*\@glxtr[2] []{%
  \ifglstryexists{##2}%
  {%
    \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
  }%
  {%
    \gls@defglossaryentry{##2}{name={##2},category=\glxtrcat,
    description={\nopostdesc},##1}%
  }%
  \expandafter\gls\expandafter[\glxtr@keylist]{##2}%
}

```

`\Glsxtr`

```

\newcommand*\Glsxtr[1] []{%
  \def\glxtr@keylist{##1}%
  \@Glsxtr
}

```

```

}
\glsmfuaddmap{\glxtr}{\Glsxtr}

\@Glsxtr
\newcommand*{\@Glsxtr}[2] [] {%
  \ifglstryexists{##2}%
  {%
    \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
  }%
  {%
    \gls@defglossaryentry{##2}{name={##2},category=\glxtrcat,
      description={\nopostdesc},##1}%
  }%
  \expandafter\Gls\expandafter[\glxtr@keylist]{##2}%
}

\glxtrpl
\newcommand*{\glxtrpl}[1] [] {%
  \def\glxtr@keylist{##1}%
  \@glxtrpl
}

\@glxtrpl
\newcommand*{\@glxtrpl}[2] [] {%
  \ifglstryexists{##2}%
  {%
    \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
  }%
  {%
    \gls@defglossaryentry{##2}{name={##2},category=\glxtrcat,
      description={\nopostdesc},##1}%
  }%
  \expandafter\glsp\expandafter[\glxtr@keylist]{##2}%
}

\Glsxtrpl
\newcommand*{\Glsxtrpl}[1] [] {%
  \def\glxtr@keylist{##1}%
  \@Glsxtrpl
}
\glsmfuaddmap{\glxtrpl}{\Glsxtrpl}

\@Glsxtrpl
\newcommand*{\@Glsxtrpl}[2] [] {%
  \ifglstryexists{##2}
  {%
    \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
  }%
  {%

```

```

\gls@defglossaryentry{##2}{name={##2},category=\glsxtrcat,
description={\nopostdesc},##1}%
}%
\expandafter\Glspl\expandafter[\glsxtr@keylist]{##2}%
}

```

\GlsXtrWarning

```

\newcommand*\GlsXtrWarning}[2]{%
\def\@glsxtr@optlist{##1}%
\@onelevel@sanitize\@glsxtr@optlist
\GlossariesExtraWarning{The options ‘\@glsxtr@optlist’ have
been ignored for entry ‘##2’ as it has already been defined}%
}

```

Disable commands after the glossary:

```

\renewcommand\@printglossary[2]{%
\def\@glsxtr@printglossopts{##1}%
\@glsxtr@orgprintglossary{##1}{##2}%
\def\@glsxtr{\@glsxtr@disabledflycommand\glsxtr}%
\def\@glsxtrpl{\@glsxtr@disabledflycommand\glsxtrpl}%
\def\@Glsxtr{\@glsxtr@disabledflycommand\Glsxtr}%
\def\@Glsxtrpl{\@glsxtr@disabledflycommand\Glsxtrpl}%
}

```

\@glsxtr@disabledflycommand

```

\newcommand*\@glsxtr@disabledflycommand}[1]{%
\PackageError{glossaries-extra}%
{string##1\space can’t be used after any of the \MessageBreak
glossaries have been displayed}%
{The on-the-fly commands enabled by
\string\GlsXtrEnableOnTheFly\space may only be used \MessageBreak
before the glossaries. If you want to use any entries \MessageBreak
after any of the glossaries, you must use the standard \MessageBreak
method of first defining the entry and then using the \MessageBreak
entry with commands like \string\gls}%
\@glsxtr@disabledflycommand
}%
\newcommand*\@glsxtr@disabledflycommand}[2][\]{##2}

```

End of \GlsXtrEnableOnTheFly. Disable since it can only be used once.

```

\let\GlsXtrEnableOnTheFly\relax
}
\@onlypreamble\GlsXtrEnableOnTheFly

```

### 1.3.3 Existing Glossary Style Modifications

Modify \setglossarystyle to keep track of the current style. This allows the \glossaries-extra-stylemods package to reset the current style after the required modifications have been made.

`\@glxtr@current@style` Initialise the current style to the default style.

```
\newcommand*\@glxtr@current@style{\@glossary@default@style}
```

`\glxtrpreglossarystyle` A hook to initialise default definitions for style commands.

```
\newcommand{\glxtrpreglossarystyle}{%
  \renewcommand*\glssubgroupheading[4]{\glsgroupheading{##4}}%
}
```

Modify `\setglossarystyle` to set `\@glxtr@current@style` and reset `\glssubgroupheading` in case the style doesn't support it.

`\setglossarystyle`

```
\renewcommand*\setglossarystyle[1]{%
  \ifcsundef{@glsstyle@#1}%
  {%
    \PackageError{glossaries-extra}{Glossary style '#1' undefined}{}%
  }%
  {%
    \glxtrpreglossarystyle
    \csname @glsstyle@#1\endcsname
  }
```

Only set the current style if it exists.

```
\protected@edef\@glxtr@current@style{#1}%
}%
```

Set this as the default, if a default hasn't been set.

```
\ifx\@glossary@default@style\relax
  \protected@edef\@glossary@default@style{#1}%
\fi
}
```

In case we have an old version of `glossaries`:

```
\ifdef\@glossary@default@style
{}
{%
  \let\@glossary@default@style\relax
}
```

`\glslistdottedwidth` If `\glslistdottedwidth` has been defined and is currently equal to `.5\hsize` then make the modification suggested in [bug report #92](#)

```
\ifdef\glslistdottedwidth
{%
  \ifdim\glslistdottedwidth=.5\hsize
  \setlength{\glslistdottedwidth}{-\dimexpr\maxdimen-1sp\relax}
  \AtBeginDocument{%
    \ifdim\glslistdottedwidth=-\dimexpr\maxdimen-1sp\relax
    \setlength{\glslistdottedwidth}{.5\columnwidth}%
  \fi
  }%
\fi
```

```
}  
{}%
```

Similarly for `\glsdescwidth`:

```
\glsdescwidth  
\ifdef\glsdescwidth  
{%  
  \ifdim\glsdescwidth=.6\hsize  
    \setlength{\glsdescwidth}{-\dimexpr\maxdimen-1sp\relax}  
    \AtBeginDocument{%  
      \ifdim\glsdescwidth=-\dimexpr\maxdimen-1sp\relax  
        \setlength{\glsdescwidth}{.6\columnwidth}%  
      \fi  
    }%  
  \fi  
}  
{}%
```

and for `\glspagelistwidth`:

```
\glspagelistwidth  
\ifdef\glspagelistwidth  
{%  
  \ifdim\glspagelistwidth=.1\hsize  
    \setlength{\glspagelistwidth}{-\dimexpr\maxdimen-1sp\relax}  
    \AtBeginDocument{%  
      \ifdim\glspagelistwidth=-\dimexpr\maxdimen-1sp\relax  
        \setlength{\glspagelistwidth}{.1\columnwidth}%  
      \fi  
    }%  
  \fi  
}  
{}%
```

`\glossaryentrynumbers` Has the `nonumberlist` option been used?

```
\def\org@glossaryentrynumbers#1{#1\gls@save@numberlist{#1}}%  
\ifx\org@glossaryentrynumbers\glossaryentrynumbers  
  \glsnonumberlistfalse  
  \renewcommand*{\glossaryentrynumbers}[1]{%  
    \ifglsentryexists{\glscurrententrylabel}%  
    {%  
      \@glsxtrpreloctag  
      \GlsXtrFormatLocationList{#1}%  
      \@glsxtrpostloctag  
      \gls@save@numberlist{#1}%  
    }{}%  
  }%  
\else  
  \glsnonumberlisttrue
```

```

\renewcommand*\glossaryentrynumbers}[1]{%
  \ifglsentryexists{\glscurrententrylabel}%
  {%
    \gls@save@numberlist{#1}%
  }{}%
}%
\fi

```

`\GlsXtrFormatLocationList` Provide an easy interface to change the format of the location list without removing the save number list stuff.

```
\newcommand*\GlsXtrFormatLocationList}[1]{#1}
```

Sometimes users want to prefix the location list with “page”/“pages”. The simplest way to determine if the location list consists of a single location is to check for instances of `\delimN` or `\delimR`, but this isn’t so easy to do as they might be embedded inside the argument of formatting commands. With a bit of trickery we can find out by adjusting `\delimN` and `\delimR` to set a flag and then save information to the auxiliary file for the next run.

`\GlsXtrEnablePreLocationTag`

```

\newcommand*\GlsXtrEnablePreLocationTag}[2]{%
  \let\@glsxtrpreloctag\@glsxtrpreloctag
  \let\@glsxtrpostloctag\@glsxtrpostloctag
  \renewcommand*\@glsxtr@pagetag}{#1}%
  \renewcommand*\@glsxtr@pagetag}{#2}%
  \renewcommand*\@glsxtr@savepreloctag}[2]{%
    \csgdef{\@glsxtr@preloctag@##1}{##2}%
  }%
  \renewcommand*\@glsxtr@doloctag}{%
    \ifcsundef{\@glsxtr@preloctag@\glscurrententrylabel}%
    {%
      \GlossariesWarning{Missing pre-location tag for ‘\glscurrententrylabel’.
        Rerun required}%
    }%
    {%
      \csuse{\@glsxtr@preloctag@\glscurrententrylabel}%
    }%
  }%
}
\@onlypreamble\GlsXtrEnablePreLocationTag

```

`\@glsxtrpreloctag`

```

\newcommand*\@glsxtrpreloctag){%
  \let\@glsxtr@org@delimN\delimN
  \let\@glsxtr@org@delimR\delimR
  \let\@glsxtr@org@glsignore\glsignore

```

`\gdef` is required as the delimiters may occur inside a scope.

```

\gdef\@glsxtr@thisloctag{\@glsxtr@pagetag}%
\renewcommand*\@delimN){%

```

```

        \gdef\@glsxtr@thisloctag{\@glsxtr@pagetag}%
        \@glsxtr@org@delimN}%
    \renewcommand*\@delimR}{%
        \gdef\@glsxtr@thisloctag{\@glsxtr@pagetag}%
        \@glsxtr@org@delimR}%
    \renewcommand*\@glsignore}[1]{%
        \gdef\@glsxtr@thisloctag{\relax}%
        \@glsxtr@org@glsignore{##1}}%
    \@glsxtr@doloctag
}

\@glsxtr@preloctag
\newcommand*\@glsxtr@preloctag}{

\@glsxtr@pagetag
\newcommand*\@glsxtr@pagetag}{}%

\@glsxtr@pagetag
\newcommand*\@glsxtr@pagetag}{}%

\@glsxtr@postloctag
\newcommand*\@glsxtr@postloctag}{%
    \let\delimN\@glsxtr@org@delimN
    \let\delimR\@glsxtr@org@delimR
    \let\glsignore\@glsxtr@org@glsignore
    \protected@write\@auxout{%
        {\string\@glsxtr@savepreloctag{\glscurrententrylabel}{\@glsxtr@thisloctag}}%
    }

\@glsxtr@postloctag
\newcommand*\@glsxtr@postloctag}{

\@glsxtr@preloctag
\newcommand*\@glsxtr@savepreloctag}[2]{
\protected@write\@auxout}{%
    \string\providecommand\string\@glsxtr@savepreloctag[2]{}

\@glsxtr@doloctag
\newcommand*\@glsxtr@doloctag}{

```

\KV@printgloss@nonumberlist Modify the nonumberlist key to use \GlsXtrFormatLocationList (and also save the number list):

```

\renewcommand*\KV@printgloss@nonumberlist}[1]{%
    \XKV@plfalse
    \XKV@sttrue
    \XKV@checkchoice[\XKV@resa]{#1}{true,false}%
    {%
        \csname glsnonumberlist\XKV@resa\endcsname
        \ifglsnonumberlist

```

```

        \def\glossaryentrynumbers##1{\gls@save@numberlist{##1}}%
    \else
        \def\glossaryentrynumbers##1{%
            \@glsxtrpreloctag
            \GlsXtrFormatLocationList{##1}%
            \@glsxtrpostloctag
            \gls@save@numberlist{##1}}%
    \fi
}
}

```

### 1.3.4 Entry Formatting, Hyperlinks and Indexing

`\glsentryfmt` Change default entry format. Use the generic format for regular terms (that is, entries that have a category with the `regular` attribute set) or non-regular terms without a short value and use the abbreviation format for non-regular terms that have a short value. If further attributes need to be checked, then `\glsentryfmt` will need redefining as appropriate (or use `\defglsentryfmt`). The abbreviation format is set here for entries that have a short form, even if they are regular entries to ensure the abbreviation fonts are correct.

```

\renewcommand*\glsentryfmt{%
  \ifglshasshort{\glslabel}{\glssetabbrvfmt{\glscategory{\glslabel}}}{%
    \glsifregular{\glslabel}%
    {\glsxtrregularfont{\glsgenentryfmt}}%
    {%
      \ifglshasshort{\glslabel}%
      {\glsxtrabbreviationfont{\glsxtrgenabbrvfmt}}%
      {\glsxtrregularfont{\glsgenentryfmt}}%
    }%
  }%
}

```

`\glsxtrregularfont` Font used for regular entries.

```
\newcommand*\glsxtrregularfont}[1]{#1}
```

`\glsxtrabbreviationfont` Font used for abbreviation entries.

```
\newcommand*\glsxtrabbreviationfont}[1]{#1}
```

Some formatting commands (such as highlighting or letter spacing) may require expandable content in the argument, so also provide a formatting command for use within `\glsgenentryfmt` for those instances.

`\glsxtrdefaultentrytextfmt` This is the default command that `\glsxtrgenentrytextfmt` is initialised to within `\@gls@link`.

```
\newcommand{\glsxtrdefaultentrytextfmt}[1]{#1}
```

`\glsxtrattentrytextfmt` Provide a convenient command that applies the formatting according to the category attribute. This isn't used by default as this inner formatting should rarely be needed and increases complexity.



```

\newcommand{\glxtrattrentrytextfmt}[1]{%
  \glshasattribute{\glslabel}{innertextformat}%
  {%
    \csuse{\glsgetattribute{\glslabel}{innertextformat}}{#1}%
  }%
  {#1}%
}

```

`\glxtrgenentrytextfmt` This command is a user-level command to allow it to be included in custom formats or styles but it should not be redefined at the user level as it's redefined within `\@gls@link` (similar to other style commands, such as `\gls@scaps`). Redefine `\glxtrdefaultentrytextfmt` to change the default definition for this command.

```

\newcommand*{\glxtrgenentrytextfmt}{\glxtrdefaultentrytextfmt}

```

`\glsfmtfield`

```

\glsfmtfield{<insert>}{<cs>}{<label>}{<field>}

```

Provide a convenient way of applying a formatting command to the actual field contents. No check for existence.

Note this command intentionally isn't robust, as it's possible that a user may want to redefine an abbreviation command to use `\MakeLowercase`, for example, to use smallcaps when abbreviations have been defined with the short version in capitals. Using `\newrobustcmd` will break that case.

```

\newcommand*{\glsfmtfield}[4]{%
  \expandafter\expandafter\expandafter
  #2\expandafter\expandafter\expandafter
  {\csname glo@glsdetoklabel{#3}@#4\endcsname #1}%
}

```

`\Glsfmtfield`

```

\Glsfmtfield{<insert>}{<cs>}{<label>}{<field>}

```

As above but convert first letter to uppercase. Note that if the formatting command can go outside of `\makefirststuc` then it can simply be applied around the appropriate command that expands to the field value. For example,

```

%\emph{\Glsentrytext{label}}
%
```

instead of

```

%\Glsfmtfield{}{\emph}{sample}{text}
%
```

Note this command intentionally isn't robust for the same reason as above. The expansion allows `\makefirststuc` to pick up any mappings or blockers before the content is passed to `\MFUsentencecase`.

```

\newcommand*\Glsfmtfield}[4]{%
  \ifx#2\@firstofone
    \expandafter\expandafter\expandafter
    \glssentencecase\expandafter\expandafter\expandafter
    {%
      \csname glo\glsdetoklabel{#3}@#4\endcsname #1%
    }%
  \else
    \expandafter\expandafter\expandafter
    \glssentencecase\expandafter\expandafter\expandafter
    {%
      \expandafter\expandafter\expandafter
      #2\expandafter\expandafter\expandafter
      {\csname glo\glsdetoklabel{#3}@#4\endcsname #1}%
    }%
  \fi
}
\glsmfuaddmap{\glsfmtfield}{\Glsfmtfield}

```

`\Glsfmtfield{<insert>}{<cs>}{<label>}{<field>}`

`\Glsfmtfield`

As above but convert all to uppercase. The expansion is in case we have an older kernel.

```

\newcommand*\Glsfmtfield}[4]{%
  \ifx#2\@firstofone
    \expandafter\expandafter\expandafter
    \glsuppercase\expandafter\expandafter\expandafter
    {%
      \csname glo\glsdetoklabel{#3}@#4\endcsname #1%
    }%
  \else
    \expandafter\expandafter\expandafter
    \glsuppercase\expandafter\expandafter\expandafter
    {%
      \expandafter\expandafter\expandafter
      #2\expandafter\expandafter\expandafter
      {\csname glo\glsdetoklabel{#3}@#4\endcsname #1}%
    }%
  \fi
}
\glsmfublocker{\Glsfmtfield}

```

`\glsfmtinsert` Formats `\glsinsert`.

```

\newcommand*\glsfmtinsert){%
  \ifdefempty\glsinsert){%
    {\expandafter\glsxtrgenentrytextfmt\expandafter{\glsinsert}}%
  }

```

`\GLSfmtinsert` As above but all caps.

```
\newcommand*\GLSfmtinsert}{%
\ifdefempty\glsinsert}{%
{%
\expandafter\glsuppercase\expandafter
{\expandafter\glsxtrgenentrytextfmt\expandafter{\glsinsert}}%
}%
}
```

```
\glsifapplyinnerfmtfield{<label>}{<field>}{<true>}{<false>}
```

`\glsifapplyinnerfmtfield`

Does *<true>* if `\glsxtrgenentryfmt` should encapsulate the given field with the inner format otherwise does *<false>*.

```
\newcommand*\glsifapplyinnerfmtfield}[4]{%
\ifcsundef{@glo@\glsdetoklabel{#1}@innerfmt@fields}%
{#3}%
{\xifinlistcs{#2}{@glo@\glsdetoklabel{#1}@innerfmt@fields}{#4}{#3}}%
}
```

`\glsexclapplyinnerfmtfield` Adds the field to the exclusion list. This typically means that the field value already contains the inner formatting.

```
\newcommand*\glsexclapplyinnerfmtfield}[2]{%
\listcseadd{@glo@\glsdetoklabel{#1}@innerfmt@fields}{#2}%
}
```

`\glsxtrgenentryfmt` Redefine to use `\glsxtrgenentrytextfmt`

```
\renewcommand*\glsxtrgenentryfmt}{%
\ifdefempty\glscustomtext
{%
\glsifplural
{%
```

Plural form

```
\glscapscase
{%
```

Don't adjust case

```
\ifglsused\glslabel
{%
```

Subsequent use

```
\glsifapplyinnerfmtfield{\glslabel}{plural}%
{%
\expandafter\glsaccessfmtplural\expandafter{\glsinsert}%
{\glsxtrgenentrytextfmt}{\glslabel}%
}%
{\glsaccessplural{\glslabel}\glsfmtinsert}%
}%
{%
```

First use

```
\glsifapplyinnerfmtfield{\glslabel}{firstpl}%  
{%  
  \expandafter\glsaccessfmtfirstplural\expandafter{\glsinsert}%  
  {\glsxtrgenentrytextfmt}{\glslabel}%  
}%  
{\glsaccessfirstplural{\glslabel}\glsfmtinsert}%  
}%  
{%
```

Make first letter upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use.

```
\glsifapplyinnerfmtfield{\glslabel}{plural}%  
{%  
  \expandafter\Glsaccessfmtplural\expandafter  
  {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%  
}%  
{\Glsaccessplural{\glslabel}\glsfmtinsert}%  
}%  
{%
```

First use

```
\glsifapplyinnerfmtfield{\glslabel}{firstpl}%  
{%  
  \expandafter\Glsaccessfmtfirstplural\expandafter  
  {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%  
}%  
{\Glsaccessfirstplural{\glslabel}\glsfmtinsert}%  
}%  
{%
```

Make all upper case

```
\ifglsused\glslabel  
{%
```

Subsequent use

```
\glsifapplyinnerfmtfield{\glslabel}{plural}%  
{%  
  \expandafter\GLSaccessfmtplural\expandafter  
  {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%  
}%  
{\GLSaccessplural{\glslabel}\GLSfmtinsert}%  
}%  
{%
```

First use

```
\glsifapplyinnerfmtfield{\glslabel}{firstpl}%
```

```

    {%
      \expandafter\GLSaccessfmtfirstplural\expandafter
        {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
    }%
    {\GLSaccessfirstplural{\glslabel}\GLSfmtinsert}%
  }%
} %
} %
{ %

```

Singular form

```

\glsupcase
{ %

```

Don't adjust case

```

\ifglsused\glslabel
{ %

```

Subsequent use

```

\glsifapplyinnerfmtfield{\glslabel}{text}%
{ %
  \expandafter\glsaccessfmttext\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
  }%
  {\glsaccessstext{\glslabel}\glsfmtinsert}%
} %
{ %

```

First use

```

\glsifapplyinnerfmtfield{\glslabel}{first}%
{ %
  \expandafter\glsaccessfmtfirst\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
  }%
  {\glsaccessfirst{\glslabel}\glsfmtinsert}%
} %
} %
{ %

```

Make first letter upper case

```

\ifglsused\glslabel
{ %

```

Subsequent use

```

\glsifapplyinnerfmtfield{\glslabel}{text}%
{ %
  \expandafter\Glsaccessfmttext\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
  }%
  {\Glsaccessstext{\glslabel}\glsfmtinsert}%
} %
{ %

```

First use

```
\glsifapplyinnerfmtfield{\glslabel}{first}%
{%
  \expandafter\Glsaccessfmtfirst\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
}%
{\Glsaccessfirst{\glslabel}\glsfmtinsert}%
}%
{%
```

Make all upper case

```
\ifglsused\glslabel
{%
```

Subsequent use

```
\glsifapplyinnerfmtfield{\glslabel}{text}%
{%
  \expandafter\GLSaccessfmttext\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
}%
{\GLSaccesstext{\glslabel}\GLSfmtinsert}%
}%
{%
```

First use

```
\glsifapplyinnerfmtfield{\glslabel}{first}%
{%
  \expandafter\GLSaccessfmtfirst\expandafter
    {\glsinsert}{\glsxtrgenentrytextfmt}{\glslabel}%
}%
{\GLSaccessfirst{\glslabel}\GLSfmtinsert}%
}%
}%
}%
{%
```

Custom text provided in `\glsdisp`, in which case the formatting should already be applied.

```
\glscustomtext
}%
}
```

Commands like `\glsifplural` are only used by the `\gls`-like commands in the `glossaries` package, but it might be useful for the post-link hook to know if the user has used, say, `\glsfirst` or `\glsplural`. This can provide better consistency with the formatting of the `\gls`-like commands, even though they don't use `\glsentryfmt`.

`\glxtrifwasglslike` For use in the post-link hook, this indicates whether or not the hook follows a `\gls-like` command.

```
\newcommand*\glxtrifwasglslike}[2]{#2}
```

`\glxtrifwasglslikeandfirstuse`

```
\newcommand*\glxtrifwasglslikeandfirstuse}[2]{%
  \glxtrifwasglslike
  {%
    \glxtrifwasfirstuse{#1}{#2}%
  }#2}%
}
```

`\glxtrifwassubsequentuse`

```
\newcommand*\glxtrifwassubsequentuse}[2]{%
  \glxtrifwasglslike
  {%
    \glxtrifwasfirstuse{#2}{#1}%
  }#2}%
}
```

`\glxtrifallcaps` Shortcut.

```
\newcommand*\glxtrifallcaps}[2]{\glscapscase{#2}{#1}{#1}}
```

`\glxtrcurrentfield` Another placeholder to find out information about the calling command. This will be empty for the `\gls` and `\glxtrfull` set of commands and will be the singular field otherwise.

```
\newcommand*\glxtrcurrentfield{}
```

`\glxtr@shortfieldname`

```
\newcommand*\glxtr@shortfieldname}{short}
```

`\glxtrifwassubsequentorshort`

```
\newcommand*\glxtrifwassubsequentorshort}[2]{%
  \glxtrifwasglslike
  {%
    \glxtrifwasfirstuse{#2}{#1}%
  }%
  {\ifdefequal\glxtrcurrentfield\glxtr@shortfieldname{#1}{#2}}%
}
```

`\@gls@field@link` Redefine `\@gls@field@link` so that commands like `\glsfirst` can setup `\glxtrifwasfirstuse` etc to allow the postlink hook to work better. This now has an optional argument that sets up the defaults.

```
\renewcommand{\@gls@field@link}[4][]{%
  If the record option has been used, the information needs to be written to the
  aux file regardless of whether the entry exists (unless indexing has been switched
  off).
```

```

\@glsxtr@record{#2}{#3}{glslink}%
\glsdoifexists{#3}%
{%

```

Save and restore the hyper setting (`\@gls@link` also does this, but that's too late if the optional argument of `\@gls@field@link` modifies it).

```

\let\glsxtrorg@ifKV@glslink@hyper\ifKV@glslink@hyper

```

Save local setting.

```

\@gls@save@glslocal

```

Initialise preunset, prereset and postunset

```

\glsinitreunsets
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\def\glscustomtext{#4}%
\@glsxtr@field@linkdefs
#1%
\@gls@link[#2]{#3}{#4}%
\let\ifKV@glslink@hyper\glsxtrorg@ifKV@glslink@hyper
\@gls@restore@glslocal
}%
\glspostlinkhook
}

```

The commands `\gls`, `\Gls` etc don't use `\@gls@field@link`, so they need modifying as well to use `\@glsxtr@record`.

`\@gls@` Save the original definition and redefine.

```

\let\@glsxtr@org@gls@\@gls@
\def\@gls@#1#2{%
  \def\glsxtrcurrentfield{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \@glsxtr@org@gls@{#1}{#2}%
  }%
}

```

`\@glspl@` Save the original definition and redefine.

```

\let\@glsxtr@org@glspl@\@glspl@
\def\@glspl@#1#2{%
  \def\glsxtrcurrentfield{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \@glsxtr@org@glspl@{#1}{#2}%
  }%
}

```

`\@Gls@` Save the original definition and redefine.

```

\let\@glsxtr@org@Gls@\@Gls@
\def\@Gls@#1#2{%
  \def\glsxtrcurrentfield{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \@glsxtr@org@Gls@{#1}{#2}%
  }%
}

```



`\@Glspl@` Save the original definition and redefine.

```
\let\@glxtr@org@Glspl@\@Glspl@
\def\@Glspl@#1#2{%
  \def\glxtrcurrentfield{%
    \@glxtr@record{#1}{#2}{glslink}%
    \@glxtr@org@Glspl@{#1}{#2}%
  }%
```

`\@GLS@` Save the original definition and redefine.

```
\let\@glxtr@org@GLS@\@GLS@
\def\@GLS@#1#2{%
  \def\glxtrcurrentfield{%
    \@glxtr@record{#1}{#2}{glslink}%
    \@glxtr@org@GLS@{#1}{#2}%
  }%
```

`\@GLSpl@` Save the original definition and redefine.

```
\let\@glxtr@org@GLSpl@\@GLSpl@
\def\@GLSpl@#1#2{%
  \def\glxtrcurrentfield{%
    \@glxtr@record{#1}{#2}{glslink}%
    \@glxtr@org@GLSpl@{#1}{#2}%
  }%
```

`\@glsdisp` This is redefined to allow the recording on the first run. Can't save and restore `\@glsdisp` since it has an optional argument.

```
\renewcommand*\@glsdisp}[3][{}]{%
  \def\glxtrcurrentfield{%
    \@glxtr@record{#1}{#2}{glslink}%
    \glsdoifexists{#2}{%
      \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
      \let\glsifplural\@secondoftwo
      \let\gls@scaps\@firstofthree
      \def\gls@customtext{\glxtr@genentrytextfmt{#3}}%
      \def\gls@insert{}%
      \def\@glo@text{\csname gls@\glstype @entryfmt\endcsname}%
      \@gls@link[#1]{#2}{\@glo@text}%
      \@gls@do@glsunset{#2}%
    }%
  \gls@postlinkhook
}
```

`\@gls@@link` Redefine to include `\@glxtr@record`

```
\renewcommand*\@gls@@link}[3][{}]{%
  \def\glxtrcurrentfield{%
    \@glxtr@record{#1}{#2}{glslink}%
    \glsdoifexistsordo{#2}%
  }%
  \let\do@gls@link@checkfirsthyper\relax
```

Post-link hook commands need initialising.

```
\def\glscustomtext{#3}%
\def\glsinsert{}%
\@glsxtr@field@linkdefs
\@gls@link[#1]{#2}{\glsxtrgenentrytextfmt{#3}}%
}%
{%
\glstextformat{#3}%
}%
\glspostlinkhook
}
```

`\glsxtrinitwrgloss` Set the default if the wrgloss is omitted.

```
\newcommand*\glsxtrinitwrgloss{%
\glsifattribute{\glslabel}{wrgloss}{after}%
{%
\glsxtrinitwrglossbeforefalse
}%
{%
\glsxtrinitwrglossbeforetrue
}%
}
```

`\ifglsxtrwrglossbefore` Conditional to determine if the indexing should be done before the link text.

```
\newif\ifglsxtrinitwrglossbefore
\glsxtrinitwrglossbeforetrue
```

`\setupglslink` Shortcut command to set gslink options.

```
\newcommand*\setupglslink}[1]{\setkeys{gslink}{#1}}
```

`\setupglsadd` Shortcut command to set glsadd options.

```
\newcommand*\setupglsadd}[1]{\setkeys{glsadd}{#1}}
```

`\@gls@do@glsprereset`

```
\newcommand*\@gls@do@glsprereset}[1]{}

\define@choicekey{gslink}{prereset}%
[ \@glsxtr@preresetval \@glsxtr@preresetnr ]%
{none,local,global}[local]%
{%
\ifcase \@glsxtr@preresetnr
\let \@gls@do@glsprereset \@gobble
\or
\def \@gls@do@glsprereset{%
\let \@gls@link@postkeys@checkfirsthyper \@gls@link@checkfirsthyper
\let \glsxtrifwasfirstuse \@firstoftwo \glslocalreset}%
\or
\def \@gls@do@glsprereset{%
\let \@gls@link@postkeys@checkfirsthyper \@gls@link@checkfirsthyper
```

```

        \let\glxtrifwasfirstuse\@firstoftwo\glsreset}%
    \fi
}

\@gls@do@glspreunset
\newcommand*{\@gls@do@glspreunset}[1]{

s@glslink@hyper@update@hook This hook was only introduced to glossaries v4.50, so if isn't defined, need to
patch the hyper key.
\ifdef\@gls@glslink@hyper@update@hook
{%
    \renewcommand*{\@gls@glslink@hyper@update@hook}{%
        \let\@gls@if@glslink@hyper@updated\@firstoftwo
    }
}
{
    \newcommand*{\@gls@glslink@hyper@update@hook}{%
        \let\@gls@if@glslink@hyper@updated\@firstoftwo
    }
    \renewcommand*{\KV@glslink@hyper}[1]{%
        \XKV@plfalse\XKV@sttrue
        \XKV@checkchoice[\XKV@resa ]{#1}{true,false}%
        {\csname KV@glslink@hyper\XKV@resa\endcsname\@gls@glslink@hyper@update@hook}%
    }
}

\define@choicekey{glslink}{preunset}%
[{\@glxtr@preunsetval\@glxtr@preunsetnr}]%
{none,local,global}[local]%
{%
    \ifcase\@glxtr@preunsetnr
        \let\@gls@do@glspreunset\@gobble
    \or
        \def\@gls@do@glspreunset{%
            \let\@gls@link@postkeys@checkfirsthyper\do@glslink@checkfirsthyper
            \let\glxtrifwasfirstuse\@secondoftwo\glslocalunset}%
        \or
        \def\@gls@do@glspreunset{%
            \let\@gls@link@postkeys@checkfirsthyper\do@glslink@checkfirsthyper
            \let\glxtrifwasfirstuse\@secondoftwo\glsunset}%
        \fi
}

\define@choicekey{glslink}{postunset}%
[{\@glxtr@postunsetval\@glxtr@postunsetnr}]%
{none,local,global}[global]%
{%
    \ifcase\@glxtr@postunsetnr
        \let\@gls@restore@glsllocal\@gls@ignore@restore@glsllocal
    \or

```

```

        \let@gls@restore@glslocal@gls@default@restore@glslocal
        \KV@glslink@localtrue
    \or
        \let@gls@restore@glslocal@gls@default@restore@glslocal
        \KV@glslink@localfalse
    \fi
}

```

`\glsinitreunsets`

```

\newcommand*{\glsinitreunsets}{%
  \let@gls@do@glspreunset@gobble
  \let@gls@do@glsprereset@gobble
  \let@gls@restore@glslocal@gls@default@restore@glslocal
  \glsxtrbuffer@check@repeats
}

```

Define `wrgloss` key to determine whether to write the glossary information before or after the link text.

```

\define@choicekey{glslink}{wrgloss}{%
  [ @glsxtr@wrglossval@glsxtr@wrglossnr ]%
  {before,after}%
  {%
    \ifcase@glsxtr@wrglossnr\relax
      \glsxtrinitwrglossbeforetrue
    \or
      \glsxtrinitwrglossbeforefalse
    \fi
  }

\define@key{glslink}{thevalue}{\def@glsxtr@thevalue{#1}}

\define@key{glslink}{theHvalue}{\def@glsxtr@theHvalue{#1}}

```

`\ifglsxtr@hyperoutside` Define a `hyperoutside` key to determine whether `\hyperlink` should be outside `\glstextformat`.

```

\define@boolkey{glslink}[glsxtr@]{hyperoutside}[true]{}
\glsxtr@hyperoutsidetrue

```

`current@textformat@csname`

```

\newcommand*{\@glsxtr@current@textformat@csname}{glstextformat}

```

`current@innertextformat@csname`

```

\newcommand*{\@glsxtr@current@innertextformat@csname}{glsxtrdefaultentrytextfmt}

```

`\glsxtrassignlinktextfmt` Used to assign `\glstextformat` and `\glsxtrgenentrytextfmt` in the post-link hook for “postfootnote” abbreviation styles.

```

\newcommand*{\glsxtrassignlinktextfmt}{}

```

`\@glsxtr@local@textformat` Provide a key to locally change the text format.

```
\define@key{glslink}{textformat}{%
  \ifcsdef{#1}
  {%
    \letcs{\@glsxtr@local@textformat}{#1}%
    \def\@glsxtr@current@textformat@csname{#1}%
  }%
  {%
    \PackageError{glossaries-extra}{Unknown control sequence name ‘#1’}{}%
  }%
}
```

`\glsxtr@local@innertextformat` Provide a key to locally change the inner text format.

```
\define@key{glslink}{innertextformat}{%
  \ifcsdef{#1}
  {%
    \letcs{\@glsxtr@local@innertextformat}{#1}%
    \def\@glsxtr@current@innertextformat@csname{#1}%
  }%
  {%
    \PackageError{glossaries-extra}{Unknown control sequence name ‘#1’}{}%
  }%
}
```

```
\define@key{glslink}{prefix}{\def\gllinkprefix{#1}}
```

`\glsxtrinithyperoutside` Set the default if the hyperoutside is omitted.

```
\newcommand*{\glsxtrinithyperoutside}{%
  \glsifattribute{\glslabel}{hyperoutside}{false}%
  {%
    \glsxtr@hyperoutsidefalse
  }%
  {%
    \glsxtr@hyperoutsidetrue
  }%
}
```

`\glsxtr@inc@linkcount` Does nothing by default.

```
\newcommand*{\glsxtr@inc@linkcount}{}
```

`\glslinkpresetkeys` User hook performed immediately before options are set. Does nothing by default.

```
\newcommand*{\glslinkpresetkeys}{}
```

`\GlsXtrExpandedFmt` Helper command that (protected) fully expands second argument and then applies it to the first, which must be a command that takes a single argument.

```
\newrobustcmd*{\GlsXtrExpandedFmt}[2]{%
  \protected@edef\@glsxtr@tmp{#2}%
  \expandafter#1\expandafter{\@glsxtr@tmp}%
}
```

`\glxtr@use@equation@counter@or` If in a numbered equation, change the counter to equation. This can be overridden by explicitly setting the counter in the optional argument of commands like `\gls` and `\glslink`.

```
\newcommand*{\glxtr@use@equation@counter}{%
  \@glxtr@ifnum@mmode{\def\@gls@counter{equation}}{}}%
}
```

`\glxtr@do@autoadd` If `\GlsXtrAutoAddOnFormat` is used, this will automatically use `\glsadd`. It's therefore only used with `\@gls@link` not with `\glsadd` otherwise it could trigger an infinite loop. The argument indicates the key family (`glslink` or `glossadd`).

```
\newcommand*{\glxtr@do@autoadd}[1]{}
```

```
\GlsXtrAutoAddOnFormat[<label>]{<format list>}{<glsadd options>}
```

`\GlsXtrAutoAddOnFormat`

If an entry is indexed with the format set to one identified in the comma-separated list, then automatically index it using `\glsadd` with the given options, which may override the current options. Scoping is needed to prevent leakage.

```
\newcommand*{\GlsXtrAutoAddOnFormat}[3][\glslabel]{%
  \renewcommand*{\glxtr@do@autoadd}[1]{%
    \begingroup
      \protected@edef\@glxtr@do@autoadd{%
        \noexpand\ifstrequal{##1}{glslink}%
        {%
          \noexpand\DTLifinlist{\@glsnumberformat}{#2}{\noexpand\glsadd[format={\@glsnumberformat}],%
          }%
        }%
      }%
    \@glxtr@do@autoadd
  \endgroup
}%
}
```

`\glslinkwrcontent` This was defined to add grouping to resolve [issue #189](#) but had unexpected consequences ([issue #194](#)) so the grouping has been removed and transferred to `\glsencapwrcontent`.

```
\providecommand*{\glslinkwrcontent}[1]{#1}
```

`\@glslink@prefix@label` Hyperlink using current prefix and label.

```
\newcommand*{\@glslink@prefix@label}[1]{%
  \@glslink{\glolinkprefix\glslabel}{#1}}
```

`\@noglslink@prefix@label`

```
\newcommand*{\@noglslink@prefix@label}[1]{%
  \glsdonohyperlink{\glolinkprefix\glslabel}{#1}}
```

`\@gls@link` Redefine to allow the indexing to be placed after the link text. By default this is done before the link text to prevent problems that can occur from the `whatsit`, but there may be times when the user would like the indexing done afterwards even though it causes a `whatsit`.

```
\def\@gls@link[#1]#2#3{%
  \leavevmode

  \protected@edef\glslabel{\glsdetoklabel{#2}}%
  \def\@gls@link@opts{#1}%
  \let\@gls@link@label\glslabel
  \let\@glsnumberformat\@glsxtr@defaultnumberformat
  \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
  \protected@edef\glsstype{\csname glo@\glslabel @type\endcsname}%
  \let\org@ifKV@glslink@hyper\ifKV@glslink@hyper
```

Save local setting.

```
\@gls@save@glslocal
```

Initialise `preunset`, `prereset` and `postunset`

```
\glsinitreunsets
```

Save current value of `\glolinkprefix`:

```
\let\@glsxtr@org@glolinkprefix\glolinkprefix
```

Initialise `\@glsxtr@local@textformat`

```
\let\@glsxtr@local@textformat\relax
\def\@glsxtr@current@textformat@csname{gls@textformat}%
```

Initialise inner text format (1.49):

```
\let\@glsxtr@local@innertextformat\glsxtr@defaultentrytextfmt
\def\@glsxtr@current@innertextformat@csname{glsxtr@defaultentrytextfmt}%
```

Initialise `thevalue` and `theHvalue` (v1.19).

```
\def\@glsxtr@thevalue{}%
\def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
```

Initialise when indexing should occur (new to v1.14).

```
\glsxtrinitwrgloss
```

Initialise whether `\hyperlink` should be outside `\gls@textformat` (new to v1.21).

```
\glsxtrinithyperoutside
```

Note that the default link options may override `\glsxtrinitwrgloss`.

```
\@gls@setdefault@glslink@opts
```

Increment link counter if enabled (new to v1.26).

```
\glsxtr@inc@linkcount
```

Check if the `equations` option has been set (new to v1.37).

```
\if@glsxtr@equations
  \@glsxtr@use@equation@counter
\fi
```

As the original definition.

```
\do@gl:disablehyperinlist
\do@gl:link@checkfirsthyper
```

Provide way of finding if hyper key has been explicitly set.

```
\let\@gl@if@gl:link@hyper@updated\@secondoftwo
\let\@gl:link@postkeys@checkfirsthyper\relax
```

User hook before options are set (new to v1.26):

```
\gl:link@presetkeys
```

Set options.

```
\setkeys{gl:link}{#1}%
```

Perform auto add if set (new to v1.37)

```
\gl:xt@do@autoadd{gl:link}%
```

User hook after options are set:

```
\gl:link@postsetkeys
```

Reset/unset if required:

```
\@gl:do@gl:sprereset{#2}%
\@gl:do@gl:spreunset{#2}%
```

If the hyper setting hasn't changed, and reset/unset option has been used, need to perform another check.

```
\@gl@if@gl:link@hyper@updated{\@gl:link@postkeys@checkfirsthyper}%
```

Set inner text format (1.49):

```
\let\gl:xt@genentrytextfmt\@gl:xt@local@innertextformat
```

Check thevalue and theHvalue before saving (v1.19).

```
\ifdefempty{\@gl:xt@thevalue}%
{%
  \@gl:@saveentrycounter
}%
\let\thegl:sentrycounter\@gl:xt@thevalue
\def\theHgl:sentrycounter{\@gl:xt@theHvalue}%
}%
\@gl:@setsort{\gl:label}%
```

Check if the textformat key has been used.

```
\ifx\@gl:xt@local@textformat\relax
```

Check textformat attribute (new to v1.21).

```
\gl:shasattribute{\gl:label}{textformat}%
{%
  \protected@edef\@gl:xt@attrval{\gl:sgetattribute{\gl:label}{textformat}}%
  \ifcsdef{\@gl:xt@attrval}%
  {%
    \letcs{\@gl:xt@textformat}{\@gl:xt@attrval}%
    \let\@gl:xt@current@textformat@csname\@gl:xt@attrval
  }%
}
```



```

    {%
      \GlossariesExtraWarning{Unknown control sequence name
        ‘\@glstr@attrval’ supplied in textformat attribute
        for entry ‘\glslabel’. Reverting to default \string\glstextformat}%
      \let\@glstr@textformat\glstextformat
    }%
  }%
  {%
    \let\@glstr@textformat\glstextformat
  }%
\else
  \let\@glstr@textformat\@glstr@local@textformat
\fi

```

Setup formatting assignments for use in post-link hook.

```

\edef\glstrassignlinktextfmt{%
  \noexpand\def\noexpand\glslabel{\expandonce\glslabel}%
  \noexpand\letcs\noexpand\glstextformat{\@glstr@current@textformat@csname}%
  \noexpand\letcs\noexpand\glstrgenentrytextfmt
    {\@glstr@current@innertextformat@csname}%
}%

```

Encapsulate link text and indexing.

```

\glslinkwrcontent
{%

```

Do write if it should occur before the link text:

```

  \ifglstrinitwrglossbefore
  \glstr@wrglossary@encap{#2}{\do@wrglossary{#2}}%
\fi

```

Do the link text:

```

  \ifKV@glslink@hyper
  \ifglstr@hyperoutside
  \@glslink@prefix@label{\@glstr@textformat{#3}}%
  \else
  \@glstr@textformat{\@glslink@prefix@label{#3}}%
  \fi
\else
  \ifglstr@hyperoutside
  \@noglslink@prefix@label{\@glstr@textformat{#3}}%
  \else
  \@glstr@textformat{\@noglslink@prefix@label{#3}}%
  \fi
\fi

```

Do write if it should occur after the link text:

```

  \ifglstrinitwrglossbefore
  \else
  \glstr@wrglossary@encap{#2}{\do@wrglossary{#2}}%
  \fi
}%

```

Restore original value of `\glolinkprefix`:

```
\let\glolinkprefix\@glxtr@org@glolinkprefix
```

As the original definition:

```
\let\ifKV@glslink@hyper\org@ifKV@glslink@hyper
\@gls@restore@glslocal
}
```

```
\define@key{glossadd}{thevalue}{\def\@glxtr@thevalue{#1}}
```

```
\define@key{glossadd}{theHvalue}{\def\@glxtr@theHvalue{#1}}
```

`\glsaddpresetkeys`

```
\newcommand*\glsaddpresetkeys{}
```

`\glsaddpostsetkeys`

```
\newcommand*\glsaddpostsetkeys{}
```

`\glsadd` Redefine to include `\@glxtr@record` and suppress in headings

```
\renewrobustcmd*{\glsadd}[2][]{%
\glxtrifinmark
}%
{%
\@gls@adjustmode
\begingroup
\@glsadd{#1}{#2}%
\endgroup
}%
}
```

`\@glsadd`

```
\newcommand{\@glsadd}[2]{%
\@glxtr@record{#1}{#2}{glossadd}%
\glsdoifexists{#2}%
{%
\let\@glsnumberformat\@glxtr@defaultnumberformat

\protected@edef\@gls@counter{\csname glo@\@glsdetoklabel{#2}@counter\endcsname}%
\def\@glxtr@thevalue{}%
\def\@glxtr@theHvalue{\@glxtr@thevalue}%
}
```

Implement any default settings (before options are set)

```
\glsaddpresetkeys
\setkeys{glossadd}{#1}%
```

Implement any default settings (after options are set)

```
\glsaddpostsetkeys
\ifdefempty{\@glxtr@thevalue}%
{%
\@gls@saveentrycounter
```

```

}%
{%
  \let\theglsentrycounter\@glxtr@thevalue
  \def\theHglentrycounter{\@glxtr@theHvalue}%
}%

```

Define sort key if necessary (in case of sort=use):

```
\@glxtr@setsort{#2}%
```

Ensure that indexing occurs (since that's the point of `\glsadd`). If indexing has been switched off by default, don't want the setting to affect `\glsadd`. The ignored format `\glsignore` can be used for selection without location, but the indexing still needs to be performed.

```

\KV@glxtr@noindexfalse
\glxtr@wrglossary@encap{#2}{\@do@wrglossary{#2}}%
}%
}

```

`\glsaddeach` Performs `\glsadd` for each entry listed in the mandatory argument.

```

\newrobustcmd{\glsaddeach}[2] [] {%
  \glxtrifinmark
  }%
  {%
    \@glxtr@adjustmode
    \@for\@glxtr@thislabel:=#2\do{\@glxtr@glsadd{#1}{\@glxtr@thislabel}}%
  }%
}

```

`\glxtr@rangeformat`

```
\newcommand{\glxtr@rangeformat}{\@glxtr@defaultnumberformat}
```

`\GlsXtrSetDefaultRangeFormat`

```

\newcommand*\GlsXtrSetDefaultRangeFormat[1] {%
  \renewcommand*\glxtr@rangeformat{#1}%
}%

```

`\glsstartrange` Essentially does `\glsadd[format=]{\langle label \rangle}`

```

\newrobustcmd{\glsstartrange}[2] [] {%
  \glxtrifinmark
  }%
  {%
    \@glxtr@adjustmode
    \begingroup
    \appto\glsaddpresetkeys{\protected@edef\@glxtr@numberformat{\glxtr@rangeformat}}%
    \appto\glsaddpostsetkeys{\protected@edef\@glxtr@numberformat{\@glxtr@numberformat}}%
    \@for\@glxtr@thislabel:=#2\do{\@glxtr@glsadd{#1}{\@glxtr@thislabel}}%
    \endgroup
  }%
}

```

```

\glsendrange Essentially does \glsadd[format=)]{\langle label\rangle}
\newrobustcmd{\glsendrange}[2][]{%
  \glsxtrifinmark
  }%
  {%
    \@gls@adjustmode
    \begingroup
    \appto\glsaddpresetkeys{\protected@edef\@glsnumberformat{\glsxtr@rangeformat}}%
    \appto\glsaddpostsetkeys{\protected@edef\@glsnumberformat()\@glsnumberformat}}%
    \for\@gls@thislabel:=#2\do{\@glsadd{#1}{\@gls@thislabel}}%
    \endgroup
  }%
}

```

`\@glsxtr@field@linkdefs` Default settings for `\@gls@field@link`. Note that from v1.49, `\glsinsert` is set with `\glsxtrsavinsert`.

```

\newcommand*{\@glsxtr@field@linkdefs}{%
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glsascapscase\@firstofthree
}

```

Redefine the field link commands that need to modify the above. Also add accessibility support and set the abbreviation styles if required.

`\glsxtrassignfieldfont`

```

\newcommand*{\glsxtrassignfieldfont}[1]{%
  \ifglstryexists{#1}%
  {%
    \ifglshasshort{#1}%
    {%
      \glssetabbrfmt{\glscategory{#1}}%
      \glsifregular{#1}%
      {\let\@gls@field@font\glsxtrregularfont}%
      {\let\@gls@field@font\@firstofone}%
    }%
    {%
      \glsifnotregular{#1}%
      {\let\@gls@field@font\@firstofone}%
      {\let\@gls@field@font\glsxtrregularfont}%
    }%
  }%
  {%
    \let\@gls@field@font\@gobble
  }%
}

```

```
\glxtrsaveinsert{<entry-label>}{<insert>}
```

`\glxtrsaveinsert`

The insert argument isn't saved in `\glsinsert` for the `\glslike` commands, but provide a way to save it if it is required for the post-link hook. The default is to set `\glsinsert` to empty. This means that the insert won't appear in the post-link hook with commands like `\glxtrfull` for the hyphen abbreviation styles. The entry label is provided in case the insert should only be saved for certain entries, such as those with a particular category.

```
\newcommand*{\glxtrsaveinsert}[2]{\def\glsinsert{}}
```

`\glxtrfullsaveinsert` As above but specifically for commands like `\glxtrfull`

```
\newcommand*{\glxtrfullsaveinsert}{\glxtrsaveinsert}
```

`\@glstext@` The abbreviation format may also need setting.

```
\def\@glstext@#1#2[#3]{%
  \def\glxtrcurrentfield{text}%
  \glxtrassignfieldfont{#2}%
  \glxtrsaveinsert{#2}{#3}%
  \@gls@field@link{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{text}%
    {%
      \@gls@field@font{\glsaccessfmttext{#3}{\glxtrgenentrytextfmt{#2}}}%
    }%
    {%
      \@gls@field@font{\glsaccesstext{#2}\glxtrgenentrytextfmt{#3}}%
    }%
  }%
}
```

`\@GLStext@` All uppercase version of `\glstext`. The abbreviation format may also need setting.

```
\def\@GLStext@#1#2[#3]{%
  \def\glxtrcurrentfield{text}%
  \glxtrassignfieldfont{#2}%
  \glxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glsacscase\@thirdofthree]{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{text}%
    {%
      \@gls@field@font{\GLSaccessfmttext{#3}{\glxtrgenentrytextfmt{#2}}}%
    }%
    {%
      \ifx\glsacscase\@thirdofthree
        \@gls@field@font{\GLSaccesstext{#2}%
          \glsuppercase{\glxtrgenentrytextfmt{#3}}}%
        \else
          \@gls@field@font{\glsaccesstext{#2}\glxtrgenentrytextfmt{#3}}%
        \fi
    }%
  }%
}
```

```

    \fi
  }%
}
}

```

`\@Glstext@` First letter uppercase version. The abbreviation format may also need setting.

```

\def\@Glstext@#1#2[#3]{%
  \def\glstrcurrentfield{text}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@secondofthree]{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{text}%
    {%
      \@gls@field@font{\Glsaccessfmttext{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccesstext{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}

```

Version 1.07 ensures that `\glsfirst` etc honours the `nohyperfirst` attribute. Allow a convenient way for the user to revert to ignoring this attribute for these commands.

`\glstrchecknohyperfirst`

```

\newcommand*{\glstrchecknohyperfirst}[1]{%
  \glsifattribute{#1}{nohyperfirst}{true}{\KV@glslink@hyperfalse}{%
}

```

`\@glsfirst@` No case changing version. The abbreviation format may also need setting.

```

\def\@glsfirst@#1#2[#3]{%
  \def\glstrcurrentfield{first}%
  \glstrassignfieldfont{#2}%
  Ensure that \glsfirst honours the nohyperfirst attribute.
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glstrifwasfirstuse\@firstoftwo
  \glstrchecknohyperfirst{#2}%
  \glstr@check@complexstyle{#2}{#3}%
  ]{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{first}%
    {%
      \@gls@field@font{\Glsaccessfmtfirst{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccessfirst{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}

```

```

    }%
  }%
}

```

`\@Glsfirst@` First letter uppercase version. The abbreviation format may also need setting.

```

\def\@Glsfirst@#1#2[#3]{%
  \def\glxtrcurrentfield{first}%
  \glxtrassignfieldfont{#2}%
Ensure that \Glsfirst honours the nohyperfirst attribute.
\glxtrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glxtrifwasfirstuse\@firstoftwo
 \let\glscapscase\@secondofthree
 \glxtrchecknohyperfirst{#2}%
 \glxtr@check@complexstyle{#2}{#3}%
]%
{#1}{#2}%
{%
  \glusifapplyinnerfmtfield{#2}{first}%
  {%
    \@gls@field@font{\Glsaccessfmtfirst{#3}{\glxtrgenentrytextfmt}{#2}}%
  }%
  {%
    \@gls@field@font{\Glsaccessfirst{#2}\glxtrgenentrytextfmt{#3}}%
  }%
}%
}

```

`\@GLSfirst@` All uppercase version. The abbreviation format may also need setting.

```

\def\@GLSfirst@#1#2[#3]{%
  \def\glxtrcurrentfield{first}%
  \glxtrassignfieldfont{#2}%
Ensure that \GLSfirst honours the nohyperfirst attribute.
\glxtrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glxtrifwasfirstuse\@firstoftwo
 \let\glscapscase\@thirdofthree
 \glxtrchecknohyperfirst{#2}%
 \glxtr@check@complexstyle{#2}{#3}%
]%
{#1}{#2}%
{%
  \ifx\glscapscase\@thirdofthree
  \glusifapplyinnerfmtfield{#2}{first}%
  {%
    \@gls@field@font{\GLSaccessfmtfirst{#3}{\glxtrgenentrytextfmt}{#2}}%
  }%
  {%

```

```

        \@gls@field@font{\GLsaccessfirst{#2}%
        \glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
    }%
\else
\glsifapplyinnerfmtfield{#2}{first}%
{%
    \@gls@field@font{\glsaccessfmtfirst{#3}{\glsxtrgenentrytextfmt}{#2}}%
}%
{%
    \@gls@field@font{\glsaccessfirst{#2}\glsxtrgenentrytextfmt{#3}}%
}%
\fi
}%
}

```

`\@glsplural@` No case changing version. The abbreviation format may also need setting.

```

\def\@glsplural@#1#2[#3]{%
    \def\glsxtrcurrentfield{text}%
    \glsxtrassignfieldfont{#2}%
    \glsxtrsaveinsert{#2}{#3}%
    \@gls@field@link
    [\let\glsifplural\@firstoftwo
    \glsxtr@check@complexstyle{#2}{#3}%
    ]{#1}{#2}%
    {%
        \glsifapplyinnerfmtfield{#2}{plural}%
        {%
            \@gls@field@font{\glsaccessfmtpplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
        }%
        {%
            \@gls@field@font{\glsaccessplural{#2}\glsxtrgenentrytextfmt{#3}}%
        }%
    }%
}

```

`\@Glsplural@` First letter uppercase version. The abbreviation format may also need setting.

```

\def\@Glsplural@#1#2[#3]{%
    \def\glsxtrcurrentfield{text}%
    \glsxtrassignfieldfont{#2}%
    \glsxtrsaveinsert{#2}{#3}%
    \@gls@field@link
    [\let\glsifplural\@firstoftwo
    \let\glsapscase\@secondofthree
    \glsxtr@check@complexstyle{#2}{#3}%
    ]%
    {#1}{#2}%
    {%
        \glsifapplyinnerfmtfield{#2}{plural}%
        {%
            \@gls@field@font{\Glsaccessfmtpplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
        }%
    }%
}

```



```

    }%
    {%
    \@gls@field@font{\Glsaccessplural{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
  }%
}

```

`\@GLSplural@` All uppercase version. The abbreviation format may also need setting.

```

\def\@GLSplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{text}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glsifplural\@firstoftwo
   \let\glscapscase\@thirdofthree
   \glsxtr@check@complexstyle{#2}{#3}%
  ]%
  {#1}{#2}%
  {%
  \ifx\glsapscase\@thirdofthree
  \glsifapplyinnerfmtfield{#2}{plural}%
  {%
  \@gls@field@font{\Glsaccessfmtplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
  }%
  {%
  \@gls@field@font{\Glsaccessplural{#2}%
  \glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
  }%
  \else
  \glsifapplyinnerfmtfield{#2}{plural}%
  {%
  \@gls@field@font{\glsaccessfmtplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
  }%
  {%
  \@gls@field@font{\glsaccessplural{#2}\glsxtrgenentrytextfmt{#3}}%
  }%
  \fi
  }%
}

```

`\@glsfirstplural@` No case changing version. The abbreviation format may also need setting.

```

\def\@glsfirstplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{first}%
  \glsxtrassignfieldfont{#2}%

```

Ensure that `\glsfirstplural` honours the `nohyperfirst` attribute.

```

\glsxtrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glsxtrifwasfirstuse\@firstoftwo
 \let\glsifplural\@firstoftwo

```

```

\glstrchecknohyperfirst{#2}%
\glstr@check@complexstyle{#2}{#3}%
]%
{#1}{#2}%
{%
\glsifapplyinnerfmtfield{#2}{firstpl}%
{%
\@gls@field@font{\glsaccessfmtfirstplural{#3}{\glstrgenentrytextfmt}{#2}}%
}%
{%
\@gls@field@font{\glsaccessfirstplural{#2}\glstrgenentrytextfmt{#3}}%
}%
}%
}

```

`\@Glsfirstplural@` First letter uppercase version. The abbreviation format may also need setting.

```

\def\@Glsfirstplural@#1#2[#3]{%
\def\glstrcurrentfield{first}%
\glstrassignfieldfont{#2}%
Ensure that \glsfirstplural honours the nohyperfirst attribute.
\glstrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glstrifwasfirstuse\@firstoftwo
\let\glsifplural\@firstoftwo
\let\glscapscase\@secondofthree
\glstrchecknohyperfirst{#2}%
\glstr@check@complexstyle{#2}{#3}%
]%
{#1}{#2}%
{%
\glsifapplyinnerfmtfield{#2}{firstpl}%
{%
\@gls@field@font{\Glsaccessfmtfirstplural{#3}{\glstrgenentrytextfmt}{#2}}%
}%
{%
\@gls@field@font{\Glsaccessfirstplural{#2}\glstrgenentrytextfmt{#3}}%
}%
}%
}

```

`\@GLSfirstplural@` All uppercase version. The abbreviation format may also need setting.

```

\def\@GLSfirstplural@#1#2[#3]{%
\def\glstrcurrentfield{first}%
\glstrassignfieldfont{#2}%
Ensure that \glsfirstplural honours the nohyperfirst attribute.
\glstrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glstrifwasfirstuse\@firstoftwo

```

```

\let\glsifplural\@firstoftwo
\let\glsifscapscase\@thirdofthree
\glsxtrchecknohyperfirst{#2}%
\glsxtr@check@complexstyle{#2}{#3}%
]%
{#1}{#2}%
{%
\ifx\glsifscapscase\@thirdofthree
\glsifapplyinnerfmtfield{#2}{firstpl}%
{%
\@gls@field@font{\GLSaccessfmtfirstplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
}%
{%
\@gls@field@font{\GLSaccessfirstplural{#2}%
\glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
}%
\else
\glsifapplyinnerfmtfield{#2}{firstpl}%
{%
\@gls@field@font{\glsaccessfmtfirstplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
}%
{%
\@gls@field@font{\glsaccessfirstplural{#2}\glsxtrgenentrytextfmt{#3}}%
}%
\fi
}%
}

```

`\@glsname@` Redefine to use accessibility support. The abbreviation format may also need setting.

```

\def\@glsname@#1#2[#3]{%
\def\glsxtrcurrentfield{name}%
\glsxtrassignfieldfont{#2}%
\glsxtrsaveinsert{#2}{#3}%
\@gls@field@link{#1}{#2}%
{%
\glsifapplyinnerfmtfield{#2}{name}%
{%
\@gls@field@font{\glsaccessfmtname{#3}{\glsxtrgenentrytextfmt}{#2}}%
}%
{%
\@gls@field@font{\glsaccessname{#2}\glsxtrgenentrytextfmt{#3}}%
}%
}%
}

```

`\@Glsname@` First letter uppercase version. The abbreviation format may also need setting.

```

\def\@Glsname@#1#2[#3]{%
\def\glsxtrcurrentfield{name}%
\glsxtrassignfieldfont{#2}%

```

```

\glxtrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\gls@scapscase\@secondofthree]{#1}{#2}%
{%
  \glsifapplyinnerfmtfield{#2}{name}%
  {%
    \@gls@field@font{\Glsaccessfmtname{#3}{\glxtrgenentrytextfmt}{#2}}%
  }%
  {%
    \@gls@field@font{\Glsaccessname{#2}\glxtrgenentrytextfmt{#3}}%
  }%
}%
}

```

\@GLSname@ All uppercase version. The abbreviation format may also need setting.

```

\def\@GLSname@#1#2[#3]{%
  \def\glxtrcurrentfield{name}%
  \glxtrassignfieldfont{#2}%
  \glxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\gls@scapscase\@thirdofthree]{%
    #1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{name}%
    {%
      \@gls@field@font{\GLSaccessfmtname{#3}{\glxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\GLSaccessname{#2}%
        \glsuppercase{\glxtrgenentrytextfmt{#3}}}%
    }%
  }%
}

```

\@glsdesc@

```

\def\@glsdesc@#1#2[#3]{%
  \def\glxtrcurrentfield{description}%
  \glxtrassignfieldfont{#2}%
  \glxtrsaveinsert{#2}{#3}%
  \@gls@field@link{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{desc}%
    {%
      \@gls@field@font{\glsaccessfmtdesc{#3}{\glxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\glsaccessdesc{#2}\glxtrgenentrytextfmt{#3}}%
    }%
  }%
}

```

\@Glsdesc@ First letter uppercase version.

```
\def\@Glsdesc@#1#2[#3]{%
  \def\glstrcurrentfield{description}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree]{#1}{#2}%
  {%
    \glrifapplyinnerfmtfield{#2}{desc}%
    {%
      \@gls@field@font{\Glsaccessfmtdesc{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccessdesc{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}
```

\@GLSdesc@ All uppercase version.

```
\def\@GLSdesc@#1#2[#3]{%
  \def\glstrcurrentfield{description}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]{#1}{#2}%
  {%
    \glrifapplyinnerfmtfield{#2}{desc}%
    {%
      \@gls@field@font{\GLSaccessfmtdesc{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\GLSaccessdesc{#2}\glstrgenentrytextfmt{#3}}%
      \glssupercase{\glstrgenentrytextfmt{#3}}%
    }%
  }%
}
```

\@glsdescplural@ No case-changing version.

```
\def\@glsdescplural@#1#2[#3]{%
  \def\glstrcurrentfield{description}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree
  \let\glsifplural\@firstoftwo
  ]{#1}{#2}%
  {%
    \glrifapplyinnerfmtfield{#2}{descplural}%
    {%

```

```

        \@gls@field@font{\glsaccessfmtdescpl{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
        \@gls@field@font{\glsaccessdescplural{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
}
}

```

\@Glsdescplural@ First letter uppercase version.

```

\def\@Glsdescplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{description}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glsapscase\@secondofthree
  \let\glsifplural\@firstoftwo
  ]{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{descplural}%
    {%
      \@gls@field@font{\Glsaccessfmtdescpl{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccessdescplural{#2}#3}%
    }%
  }%
}
}

```

\@GLSdescplural@ All uppercase version.

```

\def\@GLSdescplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{description}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glsapscase\@thirdofthree
  \let\glsifplural\@firstoftwo
  ]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{descplural}%
    {%
      \@gls@field@font{\GLSaccessfmtdescplural{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\GLSaccessdescplural{#2}%
        \glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
    }%
  }%
}
}

```

```

\@glssymbol@
\def\@glssymbol@#1#2[#3]{%
  \def\glstrcurrentfield{symbol}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link{#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{symbol}%
    {%
      \@gls@field@font{\glsaccessfmtsymbol{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\glsaccesssymbol{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}

```

```

\@Glsymbol@ First letter uppercase version.
\def\@Glsymbol@#1#2[#3]{%
  \def\glstrcurrentfield{symbol}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{symbol}%
    {%
      \@gls@field@font{\Glsaccessfmtsymbol{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccesssymbol{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}

```

```

\@GLSsymbol@ All uppercase version.
\def\@GLSsymbol@#1#2[#3]{%
  \def\glstrcurrentfield{symbol}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{symbol}%
    {%
      \@gls@field@font{\GLSaccessfmtsymbol{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%

```

```

        \@gls@field@font{\GLSaccesssymbol{#2}}%
        \glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
    }%
}

```

\@glsymbolplural@ No case-changing version.

```

\def\@glsymbolplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{symbol}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\gls caps case\@secondofthree
  \let\gls if plural\@firstoftwo
  ]{#1}{#2}%
  {%
    \gls if apply inner fmt field{#2}{symbol plural}%
    {%
      \@gls@field@font{\gls access fmts symbol plural{#3}{\gls xtr gen entry text fmt}{#2}}%
    }%
    {%
      \@gls@field@font{\gls access symbol plural{#2}\gls xtr gen entry text fmt{#3}}%
    }%
  }%
}

```

\@Glsymbolplural@ First letter uppercase version.

```

\def\@Glsymbolplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{symbol}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\gls caps case\@secondofthree
  \let\gls if plural\@firstoftwo
  ]{#1}{#2}%
  {%
    \gls if apply inner fmt field{#2}{symbol plural}%
    {%
      \@gls@field@font{\Gls access fmts symbol plural{#3}{\gls xtr gen entry text fmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Gls access symbol plural{#2}\gls xtr gen entry text fmt{#3}}%
    }%
  }%
}

```

\@GLSsymbolplural@ All uppercase version.

```

\def\@GLSsymbolplural@#1#2[#3]{%
  \def\glsxtrcurrentfield{symbol}%

```



```

\glstrassignfieldfont{#2}%
\glstrsaveinsert{#2}{#3}%
\@gls@field@link
[\let\glscapscase\@thirdofthree
 \let\glsifplural\@firstoftwo
 ]%
{#1}{#2}%
{%
 \glsifapplyinnerfmtfield{#2}{symbolplural}%
 {%
 \@gls@field@font{\GLSaccessfmtsymbolplural{#3}{\glstrgenentrytextfmt}{#2}}%
 }%
 {%
 \@gls@field@font{\GLSaccesssymbolplural{#2}%
 \glsupercase{\glstrgenentrytextfmt{#3}}}%
 }%
 }%
}
}

```

\@glsuseri@ User 1 field.

```

\def\@glsuseri@#1#2[#3]{%
 \def\glstrcurrentfield{user1}%
 \glstrassignfieldfont{#2}%
 \glstrsaveinsert{#2}{#3}%
 \@gls@field@link
 {#1}{#2}%
 {%
 \glsifapplyinnerfmtfield{#2}{useri}%
 {%
 \@gls@field@font{\glsaccessfmtuseri{#3}{\glstrgenentrytextfmt}{#2}}%
 }%
 {%
 \@gls@field@font{\glsaccessuseri{#2}\glstrgenentrytextfmt{#3}}%
 }%
 }%
}
}

```

\@Glsuseri@ First letter uppercase version.

```

\def\@Glsuseri@#1#2[#3]{%
 \def\glstrcurrentfield{user1}%
 \glstrassignfieldfont{#2}%
 \glstrsaveinsert{#2}{#3}%
 \@gls@field@link
 [\let\glscapscase\@secondofthree]{#1}{#2}%
 {%
 \glsifapplyinnerfmtfield{#2}{useri}%
 {%
 \@gls@field@font{\Glsaccessfmtuseri{#3}{\glstrgenentrytextfmt}{#2}}%
 }%
 {%

```

```

        \@gls@field@font{\Glsaccessuseri{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
}
}

```

\@GLSuseri@ All uppercase version.

```

\def\@GLSuseri@#1#2[#3]{%
  \def\glsxtrcurrentfield{user1}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\gls@field@font\@thirdofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useri}%
    {%
      \@gls@field@font{\Glsaccessfmtuseri{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \ifx\gls@field@font\@thirdofthree
        \@gls@field@font{\Glsaccessuseri{#2}}%
        \glsuppercase{\glsxtrgenentrytextfmt{#3}}%
      \else
        \@gls@field@font{\glsaccessuseri{#2}\glsxtrgenentrytextfmt{#3}}%
      \fi
    }%
  }%
}

```

\@glsuserii@ User 2 field.

```

\def\@glsuserii@#1#2[#3]{%
  \def\glsxtrcurrentfield{user2}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{userii}%
    {%
      \@gls@field@font{\glsaccessfmtuserii{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\glsaccessuserii{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
  }%
}

```

\@Glsuserii@ First letter uppercase version.

```

\def\@Glsuserii@#1#2[#3]{%
  \def\glsxtrcurrentfield{user2}%

```

```

\glxtrassignfieldfont{#2}%
\glxtrsveinsert{#2}{#3}%
\@gls@field@link
[\let\glscapscase\@secondofthree]%
{#1}{#2}%
{%
  \glsifapplyinnerfmtfield{#2}{userii}%
  {%
    \@gls@field@font{\Glsaccessfmtuserii{#3}{\glxtrgenentrytextfmt}{#2}}%
  }%
  {%
    \@gls@field@font{\Glsaccessuserii{#2}\glxtrgenentrytextfmt{#3}}%
  }%
}%
}

```

\@GLSuserii@ All uppercase version.

```

\def\@GLSuserii@#1#2[#3]{%
  \def\glxtrcurrentfield{user2}%
  \glxtrassignfieldfont{#2}%
  \glxtrsveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{userii}%
    {%
      \@gls@field@font{\GLSaccessfmtuserii{#3}{\glxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \ifx\glscapscase\@thirdofthree
        \@gls@field@font{\GLSaccessuserii{#2}%
          \glsuppercase{\glxtrgenentrytextfmt{#3}}}%
      \else
        \@gls@field@font{\glsaccessuserii{#2}\glxtrgenentrytextfmt{#3}}%
      \fi
    }%
  }%
}

```

\@glsuseriii@ User 3 field.

```

\def\@glsuseriii@#1#2[#3]{%
  \def\glxtrcurrentfield{user3}%
  \glxtrassignfieldfont{#2}%
  \glxtrsveinsert{#2}{#3}%
  \@gls@field@link
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriii}%
    {%
      \@gls@field@font{\glsaccessfmtuseriii{#3}{\glxtrgenentrytextfmt}{#2}}%
    }%
  }%
}

```

```

    }%
    {%
    \@gls@field@font{\glsaccessuseriii{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
  }%
}

\@Glsuseriii@ First letter uppercase version.
\def\@Glsuseriii@#1#2[#3]{%
  \def\glsxtrcurrentfield{user3}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriii}%
    {%
      \@gls@field@font{\Glsaccessfmtuseriii{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccessuseriii{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
  }%
}

\@GLSuseriii@ All uppercase version.
\def\@GLSuseriii@#1#2[#3]{%
  \def\glsxtrcurrentfield{user3}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriii}%
    {%
      \@gls@field@font{\GLSaccessfmtuseriii{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \ifx\glscapscase\@thirdofthree
        \@gls@field@font{\GLSaccessuseriii{#2}%
          \glsuppercase{\glsxtrgenentrytextfmt{#3}}}%
        \else
          \@gls@field@font{\glsaccessuseriii{#2}\glsxtrgenentrytextfmt{#3}}%
        \fi
      }%
    }%
  }
}

\@glsuseriv@ User 4 field.

```

```

\def\@glsuseriv@#1#2[#3]{%
  \def\glsxtrcurrentfield{user4}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriv}%
    {%
      \@gls@field@font{\glsaccessfmtuseriv{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\glsaccessuseriv{#2}\glsxtrgenentrytextfmt{#3}}%
    }%
  }%
}

```

\@Glsuseriv@ First letter uppercase version.

```

\def\@Glsuseriv@#1#2[#3]{%
  \def\glsxtrcurrentfield{user4}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriv}%
    {%
      \@gls@field@font{\Glsaccessfmtuseriv{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\Glsaccessuseriv{#2}#3}%
    }%
  }%
}

```

\@GLSuseriv@ All uppercase version.

```

\def\@GLSuseriv@#1#2[#3]{%
  \def\glsxtrcurrentfield{user4}%
  \glsxtrassignfieldfont{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{useriv}%
    {%
      \@gls@field@font{\GLSaccessfmtuseriv{#3}{\glsxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \ifx\glscapscase\@thirdofthree

```



```

\glstrassignfieldfont{#2}%
\glstrsaveinsert{#2}{#3}%
\@gls@field@link[\let\glscapscase\@thirdofthree]%
{#1}{#2}%
{%
  \glsifapplyinnerfmtfield{#2}{userv}%
  {%
    \@gls@field@font{\GLSaccessfmtuserv{#3}{\glstrgenentrytextfmt}{#2}}%
  }%
  {%
    \ifx\glscapscase\@thirdofthree
      \@gls@field@font{\GLSaccessuserv{#2}%
        \glssupercase{\glstrgenentrytextfmt{#3}}}%
    \else
      \@gls@field@font{\glsaccessuserv{#2}\glstrgenentrytextfmt{#3}}%
    \fi
  }%
}%
}

```

\@glsuservi@ User 6 field.

```

\def\@glsuservi@#1#2[#3]{%
  \def\glstrcurrentfield{user6}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{uservi}%
    {%
      \@gls@field@font{\glsaccessfmtuservi{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
    {%
      \@gls@field@font{\glsaccessuservi{#2}\glstrgenentrytextfmt{#3}}%
    }%
  }%
}

```

\@Glsuservi@ First letter uppercase version.

```

\def\@Glsuservi@#1#2[#3]{%
  \def\glstrcurrentfield{user6}%
  \glstrassignfieldfont{#2}%
  \glstrsaveinsert{#2}{#3}%
  \@gls@field@link
  [\let\glscapscase\@secondofthree]%
  {#1}{#2}%
  {%
    \glsifapplyinnerfmtfield{#2}{uservi}%
    {%
      \@gls@field@font{\Glsaccessfmtuservi{#3}{\glstrgenentrytextfmt}{#2}}%
    }%
  }%
}

```

```

    }%
    {%
    \@gls@field@font{\GLsaccessuservi{#2}\glxtrgenentrytextfmt{#3}}%
    }%
  }%
}

```

\@GLSuservi@ All uppercase version.

```

\def\@GLSuservi@#1#2[#3]{%
  \def\glxtrcurrentfield{user6}%
  \glxtrassignfieldfont{#2}%
  \glxtrsaveinsert{#2}{#3}%
  \@gls@field@link[\let\glscapscase\@thirdofthree]%
  {#1}{#2}%
  {%
    \glcifapplyinnerfmtfield{#2}{uservi}%
    {%
      \@gls@field@font{\GLSaccessfmtuservi{#3}\glxtrgenentrytextfmt}{#2}}%
    }%
    {%
      \ifx\glscapscase\@thirdofthree
        \@gls@field@font{\GLSaccessuservi{#2}%
          \glssupercase{\glxtrgenentrytextfmt{#3}}}%
        \else
          \@gls@field@font{\glssaccessuservi{#2}\glxtrgenentrytextfmt{#3}}%
        \fi
      }%
    }%
  }
}

```

Commands like `\acrshort` already set `\glcifplural`, but they don't set `\glxtrifwasfirstuse` so they need adjusting. These commands shouldn't be used with `\newabbreviation`, but the redefinitions below allow for users reverting `\newacronym` back to its base definition.

\@@glxtr@base@acrcmd@warn Warn user that they need to use to new abbreviation commands.

```

\newcommand*{\@@glxtr@base@acrcmd@warn}[2]{%
  \GlossariesExtraWarning{Base acronym command \string#1\space
    should not be used with new abbreviation definitions. Use
    \string#2\space instead}%
}

```

\@glxtr@base@acrcmd Warn user that they need to use to new abbreviation commands.

```

\let\@glxtr@base@acrcmd\@@glxtr@base@acrcmd@warn

```

The following `acr` commands don't support `innertextformat`.

\@acrshort No case change.

```

\def\@acrshort#1#2[#3]{%

```



```

\def\glxtrcurrentfield{short}%
\@glxtr@base@acrcmd\acrshort\glxtrshort
\glsdoifexists{#2}%
{%
  \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
  \let\glxtrifwasglslike\@secondoftwo
  \let\glxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glscapscase\@firstofthree
  \let\glsinsert\@empty
  \def\glscustomtext{%
    \acronymfont{\glsaccessshort{#2}}#3%
  }%
  \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\@Acrshort First letter uppercase.

```

\def\@Acrshort#1#2[#3]{%
  \def\glxtrcurrentfield{short}%
  \@glxtr@base@acrcmd\Acrshort\Glsxtrshort
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccessshort{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@ACRshort All uppercase.

```

\def\@ACRshort#1#2[#3]{%
  \def\glxtrcurrentfield{short}%
  \@glxtr@base@acrcmd\ACRshort\Glsxtrshort
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
  }%
}

```

```

\def\glscustomtext{%
  \glssupercase{\acronymfont{\glsaccessshort{#2}}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\@acrshortpl No case change.

```

\def\@acrshortpl#1#2[#3]{%
  \def\glsxtrcurrentfield{short}%
  \@glsxtr@base@acrcmd\acrshortpl\glsxtrshortpl
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasglslike\@secondoftwo
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glsaccessshortpl{#2}}#3%
    }%
    \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@Acrshortpl First letter uppercase.

```

\def\@Acrshortpl#1#2[#3]{%
  \def\glsxtrcurrentfield{short}%
  \@glsxtr@base@acrcmd\Acrshortpl\Glsxtrshortpl
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasglslike\@secondoftwo
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccessshortpl{#2}}#3%
    }%
    \@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@ACRshortpl All uppercase.

```

\def\@ACRshortpl#1#2[#3]{%
  \def\glxtrcurrentfield{short}%
  \@glxtr@base@acrcmd\ACRshortpl\GLSxtrshortpl
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glsuppercase{\acronymfont{\glsaccessshortpl{#2}}#3}%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@acrlong No case change.

```

\def\@acrlong#1#2[#3]{%
  \def\glxtrcurrentfield{long}%
  \@glxtr@base@acrcmd\acrlong\glxtrlong
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glsaccesslong{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@Acrlong First letter uppercase.

```

\def\@Acrlong#1#2[#3]{%
  \def\glxtrcurrentfield{long}%
  \@glxtr@base@acrcmd\Acrlong\Glsxtrlong
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@secondofthree
  }%
}

```

```

\let\glsinsert\@empty
\def\glscustomtext{%
  \acronymfont{\Glsaccesslong{#2}}#3%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\@ACRlong All uppercase.

```

\def\@ACRlong#1#2[#3]{%
  \def\glsxtrcurrentfield{long}%
  \@glsxtr@base@acrcmd\ACRlong\GLSxtrlong
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasglslike\@secondoftwo
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glsuppercase{\acronymfont{\glsaccesslong{#2}}#3}%
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

\@acrlongpl No case change.

```

\def\@acrlongpl#1#2[#3]{%
  \def\glsxtrcurrentfield{long}%
  \@glsxtr@base@acrcmd\acrlongpl\glsxtrlongpl
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasglslike\@secondoftwo
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glsapsaps\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glsaccesslongpl{#2}}#3%
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

`\@Acrlongpl` First letter uppercase.

```
\def\@Acrlongpl#1#2[#3]{%
  \def\glxtrcurrentfield{long}%
  \@glxtr@base@acrcmd\Acrlongpl\Glsxtrlongpl
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccesslongpl{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
```

`\@ACRlongpl` All uppercase.

```
\def\@ACRlongpl#1#2[#3]{%
  \def\glxtrcurrentfield{long}%
  \@glxtr@base@acrcmd\ACRlongpl\GLSxtrlongpl
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasglslike\@secondoftwo
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glssupercase{\acronymfont{\Glsaccesslongpl{#2}}#3}%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
```

The full formats use the internal long and short commands (such as `\@acrshort` and `\@acrlong`). Therefore they don't need adjustments, but they do need clearer warnings. This means three warnings per use (once for the full command and once each for the short and long commands), but at least this way the most important warning (replace `\acrfull` with `\glxtrfull` etc) is present.

`\@acrfull`

```
\def\@acrfull#1#2[#3]{%
```

```

\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\acrfull\glsxtrfull
\acrfullfmt{#1}{#2}{#3}%
}

\@Acrfull
\def\@Acrfull#1#2[#3]{%
\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\Acrfull\Glsxtrfull
\Acrfullfmt{#1}{#2}{#3}%
}

\@ACRfull
\def\@ACRfull#1#2[#3]{%
\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\ACRfull\GLSxtrfull
\ACRfullfmt{#1}{#2}{#3}%
}

\@acrfullpl
\def\@acrfullpl#1#2[#3]{%
\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\acrfullpl\glsxtrfullpl
\acrfullplfmt{#1}{#2}{#3}%
}

\@Acrfullpl
\def\@Acrfullpl#1#2[#3]{%
\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\Acrfullpl\Glsxtrfullpl
\Acrfullplfmt{#1}{#2}{#3}%
}

\@ACRfullpl
\def\@ACRfullpl#1#2[#3]{%
\def\glsxtrcurrentfield{%
\glsxtr@base@acrcmd\ACRfullpl\GLSxtrfullpl
\ACRfullplfmt{#1}{#2}{#3}%
}

```

Modify \@glsaddkey so additional keys provided by the user can be treated in a similar way.

```

\@glsaddkey
\renewcommand*{\@glsaddkey}[7]{%
\key@ifundefined{glossentry}{#1}%
{%
\define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
\appto\@gls@keymap{,#1}{#1}}%
}

```

```

\appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
\appto\@newglossaryentryposthook{%
  \letcs{@glo@tmp}{@glo@#1}%
  \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
}%
\newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
\newcommand*{#4}[1]{\@Gls@entry@field{##1}{#1}}%

```

Now for the commands with links. These currently don't support the inner text format. First the version with no case change:

```

\ifcsdef{@gls@user@#1@}%
{%
  \PackageError{glossaries}%
  {Can't define '\string#5' as helper command
   '\expandafter\string\csname @gls@user@#1@\endcsname' already
   exists}%
  {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
  {\csname @gls@user@#1@\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@gls@user@#1@}{##1}{##2}}%
      {\csuse{@gls@user@#1@}{##1}{##2}[[]]}%
\csdef{@gls@user@#1@}##1##2[##3]{%
  \def\glsxtrcurrentfield{#1}%
  \glsxtrassignfieldfont{##2}%
  \glsxtrsaveinsert{##2}{##3}%
  \@gls@field@link{##1}{##2}{\@gls@field@font{#3{##2}##3}}%
}%
\newrobustcmd*{#5}{%
  \expandafter\@gls@hyp@opt\csname @gls@user@#1@\endcsname}%
}%

```

Next the version with the first letter converted to upper case (modified):

```

\ifcsdef{@Gls@user@#1@}%
{%
  \PackageError{glossaries}%
  {Can't define '\string#6' as helper command
   '\expandafter\string\csname @Gls@user@#1@\endcsname' already
   exists}%
  {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
  {\csname @Gls@user@#1@\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@Gls@user@#1@}{##1}{##2}}%
      {\csuse{@Gls@user@#1@}{##1}{##2}[[]]}%
\csdef{@Gls@user@#1@}##1##2[##3]{%
  \def\glsxtrcurrentfield{#1}%

```

```

\glstrassignfieldfont{##2}%
\glstrsaveinsert{##2}{##3}%
\@gls@field@link[\let\glscapscase\@secondofthree]%
{##1}{##2}{\@gls@field@font{#4{##2}##3}}%
}%
\newrobustcmd*{#6}{%
\expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
}%

```

Finally the all caps version (modified):

```

\ifcsdef{@Gls@user@#1@}%
{%
\PackageError{glossaries}%
{Can't define '\string#7' as helper command
'\expandafter\string\csname @Gls@user@#1@\endcsname' already
exists}%
{}}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
{\csname @Gls@user@#1\endcsname}[2][ ]{%
\new@ifnextchar[%
{\csuse{@Gls@user@#1@}{##1}{##2}}%
{\csuse{@Gls@user@#1@}{##1}{##2}[ ]}}%
\csdef{@Gls@user@#1@}##1##2[##3]{%
\def\glstrcurrentfield{#1}%
\glstrassignfieldfont{##2}%
\glstrsaveinsert{##2}{##3}%
\@gls@field@link[\let\glscapscase\@thirdofthree]%
{##1}{##2}{\@gls@field@font{\glssupercase{#3{##2}##3}}}%
}%
\newrobustcmd*{#7}{%
\expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
}%

```

Add mappings.

```

\glsmfuaddmap{#3}{#4}%
\glsmfuaddmap{#5}{#6}%
\glsmfublocker{#7}%
}%
{%
\PackageError{glossaries-extra}{Key '#1' already exists}{}%
}%
}

```

`\@gls@link@nocheckfirsthyper` Old versions of `glossaries` don't define this, so provide it just in case it hasn't been defined.

```
\providecommand*{\@gls@link@nocheckfirsthyper}{}
```

`\@gls@link@postkeys@checkfirsthyper` Need another check after `preunset` and `postunset` options have been applied.

```
\newcommand*{\@gls@link@postkeys@checkfirsthyper}{}
```



`\@gls@link@checkfirsthyper` Modify check to determine if the hyperlink should be automatically suppressed, but save the original in case the acronyms are restored.

```
\let\@glsxtr@org@checkfirsthyper\@gls@link@checkfirsthyper
\renewcommand*\@gls@link@checkfirsthyper}{%
```

`\ifglsused` isn't useful in the post link hook as it's already been unset by then, so define a command that can be used in the post link hook. Since `\@gls@link@checkfirsthyper` is only used by commands like `\gls` but not by other commands, this seems the best place to put it to automatically set the value for the commands that change the first use flag. The other commands should set `\glsxtrifwasfirstuse` to `\@secondoftwo` (which is done in `\@glsxtr@field@linkdefs`). Note that if the entry is undefined (as with `bib2gls` on the first L<sup>A</sup>T<sub>E</sub>X run), `\ifglsused` does neither true nor false parts. However, in that case, this macro won't be called anyway (since it's used in the argument of `\glsdoifexistsordo`).

```
\ifglsused{\glslabel}%
{\let\glsxtrifwasfirstuse\@secondoftwo}
{\let\glsxtrifwasfirstuse\@firstoftwo}%
```

Similarly for `\glsxtrifwasglslike`

```
\let\glsxtrifwasglslike\@firstoftwo
```

Store the category label for convenience.

```
\protected@edef\glscategorylabel{\glscategory{\glslabel}}%
\glsxtrifwasfirstuse
{%
\glsifcategoryattribute{\glscategorylabel}{nohyperfirst}{true}%
{\KV@glslink@hyperfalse}{}%
}%
{%
\glsifcategoryattribute{\glscategorylabel}{nohypernext}{true}%
{\KV@glslink@hyperfalse}{}%
}%
\glslinkcheckfirsthyperhook
}
```

`\do@glsdisablehyperinlist` This command was introduced in glossaries v4.19. If it hasn't been defined, we're using an earlier version, in which case the `nohyper` attribute can't be implemented.

```
\ifdef\do@glsdisablehyperinlist
{%
\let\@glsxtr@do@glsdisablehyperinlist\do@glsdisablehyperinlist
\renewcommand*\do@glsdisablehyperinlist}{%
\@glsxtr@do@glsdisablehyperinlist
\glsifattribute{\glslabel}{nohyper}{true}{\KV@glslink@hyperfalse}{}%
}
}
}
```

Define a noindex key to prevent writing information to the external file.

```
\define@boolkey{glslink}{noindex}[true]{}  
\KV@glslink@noindexfalse
```

`\@gls@save@glslocal` Defined in glossaries v4.50 so may not be defined.

```
\providecommand*{\@gls@save@glslocal}{%  
  \let\if@org@KV@glslink@local\ifKV@glslink@local  
}
```

`\@gls@restore@glslocal` Defined in glossaries v4.50 so may not be defined.

```
\providecommand*{\@gls@restore@glslocal}{%  
  \ifKV@glslink@local  
    \let\@gls@do@glsunset@glslocalunset  
  \else  
    \let\@gls@do@glsunset@glsunset  
  \fi  
  \let\ifKV@glslink@local\if@org@KV@glslink@local  
}
```

`\@gls@default@restore@glslocal` Save default definition of `\@gls@restore@glslocal`

```
\let\@gls@default@restore@glslocal\@gls@restore@glslocal
```

`\@gls@ignore@restore@glslocal`

```
\newcommand*{\@gls@ignore@restore@glslocal}{%  
  \let\@gls@do@glsunset@gobble  
  \let\ifKV@glslink@local\if@org@KV@glslink@local  
}
```

`\@gls@do@glsunset` Defined in glossaries v4.50 so may not be defined.

```
\providecommand*{\@gls@do@glsunset}[1]{\glsunset{#1}}
```

`\@gls@default@glslink@opts` The noindex setting needs to be initialised, so it's now always set to false first before applying the default options. Otherwise, if noindex is explicitly set in a command like `\gls` then it won't get reset if the default option list doesn't set it.

```
\newcommand*{\@gls@default@glslink@opts}{}  
  
If \@gls@setdefault@glslink@opts has been defined (glossaries v4.20) use it to set the default keys in \@glslink.
```

`\@gls@setdefault@glslink@opts`

```
\ifdef\@gls@setdefault@glslink@opts  
{  
  \renewcommand*{\@gls@setdefault@glslink@opts}{%  
    \KV@glslink@noindexfalse  
    \expandafter\setupglslink\expandafter{\@gls@default@glslink@opts}%  
    \glsxtrsetaliasnoindex  
  }  
}
```

Not defined so prepend it to `\do@gl:disablehyperinlist` to achieve the same effect.

```
\newcommand*\@gls@setdefault@glslink@opts}{%
  \KV@glslink@noindexfalse
  \expandafter\setupglslink\expandafter{\@gls@default@glslink@opts}%
  \@glstrsetaliasnoindex
}
\preto\do@gl:disablehyperinlist{\@gls@setdefault@glslink@opts}
}
```

`\glstrsetaliasnoindex` Allow user to hook into the alias noindex setting. Default behaviour switches off indexing for aliases. If the record option is on, this will have been defined to do nothing. (bib2gls will deal with records for aliased entries.)

```
\providecommand*\glstrsetaliasnoindex}{%
  \KV@glslink@noindextrue
}
```

`\@glstrsetaliasnoindex` The change made in v1.46 to remove the grouping has had the knock-on effect of redefining `\glscurrentfieldvalue`, which may be a problem, so v1.47 has changed this to use `\ifcsvoid`.

```
\newcommand*\@glstrsetaliasnoindex}{%
  \ifcsvoid{glo@gl:sdetoklabel{\glslabel}@alias}%
  {}%
  {%
    \let\glstrindexaliased\@glstrindexaliased
    \glstrsetaliasnoindex
    \let\glstrindexaliased\@no@glstrindexaliased
  }%
}
```

`\@glstrindexaliased`

```
\newcommand{\@glstrindexaliased}{%
  \ifKV@glslink@noindex
  \else
    \begingroup
    \let\@glsnumberformat\@glstr@defaultnumberformat

    \protected@edef\@gls@counter{\csname glo@gl:sdetoklabel{\glslabel}@counter\endcsname}%
    \glstr@saveentrycounter
    \glstr@wrglossary@encap{\glstralias{\glslabel}}{\@do@wrglossary{\glstralias{\glslabel}}}%
    \endgroup
  \fi
}
```

`\@no@glstrindexaliased`

```
\newcommand{\@no@glstrindexaliased}{%
  \PackageError{glossaries-extra}{\string\glstrindexaliased\space
  not permitted outside definition of \string\glstrsetaliasnoindex}%
  {}%
}
```

`\glxtrindexaliased` Provide a command to redirect alias indexing, but only allow it to be used within `\glxtrsetaliasnoindex`.

```
\let\glxtrindexaliased\@no@glxtrindexaliased
```

`\GlsXtrSetDefaultGlsOpts` Set the default options for `\glslink` etc.

```
\newcommand*\GlsXtrSetDefaultGlsOpts[1]{%
  \renewcommand*\@gls@default@glslink@opts{#1}%
}
```

`\GlsXtrAppToDefaultGlsOpts`

```
\newcommand*\GlsXtrAppToDefaultGlsOpts[1]{%
  \appto\@gls@default@glslink@opts{,#1}%
}
```

`\GlsXtrPreToDefaultGlsOpts`

```
\newcommand*\GlsXtrPreToDefaultGlsOpts[1]{%
  \preto\@gls@default@glslink@opts{#1,}%
}
```

`\glxtrifindexing` Provide user level command to access it in `\glswriteentry`.

```
\newcommand*\glxtrifindexing[2]{%
  \ifKV@glslink@noindex #2\else #1\fi
}
```

```
\glxtr@wrglossary@encap{<label>}{<whatsit>}
```

`\glxtr@wrglossary@encap`

Encapsulate indexing `whatsit` and increment indexed count. See also `\glxtrdowrglossaryhook`

```
\newcommand*\glxtr@wrglossary@encap[2]{\glsencapwrcontent{#2\@glxtr@inc@indexcount{#1}}}
```

Keep track of how many times an entry has been indexed. This doesn't test if the entry has been defined to allow for the first L<sup>A</sup>T<sub>E</sub>X run before calling `bib2gls`.

`\@glxtr@inc@indexcount`

```
\newcommand*\@glxtr@inc@indexcount[1]{%
  \ifcsdef{glo@\glsdetoklabel{#1}@indexed}
  {%
    \csxdef{glo@\glsdetoklabel{#1}@indexed}{%
      \expandafter\number\expandafter\numexpr\csname glo@\glsdetoklabel{#1}@indexed\endcsname+1}%
    }%
  }%
  \csgdef{glo@\glsdetoklabel{#1}@indexed}{1}%
}
```

`\glsentryindexcount`

```
\newcommand*\glsentryindexcount}[1]{%
  \ifcsdef{glo@\glsdetoklabel{#1}@indexed}%
  {\csuse{glo@\glsdetoklabel{#1}@indexed}}%
  {0}%
}
```

`\glsifindexed`

```
\newcommand*\glsifindexed}[3]{%
  \ifcsdef{glo@\glsdetoklabel{#1}@indexed}%
  {\expandafter\ifnum\csname glo@\glsdetoklabel{#1}@indexed\endcsname>0 #2\else#3\fi}%
  {#3}%
}
```

`\glsaddallunindexed`

```
\newcommand*\glsaddallunindexed}[1][\@glo@types]{%
  \forallglsentries[#1]{\@glo@entry}%
  {%
    \glsifindexed{\@glo@entry}{\glsadd[format=glsignore]{\@glo@entry}}%
  }%
}
```

`\glsencapwrcontent` This command was added to glossaries v4.50 so may not be defined.

```
\providecommand*\glsencapwrcontent}[1]{#1}
```

`\glswriteentry` Redefine to test for `indexonlyfirst` category attribute. This needs to use `\GlsXtrIfUnusedOrUndefined` instead of `\ifglsused` to allow it to work with `bib2gls`.

```
\renewcommand*\glswriteentry}[2]{%
  \glsxtrifindexing
  {%
    \ifglsindexonlyfirst
      \GlsXtrIfUnusedOrUndefined{#1}
      {#2}%
      {\glsxtrdoautoindexname{#1}{dualindex}}%
    \else
      \glsifattribute{#1}{indexonlyfirst}{true}%
      {%
        \GlsXtrIfUnusedOrUndefined{#1}%
        {#2}%
        {\glsxtrdoautoindexname{#1}{dualindex}}%
      }%
      {#2}%
    \fi
  }%
  {}%
}
```

`\@do@wrglossary` Hook into glossary indexing command so that it can also use `\index` at the same time if required and add user hook.

```
\appto\@do@wrglossary{\@glstr@do@wrindex
\glstrdowrglossaryhook{\@gls@label}%
}
```

(The label can be obtained from `\@gls@label` at this point.)

Similarly for the “noidx” version:

```
\gls@noidxglossary
\appto\gls@noidxglossary{\@glstr@do@wrindex
\glstrdowrglossaryhook{\@gls@label}%
}
```

```
\@glstr@do@wrindex
\newcommand*{\@glstr@do@wrindex}{%
\glstrdoautoindexname{\@gls@label}{dualindex}%
}
```

`\glstrdowrglossaryhook` Allow user to hook into indexing code. (Always used by `\glsadd`. Used by `\gls` when indexing, which may or may not occur depending on the indexing settings.)

```
\newcommand*{\glstrdowrglossaryhook}[1]{}
```

`\@gls@alt@hyp@opt` Commands like `\gls` have a star or plus version. Provide a third symbol that the user can adapt for convenience.

```
\newcommand*{\@gls@alt@hyp@opt}[1]{%
\let\glslinkvar\@firstofthree

\def\@gls@hyp@opt@cs{#1}%
\ifstar{\s@gls@hyp@opt}%
{\@ifnextchar+%
{\@firstoftwo{\p@gls@hyp@opt}}%
{%
\expandafter\@ifnextchar\@gls@alt@hyp@opt@char
{\@firstoftwo{\@alt@gls@hyp@opt}}%
{#1}%
}%
}%
}
```

`\@alt@gls@hyp@opt` User version

```
\newcommand*{\@alt@gls@hyp@opt}[1][[]]{%
\let\glslinkvar\@firstofthree
\expandafter\@gls@hyp@opt@cs\expandafter[\@gls@alt@hyp@opt@keys,#1]}
```

`\@gls@alt@hyp@opt@char` Contains the character used as the command modifier.

```
\newcommand*{\@gls@alt@hyp@opt@char}{}
```

`\@gls@alt@hyp@opt@keys` Contains the option list used as the command modifier.

```
\newcommand*{\@gls@alt@hyp@opt@keys}{}
```

`\GlsXtrSetAltModifier`

```
\newcommand*{\GlsXtrSetAltModifier}[2]{%
```

```
\let\@gls@hyp@opt\@gls@alt@hyp@opt
```

Check that the supplied character isn't "+" or "\*"

```
\ifstrequal{#1}{+}%
```

```
{\PackageError{glossaries-extra}%
```

```
{Can't use '#1' as modifier (it's already in use)}{}}%
```

```
{%
```

```
\ifstrequal{#1}{*}%
```

```
{\PackageError{glossaries-extra}%
```

```
{Can't use '#1' as modifier (it's already in use)}{}}%
```

```
{}%
```

```
}%
```

```
\def\@gls@alt@hyp@opt@char{#1}%
```

```
\def\@gls@alt@hyp@opt@keys{#2}%
```

```
\ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off
```

```
{}%
```

```
{%
```

Let bib2gls know the modifier.

```
\protected@write\@auxout{}{\string\providecommand{\string\@glsxtr@altmodifier}[1]{}{}}%
```

```
\protected@write\@auxout{}{\string\@glsxtr@altmodifier{#1}}%
```

```
}%
```

```
}
```

`\GlsXtrSetPlusModifier` Allow user to override the plus modifier.

```
\newcommand*{\GlsXtrSetPlusModifier}[1]{%
```

```
\renewcommand*{\p@gls@hyp@opt}[1] [] {%
```

```
\let\glslinkvar\@thirdofthree
```

```
\@gls@hyp@opt@cs[#1,##1]%
```

```
}%
```

```
}
```

`\GlsXtrSetStarModifier` Allow user to override the star modifier.

```
\newcommand*{\GlsXtrSetStarModifier}[1]{%
```

```
\renewcommand*{\s@gls@hyp@opt}[1] [] {%
```

```
\let\glslinkvar\@secondofthree
```

```
\@gls@hyp@opt@cs[#1,##1]%
```

```
}
```

```
}
```

`\glsxtr@org@dohyperlink`

```
\let\glsxtr@org@dohyperlink\glsdohyperlink
```

`\glsnavhyperlink` Since `\glsnavhyperlink` uses `\glslink`, it's necessary to patch it uses `\glsdohyperlink` instead of `\glsxtrdohyperlink`. The simplest way to achieve this is to locally let `\glsxtrdohyperlink` to `\glsdohyperlink`.

This command is provided by `glossary-hypernav` so it may not exist.

```
\ifdef\glsnavhyperlink
{
  \renewcommand*\glsnavhyperlink}[3][\@glo@type]{%
    \protected@edef\gls@grplabel{#2}\protected@edef\gls@grptitle{#3}%
```

Scope:

```
{%
  \let\glsxtrdohyperlink\glsxtr@org@dohyperlink
  \@glslink{\glsnavhyperlinkname{#1}{#2}}{#3}%
}%
}%
}
```

Patch if `glossaries` pre 4.50.

```
\ifdef\@@gls@navhypertarget
{}
{%
```

`\glsnavhypertarget`

```
\renewcommand*\glsnavhypertarget}{\protect\@@gls@navhypertarget}
```

`\@@gls@navhypertarget`

```
\newcommand*\@@gls@navhypertarget}[3][\@glo@type]{%
  \@glsnavhypertarget{#1}{#2}{#3}%
}
}%
```

NB `glossary-hypernav` v4.53 switched to  $\LaTeX$ 3 sequences, so check for the existence of `\glsnavhypergroupdotarget`:

```
\ifdef\glsnavhypergroupdotarget
{
```

`\glsnavhypergroupdotarget`

```
\renewcommand\glsnavhypergroupdotarget[3]{%
  \@glsxtr@do@org@target{\glsnavhyperlinkname{#1}{#2}}{#3}%
}
}
```

`\@glsnavhypertarget` Similarly for `\@glsnavhypertarget`. (NB this patch should not be used with `glossaries` v4.53+)

```
\ifdef\@glsnavhypertarget
```



```

{%
\renewcommand*{\glsnavhypertarget}[3]{%
\protected@write\@auxout{}\string\@gls@hypergroup{#1}{#2}}%
\@glsxtr@do@org@target{\glsnavhyperlinkname{#1}{#2}}{#3}%
\ifcsdef{\gls@hypergroup@list@#1}%
{%
\letcs\@gls@list{\@gls@hypergroup@list@#1}%
\protected@edef\@gls@thishypernavlabel{#2}%
\expandafter\DTLifinlist\expandafter{\@gls@thishypernavlabel}\@gls@list}%
{%
\GlossariesWarningNoLine{Navigation panel
for glossary type ‘#1’^^Jmissing group ‘#2’}%
\gdef\gls@hypergroup@prerun{%
\GlossariesWarningNoLine{Navigation panel
has changed. Rerun LaTeX}}%
}%
}%
}%
{%
\GlossariesWarningNoLine{Navigation panel
for glossary type ‘#1’^^Jmissing group ‘#2’}%
\gdef\gls@hypergroup@prerun{%
\GlossariesWarningNoLine{Navigation panel
has changed. Rerun LaTeX}}%
}%
}%
}
{}
}

```

The redefinition of `\glsdohyperlink` has been causing problems so introduce a new command instead.

`\glsxtrdohyperlink` Unpleasant complications can occur if the text or first key etc contains `\gls`, particularly if there are hyperlinks. To get around this problem, patch `\glsdohyperlink` so that it temporarily makes `\gls` behave like `\glstext` [*hyper=false,noindex*]. (This will be overridden if the user explicitly cancels either of those options in the optional argument of `\gls` or using the plus version.) This also patches the short form commands like `\acrshort` and `\glsxtrshort` to use `\glsentryshort` and, similarly, the long form commands like `\acrlong` and `\glsxtrlong` to use `\glsentrylong`. Added attribute check.

```

\newcommand*{\glsxtrdohyperlink}[2]{%
\gls@hasattribute{\gls@label}{targeturl}%
{%
\gls@hasattribute{\gls@label}{targetname}%
{%
\gls@hasattribute{\gls@label}{targetcategory}%
{%
\hyperref{\gls@getattribute{\gls@label}{targeturl}}%

```

```

        {\glsgetattribute{\glslabel}{targetcategory}}%
        {\glsgetattribute{\glslabel}{targetname}}%
        {\glsxtrprotectlinks#2}}%
    }%
    {%
    \hyperref{\glsgetattribute{\glslabel}{targeturl}}%
    {}%
    {\glsgetattribute{\glslabel}{targetname}}%
    {\glsxtrprotectlinks#2}}%
    }%
    }%
    {%
    \href{\glsgetattribute{\glslabel}{targeturl}}%
    {\glsxtrprotectlinks#2}}%
    }%
    }%
    {%
    Check for alias.
    \glsfieldfetch{\glslabel}{alias}{\gloaliaslabel}%
    \ifvoid\gloaliaslabel
    {%
    \glsxtrhyperlink{#1}{\glsxtrprotectlinks#2}}%
    }%
    {%
    Is the alias a multi-entry?
    \glsxtrifmulti\gloaliaslabel
    {%
    Get the main target.
    \letcs\gloaliaslabel{@gls@combined@\gloaliaslabel @main}%
    }%
    {}%
    Redirect link to the alias target.
    \glsxtrhyperlink
    {\glolinkprefix\glsdetoklabel{\gloaliaslabel}}%
    {\glsxtrprotectlinks#2}}%
    }%
    }%
    }

```

`\glsxtrhyperlink` Allows integration with the base glossaries package's `debug=showtargets` option.

```

\ifdef\glsdohyperlinkhook
{
  \newcommand{\glsxtrhyperlink}[2]{%
    \glsdoshowtarget{#1}{\glsdohyperlinkhook{#1}{#2}\hyperlink{#1}{#2}}%
  }%
}
{

```

```

\newcommand{\glxtrhyperlink}[2]{%
  \glsdoshowtarget{#1}{\hyperlink{#1}{#2}}%
}%
}

```

`\glisablehyper` Redefine to set `\glslabel` (to allow it to be picked up by `\glsdohyperlink`). Also made it robust and added grouping to localise the definition of `\glslabel`. The original internal command `@glo@label` could probably be simply replaced with `\glslabel`, but it's retained in case its removal causes unexpected problems.

```

\renewrobustcmd*{\glshyperlink}[2][\glstrytext{\@glo@label}]{%
  \glsdofexists{#2}%
  {%
    \def\@glo@label{#2}%

    {\protected@edef\glslabel{#2}%
     \@glslink{\glo@linkprefix\glslabel}{#1}}%
  }%
}

```

`\glisablehyper` Redefine in case we have an old version of glossaries. This now uses `\def` rather than `\let` to allow for redefinitions of `\glsdonohyperlink`.

```

\renewcommand{\glisablehyper}{%
  \KV@glslink@hyperfalse
  \def\@glslink{\glsdonohyperlink}%
  \let\@glstarget\@secondoftwo
}

```

`\glisablehyper` This now uses `\def` rather than `\let` to allow for redefinitions of `\glsdohypertarget` and `\glsdohyperlink`.

```

\renewcommand{\glisablehyper}{%
  \KV@glslink@hypertrue
  \def\@glslink{\glxtrdohyperlink}%
  \def\@glstarget{\glsdohypertarget}%
}

```

`\glsdonohyperlink` This command was only introduced in glossaries v4.20, so it may not be defined (therefore use `\def`). For older glossaries versions, this won't be used if `hyperref` hasn't been loaded, which means the indexing will still take place. The generated text is scoped (the link text in `\hyperlink` is also scoped, so it's consistent).

```

\def\glsdonohyperlink#1#2{\glxtrprotectlinks #2}

```

`\@glslink` Reset `\@glslink` with patched versions:

```

\ifcsundef{hyperlink}%
{%
  \def\@glslink{\glsdonohyperlink}
}%
{%
  \def\@glslink{\glxtrdohyperlink}
}

```

`\glsxtrprotectlinks` Make `\gls` (and variants) behave like the corresponding `\glsstext` (and variants) with hyperlinking and indexing off.

```

\newcommand*{\glsxtrprotectlinks}{%
  \KV@glslink@hyperfalse
  \KV@glslink@noindextrue
  \let\@gls@\@glsxtr@p@text@
  \let\@Gls@\@Glsxtr@p@text@
  \let\@GLS@\@GLSxtr@p@text@
  \let\@glspl@\@glsxtr@p@plural@
  \let\@Glspl@\@Glsxtr@p@plural@
  \let\@GLSpl@\@GLSxtr@p@plural@
  \let\@glsxtrshort@\@glsxtr@p@short@
  \let\@Glsxtrshort@\@Glsxtr@p@short@
  \let\@GLSxtrshort@\@GLSxtr@p@short@
  \let\@glsxtrlong@\@glsxtr@p@long@
  \let\@Glsxtrlong@\@Glsxtr@p@long@
  \let\@GLSxtrlong@\@GLSxtr@p@long@
  \let\@glsxtrshortpl@\@glsxtr@p@shortpl@
  \let\@Glsxtrshortpl@\@Glsxtr@p@shortpl@
  \let\@GLSxtrshortpl@\@GLSxtr@p@shortpl@
  \let\@glsxtrlongpl@\@glsxtr@p@longpl@
  \let\@Glsxtrlongpl@\@Glsxtr@p@longpl@
  \let\@GLSxtrlongpl@\@GLSxtr@p@longpl@
  \let\@acrshort@\@glsxtr@p@acrshort@
  \let\@Acrshort@\@Glsxtr@p@acrshort@
  \let\@ACRshort@\@GLSxtr@p@acrshort@
  \let\@acrshortpl@\@glsxtr@p@acrshortpl@
  \let\@Acrshortpl@\@Glsxtr@p@acrshortpl@
  \let\@ACRshortpl@\@GLSxtr@p@acrshortpl@
  \let\@acrlong@\@glsxtr@p@acrlong@
  \let\@Acrlong@\@Glsxtr@p@acrlong@
  \let\@ACRlong@\@GLSxtr@p@acrlong@
  \let\@acrlongpl@\@glsxtr@p@acrlongpl@
  \let\@Acrlongpl@\@Glsxtr@p@acrlongpl@
  \let\@ACRlongpl@\@GLSxtr@p@acrlongpl@
}

```

These protected versions need grouping to prevent the label from getting confused.

```

\@glsxtr@p@text@
\def\@glsxtr@p@text@#1#2[#3]{\@glsstext@{#1}{#2}[#3]}

\@Glsxtr@p@text@
\def\@Glsxtr@p@text@#1#2[#3]{\@Glsstext@{#1}{#2}[#3]}

\@GLSxtr@p@text@
\def\@GLSxtr@p@text@#1#2[#3]{\@GLSstext@{#1}{#2}[#3]}

```

```

\@glsxtr@p@plural@
\def\@glsxtr@p@plural@#1#2[#3]{\@glsplural@{#1}{#2} [#3]}

\@Glsxtr@p@plural@
\def\@Glsxtr@p@plural@#1#2[#3]{\@Glsplural@{#1}{#2} [#3]}

\@GLSxtr@p@plural@
\def\@GLSxtr@p@plural@#1#2[#3]{\@GLSplural@{#1}{#2} [#3]}

\@glsxtr@p@short@
\def\@glsxtr@p@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\glsentryshort{#2}}#3%
  }%
}

\@Glsxtr@p@short@
\def\@Glsxtr@p@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\Glsentryshort{#2}}#3%
  }%
}

\@GLSxtr@p@short@
\def\@GLSxtr@p@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsuppercase{\glsabbrvfont{\glsentryshort{#2}}#3}%
  }%
}

\@glsxtr@p@shortpl@
\def\@glsxtr@p@shortpl@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\glsentryshortpl{#2}}#3%
  }%
}

\@Glsxtr@p@shortpl@
\def\@Glsxtr@p@shortpl@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\Glsentryshortpl{#2}}#3%
  }%
}

```

```

\@GLSxtr@p@shortpl@
\def\@GLSxtr@p@shortpl@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsuppercase{\glsabbrvfont{\glsentryshortpl{#2}}#3}%
  }%
}

\@glsxtr@p@long@
\def\@glsxtr@p@long@#1#2[#3]{\glsentrylong{#2}#3}

\@Glsxtr@p@long@
\def\@Glsxtr@p@long@#1#2[#3]{\Glsentrylong{#2}#3}

\@GLSxtr@p@long@
\def\@GLSxtr@p@long@#1#2[#3]{%
  {\glsuppercase{\glslongfont{\glsentrylong{#2}}#3}}}

\@glsxtr@p@longpl@
\def\@glsxtr@p@longpl@#1#2[#3]{\glsentrylongpl{#2}#3}

\@Glsxtr@p@longpl@
\def\@Glsxtr@p@longpl@#1#2[#3]{\glslongfont{\Glsentrylongpl{#2}}#3}

\@GLSxtr@p@longpl@
\def\@GLSxtr@p@longpl@#1#2[#3]{%
  {\glsuppercase{\glslongfont{\glsentrylongpl{#2}}#3}}}

\@glsxtr@p@acrshort@
\def\@glsxtr@p@acrshort@#1#2[#3]{\acronymfont{\glsentryshort{#2}}#3}

\@Glsxtr@p@acrshort@
\def\@Glsxtr@p@acrshort@#1#2[#3]{\acronymfont{\Glsentryshort{#2}}#3}

\@GLSxtr@p@acrshort@
\def\@GLSxtr@p@acrshort@#1#2[#3]{%
  {\glsuppercase{\acronymfont{\glsentryshort{#2}}#3}}}

\@glsxtr@p@acrshortpl@
\def\@glsxtr@p@acrshortpl@#1#2[#3]{\acronymfont{\glsentryshortpl{#2}}#3}

\@Glsxtr@p@acrshortpl@
\def\@Glsxtr@p@acrshortpl@#1#2[#3]{\acronymfont{\Glsentryshortpl{#2}}#3}

\@GLSxtr@p@acrshortpl@
\def\@GLSxtr@p@acrshortpl@#1#2[#3]{%
  {\glsuppercase{\acronymfont{\glsentryshortpl{#2}}#3}}}

```

```

\@glsxtrp@acrlong@
\def\@glsxtrp@acrlong@#1#2[#3]{\glsentrylong{#2}#3}}

\@Glsxtrp@acrlong@
\def\@Glsxtrp@acrlong@#1#2[#3]{\Glsentrylong{#2}#3}}

\@GLSxtrp@acrlong@
\def\@GLSxtrp@acrlong@#1#2[#3]{%
{\glsupercase{\glsentrylong{#2}#3}}}

\@glsxtrp@acrlongpl@
\def\@glsxtrp@acrlongpl@#1#2[#3]{\glsentrylongpl{#2}#3}}

\@Glsxtrp@acrlongpl@
\def\@Glsxtrp@acrlongpl@#1#2[#3]{\Glsentrylongpl{#2}#3}}

\@GLSxtrp@acrlongpl@
\def\@GLSxtrp@acrlongpl@#1#2[#3]{%
{\glsupercase{\glsentrylongpl{#2}#3}}}

Commands to minimise conflict.

\@glsxtrp@opt
\newcommand*{\@glsxtrp@opt}{hyper=false,noindex}

\glsxtrsetpopts Used in glossary to switch hyperlinks on for the \@glsxtrp type of commands.
\newcommand*{\glsxtrsetpopts}[1]{%
\renewcommand*{\@glsxtrp@opt}{#1}%
}

\glossxtrsetpopts Used in glossary to switch hyperlinks on for the \@glsxtrp type of commands.
\newcommand*{\glossxtrsetpopts}{%
\glsxtrsetpopts{noindex}%
}

\glsxtrpInit Initialisation code at the start of the group inserted by \@@glsxtrp.
\newcommand{\glsxtrpInit}[2]{\let\glspostlinkhook\relax}

\@@glsxtrp
\newrobustcmd*{\@@glsxtrp}[2]{%
Add scope.
{%
\glsxtrpInit{#1}{#2}%
\csname#1\expandafter\endcsname\expandafter[\@glsxtrp@opt]{#2}[]%
}%
}

```

```

\@glsxtrp
\newrobustcmd*{\@glsxtrp}[2]{%
  \ifcsdef{gls#1}%
  {%
    \@glsxtrp{gls#1}{#2}%
  }%
  {%
    \ifcsdef{glsxtr#1}%
    {%
      \@glsxtrp{glsxtr#1}{#2}%
    }%
    {%
      \PackageError{glossaries-extra}{‘#1’ not recognised by
        \string\glsxtrp}{}%
    }%
  }%
}

```

```

\@Glsxtrp
\newrobustcmd*{\@Glsxtrp}[2]{%
  \ifcsdef{Gls#1}%
  {%
    \@glsxtrp{Gls#1}{#2}%
  }%
  {%
    \ifcsdef{Glsxtr#1}%
    {%
      \@glsxtrp{Glsxtr#1}{#2}%
    }%
    {%
      \PackageError{glossaries-extra}{‘#1’ not recognised by
        \string\Glsxtrp}{}%
    }%
  }%
}

```

```

\@GLSxtrp
\newrobustcmd*{\@GLSxtrp}[2]{%
  \ifcsdef{GLS#1}%
  {%
    \@glsxtrp{GLS#1}{#2}%
  }%
  {%
    \ifcsdef{GLSxtr#1}%
    {%
      \@glsxtrp{GLSxtr#1}{#2}%
    }%
    {%
      \PackageError{glossaries-extra}{‘#1’ not recognised by

```



```

        \string\GLSxtrp}{}%
    }%
}

\glxtrifintoc
\newcommand{\glxtrifintoc}[2]{#2}

\glxtrifheaduc
\newcommand*{\glxtrifheaduc}[3]{%
\glxtrifintoc{#3}{\glxifattribute{#1}{headuc}{true}{#2}{#3}}%
}

\glxtr@entry@p
\newrobustcmd*{\glxtr@headentry@p}[2]{%
\glxtrifheaduc{#1}%
{%
\glssupercase{\@gls@entry@field{#1}{#2}}%
}%
{%
\@gls@entry@field{#1}{#2}%
}%
}

```

\glxtrp Not robust as it needs to expand somewhat.

```

\newcommand{\glxtrp}[2]{%
\protect\NoCaseChange
{%
\protect\glstexorpdfstring
{%
\protect\glxtrifinmark
{%
\ifcsdef{glsxtrhead#1}%
{%
{\protect\csuse{glsxtrhead#1}{#2}}%
}%
}%
\glxtr@headentry@p{#2}{#1}%
}%
}%
{%
\@glsxtrp{#1}{#2}%
}%
}%
{%
\protect\@gls@entry@field{#2}{#1}%
}%
}%
}

```

Provide short synonyms for the most common option.

```
\glsps
\newcommand*\glsps{\glsxtrp{short}}

\glspt
\newcommand*\glspt{\glsxtrp{text}}

\Glsxtrp As above but use first letter upper case.
\newcommand{\Glsxtrp}[2]{%
  \protect\NoCaseChange
  {%
    \protect\glstexorpdfstring
    {%
      \protect\glsxtrifinmark
      {%
        \ifcsdef{Glsxtrhead#1}%
        {%
          {\protect\csuse{Glsxtrhead#1}{#2}}%
        }%
      }%
    }%
  }%
  \protect\@Gls@entry@field{#2}{#1}%
  }%
  }%
  {%
    \@Glsxtrp{#1}{#2}%
  }%
  }%
  \MFUsentencecase{\@gls@entry@field{#2}{#1}}%
  }%
}
\glsmfuaddmap{\glsxtrp}{\Glsxtrp}

\GLSxtrp As above but all upper case. The bookmarks use \glsuppercase, which is
expandable as from mfirstuc v2.08+.
\newcommand{\GLSxtrp}[2]{%
  \protect\NoCaseChange
  {%
    \protect\glstexorpdfstring
    {%
      \protect\glsxtrifinmark
      {%
        \ifcsdef{GLSxtr#1}%
        {%
          {\protect\GLSxtrshort[noindex,hyper=false]{#1}[]}%
        }%
      }%
    }%
  }%
}
```

```

    }%
    {%
      \protect\glsuppercase
      {%
        \protect\@gls@entry@field{#2}{#1}%
      }%
    }%
  }%
  }%
  {%
    \@GLSxtrp{#1}{#2}%
  }%
  }%
  {%
    \protect\GLSxtrusefield{#2}{#1}%
  }%
}
\glsmfublocker{\GLSxtrp}

```

Provide case-changing versions of synonyms.

```

\Glsps
\newcommand*\Glsps{\GLSxtrp{short}}
\glsmfuaddmap{\glsps}{\Glsps}

\GLSps
\newcommand*\GLSps{\GLSxtrp{short}}
\glsmfublocker{\GLSps}

\Glspt
\newcommand*\Glspt{\GLSxtrp{text}}
\glsmfuaddmap{\glspt}{\Glspt}

\GLSpt
\newcommand*\GLSpt{\GLSxtrp{text}}
\glsmfublocker{\GLSpt}

```

### 1.3.5 Entry Counting

The (use) entry counting mechanism from `glossaries` is adjusted here to work with category attributes. Provide a convenient command to enable entry counting, set the `entrycount` attribute for given categories and redefine `\gls` etc to use `\cgl` instead. This form of entry counting is provided to adjust the formatting if the number of times an entry has been used (through commands that unset the first use flag) doesn't exceeding the specified threshold. For link counting, see §1.4.

First adjust definitions of the `unset` and `reset` commands to provide a hook, but changing the flag can cause problems in certain situations, so to allow the normal unsetting to be temporarily disabled, `\@glsunset` is let to

`\@glxtr@unset`, which performs the actual unsetting through `\@@glsunset` and then does the hook. This means that the unsetting (and the hook) can be switched off by redefining `\@glsunset` and then switched back on again by changing the definition back to `\@glxtr@unset`.

`\@glxtr@unset` Global unset.

```
\newcommand*{\@glxtr@unset}[1]{%
  \@glsunset{#1}%
  \glxtrpostunset{#1}%
}%
```

`\@glsunset` Global unset.

```
\let\@glsunset\@glxtr@unset
```

`\glxtrpostunset`

```
\newcommand*{\glxtrpostunset}[1]{}
```

Provide a command to store a list of labels that will need unsetting.

`\GlsXtrStartUnsetBuffering`

```
\newcommand*{\GlsXtrStartUnsetBuffering}{%
  \ifstar\s@GlsXtrStartUnsetBuffering\@GlsXtrStartUnsetBuffering
}
```

`\@GlsXtrStartUnsetBuffering` Unstarred version doesn't check for duplicates.

```
\newcommand*{\@GlsXtrStartUnsetBuffering}{%
  \let\@glxtr@org@unset@buffer\@glxtr@unset@buffer
  \GlsXtrClearUnsetBuffer
  \let\@glsunset\@glxtrbuffer@unset
  \let\org@glxtrbuffer@check@repeats\@glxtrbuffer@check@repeats
  \renewcommand*{\@glxtrbuffer@check@repeats}{%
    \@glxtrbuffer@check@repeats
  }%
}
```

`\s@GlsXtrStartUnsetBuffering` Starred version checks for duplicates.

```
\newcommand*{\s@GlsXtrStartUnsetBuffering}{%
  \let\@glxtr@org@unset@buffer\@glxtr@unset@buffer
  \GlsXtrClearUnsetBuffer
  \let\@glsunset\@glxtrbuffer@nodup@unset
  \let\org@glxtrbuffer@check@repeats\@glxtrbuffer@check@repeats
  \renewcommand*{\@glxtrbuffer@check@repeats}{%
    \@glxtrbuffer@check@repeats
  }%
}
```

`\@glxtrbuffer@unset` This must use a global change since `\gls` may have to be placed inside `\mbox` (for example, with `soul` commands).

```
\newcommand*{\@glxtrbuffer@unset}[1]{%
```

```

        \listxadd\@glxtr@unset@buffer{#1}%
    }

\@glxtrbuffer@nodup@unset Alternative version that avoids duplicates. One level of expansion is performed
on the argument in case it's a control sequence containing the label. (Not using
\xifinlist as the added complexity might cause problems that the buffering
is trying to overcome.)
\newcommand*\@glxtrbuffer@nodup@unset}[1]{%
    \expandafter\xifinlist\expandafter{#1}{\@glxtr@unset@buffer}{}%
    {\listxadd\@glxtr@unset@buffer{#1}}%
}

\@glxtrbuffer@check@repeats
\newcommand*\@glxtrbuffer@check@repeats{}

\@glxtrbuffer@check@repeats
\newcommand*\@@glxtrbuffer@check@repeats{}

\@glxtrbuffer@check@repeats@notused
\newcommand*\@@glxtrbuffer@check@repeats@notused{}

\@glxtrbuffer@do@check@repeat
\newrobustcmd*\@@glxtrbuffer@do@check@repeat}{%
    \expandafter\xifinlist\expandafter{\glslabel}{\@glxtr@unset@buffer}%
    {\@glslocalunset{\glslabel}}%
    {\GlsXtrIfUnusedOrUndefined\glslabel
        {\listxadd\@glxtrbuffer@check@repeats@notused{\glslabel}}{}}%
}

\GlsXtrUnsetBufferEnableRepeatLocal
\newcommand*\GlsXtrUnsetBufferEnableRepeatLocal}{%
    \def\@glxtrbuffer@check@repeats{\@glxtrbuffer@do@check@repeat}%
    \def\@glxtrbuffer@check@repeats@notused{}%
}

\GlsXtrUnsetBufferDisableRepeatLocal
\newcommand*\GlsXtrUnsetBufferDisableRepeatLocal}{%
    \def\@glxtrbuffer@check@repeats{}%
    \def\@glxtrbuffer@check@repeats@notused{}%
}

\GlsXtrResetLocalBuffer
\newcommand*\GlsXtrResetLocalBuffer}{%
    \forlistloop\@glslocalreset\@@glxtrbuffer@check@repeats@notused
    \GlsXtrClearUnsetBuffer
}

```

```

\GlsXtrClearUnsetBuffer
    \newcommand*\GlsXtrClearUnsetBuffer}{%
        \def\@glsxtrbuffer@check@repeats@notused{}%
        \def\@glsxtr@unset@buffer{}%
    }

\GlsXtrStopUnsetBuffering
    \newcommand*\GlsXtrStopUnsetBuffering}{%
        \ifstar\s@GlsXtrStopUnsetBuffering\@GlsXtrStopUnsetBuffering
    }

\@GlsXtrStopUnsetBuffering Unstarred form (global unset).
    \newcommand*\@GlsXtrStopUnsetBuffering}{%
        \let\@glsunset\@glsxtr@unset
        \forlistloop\@glsunset\@glsxtr@unset@buffer
        \let\@glsxtr@unset@buffer\@glsxtr@org@unset@buffer
        \let\@glsxtrbuffer@check@repeats\org@glsxtrbuffer@check@repeats
    }

\s@GlsXtrStopUnsetBuffering Starred form (local unset).
    \newcommand*\s@GlsXtrStopUnsetBuffering}{%
        \forlistloop\@glslocalunset\@glsxtr@unset@buffer
        \let\@glsunset\@glsxtr@unset
        \let\@glsxtrbuffer@check@repeats\org@glsxtrbuffer@check@repeats
    }

\GlsXtrDiscardUnsetBuffering Discards pending buffer and restores \glsunset.
    \newcommand*\GlsXtrDiscardUnsetBuffering}{%
        \let\@glsunset\@glsxtr@unset
        \let\@glsxtr@unset@buffer\@glsxtr@org@unset@buffer
        \let\@glsxtrbuffer@check@repeats\org@glsxtrbuffer@check@repeats
    }

\GlsXtrForUnsetBufferedList Iterate over labels stored in the current buffer. The argument is the handler
macro.
    \newcommand*\GlsXtrForUnsetBufferedList}[1]{%
        \forlistloop#1\@glsxtr@unset@buffer
    }

\@glslocalunset Local unset.
    \renewcommand*\@glslocalunset}[1]{%
        \@glslocalunset{#1}%
        \glsxtrpostlocalunset{#1}%
    }%

\glsxtrpostlocalunset
    \newcommand*\glsxtrpostlocalunset}[1]{}

```

`\@glsreset` Global reset.

```
\renewcommand*{\@glsreset}[1]{%  
  \@glsreset{#1}%  
  \glsxtrpostreset{#1}%  
}%
```

`\glsxtrpostreset`

```
\newcommand*{\glsxtrpostreset}[1]{}
```

`\@glslocalreset` Local reset.

```
\renewcommand*{\@glslocalreset}[1]{%  
  \@glslocalreset{#1}%  
  \glsxtrpostlocalreset{#1}%  
}%
```

`\glsxtrpostlocalreset`

```
\newcommand*{\glsxtrpostlocalreset}[1]{}
```

`\glslocalreaseteach` Locally reset a list of entries.

```
\newcommand*{\glslocalreaseteach}[1]{%  
  \gls@ifnotmeasuring  
  {%  
    \@for\@gls@thislabel:=#1\do{%  
      \glsdoifexists{\@gls@thislabel}%  
      {%  
        \@glslocalreset{\@gls@thislabel}%  
      }%  
    }%  
  }%  
}
```

`\glslocalunseteach` Locally unset a list of entries.

```
\newcommand*{\glslocalunseteach}[1]{%  
  \gls@ifnotmeasuring  
  {%  
    \@for\@gls@thislabel:=#1\do{%  
      \glsdoifexists{\@gls@thislabel}%  
      {%  
        \@glslocalunset{\@gls@thislabel}%  
      }%  
    }%  
  }%  
}
```

`\GlsXtrEnableEntryCounting` The first argument is the list of categories and the second argument is the value of the entrycount attribute.

```
\newcommand*{\GlsXtrEnableEntryCounting}[2]{%
```

Enable entry counting:

```
\glsenableentrycount
```

Redefine `\gls` etc:

```
\renewcommand*\gls{\cgl}s}%
\renewcommand*\Gls{\cGls}%
\renewcommand*\glspl{\cgl}spl}%
\renewcommand*\Glspl{\cGls}pl}%
\renewcommand*\GLS{\cGLS}%
\renewcommand*\GLSpl{\cGLS}pl}%
```

Set the `entrycount` attribute:

```
@glsxtr@setentrycountunsetattr{#1}{#2}%
```

In case this command is used again:

```
\let\GlsXtrEnableEntryCounting@glsxtr@setentrycountunsetattr
\renewcommand*\GlsXtrEnableEntryUnitCounting}[3]{%
\PackageError{glossaries-extra}{\string\GlsXtrEnableEntryUnitCounting\space
can't be used with \string\GlsXtrEnableEntryCounting}%
{Use one or other but not both commands}}%
}
```

```
@glsxtr@setentrycountunsetattr
```

```
\newcommand*{@glsxtr@setentrycountunsetattr}[2]{%
\@for{@glsxtr@cat:=#1\do
{%
\ifdefempty{@glsxtr@cat}{}%
{%
\glssetcategoryattribute{@glsxtr@cat}{entrycount}{#2}%
}%
}%
}
```

`\ifglsresetcurrcount` Determine whether or not to reset the entry counter when the first use flag is reset. This conditional will already be defined with `glossaries v4.50+`.

```
\ifdefglsresetcurrcountfalse{\newif\ifglsresetcurrcount}
\glsresetcurrcountfalse
```

Redefine the entry counting commands to take into account the `entrycount` attribute.

```
\glsenableentrycount
```

```
\renewcommand*\glsenableentrycount}{%
```

Enable new fields:

```
\appto@newglossaryentry@defcounters{@@newglossaryentry@defcounters}%
```

Just in case the user has switched on the `docdef` option.

```
\renewcommand*\gls@defdocnewglossaryentry}{%
\renewcommand*\newglossaryentry[2]{%
\PackageError{glossaries}{\string\newglossaryentry\space
may only be used in the preamble when entry counting has
been activated}{If you use \string\glsenableentrycount\space
you must place all entry definitions in the preamble not in
```



```

    the document environment}%
  }%
}%

```

New commands to access new fields:

```

\newcommand*\glsentrycurrcount}[1]{%
  \ifcsundef{glo@glsdetoklabel{##1}@currcount}%
  {0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*\glsentryprevcount}[1]{%
  \ifcsundef{glo@glsdetoklabel{##1}@prevcount}%
  {0}{\@gls@entry@field{##1}{prevcount}}%
}%

```

Adjust post unset and reset:

```

\let@glsxtr@entrycount@org@unset@glsxtrpostunset
\renewcommand*\glsxtrpostunset}[1]{%
  \@glsxtr@entrycount@org@unset{##1}%
  \@gls@increment@currcount{##1}%
}%
\let@glsxtr@entrycount@org@localunset@glsxtrpostlocalunset
\renewcommand*\glsxtrpostlocalunset}[1]{%
  \@glsxtr@entrycount@org@localunset{##1}%
  \@gls@local@increment@currcount{##1}%
}%
\let@glsxtr@entrycount@org@reset@glsxtrpostreset
\renewcommand*\glsxtrpostreset}[1]{%
  \@glsxtr@entrycount@org@reset{##1}%
  \ifglsresetcurrcount
    \csdef{glo@glsdetoklabel{##1}@currcount}{0}%
  \fi
}%
\let@glsxtr@entrycount@org@localreset@glsxtrpostlocalreset
\renewcommand*\glsxtrpostlocalreset}[1]{%
  \@glsxtr@entrycount@org@localreset{##1}%
  \ifglsresetcurrcount
    \csdef{glo@glsdetoklabel{##1}@currcount}{0}%
  \fi
}%

```

Modifications to take into account the attributes that govern whether the entry should be unset.

```

\let@cgl@s@\@cgl@s@
\let@cgl spl@\@cgl spl@

\let@cGls@\@cGls@
\let@cGlspl@\@cGlspl@
\let@cGLS@\@cGLS@
\let@cGLSpl@\@cGLSpl@

```

The rest is as the original definition.

```

\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*{\@gls@entry@count}[2]{%
  \csgdef{glo@\glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsenableentrycount\relax
\renewcommand*{\glsenableentryunitcount}{%
  \PackageError{glossaries-extra}{\string\glsenableentryunitcount\space
    can't be used with \string\glsenableentrycount}%
  {Use one or other but not both commands}%
}%
}

```

`\newglossaryentry@defcounters` Allow for `docdef=restricted`.

```

\renewcommand*{\@newglossaryentry@defcounters}{%
  \csdef{glo@\glo@label @currcount}{0}%
  \ifnum\@glsxtr@docdefval=2\relax
    \ifcsdef{glo@\glo@label @prevcount}{\csdef{glo@\glo@label @prevcount}{0}}%
  \else
    \csdef{glo@\glo@label @prevcount}{0}%
  \fi
}

```

`\@gls@write@entrycounts` Modify this command so that it only writes the information for entries with the `entrycount` attribute and issue warning if no entries have this attribute set.

```

\renewcommand*{\@gls@write@entrycounts}{%
  \immediate\write\@auxout
    {\string\providecommand*{\string\@gls@entry@count}[2]{}}%
  \count@=0\relax
  \forallglsentries{\@glsentry}{%
    \gls@hasattribute{\@glsentry}{entrycount}%
    {%
      \ifglsused{\@glsentry}%
      {%
        \immediate\write\@auxout
          {\string\@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}%
      }%
    }%
    \advance\count@ by \@ne
  }%
  }%
  \ifnum\count@=0
    \GlossariesExtraWarningNoLine{Entry counting has been enabled
      \MessageBreak with \string\glsenableentrycount\space but the
      \MessageBreak attribute 'entrycount' hasn't
      \MessageBreak been assigned to any of the defined
      \MessageBreak entries}%
  \fi
}

```

```
\glstrifcounttrigger{<label>}{<trigger format>}{<normal>}
```

\glstrifcounttrigger

```
\newcommand*\glstrifcounttrigger}[3]{%
\glshasattribute{#1}{entrycount}%
{%
\ifnum\glentryprevcount{#1}>\glsetattribute{#1}{entrycount}\relax
#3%
\else
#2%
\fi
}%
{#3}%
}
```

Actual internal definitions of \cgl used when entry counting is enabled.

\@@cgl@

```
\def\@@cgl@#1#2[#3]{%
\glstrifcounttrigger{#2}%
{%
\cglformat{#2}{#3}%
\glunset{#2}%
}%
{%
\@cgl@{#1}{#2}[#3]%
}%
}%
```

\@@cglspl@

```
\def\@@cglspl@#1#2[#3]{%
\glstrifcounttrigger{#2}%
{%
\cglsplformat{#2}{#3}%
\glunset{#2}%
}%
{%
\@cglspl@{#1}{#2}[#3]%
}%
}%
```

\@@cGls@

```
\def\@@cGls@#1#2[#3]{%
\glstrifcounttrigger{#2}%
{%
\cGlsformat{#2}{#3}%
\glunset{#2}%
}%
}%
```

```

    {%
      \@Gls@{#1}{#2}[#3]%
    }%
  }%

\@@cGlspl@
\def\@@cGlspl@#1#2[#3]{%
  \glstrifcounttrigger{#2}%
  {%
    \cGlsplformat{#2}{#3}%
    \glunset{#2}%
  }%
  {%
    \@Glspl@{#1}{#2}[#3]%
  }%
}%

\@@cGLS@
\def\@@cGLS@#1#2[#3]{%
  \glstrifcounttrigger{#2}%
  {%
    \cGLSformat{#2}{#3}%
    \glunset{#2}%
  }%
  {%
    \@GLS@{#1}{#2}[#3]%
  }%
}%

\@@cGLSpl@
\def\@@cGLSpl@#1#2[#3]{%
  \glstrifcounttrigger{#2}%
  {%
    \cGLSplformat{#2}{#3}%
    \glunset{#2}%
  }%
  {%
    \@GLSpl@{#1}{#2}[#3]%
  }%
}%

```

Remove default warnings from `\cgl`s etc so that it can be used interchangeably with `\gl`s etc.

```

\@cgl@
\def\@cgl@#1#2[#3]{\@gl@{#1}{#2}[#3]}

\@cGls@
\def\@cGls@#1#2[#3]{\@Gls@{#1}{#2}[#3]}

```

```

\@cglsp1@
\def\@cglsp1@#1#2[#3]{\@glspl@{#1}{#2}[#3]}

\@cGlspl@
\def\@cGlspl@#1#2[#3]{\@Glspl@{#1}{#2}[#3]}

Add all upper case versions not provided by glossaries.

\cGLS
\newrobustcmd*\@cGLS{\@gls@hyp@opt\@cGLS}
\glsmfublocker{\@cGLS}

\@cGLS Defined the un-starred form. Need to determine if there is a final optional
argument
\newcommand*\@cGLS}[2][{}]{%
  \new@ifnextchar[{\@cGLS@{#1}{#2}}{\@cGLS@{#1}{#2}[]}%
}

\@cGLS@
\def\@cGLS@#1#2[#3]{\@GLS@{#1}{#2}[#3]}

\cGLSformat Format used by \@cGLS if entry only used once on previous run. The first argu-
ment is the label, the second argument is the insert text.
\newcommand*\cGLSformat}[2]{%
  \expandafter\glsuppercase\expandafter{\cglformat{#1}{#2}}%
}

\cGLSp1
\newrobustcmd*\@cGLSp1{\@gls@hyp@opt\@cGLSp1}
\glsmfublocker{\@cGLSp1}

\@cGLSp1 Defined the un-starred form. Need to determine if there is a final optional
argument
\newcommand*\@cGLSp1}[2][{}]{%
  \new@ifnextchar[{\@cGLSp1@{#1}{#2}}{\@cGLSp1@{#1}{#2}[]}%
}

\@cGLSp1@
\def\@cGLSp1@#1#2[#3]{\@GLSp1@{#1}{#2}[#3]}

\cGLSp1format Format used by \@cGLSp1 if entry only used once on previous run. The first
argument is the label, the second argument is the insert text.
\newcommand*\cGLSp1format}[2]{%
  \expandafter\glsuppercase\expandafter{\cglsp1format{#1}{#2}}%
}

Modify the trigger formats to check for the regular attribute.

```

```

\cglformat
\renewcommand*\cglformat}[2]{%
  \glsifregular{#1}
  {\glsentryfirst{#1}}%
  {\ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}

```

```

\cGlsformat
\renewcommand*\cGlsformat}[2]{%
  \glsifregular{#1}
  {\Glsentryfirst{#1}}%
  {\ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}

```

```

\cglspformat
\renewcommand*\cglspformat}[2]{%
  \glsifregular{#1}
  {\glsentryfirstplural{#1}}%
  {\ifglshaslong{#1}{\glsentrylongpl{#1}}{\glsentryfirstplural{#1}}#2%
}

```

```

\cGlsplformat
\renewcommand*\cGlsplformat}[2]{%
  \glsifregular{#1}
  {\Glsentryfirstplural{#1}}%
  {\ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}

```

New code similar to above for unit counting.

\glossaryentry@defunitcounters

```

\newcommand*\@newglossaryentry@defunitcounters{%
  \protected@edef\@glo@countunit{\csuse{@glsxtr@categoryattr@{@glo@category @unitcount}}%
  \ifdefvoid\@glo@countunit
  {}%
  {%
    \@glsxtr@ifunitcounter{\@glo@countunit}%
    {}%
    {\expandafter\@glsxtr@addunitcounter\expandafter{\@glo@countunit}}%
  }%
}

```

\@glsxtr@unitcountlist List to keep track of which counters are being used by the entry unit count facility.

```

\newcommand*\@glsxtr@unitcountlist{}

```

\@glsxtr@addunitcounter

```

\newcommand*\@glsxtr@addunitcounter}[1]{%
  \listadd{\@glsxtr@unitcountlist}{#1}%
}

```

```

\ifcsundef{glsxtr@theunit@#1}
{%
  \ifcsdef{theH#1}%
  {\csdef{glsxtr@theunit@#1}{\csuse{theH#1}}}%
  {\csdef{glsxtr@theunit@#1}{\csuse{the#1}}}%
}%
{}%
}

\@glsxtr@ifunitcounter

\newcommand*{\@glsxtr@ifunitcounter}[3]{%
  \xifinlist{#1}{\@glsxtr@unitcountlist}{#2}{#3}%
}

\@glsxtr@currentunitcount

\newcommand*\@glsxtr@currentunitcount[1]{%
  glo@glsdetoklabel{#1}@currunit@glsgetattribute{#1}{unitcount}.%
  \csuse{glsxtr@theunit@glsgetattribute{#1}{unitcount}}%
}

\@glsxtr@previousunitcount

\newcommand*\@glsxtr@previousunitcount[1]{%
  glo@glsdetoklabel{#1}@prevunit@glsgetattribute{#1}{unitcount}.%
  \csuse{glsxtr@theunit@glsgetattribute{#1}{unitcount}}%
}

\@gls@increment@currunitcount

\newcommand*{\@gls@increment@currunitcount}[1]{%
  \gls@hasattribute{#1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{#1}}%
    \ifcsundef{\@glsxtr@csname}%
    {%
      \csgdef{\@glsxtr@csname}{1}%
      \listcsxadd
      {glo@glsdetoklabel{#1}@unitlist}%
      {\glsgetattribute{#1}{unitcount}.%
        \csuse{glsxtr@theunit@glsgetattribute{#1}{unitcount}}%
      }%
    }%
    {%
      \csxdef{\@glsxtr@csname}%
      {\number\numexpr\csname\@glsxtr@csname\endcsname+1}%
    }%
  }%
  {}%
}

\@gls@increment@currunitcount

```

```

\newcommand*{\@gls@local@increment@currunitcount}[1]{%
  \gls@hasattribute{#1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{#1}}%
    \ifcsundef{\@glsxtr@csname}%
    {%
      \csdef{\@glsxtr@csname}{1}%
      \listcseadd
      {glo\@glsdetoklabel{#1}@unitlist}%
      {\glsgetattribute{#1}{unitcount}.%
        \csuse{glsxtr@theunit@\@glsgetattribute{#1}{unitcount}}}%
    }%
  }%
  {%
    \csedef{\@glsxtr@csname}%
    {\number\numexpr\csname\@glsxtr@csname\endcsname+1}%
  }%
}%
{}%
}

```

\@glsxtr@currunitcount

```

\newcommand*{\@glsxtr@currunitcount}[2]{%
  \ifcsundef
  {glo\@glsdetoklabel{#1}@currunit@#2}%
  {0}%
  {\csuse{glo\@glsdetoklabel{#1}@currunit@#2}}%
}%

```

\@glsxtr@prevunitcount

```

\newcommand*{\@glsxtr@prevunitcount}[2]{%
  \ifcsundef
  {glo\@glsdetoklabel{#1}@prevunit@#2}%
  {0}%
  {\csuse{glo\@glsdetoklabel{#1}@prevunit@#2}}%
}%

```

\glsenableentryunitcount

```

\newcommand*{\glsenableentryunitcount}{%

```

Enable new fields:

```

  \appto\@newglossaryentry@defcounters{\@@newglossaryentry@defunitcounters}%

```

Just in case the user has switched on the docdef option.

```

  \renewcommand*{\gls@defdocnewglossaryentry}{%
    \renewcommand*{\newglossaryentry}[2]{%
      \PackageError{glossaries}{\string\newglossaryentry\space
        may only be used in the preamble when entry counting has
        been activated}{If you use \string\glsenableentryunitcount\space
        you must place all entry definitions in the preamble not in

```



```

    the document environment}%
  }%
}%

```

New commands to access new fields:

```

\newcommand*\glsentrycurrcount}[1]{%
  \@glsxtr@currunitcount{##1}{\glsgetattribute{##1}{unitcount}}.%
  \csuse{glsxtr@theunit@glsgetattribute{##1}{unitcount}}}%
}%
\newcommand*\glsentryprevcount}[1]{%
  \@glsxtr@prevunitcount{##1}{\glsgetattribute{##1}{unitcount}}.%
  \csuse{glsxtr@theunit@glsgetattribute{##1}{unitcount}}}%
}%

```

Access total count:

```

\newcommand*\glsentryprevtotalcount}[1]{%
  \ifcsundef{glo@glsdetoklabel{##1}@prevunittotal}%
  {0}%
  {%
    \number\csuse{glo@glsdetoklabel{##1}@prevunittotal}
  }%
}%

```

Access max value:

```

\newcommand*\glsentryprevmaxcount}[1]{%
  \ifcsundef{glo@glsdetoklabel{##1}@prevunitmax}%
  {0}%
  {%
    \number\csuse{glo@glsdetoklabel{##1}@prevunitmax}
  }%
}%

```

Adjust post unset and reset:

```

\let\@glsxtr@entryunitcount@org@unset\glsxtrpostunset
\renewcommand*\glsxtrpostunset}[1]{%
  \@glsxtr@entryunitcount@org@unset{##1}%
  \@gls@increment@currunitcount{##1}%
}%
\let\@glsxtr@entryunitcount@org@localunset\glsxtrpostlocalunset
\renewcommand*\glsxtrpostlocalunset}[1]{%
  \@glsxtr@entryunitcount@org@localunset{##1}%
  \@gls@local@increment@currunitcount{##1}%
}%
\let\@glsxtr@entryunitcount@org@reset\glsxtrpostreset
\renewcommand*\glsxtrpostreset}[1]{%
  \gls@hasattribute{##1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{##1}}%
    \ifcsundef{\@glsxtr@csname}%
    {}%
    {\ifglsresetcurrcount\csgdef{\@glsxtr@csname}{0}\fi}%
  }%

```

```

}%
{}%
}%
\let\@glsxtr@entryunitcount@org@localreset\glsxtrpostlocalreset
\renewcommand*\@glsxtrpostlocalreset}[1]{%
  \@glsxtr@entryunitcount@org@localreset{##1}%
  \gls@hasattribute{##1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{##1}}%
    \ifcsundef{\@glsxtr@csname}%
    {}%
    {\ifglsresetcurrcount\csdef{\@glsxtr@csname}{0}\fi}%
  }%
  {}%
}%

```

Modifications to take into account the attributes that govern whether the entry should be unset.

```

\let\@cgl@s@\@cgl@s@
\let\@cgl@spl@\@cgl@spl@

\let\@cGl@s@\@cGl@s@
\let\@cGl@spl@\@cGl@spl@
\let\@cGLS@\@cGLS@
\let\@cGLSp1@\@cGLSp1@

```

Write information to the aux file.

```

\AtEndDocument{\@gls@write@entryunitcounts}%
\renewcommand*\@gls@entry@unitcount}[3]{%
  \csgdef{glo@glsdetoklabel{##1}@prevunit@##3}{##2}%
  \ifcsundef{glo@glsdetoklabel{##1}@prevunittotal}%
  {\csgdef{glo@glsdetoklabel{##1}@prevunittotal}{##2}}%
  {%
    \csxdef{glo@glsdetoklabel{##1}@prevunittotal}{
      \number\numexpr\csuse{glo@glsdetoklabel{##1}@prevunittotal}+##2}%
    }%
  \ifcsundef{glo@glsdetoklabel{##1}@prevunitmax}%
  {\csgdef{glo@glsdetoklabel{##1}@prevunitmax}{##2}}%
  {%
    \ifnum\csuse{glo@glsdetoklabel{##1}@prevunitmax}<##2
    \csgdef{glo@glsdetoklabel{##1}@prevunitmax}{##2}%
    \fi
  }%
}%
\let\glsenableentryunitcount\relax
\renewcommand*\@glsenableentrycount}{%
  \PackageError{glossaries-extra}{\string\glsenableentrycount\space
  can't be used with \string\glsenableentryunitcount}%
  {Use one or other but not both commands}%
}%

```

```

}
\@onlypreamble\glsenableentryunitcount

\@gls@entry@unitcount
\newcommand*{\@gls@entry@unitcount}[3]{}

\gls@write@entryunitcounts@do
\newcommand*{\@gls@write@entryunitcounts@do}[1]{%
  \immediate\write\@auxout
  {\string\@gls@entry@unitcount
   {\@glsentry}%
   {\@glsxtr@currunitcount{\@glsentry}{#1}}%
  }%
  {#1}}%
}

\@gls@write@entryunitcounts
\newcommand*{\@gls@write@entryunitcounts}{%
  \immediate\write\@auxout
  {\string\providecommand*{\string\@gls@entry@unitcount}[3]{}%
  \count@=0\relax
  \forallglsentries{\@glsentry}{%
    \gls@hasattribute{\@glsentry}{unitcount}%
    {%
      \ifglsused{\@glsentry}%
      {%
        \forlistcsloop
          {\@gls@write@entryunitcounts@do}%
          {glo@glsdetoklabel{\@glsentry}@unitlist}%
        }%
      }%
      \advance\count@ by \@ne
    }%
  }%
  \ifnum\count@=0
    \GlossariesExtraWarningNoLine{Entry counting has been enabled
    \MessageBreak with \string\glsenableentryunitcount\space but the
    \MessageBreak attribute 'unitcount' hasn't
    \MessageBreak been assigned to any of the defined
    \MessageBreak entries}%
  \fi
}

```

`\glsXtrEnableEntryUnitCounting` The first argument is the list of categories, the second argument is the value of the entrycount attribute and the third is the counter name.

```
\newcommand*{\GlsXtrEnableEntryUnitCounting}[3]{%
```

Enable entry counting:

```
\glsenableentryunitcount
```

Redefine `\gls` etc:

```
\renewcommand*\gls{\cglS}%
\renewcommand*\Gls{\cGLS}%
\renewcommand*\glspl{\cglSpl}%
\renewcommand*\Glspl{\cGLSpl}%
\renewcommand*\GLS{\cGLS}%
\renewcommand*\GLSpl{\cGLSpl}%
```

Set the `entrycount` attribute:

```
\@glsxtr@setentryunitcountunsetattr{#1}{#2}{#3}%
```

In case this command is used again:

```
\let\GlsXtrEnableEntryUnitCounting\@glsxtr@setentryunitcountunsetattr
\renewcommand*\GlsXtrEnableEntryCounting}[2]{%
\PackageError{glossaries-extra}{\string\GlsXtrEnableEntryCounting\space
can't be used with \string\GlsXtrEnableEntryUnitCounting}%
{Use one or other but not both commands}}%
}
```

`@setentryunitcountunsetattr`

```
\newcommand*\@glsxtr@setentryunitcountunsetattr}[3]{%
\@for\@glsxtr@cat:=#1\do
{%
\ifdefempty{\@glsxtr@cat}{}%
{%
\glssetcategoryattribute{\@glsxtr@cat}{entrycount}{#2}%
\glssetcategoryattribute{\@glsxtr@cat}{unitcount}{#3}%
}%
}%
}
```

### 1.3.6 Acronym Modifications

It's more consistent to use the abbreviation code for acronyms, but make some adjustments to allow for continued use of the `glossaries` package's custom acronym format. (For example, user may already have defined some acronym styles with `\newacronymstyle` which they would like to continue to use.) The original `glossaries` acronym code can be restored with `\RestoreAcronyms`, but adjust `\SetGenericNewAcronym` so that `\newacronym` adds the category.

`\SetGenericNewAcronym`

```
\renewcommand*\SetGenericNewAcronym}{%
```

Make sure `\RestoreAcronyms` has been used.

```
\ifdefequal\@addtoacronymlists\@glsxtr@org@addtoacronymlists
{}%
{%
\GlossariesWarning{\string\SetGenericNewAcronym\space used
without restoring base acronym functions with
\string\RestoreAcronyms}%
```

```

}%
\let\@Gls@entryname\@Gls@acrenryname
Redefine \newacronym:
\renewcommand{\newacronym}[4] []{%
\ifdefempty{\@Gls@acronymlists}%
{%
\def\@glo@type{\acronymtype}%
\setkeys{glossentry}{##1}%
\DeclareAcronymList{\@glo@type}%
}%
{}%
\glskeylisttok{##1}%
\glslabeltok{##2}%
\glsshorttok{##3}%
\glslongtok{##4}%
\newacronymhook
\protected@edef\@do@newglossaryentry{%
\noexpand\newglossaryentry{\the\glslabeltok}%
{%
type=\acronymtype,%
name={\expandonce{\acronymentry{##2}}},%
sort={\acronymssort{\the\glsshorttok}{\the\glslongtok}},%
text={\the\glsshorttok},%
short={\the\glsshorttok},%
shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
long={\the\glslongtok},%
longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
category=acronym,%
\GenericAcronymFields,%
\the\glskeylisttok
}%
}%
\@do@newglossaryentry
}%
\renewcommand*\{acrfullfmt}[3]{%
\glslink[##1]{##2}{\genacrfullformat{##2}{##3}}}%
\renewcommand*\{Acrfullfmt}[3]{%
\glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}}%
\renewcommand*\{ACRfullfmt}[3]{%
\glslink[##1]{##2}{%
\glsuppercase{\genacrfullformat{##2}{##3}}}%
\renewcommand*\{acrfullplfmt}[3]{%
\glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\{Acrfullplfmt}[3]{%
\glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}}%
\renewcommand*\{ACRfullplfmt}[3]{%
\glslink[##1]{##2}{%
\glsuppercase{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\{glsentryfull}[1]{\genacrfullformat{##1}{}}%

```

```

\renewcommand*{\Glsentryfull}[1]{\Genacrformat{##1}{}}%
\renewcommand*{\glsentryfullpl}[1]{\genplacrformat{##1}{}}%
\renewcommand*{\Glsentryfullpl}[1]{\Genplacrformat{##1}{}}%
}

```

This will cause a problem for glossaries that contain a mixture of acronyms and abbreviations, so redefine `\newacronym` to use the new abbreviation interface.

First save the original definitions:

```

\let\@glxtr@org@setacronymstyle\setacronymstyle
\let\@glxtr@org@newacronymstyle\newacronymstyle

```

Save the list of acronyms in case they are required.

```
\@glxtr@acronymlists
```

```
\let\@glxtr@acronymlists\@glsacronymlists
```

```
\@glxtr@org@addtoacronymlists
```

```
\let\@glxtr@org@addtoacronymlists\@addtoacronymlists
```

```
\@glxtr@org@setacronymlists
```

```
\let\@glxtr@org@setacronymlists\SetAcronymLists
```

Need to provide a replacement for `\forallacronyms` since `\@glsacronymlists` isn't available.

```
\@glxtr@abbrlists
```

```
\newcommand{\@glxtr@abbrlists}{}

```

```
\forallabbreviationlists
```

```

\newcommand*{\forallabbreviationlists}[2]{%
  \@for#1:=\@glxtr@abbrlists\do{\ifdefempty{#1}{#2}}%
}

```

```
\@glxtr@addabbreviationlist
```

```

\newcommand*{\@glxtr@addabbreviationlist}[1]{%
  \protected@edef\@glo@type{#1}%
  \ifdefempty\@glxtr@abbrlists
  {\let\@glxtr@abbrlists\@glo@type}%
  {%
    \ifdefequal\@glxtr@abbrlists\@glo@type
    {}%
    {%
      \expandafter\DTLifinlist\expandafter{\@glo@type}{\@glxtr@abbrlists}{}%
      {\protected@eappto\@glxtr@abbrlists{,\@glo@type}}%
    }%
  }%
}

```

`\forallacronyms` Modify to add warning.

```
\renewcommand*\forallacronyms}[2]{%
  \glstr@base@acrcmd\forallacronyms\forallabbreviationlists
  \@for#1:=\glsacronymlists\do{\ifx#1@empty\else#2\fi}%
}
```

`\MakeAcronymsAbbreviations` Make acronyms use the same interface as abbreviations. Note that `\newacronymstyle` has a different implementation to `\newabbreviationstyle` so disable `\newacronymstyle` and `\setacronymstyle`.

```
\newcommand*\MakeAcronymsAbbreviations}{%
```

Undo acronym display style:

```
\@for\gls@type:=\glsacronymlists\do{%
  \csgdef{gls@\gls@type @entryfmt}{\glsentryfmt}%
}%
```

Save and clear acronym list.

```
\let\glstr@acronymlists\glsacronymlists
\let\glsacronymlists@empty
\let\addtoacronymlists@gobble
\let\SetAcronymLists@gobble
```

Warn if `\acrshort` etc are used.

```
\let\glstr@base@acrcmd@\glstr@base@acrcmd@warn
```

Redefine `\newacronym` to use same interface as `\newabbreviation`.

```
\renewcommand*\newacronym}[4][[]]{%
  \glstr@newabbreviation{type=\acronymtype,category=acronym,##1}{##2}{##3}{##4}%
}%
\renewcommand*\firstacronymfont}[1]{\glsfirstabbrvfont{##1}}%
\renewcommand*\acronymfont}[1]{\glsabbrvfont{##1}}%
\renewcommand*\setacronymstyle}[1]{%
  \PackageError{glossaries-extra}{\string\setacronymstyle{##1}
  unavailable.
  Use \string\setabbreviationstyle[acronym]\space instead.
  The original acronym interface can be restored with
  \string\RestoreAcronyms}{}%
}%
\renewcommand*\newacronymstyle}[1]{%
  \GlossariesExtraWarning{New acronym style ‘##1’ won’t be
  available unless you restore the original acronym interface with
  \string\RestoreAcronyms}%
  \glstr@org@newacronymstyle{##1}%
}%
}
```

Switch acronyms to abbreviations:

```
\MakeAcronymsAbbreviations
```

`\RestoreAcronyms` Restore acronyms to glossaries interface.

```
\newcommand*\RestoreAcronyms}{%
```

Restore acronym list.

```
\let\@glsacronymlists\@glsxtr@acronymlists
\let\@addtoacronymlists\@glsxtr@org@addtoacronymlists
\let\SetAcronymLists\@glsxtr@org@setacronymlists
```

Suppress warnings if \acrshort etc are used.

```
\let\@glsxtr@base@acrcmd\@gobbletwo
```

Restore acronym display style:

```
\@for\@gls@type:=\@glsacronymlists\do{%
  \SetDefaultAcronymDisplayStyle{\@gls@type}%
}%
```

Switch to the generic acronym mechanism.

```
\SetGenericNewAcronym
\renewcommand{\firstacronymfont}[1]{\acronymfont{##1}}%
\renewcommand{\acronymfont}[1]{##1}%
\let\setacronymstyle\@glsxtr@org@setacronymstyle
\let\newacronymstyle\@glsxtr@org@newacronymstyle
```

Need to restore the original definition of \@gls@link@checkfirsthyper but \glsxtrifwasfirstuse still needs setting for the benefit of the post-link hook.

```
\renewcommand*\@gls@link@checkfirsthyper{%
  \ifglsused{\glslabel}%
  {\let\glsxtrifwasfirstuse\@secondoftwo}
  {\let\glsxtrifwasfirstuse\@firstoftwo}%
  \@glsxtr@org@checkfirsthyper
}
\glssetcategoryattribute{acronym}{regular}{false}%
\setacronymstyle{long-short}%
}
```

\glsacspace Allow the user to customise the maximum value.

```
\renewcommand*\glsacspace}[1]{%
  \glsmeasurewidth{\dimen@}{(\firstacronymfont{\glsentryshort{#1}})}%
  \ifdim\dimen@<\glsacspacemax~\else\space\fi
}
```

\glsacspacemax Value used in the above.

```
\newcommand*\glsacspacemax{3em}
```

\glsabspace Similar to \glsacspace but includes inner formatting.

```
\newrobustcmd*\glsabspace}[1]{%
  \glsmeasurewidth{\dimen@}{(\glsfirstabbrvfont{\glsentryshort{#1}})}%
  \ifdim\dimen@<\glsacspacemax
    \glsxtrgenentrytextfmt{~}%
  \else
    \glsxtrgenentrytextfmt{ }%
  \fi
}
```



### 1.3.7 Indexing and Displaying Glossaries

From time-to-time users ask if they can have one glossary sorted normally and another sorted by definition or usage. With the base `glossaries` package this can only be achieved with the “`noidx`” commands (Option 1). This is an attempt to mix and match.

First we need a list of the glossaries that require `makeindex/xindy`.

`\@glsxtr@reg@glosslist`

```
\newcommand*{\@glsxtr@reg@glosslist}{}
```

Save the original definition of `\makeglossaries`:

```
\let\@glsxtr@org@makeglossaries\makeglossaries
```

`\@glsxtr@org@makeglossaries@warn@noprintglossary` This command was only introduced to `glossaries v4.47` so it may not be defined.

```
\providecommand\@makeglossaries@warn@noprintglossary{%
  \ifdefstring{\@glo@types}{,}%
  {%
    \GlossariesWarningNoLine{No glossaries have been defined}%
  }%
  {%
    \GlossariesWarningNoLine{No \string\printglossary\space
      or \string\printglossaries\space
      found. ^^J(Remove \string\makeglossaries\space if you
      don't want any glossaries.) ^^JThis document will not
      have a glossary}%
  }%
}%
```

`\@domakeglossaries` `glossaries v4.45` introduced `\@domakeglossaries` to provide a way of disabling `\makeglossaries`. If it hasn't been defined, define here to do its argument:

```
\providecommand{\@domakeglossaries}[1]{#1}
```

`\@gls@automake@types` Added to `glossaries v4.50` so may not be defined.

```
\providecommand{\@gls@automake@types}{\@glo@types}
```

Redefine `\makeglossaries` to take an optional argument. This should be empty for the usual behaviour (all glossaries need processing with an indexing application) or a comma-separated list of glossary labels indicating those glossaries that should be processed with an indexing application. The optional argument version shouldn't be used with `record`.

`\makeglossaries`

```
\renewcommand*{\makeglossaries}[1] [] {%
  \ifx\@glsxtr@record@setting\@glsxtr@record@setting@alsoindex
    \edef\glsindexingsetting{bib2gls-\ifglsxindy xindy\else makeindex\fi}%
  \else
    \ifglsxindy
      \def\glsindexingsetting{xindy}%
    \fi
  \fi
}
```

```

\else
  \def\glsindexingsetting{makeindex}%
\fi
\fi
\@domakeglossaries
{%
  \@glsxtr@if@record@only
  {%
    \PackageError{glossaries-extra}{\string\makeglossaries\space
      not permitted\MessageBreak with record=\@glsxtr@record@setting\space
      package option}%
    {You may only use \string\makeglossaries\space with
      record=off or record=hybrid options}%
  }%
  {%
    \ifblank{#1}%
    {%
      \@glsxtr@org@makeglossaries

      \ifx\@glsxtr@record@setting\@glsxtr@record@setting@alsoindex
        \let\warn@noprntglossary\@glsxtr@warn@hybrid@noprntgloss
      \fi
    }%
    {%
      \ifx\@glsxtr@record@setting\@glsxtr@record@setting@alsoindex
        \PackageError{glossaries-extra}{\string\makeglossaries[#1]\space
          not permitted\MessageBreak with record=\@glsxtr@record@setting\space package option}%
        {You may only use the hybrid \string\makeglossaries[...]\space with
          record=off option}%
      \else
        \appto\glsindexingsetting{-noidx}%
      \fi
    }%
  }%
}

```

\@gls@@automake@immediate was introduced to glossaries v4.42 so it may not be defined.

```

\protected@edef\@glsxtr@reg@glosslist{#1}%

```

\@gls@@automake@immediate uses \@gls@automake@types as from v4.50. Older versions use \@glo@types which will include the noidx glossaries.

```

\let\@gls@automake@types\@glsxtr@reg@glosslist
\ifdef\@gls@@automake@immediate{\@gls@@automake@immediate}{}%
\ifundef{\glswrite}{\newwrite\glswrite}{}%
\protected@write\@auxout{}{\string\providecommand
  \string\@glsorder[1]{}}
\protected@write\@auxout{}{\string\providecommand
  \string\@istfilename[1]{}}
\protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{}{\string\@glsorder{\glsorder}}
\protected@write\@auxout{}{\string\@glsxtr@makeglossaries{#1}}
\write\@auxout{\string\providecommand\string\@gls@reference[3]{}}%

```

Iterate through each supplied glossary type and activate it.

```

\@for\@glo@type:=#1\do{%
\ifempty{\@glo@type}{\@makeglossary{\@glo@type}}%
}%

```

New glossaries must be created before `\makeglossaries`:

```

\renewcommand*\newglossary[4] [] {%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your
\string\newglossary\space commands}}%

```

Any subsequent instances of this command should have no effect.

```

\let\@makeglossary\gobble

```

Version 1.42 removed letting `\makeglossary` to `\relax` (no kernel redefs may be in effect).

```

\renewcommand\makeglossaries[1] [] {}%

```

Disable all commands that have no effect after `\makeglossaries`

```

\@disable@onlypremakeg

```

Allow see key:

```

\let\gls@checkseeallowed\relax

```

Adjust `\do@seeglossary`. This needs to check for the entry's existence but don't increment associated counter.

```

\renewcommand*\do@seeglossary}[2] {%
\glsdoifexists{##1}%
{%
\protected@edef\@gls@label{\glsdetoklabel{##1}}%
\protected@edef\@gls@type{\csname glo@\@gls@label @type\endcsname}%
\expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
{\@glsxtr@org@doseeglossary{##1}{##2}}%
{%
\@glsxtrwrglossmark
\protected@write\@auxout{}{%
\string\@gls@reference
{\@gls@type}{\@gls@label}{\string\glsseeformat##2}}%
}%
}%
}%

```

Adjust `\do@wrglossary`

```

\let\@glsxtr@do@wrglossary\do@wrglossary
\def\do@wrglossary{%
\protected@edef\@gls@type{\csname glo@\@gls@label @type\endcsname}%
\expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
{\@glsxtr@do@wrglossary}%
{\gls@noidxglossary}%
}%

```

Suppress warning about no `\makeglossaries`

```
\let\warn@nomakeglossaries\relax
\let\warn@noprintglossary\@makeglossaries@warn@noprintglossary
```

Only warn for glossaries not listed.

```
\renewcommand{\@gls@noref@warn}[1]{%
  \protected@edef\@gls@type{##1}%
  \expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
  {%
    \GlossariesExtraWarning{Can't use
      \string\printnoidxglossary[type={\@gls@type}]
      when '\@gls@type' is listed in the optional argument of
      \string\makeglossaries}%
    }%
  {%
    \GlossariesWarning{Empty glossary for
      \string\printnoidxglossary[type={##1}].
      Rerun may be required (or you may have forgotten to use
      commands like \string\gls)}%
    }%
  }%
```

Adjust display number list to check for type:

```
\renewcommand*\@glsdisplaynumberlist[1]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {\@glsxtr@idx@displaynumberlist{##1}}%
  {\@glsxtr@noidx@displaynumberlist{##1}}%
  }%
```

Adjust entry list:

```
\renewcommand*\@glsentrynumberlist[1]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {\@glsxtr@idx@entrynumberlist{##1}}%
  {\@glsxtr@noidx@entrynumberlist{##1}}%
  }%
```

Adjust number list loop

```
\renewcommand*\@glsnumberlistloop[2]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {%
    \PackageError{glossaries-extra}{\string\glsnumberlistloop\space
      not available for glossary '##1'}{%
    }%
    {\@glsxtr@noidx@numberlistloop{##1}{##2}}%
  }%
```

Only sanitize sort for normal indexing glossaries.

```
\renewcommand*\@glsprestandardsort[3]{%
  \expandafter\DTLifinlist\expandafter{##2}{\@glsxtr@reg@glosslist}%
  {%
    \glsdosanitizesort
  }%
```

```

}%
{%
  \ifglssanitizesort
  \@gls@noidx@sanitizesort
  \else
  \@gls@noidx@nosanitizesort
  \fi
}%
}%

```

Unlike `\makenoidxglossaries` we can't automatically set `sanitizesort=false`. All entries must be defined in the preamble.

```

\renewcommand*\new@glossaryentry[2]{%
  \PackageError{glossaries-extra}{Glossary entries must be defined
  in the preamble\MessageBreak when you use the optional argument
  of \string\makeglossaries}{Either move your definitions to the
  preamble or don't use the optional argument of
  \string\makeglossaries}%
}%

```

Only activate sort key for glossaries that aren't listed in #1 (glossary label is stored in `\@glo@type` but this defaults to `\glsdefaulttype` so some expansion is required).

```

\let\@glo@assign@sortkey\@glsxtr@mixed@assign@sortkey
\renewcommand*\@printgloss@setsort{%

```

Need to extract just the type value.

```

\expandafter\@glsxtr@gettype\expandafter,\@glsxtr@printglossopts,%
  type=\glsdefaulttype,\@end@glsxtr@gettype
\def\@glo@sorttype{\@glo@default@sorttype}%
}%

```

Check automake setting:

```

\ifglsautomake
\renewcommand*\@gls@doautomake{%
  \@for\@gls@type:=\@glsxtr@reg@glosslist\do{%
    \ifdefempty{\@gls@type}{\@gls@automake{\@gls@type}}%
  }%
}%
\fi

```

Check the sort setting (glossaries v4.30 onwards):

```

\ifdef\@glo@check@sortallowed{\@glo@check@sortallowed\makeglossaries}{}%
\fi
}%

```

Prohibit the use of `\glsxtrnoidxgroups`.

```

\prohibit@glsxtrnoidxgroups

```

Activate warnings for incompatible options.

```

\let\gls@warn@makegloss@incompatible\@gls@warn@makegloss@incompatible
}%

```

```
}%
}
```

warn@makegloss@incompatible

```
\newcommand*{\gls@warn@makegloss@incompatible}[2]{}
```

warn@makegloss@incompatible

```
\newcommand*{\@gls@warn@makegloss@incompatible}[2]{%
  #2\GlossariesExtraWarning{#1\space is incompatible with \string\makeglossaries}%
}
```

The optional argument version of `\makeglossaries` needs an adjustment to `\@printglossary` to allow `\@glo@assign@sortkey` to pick up the glossary type.

Earlier versions of `glossaries-extra` simply saved the original version of `\@printglossary` with `\let \@glsxtr@orgprintglossary`. This was later changed to actually defining `\@glsxtr@orgprintglossary` to something similar with some alterations to allow for ignored glossaries, which don't have an associated title and to by-pass the existence check with `\ifglossaryexists` which doesn't recognise ignored glossaries. (`bib2gls` writes `\provideignoredglossary` to the `gls.tex` file for some settings, so the glossary might not be defined on the first L<sup>A</sup>T<sub>E</sub>X run and it needs to be allowed with `\printunsrtglossary` on subsequent runs.)

Unfortunately, removing the existence check will cause an error if `\printglossary` is used with an ignored glossary.

As from `glossaries v4.46`, some new commands have been included to allow the existence check to be varied depending on whether or not ignored glossaries should be allowed, so check for them:

glsxtr@printgloss@checkexists

```
\ifdef\@printgloss@checkexists
{\newcommand\glsxtr@printgloss@checkexists{\@printgloss@checkexists}}
{\newcommand\glsxtr@printgloss@checkexists}[2]{#2}}
```

`\@glsxtr@orgprintglossary` (This command is also used for on-the-fly setting.)

```
\newcommand{\@glsxtr@orgprintglossary}[2]{%
  \def\@glo@type{\glsdefaulttype}%
```

Add check here.

```
\def\glossarytitle{%
  \ifcsdef{@glo@type@\@glo@type @title}%
  {\csuse{@glo@type@\@glo@type @title}}%
  {\glossaryname}}%
\def\glossarytoctitle{\glossarytitle}%
\let\org@glossarytitle\glossarytitle
\def\@glossarystyle{%
  \ifx\@glossary@default@style\relax
  \GlossariesWarning{No default glossary style provided \MessageBreak
```

```

        for the glossary ‘\@glo@type’. \MessageBreak
        Using fallback. \MessageBreak
        To fix this set the style with \MessageBreak
        \string\setglossarystyle\space or use the \MessageBreak
        style key=value option}%
    \fi
}%
\def\gls@dotoc{title{\glssettoctitle{\@glo@type}}}%
\let\@org@glossaryentrynumbers\glossaryentrynumbers
\begin{group}
    \printgloss@setsort
    \setkeys{printgloss}{#1}%
    \ifx\glossarytitle\org@glossarytitle
    \else
        \cslet{\@glo@type@\@glo@type @title}{\glossarytitle}%
    \fi
    \let\currentglossary\@glo@type
    \let\org@glossaryentrynumbers\glossaryentrynumbers
    \let\glsnonextpages\@glsnonextpages
    \let\glsnextpages\@glsnextpages

    \glsxtractivatenopost
    \gls@dotoc{title}
    \@glossarystyle
    \let\gls@org@glossaryentryfield\glossentry
    \let\gls@org@glossarysubentryfield\subglossentry
    \renewcommand{\glossentry}[1]{%
        \protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
        \gls@org@glossaryentryfield{##1}%
    }%
    \renewcommand{\subglossentry}[2]{%
        \protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
        \gls@org@glossarysubentryfield{##1}{##2}%
    }%
    \@gls@preglossaryhook
    \glsxtr@printgloss@checkexists{\@glo@type}{#2}%
\end{group}
\global\let\glossaryentrynumbers\@org@glossaryentrynumbers
\global\let\warn@noprntglossary\relax
}

```

`\glsxtractivatenopost` Change `\nopostdesc` and `\glsxtrnopostpunc` to behave as they do in the glossary.

```

\newcommand*{\glsxtractivatenopost}{%
    \let\nopostdesc\@nopostdesc
    \let\glsxtrnopostpunc\@glsxtr@nopostpunc
}

```

`\glsxtrnopostpunc`

```

\newrobustcmd*{\glsxtrnopostpunc}{}

```

`\@glxtr@nopostpunc` Provide a command that works like `\nopostdesc` but only switches off the punctuation without suppressing the post-description hook.

```
\newcommand{\@glxtr@nopostpunc}{%
\let\@glxtr@org@postdescription\glspostdescription
\ifglsnopostdot
\renewcommand{\glspostdescription}{%
\glsnopostdottrue
\let\glspostdescription\@glxtr@org@postdescription
\let\glxtrrestorepostpunc\@glxtr@restore@postpunc
\glxtrpostdescription
\@glxtr@nopostpunc@postdesc}%
\else
\renewcommand{\glspostdescription}{%
\let\glspostdescription\@glxtr@org@postdescription
\let\glxtrrestorepostpunc\@glxtr@restore@postpunc
\glxtrpostdescription
\@glxtr@nopostpunc@postdesc}%
\fi
\glsnopostdotfalse
}
```

`\@glxtr@nopostpunc@postdesc`

```
\newcommand*{\@glxtr@nopostpunc@postdesc}{}
```

`\@glxtr@restore@postpunc`

```
\newcommand*{\@glxtr@restore@postpunc}{%
\def\@glxtr@nopostpunc@postdesc{%
\@glxtr@org@postdescription
\let\@glxtr@nopostpunc@postdesc\@empty
\let\glxtrrestorepostpunc\@empty
}%
}
```

`\glxtrrestorepostpunc` Does nothing outside of glossary.

```
\newcommand*{\glxtrrestorepostpunc}{}
```

`\@printglossary` Redefine.

```
\renewcommand{\@printglossary}[2]{%
\def\@glxtr@printglossopts{#1}%
\@glxtr@orgprintglossary{#1}{#2}%
}
```

Add a key that switches off the entry targets:

```
\define@choicekey{printgloss}{target}
[\@glxtr@printglossval\@glxtr@printglossnr]%
{true,false}[true]%
{%
\ifcase\@glxtr@printglossnr
```



```

        \def\@glstarget{\glsdohypertarget}%
    \else
        \let\@glstarget\@secondoftwo
    \fi
}

```

`\@glxtrhypernameprefix`

```

\newcommand{\@glxtrhypernameprefix}{}

New to v1.20:
\define@key{printgloss}{targetnameprefix}{%
  \renewcommand{\@glxtrhypernameprefix}{#1}%
}

\define@key{printgloss}{prefix}{%
  \renewcommand{\glolinkprefix}{#1}%
}

\define@key{printgloss}{label}{%
  \glxtrsetglossarylabel{#1}%
}

\define@key{printgloss}{preamble}{%
  \renewcommand{\glossarypreamble}{#1}%
}

\define@key{printgloss}{postamble}{%
  \renewcommand{\glossarypostamble}{#1}%
}

```

`\glxtrsetglossarylabel` Set the label for subsequent glossaries. If the label is fixed (that is, doesn't change with each glossary) this will need to be scoped or changed again to prevent duplicate labels.

```

\newcommand{\glxtrsetglossarylabel}[1]{%
  \ifstrempy{#1}%
  {%
    \renewcommand*{\@glossaryseclabel}{}%
  }%
  {%
    \renewcommand*{\@glossaryseclabel}{%
      \protected@edef\@currentlabelname{\glossarytoctitle}%
      \label{#1}%
    }%
  }%
}

```

`\@glxtr@leveloffset`

```

\newcount\@glxtr@leveloffset

```

New to v1.44:

```
\define@key{printgloss}{leveloffset}{%  
  \@glxtr@assign@leveloffset#1\relax  
  \gls@warn@noidxmakegloss@incompatible{option 'leveloffset'}  
  {\@glxtr@leveloffset=0\relax}%  
}
```

\@glxtr@assign@leveloffset

```
\newcommand*{\@glxtr@assign@leveloffset}{%  
  \@ifnextchar+{\p@glxtr@assign@leveloffset}{\np@glxtr@assign@leveloffset}%  
}
```

\p@glxtr@assign@leveloffset Discard initial "+" character.

```
\newcommand*{\p@glxtr@assign@leveloffset}[1]{%  
  \@ifnextchar+{\pp@glxtr@assign@leveloffset}{\np@glxtr@assign@leveloffset}%  
}
```

\np@glxtr@assign@leveloffset

```
\def\np@glxtr@assign@leveloffset#1\relax{\@glxtr@leveloffset=#1\relax}
```

\pp@glxtr@assign@leveloffset

```
\def\pp@glxtr@assign@leveloffset#1\relax{\advance\@glxtr@leveloffset by #1\relax}
```

```
\define@boolkey{printgloss}[glxtr@printgloss@]{groups}[true]{%  
  \ifglxtr@printgloss@groups  
  \else  
  \gls@warn@noidxmakegloss@incompatible{option 'groups'}%  
  {\glxtr@printgloss@groupstrue}%  
  \fi  
}  
\glxtr@printgloss@groupstrue
```

```
\define@boolkey{printgloss}[glxtr@printgloss@]{flatten}[true]{%  
  \ifglxtr@printgloss@flatten  
  \gls@warn@noidxmakegloss@incompatible{option 'flatten'}%  
  {\glxtr@printgloss@flattenfalse}%  
  \fi  
}  
\glxtr@printgloss@flattenfalse
```

\glsdohypertarget Redefine to insert \@glxtr@hypernameprefix before the target name.

```
\let\@glxtr@org@glsdohypertarget\glsdohypertarget  
\renewcommand{\glsdohypertarget}[2]{%  
  \@glxtr@org@glsdohypertarget{\@glxtr@hypernameprefix#1}{#2}%  
}
```

Update \@glstarget to use \def instead being assigned with \let so that it can pick up the new definition and allow any further redefinitions:

```
\ifx\@glstarget\@glxtr@org@glsdohypertarget  
  \def\@glstarget{\glsdohypertarget}%  
\fi
```

`\@glxtr@do@org@target` Provide a way to locally do the original.

```
\newcommand{\@glxtr@do@org@target}[2]{%
  {%
    \let\glsdohypertarget\@glxtr@org@glsdohypertarget
    \@glstarget{#1}{#2}%
  }%
}
```

`\glxtr@makeglossaries` For the benefit of `makeglossaries`

```
\newcommand*{\glxtr@makeglossaries}[1]{}
```

`\@glxtr@gettype` Get just the type.

```
\def\@glxtr@gettype#1,type=#2,#3\end@glxtr@gettype{%
  \def\@glo@type{#2}%
}
```

`\@glxtr@mixed@assign@sortkey` Assign the sort key.

```
\newcommand\@glxtr@mixed@assign@sortkey[1]{%

  \protected@edef\@glo@type{\@glo@type}%
  \expandafter\DTLifinlist\expandafter{\@glo@type}{\@glxtr@reg@glosslist}%
  {%
    \@glo@no@assign@sortkey{#1}%
  }%
  {%
    \@glo@assign@sortkey{#1}%
  }%
}%
```

Display number list for the regular version:

`\@glxtr@idx@displaynumberlist`

```
\let\@glxtr@idx@displaynumberlist\glsdisplaynumberlist
```

Display number list for the “noidx” version:

`\@glxtr@noidx@displaynumberlist`

```
\newcommand*{\@glxtr@noidx@displaynumberlist}[1]{%
  \letcs{\@gls@loclist}{glo@glsdetoklabel{#1}@loclist}%
  \ifdef\@gls@loclist
  {%
    \def\@gls@noidxloclist@sep{%
      \def\@gls@noidxloclist@sep{%
        \def\@gls@noidxloclist@sep{%
          \glsnumlistsep
        }%
      }%
    }%
    \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
  }%
  \def\@gls@noidxloclist@finalsep{}}%
```

```

\def\@gls@noidx@loclist@prev{}%
\forlistloop{\glsnoidxdisplayloclisthandler}{\@gls@loclist}%
\@gls@noidx@loclist@finalsep
\@gls@noidx@loclist@prev
}%
{%

\glsxtrundeftag
\glsdoifexists{#1}%
{%
\GlossariesWarning{Missing location list for ‘#1’. Either
a rerun is required or you haven’t referenced the entry.}%
}%
}%
}%

```

And for the number list loop:

`\glsxtr@noidx@numberlistloop`

```

\newcommand*\@glsxtr@noidx@numberlistloop}[3]{%
\letcs{\@gls@loclist}{glo@glsdetoklabel{#1}@loclist}%
\let\@gls@org@glsnoidxdisplayloc\glsnoidxdisplayloc
\let\@gls@org@glsseeformat\glsseeformat
\let\glsnoidxdisplayloc#2\relax
\let\glsseeformat#3\relax
\ifdef\@gls@loclist
{%
\forlistloop{\glsnoidxnumberlistloophandler}{\@gls@loclist}%
}%
{%

\glsxtrundeftag
\glsdoifexists{#1}%
{%
\GlossariesWarning{Missing location list for ‘##1’. Either
a rerun is required or you haven’t referenced the entry.}%
}%
}%
\let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
\let\glsseeformat\@gls@org@glsseeformat
}%

```

Same for entry number list.

`\glsxtr@noidx@entrynumberlist`

```

\newcommand*\@glsxtr@noidx@entrynumberlist}[1]{%
\letcs{\@gls@loclist}{glo@glsdetoklabel{#1}@loclist}%
\ifdef\@gls@loclist
{%
\glsnoidxloclist{\@gls@loclist}%

```

```

}%
{%
    \glxtrundeftag
    \glsdoifexists{#1}%
    {%
        \GlossariesWarning{Missing location list for ‘#1’. Either
            a rerun is required or you haven’t referenced the entry.}%
    }%
}%
}%

```

`\glxtr@idx@entrynumberlist`

```
\newcommand*\@glxtr@idx@entrynumberlist}[1]{\glsentrynumberlist{#1}}
```

`\gls@noidx@getgrouptitle` Patch.

```

\renewcommand*\@gls@noidx@getgrouptitle}[2]{%
    \protected@edef\@glxtr@titlelabel{#1}%
    \ifdefvoid\@glxtr@titlelabel
    {}%
    {%
        \protected@edef\@glxtr@titlelabel{\csuse{glxtr@grouptitle@#1}}%
    }%
    \ifdefvoid{\@glxtr@titlelabel}%
    {%
        \DTLifint{#1}%
        {%
            \ifnum#1<256\relax
                \edef#2{\char#1\relax}%
            \else
                \edef#2{#1}%
            \fi
        }%
        {%
            \ifcsundef{#1groupname}%
                {\def#2{#1}}%
                {\letcs#2{#1groupname}}%
        }%
    }%
    {%
        \let#2\@glxtr@titlelabel
    }%
}

```

`\glxtr@org@getgrouptitle` Save original definition of `\@gls@getgrouptitle`

```
\let\glxtr@org@getgrouptitle\@gls@getgrouptitle
```

`\glxtrnoidxgroups` Provide the ability to switch from unsrt to noidx code, but only for `record=off`.

```

\newcommand*\glxtrnoidxgroups{%
    \ifdefequal\@glxtr@record@setting\@glxtr@record@setting@off

```

```

    {%
      \let\@gls@getgrouptitle\@gls@noidx@getgrouptitle
      \let\glsxtr@org@getgrouptitle\@gls@getgrouptitle
    }%
    {\PackageError{glossaries-extra}{Can't use
      \string\glsxtrunstrtgrouptonoidx\space with record=\@glsxtr@record@setting}
      {\string\glsxtrunstrtgrouptonoidx\space is only available with record=off}}%
    \global\let\prohibit@glsxtrnoidxgroups\@glsxtrnoidxgroups@nomakegloss
  }

```

sxtrnoidxgroups@nomakegloss

```

\newcommand{\@glsxtrnoidxgroups@nomakegloss}{%
  \PackageError{glossaries-extra}{Can't use
    \string\glsxtrunstrtgrouptonoidx\space with \string\makeglossaries}{-}
}

```

\prohibit@glsxtrnoidxgroups

```

\newcommand{\prohibit@glsxtrnoidxgroups}{%
  \global\let\glsxtrnoidxgroups\@glsxtrnoidxgroups@nomakegloss
}

```

`\glsxtrgetgrouptitle` Provide a user-level command to fetch the group title. The first argument is the group label. The second argument is a control sequence in which to store the title.

```

\newrobustcmd{\glsxtrgetgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlecsname{glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlecsname
  \ifcsdef{\@glsxtr@titlecsname}
  {\letcs{#2}{\@glsxtr@titlecsname}}%
  {\glsxtr@org@getgrouptitle{#1}{#2}}%
}
\let\@gls@getgrouptitle\glsxtrgetgrouptitle

```

`\glsxtrsetgrouptitle` Sets the title for the given group label.

```

\newcommand{\glsxtrsetgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlelabel
  \protected@csxdef{\@glsxtr@titlelabel}{#2}%
}

```

`\glsxtrlocalsetgrouptitle` As above put only locally defines the title.

```

\newcommand{\glsxtrlocalsetgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlelabel
  \protected@csedef{\@glsxtr@titlelabel}{#2}%
}

```

```

\ifdef\glsnavigationitem
{

```

`\glsnavigationitem`

```
\renewcommand\glsnavigationitem[1]{%
  \glsxrgetgrouptitle{#1}{\@gls@grptitle}%
  \glsnavhyperlink{#1}{\@gls@grptitle}%
}

}
```

`\glsnavigation` Redefine to use new user-level command. This patch should not be used with glossaries v4.53+.

```
\renewcommand*\@glsnavigation{%
  \def\@gls@between{%
    \ifcsundef\@gls@hypergroup\list\@gls@type{%
      {%
        \def\@gls@list{%
        }%
      }%
    }%
    \expandafter\let\expandafter\@gls@list
    \csname @gls@hypergroup\list\@gls@type\endcsname
  }%
  \for\@gls@tmp:=\@gls@list\do{%
    \@gls@between
    \glsxrgetgrouptitle{\@gls@tmp}{\@gls@grptitle}%
    \glsnavhyperlink{\@gls@tmp}{\@gls@grptitle}%
    \let\@gls@between\glsnavsep
  }%
}
```

`\@print@noidx@glossary`

```
\renewcommand*\@print@noidx@glossary{%
  \ifcsdef\@glsref\@gls@type{%
    {%
      \ifcsdef\@gls@sortmacro\@gls@sorttype{%
        {%
          \csuse\@gls@sortmacro\@gls@sorttype{\@gls@type}%
        }%
      }%
      \PackageError{glossaries}{Unknown sort handler '\@gls@sorttype'}{}%
    }%
    \glossarysection[\glossarytoctitle]{\glossarytitle}%
    \glossarypreamble
  }
```

Moved this command definition outside of environment in case of scoping issues (e.g. in tabular-like styles).

```
\def\@gls@currentlettergroup{%
  \begin{theglossary}%
  \glossaryheader
  \glsresetentrylist
```

```

\forlistcsloop{\@gls@noidx@do}{\@glsref@\@glo@type}%
\end{theglossary}%
\glossarypostamble
}%
{%

```

Add section header if there are actually entries defined in this glossary as the document is likely pending a re-run.

```

\glsxtrifemptyglossary{\@glo@type}%
{}%
{\glossarysection[\glossarytoctitle]{\glossarytitle}}%
\@gls@noref@warn{\@glo@type}%
}%
}

```

`\glsnoidxdisplayloc` Patch to check for range formations.

```

\renewcommand*\@glsnoidxdisplayloc[4]{%
\setentrycounter[#1]{#2}%
\@glsxtr@display@loc#3\empty\end@glsxtr@display@loc{#4}%
}

```

`\@glsxtr@display@loc` Patch to check for range formations.

```

\def\@glsxtr@display@loc#1#2\end@glsxtr@display@loc#3{%
\ifx#1\relax
\glsxtrdisplaystartloc{#2}{#3}%
\else
\ifx#1\relax
\glsxtrdisplayendloc{#2}{#3}%
\else
\glsxtrdisplaysingleloc{#1#2}{#3}%
\fi
\fi
}

```

`\glsxtrdisplaysingleloc` Single location.

```

\newcommand*\@glsxtrdisplaysingleloc[2]{%
\csuse{#1}{#2}%
}

```

By default the range identifiers are simply ignored. A custom list loop handler can be defined by the user to test for ranges by checking the definition of `\glsxtrlocrangefmt`.

`\glsxtrdisplaystartloc` Start of a location range.

```

\newcommand*\@glsxtrdisplaystartloc[2]{%
\protected@edef\glsxtrlocrangefmt{#1}%
\ifx\glsxtrlocrangefmt\empty
\def\glsxtrlocrangefmt{glsnumberformat}%
\fi
\expandafter\glsxtrdisplaysingleloc

```



```

    \expandafter{\glsxtrlocrangefmt}{#2}%
}

```

`\glsxtrdisplayendloc` End of a location range.

```

\newcommand*\glsxtrdisplayendloc}[2]{%
  \protected@edef\@glsxtr@tmp{#1}%
  \ifdefempty{\@glsxtr@tmp}{\def\@glsxtr@tmp{glsnumberformat}}{}%
  \ifx\glsxtrlocrangefmt\@glsxtr@tmp
  \else
    \GlossariesExtraWarning{Mismatched end location range
      (start=\glsxtrlocrangefmt, end=\@glsxtr@tmp)}%
  \fi
  \expandafter\glsxtrdisplayendlochook\expandafter{\@glsxtr@tmp}{#2}%
  \expandafter\glsxtrdisplayingleloc
    \expandafter{\glsxtrlocrangefmt}{#2}%
  \def\glsxtrlocrangefmt{}%
}

```

`\glsxtrdisplayendlochook` Allow the user to hook into the end of range command.

```

\newcommand*\glsxtrdisplayendlochook}[2]{}

```

`\glsxtrlocrangefmt` Current range format. Empty if not in a range.

```

\newcommand*\glsxtrlocrangefmt{}

```

`\setentrycounter` Adjust `\setentrycounter` to save the original prefix.

```

\renewcommand*\setentrycounter}[2][ ]{%
  \def\glsxtrcounterprefix{#1}%
  \ifx\glsxtrcounterprefix\@empty
    \def\@glo@counterprefix{.}%
  \else
    \def\@glo@counterprefix{.#1.}%
  \fi
  \def\glsentrycounter{#2}%
}

```

`\@gls@removespaces` Redefine to allow adjustments to location hyperlink.

```

\def\@gls@removespaces#1 #2\@nil{%
  \toks@=\expandafter{\the\toks@#1}%
  \ifx\#2\@nil%

    \edef\@glo@tmp{\the\toks@}%
    \ifx\@glo@tmp\empty
      \else

```

Expand location (just in case `\toks@` is needed for something else).

```

    \expandafter\glsxtrlocationhyperlink\expandafter
      \glsentrycounter\expandafter\@glo@counterprefix\expandafter{\the\toks@}%
    \fi
  \else
    \@gls@ReturnAfterFi{%

```

```

        \@gls@removespaces#2\@nil
    }%
\fi
}

```

```
\glsxtrlocationhyperlink{<counter>}{<prefix>}{<location>}
```

\glsxtrlocationhyperlink

```

\newcommand*\glsxtrlocationhyperlink[3]{%
  \ifdefined\glsxtrsupplocationurl
  {%
    \GlsXtrInternalLocationHyperlink{#1}{#2}{#3}%
  }%
  {%
    \hyperref{\glsxtrsupplocationurl}{#1#2#3}{#3}%
  }%
}

```

\glsxtrsupphypernumber

```

\newcommand*\glsxtrsupphypernumber[1]{%
  {%
    \glsattribute{\glscurrententrylabel}{externallocation}%
    {%
      \def\glsxtrsupplocationurl{%
        \glsgetattribute{\glscurrententrylabel}{externallocation}}%
    }%
    {%
      \def\glsxtrsupplocationurl{}%
    }%
    \glsnumber{#1}%
  }%
}

```

Give a bit of assistance to new users who are confused and don't know how to read transcript messages.

\@print@glossary

```

\renewcommand{\@print@glossary}{%
  \makeatletter
  \@input@{\jobname.\csname @glo@type@\glo@type @in\endcsname}%
  \IfFileExists{\jobname.\csname @glo@type@\glo@type @in\endcsname}%
  {}%
  {\glsxtrNoGlossaryWarning{\glo@type}}%
  \ifglsxindy
  \ifcsundef{@xdy@\glo@type @language}%
  {%
    \edef\@do@auxoutstuff{%
      \noexpand\AtEndDocument{%
        \noexpand\immediate\noexpand\write\@auxout{%

```

```

        \string\providecommand\string\@xdylanguage[2]{}%
        \noexpand\immediate\noexpand\write\@auxout{%
        \string\@xdylanguage{\@glo@type}{\@xdy@main@language}}%
    }%
} %
} %
{ %
\edef\@do@auxoutstuff{%
    \noexpand\AtEndDocument{%
        \noexpand\immediate\noexpand\write\@auxout{%
        \string\providecommand\string\@xdylanguage[2]{}%
        \noexpand\immediate\noexpand\write\@auxout{%
        \string\@xdylanguage{\@glo@type}{\csname @xdy@\@glo@type
        @language\endcsname}}%
    }%
} %
} %
\@do@auxoutstuff
\edef\@do@auxoutstuff{%
    \noexpand\AtEndDocument{%
        \noexpand\immediate\noexpand\write\@auxout{%
        \string\providecommand\string\@gls@codepage[2]{}%
        \noexpand\immediate\noexpand\write\@auxout{%
        \string\@gls@codepage{\@glo@type}{\@gls@codepage}}%
    }%
} %
\@do@auxoutstuff
\fi
\renewcommand*{\@warn@nomakeglossaries}{%
    \GlossariesWarningNoLine{\string\makeglossaries\space
    hasn't been used,^^Jthe glossaries will not be updated}%
} %
}

```

Setup the warning text to display if the external file for the given glossary is missing.

`\GlsXtrNoGlsWarningHead` Header message.

```

\newcommand{\GlsXtrNoGlsWarningHead}[2]{%
    This document is incomplete. The external file associated with
    the glossary '#1' (which should be called \texttt{#2})
    hasn't been created.%
}

```

`\GlsXtrNoGlsWarningEmptyStart` No entries have been added to the glossary.

```

\newcommand{\GlsXtrNoGlsWarningEmptyStart}{%
    This has probably happened because there are no entries defined
    in this glossary.%
}

```

`\GlsXtrNoGlsWarningEmptyMain` The default “main” glossary is empty.

```

\newcommand{\GlsXtrNoGlsWarningEmptyMain}{%
  If you don't want this glossary,
  add \texttt{nomain} to your package option list when you load
  \texttt{glossaries-extra.sty}. For example:%
}

```

`\GlsXtrNoGlsWarningEmptyNotMain` A glossary that isn't the default “main” glossary is empty.

```

\newcommand{\GlsXtrNoGlsWarningEmptyNotMain}[1]{%
  Did you forget to use \texttt{type=#1} when you defined your
  entries? If you tried to load entries into this glossary with
  \texttt{\string\loadglsentries} did you remember to use
  \texttt{[#1]} as the optional argument? If you did, check that
  the definitions in the file you loaded all had the type set
  to \texttt{\string\glsdefaulttype}:%
}

```

`\GlsXtrNoGlsWarningCheckFile` Advisory message to check the file contents.

```

\newcommand{\GlsXtrNoGlsWarningCheckFile}[1]{%
  Check the contents of the file \texttt{#1}. If
  it's empty, that means you haven't indexed any of your entries in this
  glossary (using commands like \texttt{\string\gls} or
  \texttt{\string\glsadd}) so this list can't be generated.
  If the file isn't empty, the document build process hasn't been
  completed.%
}

```

`\GlsXtrNoGlsWarningAutoMake` Message when automake option has been used.

```

\newcommand{\GlsXtrNoGlsWarningAutoMake}[1]{%
  You may need to rerun \LaTeX. If you already have, it may be that
  \TeX's shell escape doesn't allow you to run
  \ifglxindy xindy\else makeindex\fi. Check the
  transcript file \texttt{\jobname.log}. If the shell escape is
  disabled, try one of the following:

  \begin{itemize}
    \item Run the external (Lua) application:

      \texttt{makeglossaries-lite \string"\jobname\string"}

    \item Run the external (Perl) application:

      \texttt{makeglossaries \string"\jobname\string"}
  \end{itemize}

  Then rerun \LaTeX\ on this document.
  \GlossariesExtraWarning{Rerun required to build the
  glossary '#1' or check TeX's shell escape allows
  you to run \ifglxindy xindy\else makeindex\fi}%
}

```

`\GlsXtrNoGlsWarningMisMatch` Mismatching `\makenoidxglossaries`.

```
\newcommand{\GlsXtrNoGlsWarningMisMatch}{%
  You need to either replace \texttt{\string\makenoidxglossaries}
  with \texttt{\string\makeglossaries} or replace
  \texttt{\string\printglossary} (or \texttt{\string\printglossaries}) with
  \texttt{\string\printnoidxglossary}
  (or \texttt{\string\printnoidxglossaries}) and then rebuild
  this document.%
}
```

`\GlsXtrNoGlsWarningBuildInfo` Build advice.

```
\newcommand{\GlsXtrNoGlsWarningBuildInfo}{%
  Try one of the following:
  \begin{itemize}
    \item Add \texttt{automake} to your package option list when you load
      \texttt{glossaries-extra.sty}. For example:

      \texttt{\string\usepackage[automake]%
        \glsopenbrace glossaries-extra\glsclosebrace}

    \item Run the external (Lua) application:

      \texttt{makeglossaries-lite.lua \string"\jobname\string"}

    \item Run the external (Perl) application:

      \texttt{makeglossaries \string"\jobname\string"}
  \end{itemize}

  Then rerun \LaTeX on this document.%
}
```

`\GlsXtrRecordWarning` Paragraph for `record=only`.

```
\newcommand{\GlsXtrRecordWarning}[1]{%
  \texttt{\string\printglossary} doesn't work
  with the \texttt{record=@glsxtr@record@setting} package option
  use\par\texttt{\string\printunsrtglossary[type=#1]}\par
  instead (or change the package option).%
}
```

`\GlsXtrNoGlsWarningTail` Final paragraph.

```
\newcommand{\GlsXtrNoGlsWarningTail}{%
  This message will be removed once the problem has been fixed.%
}
```

`\GlsXtrNoGlsWarningNoOut` No out file created. Build advice.

```
\newcommand{\GlsXtrNoGlsWarningNoOut}[1]{%
  The file \texttt{#1} doesn't exist. This most likely means you haven't used
  \texttt{\string\makeglossaries} or you have used
```

```

\texttt{\string\nofiles}. If this is just a draft version of the
document, you can suppress this message using the
\texttt{nomissinggls} package option.%
}

```

```

\tr@defaultnoglossarywarning

```

```

\newcommand*{@glsxtr@defaultnoglossarywarning}[1]{%
\glossarysection[\glossarytoctitle]{\glossarytitle}
\GlsXtrNoGlsWarningHead{#1}{\jobname.\csname @glo@type @in\endcsname}
\par
\glsxtrifemptyglossary{#1}%
{%
\GlsXtrNoGlsWarningEmptyStart\space
\ifthenelse{\equal{#1}{main}}{\GlsXtrNoGlsWarningEmptyMain\par
\medskip
\noindent\texttt{\string\usepackage[nomain\ifglsacronym ,acronym\fi]}%
\glsopenbrace glossaries-extra\glsclosebrace}
\medskip
}%
{\GlsXtrNoGlsWarningEmptyNotMain{#1}}%
}%
{%
\IfFileExists{\jobname.\csname @glo@type @out\endcsname}
{%
\GlsXtrNoGlsWarningCheckFile
{\jobname.\csname @glo@type @out\endcsname}

\ifglsautomake

\GlsXtrNoGlsWarningAutoMake{#1}

\else

\ifthenelse{\equal{#1}{main}}%
{%
\GlsXtrNoGlsWarningEmptyMain\par
\medskip
\noindent\texttt{\string\usepackage[nomain]}%
\glsopenbrace glossaries-extra\glsclosebrace}
\medskip
}%
{}%

\ifdequal\makeglossaries\@no@makeglossaries
{%
\GlsXtrNoGlsWarningMisMatch
}%
{%
\GlsXtrNoGlsWarningBuildInfo
}%
}

```

```

        \fi
      }%
    {%
      \GlsXtrNoGlsWarningNoOut
        {\jobname.\csname @glo@type @out\endcsname}%
      }%
    }%
  \par
  \GlsXtrNoGlsWarningTail
}

```

`\GlsXtrRecord@noglossarywarning` Warn about using `\printglossary` with `record`

```

\newcommand*{\@GlsXtrRecord@noglossarywarning}[1]{%
  \GlossariesExtraWarning{\string\printglossary\space doesn't work\MessageBreak
with record=\@GlsXtrRecord@setting\space package option\MessageBreak(use
\string\printunsrtglossary[type=#1])\MessageBreak
instead (or change the package option)}%
  \glossarysection[\glossarytoctitle]{\glossarytitle}
  \GlsXtrRecordWarning{#1}
  \GlsXtrNoGlsWarningTail
}

```

Provide some commands to accompany the `record` option for use with `bib2gls`.

`\GlsXtrDefaultResourceOptions` Default resource options.

```

\newcommand*{\GlsXtrDefaultResourceOptions}{}

```

`\BibGlsOptions` Supply global `bib2gls` options. Provided as an alternative to using the command line switches, except for those that must be set on startup.

```

\NewDocumentCommand\BibGlsOptions{m}{%
  \protected@write\@auxout{\string\bibgls@options{#1}}%
}
\newcommand{\bibgls@options}[1]{%
  \@onlypreamble\BibGlsOptions
}

```

`\GlsXtrResourcefile` Since it's dangerous for an external application to create a file with a `.tex` extension, as from v1.11 this enforces a `.glstex` extension to avoid conflict.

```

\newcommand*{\GlsXtrResourcefile}[2][1]{%
  \@GlsXtr@if@record@only
  {\renewcommand{\glsindexingsetting}{bib2gls}}%
  {\edef\glsindexingsetting{bib2gls-\ifGlsXtr@xindy xindy\else makeindex\fi}}%
}

```

The `record` option can't be set after this command.

```

\disable@keys{glossaries-extra.sty}{record}%
\GlsXtr@writefields
\GlsXtr@save@mfu
\ifdefempty\GlsXtrDefaultResourceOptions
{%
  \protected@write\@auxout{\GlsXtrResourcefileinit}%
  {\string\GlsXtr@resource{#1}{#2}}%
}

```

```

}%
{%
  \protected@write\@auxout{\glxtrresourceinit}%
    {\string\glxtr@resource{\GlsXtrDefaultResourceOptions,#1}{#2}}%
}%
\let\@glxtr@org@see@noindex\@gls@see@noindex
\let\@gls@see@noindex\relax
\IfFileExists{#2.glstex}%
{%

```

Can't scope \@input so save and restore the category code of @ to allow for internal commands in the location list.

```

\edef\@bibgls@restoreat{\noexpand\catcode\noexpand'\noexpand\@=\number\catcode'\@}%
\makeatletter
\@input{#2.glstex}%
\@bibgls@restoreat

```

If the record=nameref option has been set, check if this is supported by the installed version of bib2gls.

```

\@glxtr@check@bibgls@nameref
}%
{%
  \GlossariesExtraWarning{No file '#2.glstex'}%
}%
\let\@gls@see@noindex\@glxtr@org@see@noindex
}
\@onlypreamble\glxtrresourcefile

```

`\@glxtr@check@bibgls@nameref` This will only warn after bib2gls has created the .glstex file, but there's way to check before.

```

\newcommand{\@glxtr@check@bibgls@nameref}{%
  \ifx\@glxtr@record@setting\@glxtr@record@setting@nameref
    \ifdef\bibgls@shrefchar
      {}%
    {%
      \GlossariesExtraWarning{record=nameref requires at least
        version 1.8 of bib2gls}%
    }%
  \fi
  \let\@glxtr@check@bibgls@nameref\relax
}

```

`\glxtrresourceinit` Code used during the protected write operation.

```

\newcommand*{\glxtrresourceinit}{}

```

`\glxtrresourcecount`

```

\newcount\glxtrresourcecount

```

`\GlsXtrLoadResources` Short cut that uses `\glxtrresourcefile` with `\jobname` as the mandatory argument.



```

\newcommand*\GlsXtrLoadResources}[1] [] {%
  \ifnum\glsxtrresourcecount=0\relax
    \glsxtrresourcefile[#1]{\jobname}%
  \else
    \glsxtrresourcefile[#1]{\jobname-\the\glsxtrresourcecount}%
  \fi
  \advance\glsxtrresourcecount by 1\relax
}

\glsxtr@resource
\newcommand*\glsxtr@resource}[2] {}

\glsxtrMFUsave
\newcommand*\glsxtrMFUsave){%
  \ifdef\MFUsave
    {%
      \AtBeginDocument{\MFUsave}%
    }%
    {%
      \GlossariesExtraWarning{mfirstuc.sty too old,
        \string\glsxtrMFUsave\space has no effect. You need to upgrade
        to mfirstuc v2.08}%
    }%
  \let\glsxtrMFUsave\relax
}

\glsxtr@save@mfu
\ifdef\MFUsave
{
  \newcommand*\glsxtr@save@mfu){%
    \glsxtrMFUsave
    \let\glsxtr@save@mfu\relax
  }
}
{
  \newcommand*\glsxtr@save@mfu){}
}

\glsxtr@fields
\newcommand*\glsxtr@fields}[1] {}

\glsxtr@texencoding
\newcommand*\glsxtr@texencoding}[1] {}

\glsxtr@locale Used to identify all languages tracked in the document.
\newcommand*\glsxtr@locale}[1] {}

\glsxtr@langtag Identifies the current language at the time \glsxtr@writefields is used.
\newcommand*\glsxtr@langtag}[1] {}

```

`\glsxtr@pluralsuffixes`

```
\newcommand*\glsxtr@pluralsuffixes}[4]{}
```

`\glsxtr@shortcutsval`

```
\newcommand*\glsxtr@shortcutsval}[1]{}
```

`\glsxtr@linkprefix`

```
\newcommand*\glsxtr@linkprefix}[1]{}
```

`\@gls@runshell` and `\@gls@run@output@dir` new to glossaries v4.55 so may not be defined. If they haven't been defined, provide definitions which will match old behaviour.

```
\ifglsautomake
```

```
\providecommand*\@gls@run@unrestricted@shell}[1]{\immediate\write18{#1}}
```

```
\providecommand*\@gls@run@output@dir}[1]{}
```

```
\fi
```

`\glsxtr@writefields` This information only needs to be written once, so disable it after it's been used.

```
\newcommand*\glsxtr@writefields}{%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@fields}[1]{}}%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@resource}[2]{}}%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@pluralsuffixes}[4]{}}%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@shortcutsval}[1]{}}%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@linkprefix}[1]{}}%
```

```
\protected@write\@auxout}{\string\glsxtr@fields{\@gls@keymap}}%
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@record}[5]{}}%
```

```
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@nameref
```

```
\protected@write\@auxout}{%
```

```
{\string\providecommand*\string\glsxtr@record@nameref}[8]{}}%
```

```
\fi
```

If any languages have been loaded, the language tag will be available in `\CurrentTrackedLanguageTag` (provided by `tracklang`). For multilingual documents, the required locale will have to be indicated in the "sort" key when using `\glsxtrresourcefile`.

```
\ifdef\CurrentTrackedLanguageTag
```

```
{%
```

```
\ForEachTrackedDialect{\@glsxtr@currentdialect}{%
```

```
\protected@write\@auxout}{%
```

```
\string\glsxtr@locale{\GetTrackedLanguageTag\@glsxtr@currentdialect}}%
```

```

}%
\protected@write\@auxout{}\string\glsxtr@langtag{\CurrentTrackedLanguageTag}}%
}%
{}%
\protected@write\@auxout{}\string\glsxtr@pluralsuffixes
{\glspluralsuffix}{\abbrvpluralsuffix}{\acrpluralsuffix}%
{\glsxtrabbrvpluralsuffix}}%

\ifdefvoid\inputencodingname
{%

```

Assume UTF-8.

```

\protected@write\@auxout{}\string\glsxtr@texencoding{utf8}}%
}%
{%
\protected@write\@auxout{}\string\glsxtr@texencoding{\inputencodingname}}%
}%
\protected@write\@auxout{}\string\glsxtr@shortcutsval{\@glsxtr@shortcutsval}}%

```

Prefix deferred until the beginning of the document in case it's redefined later in the preamble. This is picked up by bib2gls when the external option is used.

```

\AtBeginDocument
{\protected@write\@auxout{}\string\glsxtr@linkprefix{\glolinkprefix}}%
\let\glsxtr@writefields\relax

```

If the `automake` option is on, try running `bib2gls` if the aux file exists. This has to be done before the aux file is opened (so package options `automake=immediate` and `automake=true` are identical if just `bib2gls` is used). The double-quotes around `\jobname` have been removed (v1.19) since `\jobname` will include double-quotes if the file name has spaces.

```

\ifglsautomake
\IfFileExists{\jobname.aux}%
{%
\@gls@run@unrestricted@shell{bib2gls \@gls@run@output@dir{--dir} \jobname}%
}%

```

If `\makeglossaries` is also used, allow `makeindex/xindy` to also be run, otherwise disable the error message about requiring `\makeglossaries` with `automake`.

```

\ifx\@gls@doautomake\@gls@doautomake@err
\let\@gls@doautomake\relax
\fi
\fi

```

Check if `order=letter` has been used by mistake (but not if `record=alsoindex` has been used).

```

\@glsxtr@if@record@only
{\ifdefstring{\glsorder}{letter}%
{\GlossariesExtraWarningNoLine{Package option 'order=letter' isn't
supported with 'record=\@glsxtr@record@setting'. Use 'break-at=none'
resource option instead}}%
}

```

```

    {}%
  }%
  {}%
}

```

`\@glsxtr@do@automake@err` glossaries v4.50+ now provides `\@gls@do@automake@err` so use that if defined.

```

\ifdef{\@gls@do@automake@err}
{
  \let\@gls@doautomake@err\@gls@do@automake@err
}
{
  \newcommand*\@gls@doautomake@err{%
    \PackageError{glossaries}{You must use
    \string\makeglossaries\space with automake=true}
    {%
      Either remove the automake=true setting or
      add \string\makeglossaries\space to your document preamble.%
    }%
  }
}

```

Allow locations specific to a particular counter to be recorded.

`\glsxtr@record`

```
\newcommand*\glsxtr@record}[5]{}

```

`\glsxtr@record@nameref` Used with `record=nameref` to include current label information.

```
\newcommand*\glsxtr@record@nameref}[8]{}

```

`\glsxtr@counterrecord` Aux file command.

```

\newcommand*\glsxtr@counterrecord}[3]{%
  \glsxtrfieldlistgadd{#1}{record.#2}{#3}%
  \glsxtrAddCounterRecordHook{#1}{#2}{#3}%
}

```

`\glsxtrAddCounterRecordHook` User hook.

```
\newcommand*\glsxtrAddCounterRecordHook}[3]{}

```

`\@glsxtr@counterrecordhook` Hook used by `\@glsxtr@dorecord`.

```
\newcommand*\@glsxtr@counterrecordhook}{}

```

`\GlsXtrRecordCounter` Activate recording for a particular counter (identified in the argument).

```

\newcommand*\GlsXtrRecordCounter}[1]{%
  \@@glsxtr@recordcounter{#1}%
}
\@onlypreamble\GlsXtrRecordCounter

```

`\@glxtr@docounterrecord`

```
\newcommand*\@glxtr@docounterrecord}[1]{%
  \@bibgls@write@aux{}\string\glxtr@counterrecord
  {\@gls@label}{#1}{\csuse{the#1}}}%
}
```

`\glxtrglossentry` Users may prefer to have entries displayed throughout the document rather than gathered together in a list. This command emulates the way `\glossentry` behaves (without the style formatting commands like `\item`). This needs to define `\currentglossary` to the current glossary type (normally set at the start of `\@printglossary`) and needs to define `\glscurrententrylabel` to the entry's label (normally set before `\glossentry` and `\subglossentry`). This needs some protection in case it's used in a section heading.

```
\newcommand*\glxtrglossentry}[1]{%
  \glxtrtitleorpdforheading
  {\@glxtrglossentry{#1}}%
  {\GlsXtrStandaloneEntryPdfName{#1}}%
  {\GlsXtrStandaloneEntryHeadName{#1}}%
}
```

`\@glxtrglossentry` Another test is needed in case `\glxtrglossentry` has been written to the table of contents.

```
\newrobustcmd*\@glxtrglossentry}[1]{%
  \glxtrtitleorpdforheading
  {%
    \glsdoifexists{#1}%
    {%
      \begingroup
        \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
        \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
        \ifglshasparent{#1}%
          {\GlsXtrStandaloneSubEntryItem{#1}}%
          {\glsentryitem{#1}}%
          \GlsXtrStandaloneEntryName{#1}%
        \endgroup
      }%
    }%
    {\GlsXtrStandaloneEntryPdfName{#1}}%
    {\GlsXtrStandaloneEntryHeadName{#1}}%
  }
```

`\GlsXtrStandaloneEntryHeadName`

```
\newcommand*\GlsXtrStandaloneEntryHeadName}[1]{%
  \glxtrheadname{#1}%
}
```

`\GlsXtrStandaloneEntryPdfName`

```
\newcommand*\GlsXtrStandaloneEntryPdfName}[1]{%
```

```

        \glsentryname{#1}%
    }

\GlsXtrStandaloneEntryName
    \newcommand*{\GlsXtrStandaloneEntryName}[1]{%
        \glstarget{#1}{\glossentryname{#1}}%
    }

\Glsxtrglossentry As \glsxtrglossentry but sentence case.
    \newcommand*{\Glsxtrglossentry}[1]{%
        \glsxtrtitleorpdforheading
        {\@Glsxtrglossentry{#1}}%
        {\GlsXtrStandaloneEntryPdfNameFirstUc{#1}}%
        {\GlsXtrStandaloneEntryHeadNameFirstUc{#1}}%
    }

\@Glsxtrglossentry
    \newrobustcmd*{\@Glsxtrglossentry}[1]{%
        \glsxtrtitleorpdforheading
        {%
            \glsdoifexists{#1}%
            {%
                \begingroup
                    \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
                    \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
                    \ifglshasparent{#1}%
                        {\GlsXtrStandaloneSubEntryItem{#1}}%
                        {\glsentryitem{#1}}%
                    \GlsXtrStandaloneEntryNameFirstUc{#1}%
                \endgroup
            }%
        }%
        {\GlsXtrStandaloneEntryPdfNameFirstUc{#1}}%
        {\GlsXtrStandaloneEntryHeadNameFirstUc{#1}}%
    }

\GlsXtrStandaloneEntryHeadNameFirstUc
    \newcommand*{\GlsXtrStandaloneEntryHeadNameFirstUc}[1]{%
        \Glsxtrheadname{#1}%
    }

\GlsXtrStandaloneEntryPdfNameFirstUc Requires new expandable version of \Glsentryname.
    \newcommand*{\GlsXtrStandaloneEntryPdfNameFirstUc}[1]{%
        \Glsentryname{#1}%
    }

\GlsXtrStandaloneEntryNameFirstUc
    \newcommand*{\GlsXtrStandaloneEntryNameFirstUc}[1]{%
        \glstarget{#1}{\Glossentryname{#1}}%
    }

```

`\GlsXtrStandaloneGlossaryType` To make it easier to adjust the definition of `\currentglossary` within `\glxtrglossentry`, this expands to the default definition. (If redefined, it must fully expand to the appropriate label.)

```
\newcommand{\GlsXtrStandaloneGlossaryType}{\glsentrytype{\glscurrententrylabel}}
```

`\GlsXtrStandaloneSubEntryItem` Used for sub-entries in standalone format. The argument is the entry's label.

```
\newcommand*{\GlsXtrStandaloneSubEntryItem}[1]{%
  \GlsXtrIfFieldEqNum{level}{#1}{1}{\glssubentryitem{#1}}{}%
}
```

`\glxtrglossentryother` As `\glxtrglossentry` but uses a different field. First argument is code to use in the header. The second argument is the entry's label. The third argument is the internal field label. This needs to be expandable in case it occurs in a sectioning command so it can't have an optional argument.

```
\newcommand*{\glxtrglossentryother}[3]{%
  \ifstrempy{#1}%
  {%
    \glxtrtitleorpdforheading
    {\@glxtrglossentryother{#2}{#3}{\GlsXtrStandaloneEntryHeadOther{#3}{#2}}}%
    {\GlsXtrStandaloneEntryPdfOther{#2}{#3}}%
    {\GlsXtrStandaloneEntryHeadOther{#3}{#2}}%
  }%
  {%
    \glxtrtitleorpdforheading
    {\@glxtrglossentryother{#2}{#3}{#1}}%
    {\GlsXtrStandaloneEntryPdfOther{#2}{#3}}%
    {#1}%
  }%
}
```

```
\glxtrglossentryother{<entry-label>}{<field>}{<header>}
```

`\@glxtrglossentryother`

As `\@glxtrglossentry` but uses a different field.

```
\newrobustcmd*{\@glxtrglossentryother}[3]{%
  \glxtrtitleorpdforheading
  {%
    \glsdoifexists{#1}%
    {%
      \begingroup

      \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
      \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
      \ifglshasparent{#1}%
      {\GlsXtrStandaloneSubEntryItem{#1}}%
      {\glsentryitem{#1}}%
    }%
  }%
}
```

```

        \GlsXtrStandaloneEntryOther{#1}{#2}%
    \endgroup
    }%
}%
{\GlsXtrStandaloneEntryPdfOther{#1}{#2}}%
{#3}%
}

```

XtrStandaloneEntryHeadOther

```

\newcommand*{\GlsXtrStandaloneEntryHeadOther}[2]{%
  \ifcsdef{glsxtrhead#2}%
  {\csuse{glsxtrhead#2}{#1}}%
  {\@gls@entry@field{\NoCaseChange{#1}}{#2}}%
}

```

sXtrStandaloneEntryPdfOther

```

\newcommand*{\GlsXtrStandaloneEntryPdfOther}[2]{%
  \@gls@entry@field{#1}{#2}%
}

```

\GlsXtrStandaloneEntryOther

```

\newcommand*{\GlsXtrStandaloneEntryOther}[2]{%
  \gls@target{#1}{\glossentrynameother{#1}{#2}}%
}

```

\Glsxtrglossentryother As \glsxtrglossentryother but sentence-case.

```

\newcommand*{\Glsxtrglossentryother}[3]{%
  \ifstrempy{#1}%
  {%
    \glsxtrtitleorpdforheading
    {\@Glsxtrglossentryother{#2}{#3}{\GlsXtrStandaloneEntryHeadOtherFirstUc{#3}{#2}}}%
    {\GlsXtrStandaloneEntryPdfOtherFirstUc{#2}{#3}}%
    {\GlsXtrStandaloneEntryHeadOtherFirstUc{#3}{#2}}%
  }%
  {%
    \glsxtrtitleorpdforheading
    {\@Glsxtrglossentryother{#2}{#3}{#1}}%
    {\GlsXtrStandaloneEntryPdfOtherFirstUc{#2}{#3}}%
    {#1}%
  }%
}

```

\Glsxtrglossentryother{<entry-label>}{<field>}{<header>}

\@Glsxtrglossentryother

As \@glsxtrglossentry but uses a different field.

```

\newrobustcmd*{\@Glsxtrglossentryother}[3]{%
  \glsxtrtitleorpdforheading
  {%

```



```

\glsdoifexists{#1}%
{%
  \begingroup
  \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
  \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
  \ifglshasparent{#1}%
  {\GlsXtrStandaloneSubEntryItem{#1}}%
  {\glsentryitem{#1}}%
  \GlsXtrStandaloneEntryOtherFirstUc{#1}{#2}%
  \endgroup
}%
}%
{\GlsXtrStandaloneEntryPdfOtherFirstUc{#1}{#2}}%
{#3}%
}

```

StandaloneEntryHeadOtherFirstUc

```

\newcommand*\GlsXtrStandaloneEntryHeadOtherFirstUc}[2]{%
  \ifcsdef{glsxtrhead#2}%
  {\csuse{glsxtrhead#2}{#1}}%
  {\@Gls@entry@field{\NoCaseChange{#1}}{#2}}%
}

```

StandaloneEntryPdfOtherFirstUc

```

\newcommand*\GlsXtrStandaloneEntryPdfOtherFirstUc}[2]{%
  \MFUsentencecase{\@gls@entry@field{#1}{#2}}%
}

```

StandaloneEntryOtherFirstUc

```

\newcommand*\GlsXtrStandaloneEntryOtherFirstUc}[2]{%
  \glstarget{#1}{\Glossentrynameother{#1}{#2}}%
}

```

`\glsxtrtarget` Similar to `\glstarget` but will only create the target if the field identified by `\glsxtrtargetfield` has been defined. If the target hasn't been defined, the target is created and the target name is saved in the given field. If `\glstarget` is redefined to use this command then duplicate targets can be avoid if the same entry appears in multiple glossaries. TODO: possibly extend this to allow a comma-separated list of targets in the field?

```

\newcommand{\glsxtrtarget}[2]{%
  \GlsXtrIfFieldUndef{\glsxtrtargetfield}{#1}%
  {%
    \@glstarget{\glolinkprefix #1}{#2}%
    \xGlsXtrSetField{#1}{\glsxtrtargetfield}{\glolinkprefix #1}%
  }%
  {\glsxtrtargetdup{#1}{#2}}%
}

```

`\glsxtrtargetdup`

```

\newcommand{\glsxtrtargetdup}[2]{#2}

```

`\glxtrtargetfield` The field name used by `\glxtrtarget`.  
`\newcommand{\glxtrtargetfield}{target}`

`\printunsrtglossary` Similar to `\printnoidxglossary` but it displays all entries defined for the given glossary without sorting. Check for `\@printgloss@checkexists` which was introduced to glossaries v4.46.  
`\ifdef\@printgloss@checkexists`  
`{`  
`\newcommand*\@printunsrtglossary}{%`  
`\let\@printgloss@checkexists\@printgloss@checkexists@allowignored`  
`\ifstar\s@printunsrtglossary\@printunsrtglossary`  
`}`  
`}`  
`{`  
`\newcommand*\@printunsrtglossary}{%`  
`\ifstar\s@printunsrtglossary\@printunsrtglossary`  
`}`  
`}`

`\@printunsrtglossary` Unstarred version.  
`\newcommand*\@printunsrtglossary}[1][]{%`  
`\@printglossary{type=\glsdefaulttype,#1}{\@print@unsrt@glossary}%`  
`}`

`\s@printunsrtglossary` Starred version.  
`\newcommand*\s@printunsrtglossary}[2][]{%`  
`\begingroup`  
`#2%`  
`\@printglossary{type=\glsdefaulttype,#1}{\@print@unsrt@glossary}%`  
`\endgroup`  
`}`

`\printunsrtglossaries` Similar to `\printnoidxglossaries` but it displays all entries defined for the given glossary without sorting.  
`\newcommand*\printunsrtglossaries}{%`  
`\foralllglossaries{\@glo@type}{\printunsrtglossary[type=\@glo@type]}%`  
`}`

`\@print@unsrt@glossary`  
`\newcommand*\@print@unsrt@glossary}{%`  
`\glossarysection[\glossarytoctitle]{\glossarytitle}%`  
`\glossarypreamble`  
 check for empty list  
`\glxtrifemptyglossary{\@glo@type}%`  
`{%`  
`\GlossariesExtraWarning[No entries defined in glossary ‘\@glo@type’]}%`  
`}%`  
`{%`

Setup local commands.

```
\@glxtr@unsrt@gloss@init
```

A loop within the tabular-like styles can cause problems, so move the loop outside. The entire glossary will be saved in `\@glxtr@doglossary`, which will be built up in the loop. Note that v1.50 has removed `\glsresetentrylist`.

```
\def\@glxtr@doglossary{%  
  \begin{theglossary}%  
  \glossaryheader  
}%
```

Apply the post-begin hook.

```
\printunsrtglossarypostbegin{\@glxtr@doglossary}%
```

Iterate over all entries in the current glossary and add the relevant commands to `\@glxtr@doglossary`.

```
\expandafter\@for\expandafter\glscurrententrylabel\expandafter  
:\expandafter=\csname glolist@\@glo@type\endcsname\do{%  
  \ifdefempty{\glscurrententrylabel}  
  {}%  
  {%
```

Initialise hooks

```
\@gls@xtr@initprocess
```

Process this entry (unless it has been skipped).

```
\glxtr@process  
{%  
  \ifglxtr@printgloss@groups
```

Check if the group heading should be added and, if so, add it. `\@glxtr@groupheading` will be empty if no group heading.

```
\glxtr@addgroup\glscurrententrylabel  
{%  
  \@glxtr@checkgroup\glscurrententrylabel  
  \expandafter\appto\expandafter\@glxtr@doglossary\expandafter  
  {\@glxtr@groupheading}%  
}%  
\fi
```

Apply the pre-entry hook.

```
\printunsrtglossarypreentryprocesshook{\@glxtr@doglossary}%  
  
\protected@eappto\@glxtr@doglossary{%  
  \noexpand\@printunsrt@glossary@handler{\glscurrententrylabel}}%
```

Apply the post-entry hook.

```
\printunsrtglossarypostentryprocesshook{\@glxtr@doglossary}%  
}%  
}%  
}%
```

Apply the pre-end hook.

```
\printunsrtglossarypreend{\@glsxtr@doglossary}%
\appto\@glsxtr@doglossary{\end{theglossary}}%
\printunsrtglossarypredoglossary
\@glsxtr@doglossary
}%
\glossarypostamble
}
```

`\@glsxtr@unsrt@gloss@init` Initialise hooks needed at the start.

```
\newcommand*{\@glsxtr@unsrt@gloss@init}{%
```

Determine how to obtain the group information.

```
\key@ifundefined{glossentry}{group}%
{\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle}%
{\let\@gls@getgrouptitle\@glsxtr@unsrt@getgrouptitle}%
```

Initialise current group information.

```
\def\@gls@currentlettergroup{}
```

Need to keep track of the current group hierarchical level

```
\def\@gls@currentlettergroup@level{-1}%
```

and the current entry hierarchical level.

```
\def\gls@currententrylevel{-1}%
```

Initialise the root entry. This will be the most recent entry that doesn't have a parent.

```
\def\gls@currentrootentry{}
```

Initialise the top-level entry. This will be the most recent entry that had level=0 (after adjustment).

```
\def\gls@currentttoplevelentry{}
```

```
}
```

`\@gls@xtr@initprocess` Initialise hooks needed for each iteration of the process loop.

```
\newcommand*{\@gls@xtr@initprocess}{%
```

Save the current hierarchical level (adjusted).

```
\ifglsxtrprintglossflatten
\edef\gls@currententrylevel{\number\@glsxtr@leveloffset}%
\else
\edef\gls@currententrylevel{%
\number\numexpr\csname glo@\gls@currententrylabel @level\endcsname
+ \@glsxtr@leveloffset}%
\fi
```

If this level 0, update `\gls@currentttoplevelentry`

```
\ifnum\gls@currententrylevel=0\relax
\let\gls@currentttoplevelentry\gls@currententrylabel
\fi
```

If this entry doesn't have a parent, update `\glscurrentrootentry`

```
\ifglstrprintglossflatten
  \let\glscurrentrootentry\glscurrententrylabel
\else
  \ifglshasparent{\glscurrententrylabel}{}%
  {\let\glscurrentrootentry\glscurrententrylabel}%
\fi
```

Initialise to do the current entry.

```
\let\glstr@process@firstofone
```

Provide a way to skip the current entry. This will redefine `\glstr@process` to ignore its argument.

```
\let\printunsrtglossaryskipentry\glstr@printunsrtglossaryskipentry
\printunsrtglossaryentryprocesshook{\glscurrententrylabel}%
}
```

`\printunsrtinnerglossary` Similar to `\printunsrtglossary` but doesn't add the section heading, preamble, postamble or start and end of the glossary. Grouping is automatically applied so it may cause a problem within tabular-like environments. The beginning and ending of the glossary should be added around this command (but ensure the style has been set first). The simplest way of doing this is to place `\printunsrtinnerglossary` inside the `printunsrtglossarywrap` environment.

```
\newcommand*{\printunsrtinnerglossary}[3] [] {%
  \begingroup
  \def\glstr@printglossopts{#1}%
  \def\glo@type{\glsdefaulttype}%
  \setkeys{printgloss}[title, toctitle, style, numberedsection, sort, label]{#1}%
  \let\currentglossary\glo@type
  #2%
  \@print@unsrt@innerglossary
  #3%
  \endgroup
}
```

`printunsrtglossarywrap` (*env.*)

```
\newenvironment{printunsrtglossarywrap}[1] [] {%
  %
  \def\glstr@printglossopts{#1}%
  \def\glo@type{\glsdefaulttype}%
  \def\glossarytitle{\csname @glo@type @title\endcsname}%
  \def\glossarytoctitle{\glossarytitle}%
  \let\org@glossarytitle\glossarytitle
  \def\@glossarystyle{%
    \ifx\@glossary@default@style\relax
      \GlossariesWarning{No default glossary style provided \MessageBreak
        for the glossary '@glo@type'. \MessageBreak
        Using fallback. \MessageBreak
        To fix this set the style with \MessageBreak
        \string\setglossarystyle\space or use the \MessageBreak
```

```

        style key=value option}%
    \fi
}%
\def\gls@dotoc{title{\glssettoctitle{\@glo@type}}}%
\let\@org@glossaryentrynumbers\glossaryentrynumbers
\@printgloss@setsort
\setkeys{printgloss}{#1}%

```

The type key simply allows the title to be set if the title key isn't supplied.

```

\ifglossaryexists*{\@glo@type}%
{%
  \ifx\glossarytitle\org@glossarytitle
  \else
    \expandafter\let\csname @glo@type@\@glo@type @title\endcsname
      \glossarytitle
  \fi
  \let\currentglossary\@glo@type
}%
}%
\let\org@glossaryentrynumbers\glossaryentrynumbers
\let\glsnonextpages\@glsnonextpages
\let\glsnextpages\@glsnextpages
\let\nopostdesc\@nopostdesc
\gls@dotoc{title}
\@glossarystyle
\let\gls@org@glossaryentryfield\glossentry
\let\gls@org@glossarysubentryfield\subglossentry

\renewcommand{\glossentry}[1]{%
  \protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
  \gls@org@glossaryentryfield{##1}%
}%
\renewcommand{\subglossentry}[2]{%
  \protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
  \gls@org@glossarysubentryfield{##1}{##2}%
}%
\@gls@preglossaryhook
\glossarysection[\glossarytoctitle]{\glossarytitle}%
\glossarypreamble
\begin{theglossary}%
\glossaryheader
\glsresetentrylist
}%
{%
  \end{theglossary}%
\glossarypostamble
\global\let\glossaryentrynumbers\@org@glossaryentrynumbers
\global\let\warn@noprintglossary\relax
}

```

```

\@print@unsrt@innerglossary This is much like \@print@unsrt@innerglossary but only contains what would
normally be the content of the theglossary.
  \newcommand*{\@print@unsrt@innerglossary}{%
No section header or preamble.
  \glstrifemptyglossary{\@glo@type}%
  {%
  \GlossariesExtraWarning{No entries defined in glossary ‘\@glo@type’}%
  }%
  {%
Setup local commands.
  \@glstr@unsrt@gloss@init
No header or reset.
  \def\@glstr@doglossary{%
Iterate over all entries in the current glossary and add the relevant commands
to \@glstr@doglossary.
  \expandafter\@for\expandafter\glscurrententrylabel\expandafter
  :\expandafter=\csname glolist@\@glo@type\endcsname\do{%
  \ifdefempty{\glscurrententrylabel}
  {}%
  {%
Initialise hooks
  \@glstr@initprocess
Process this entry (unless it has been skipped).
  \glstr@process
  {%
  \ifglstr@printgloss@groups
Check if the group heading should be added and, if so, add it. \@glstr@groupheading
will be empty if no group heading.
  \glstr@addgroup\glscurrententrylabel
  {%
  \@glstr@checkgroup\glscurrententrylabel
  \expandafter\@pto\expandafter\@glstr@doglossary\expandafter
  {\@glstr@groupheading}%
  }%
  \fi
Apply the pre-entry hook.
  \printunsrtglossarypreentryprocesshook{\@glstr@doglossary}%
  \protected@eappto\@glstr@doglossary{%
  \noexpand\@printunsrt@glossary@handler{\glscurrententrylabel}}%
Apply the post-entry hook.
  \printunsrtglossarypostentryprocesshook{\@glstr@doglossary}%
  }%
  }%
  }%

```

```

\printunsrtglossarypreend not used.
    \printunsrtglossarypredoglossary
    \@glxtr@doglossary
  }%
No postamble.
}

\glxtraddgroup Now that bib2gls v3.0+ has the ability to store group labels for sub-levels,
provide a way to allow for this. This checks if the entry has a parent, which was
used originally, unless the flatten option has been used. bib2gls will redefine
this in the .gls.tex file if the group-level setting is used.
    \newcommand*\glxtraddgroup}[2]{%
    \ifglxtrprintglossflatten
      #2%
    \else
      \ifglshasparent{#1}{-}{#2}%
    \fi
  }

\printunsrtglossaryentryprocesshook
    \newcommand*\printunsrtglossaryentryprocesshook}[1]{}

\printunsrtglossarypreentryprocesshook This hook is performed before the entry line has been added to \@glxtr@do@glossary.
The argument will be \@glxtr@do@glossary so that content can be appended
to it. The current entry can be referenced with \glscurrententrylabel. The
current level can be referenced with \glscurrententrylevel, etc.
    \newcommand*\printunsrtglossarypreentryprocesshook}[1]{}

\printunsrtglossarypostentryprocesshook This hook is performed after the entry line has been added to \@glxtr@do@glossary.
The argument will be \@glxtr@do@glossary so that content can be appended
to it. The current entry can be referenced with \glscurrententrylabel. The
current level can be referenced with \glscurrententrylevel, etc.
    \newcommand*\printunsrtglossarypostentryprocesshook}[1]{}

\printunsrtglossarygrouphook Similar hook used when the group heading added. In this case the argument
will be \@glxtr@groupheading.
    \newcommand*\printunsrtglossarygrouphook}[1]{}

\printunsrtglossaryskipentry
    \newcommand*\printunsrtglossaryskipentry}{%
    \PackageError{glossaries-extra}{\string\printunsrtglossaryskipentry\space
can only be used within \string\printunsrtglossaryentryprocesshook}{}%
  }

\printunsrtglossaryskipentry
    \newcommand*\@glxtr@printunsrtglossaryskipentry}{%
    \let\glxtr@process@gobble
  }

```



`\printunsrtglossarypredoglossary`

```
\newcommand*\printunsrtglossarypredoglossary{}
```

`\printunsrtglossarypreend`

```
\newcommand*\printunsrtglossarypreend}[1]{}%
```

`\printunsrtglossarypostbegin`

```
\newcommand*\printunsrtglossarypostbegin}[1]{}%
```

`\printunsrt@glossary@handler`

```
\newcommand*\@printunsrt@glossary@handler}[1]{%  
  \protected@xdef\glscurrententrylabel{#1}%  
  \printunsrtglossaryhandler\glscurrententrylabel  
}
```

`\printunsrtglossaryhandler`

```
\newcommand*\printunsrtglossaryhandler}[1]{%  
  \glsxtrunsrtdo{#1}%  
}
```

`\glsxtriflabelinlist`

```
\glsxtriflabelinlist{<label>}{<list>}{<true>}{<false>}
```

Might be useful for the handler to check if an entry label or category label is contained in a list, so provide a user-level version of `\@gls@ifinlist` which ensures the label and list are fully expanded.

```
\newrobustcmd*\glsxtriflabelinlist}[4]{%  
  \protected@edef\@glsxtr@doiflabelinlist{\noexpand\@gls@ifinlist{#1}{#2}}%  
  \@glsxtr@doiflabelinlist{#3}{#4}%  
}
```

`\print@op@unsrtglossaryunit`

```
\newcommand*\print@op@unsrtglossaryunit}[2][ ]{%  
  \s@printunsrtglossary[type=\glsdefaulttype,#1]{%  
    \printunsrtglossaryunitsetup{#2}%  
  }%  
}
```

`\printunsrtglossaryunitsetup`

```
\newcommand*\printunsrtglossaryunitsetup}[1]{%  
  \renewcommand*\printunsrtglossaryhandler}[1]{%  
    \glsxtrfieldxifinlist{##1}{record.#1}{\csuse{the#1}}  
    {\glsxtrunsrtdo{##1}}%  
  }%  
}
```

Only the target names should have the prefixes adjusted as `\gls` etc need the original `\glolinkprefix`. The `\@gobble` part discards `\glolinkprefix`.

```
\ifcsundef{theH#1}%
{%
  \renewcommand*{\@glsxtrhypernameprefix}{record.#1.\csuse{the#1}.\@gobble}%
}%
{%
  \renewcommand*{\@glsxtrhypernameprefix}{record.#1.\csuse{theH#1}.\@gobble}%
}%
\renewcommand*{\glossarysection}[2][{}]{%
\appto\glossarypostamble{\printunsrtglossaryunitpostskip}%
}
```

`\printunsrtglossaryunitpostskip`

```
\newcommand*{\printunsrtglossaryunitpostskip}{\glspar\medskip\glspar}
```

`\print@noop@unsrtglossaryunit`

```
\newcommand{\print@noop@unsrtglossaryunit}[2][{}]{%
\PackageError{glossaries-extra}{\string\printunsrtglossaryunit\space
requires the record=only or record=alsoindex package option}{}%
}
```

`\@glsxtr@unsrt@getgrouptitle`

```
\newrobustcmd*{\@glsxtr@unsrt@getgrouptitle}[2]{%
\protected@edef\@glsxtr@titlelabel{glsxtr@grouptitle@#1}%
\@onelevel@sanitize\@glsxtr@titlelabel
\ifcsdef{\@glsxtr@titlelabel}
{\letcs{#2}{\@glsxtr@titlelabel}}%
{\def#2{#1}}%
}
```

`\glsxtrunsrtdo` Provide a user-level call to `\@glsxtr@noidx@do` to make it easier to define a new handler.

```
\newcommand{\glsxtrunsrtdo}{\@glsxtr@noidx@do}
```

`\glsxtrgroupfield` `bib2gls` provides a supplementary field labelled `secondarygroup` for secondary glossaries, so provide a way of switching to that field. (The `group` key still needs checking. There's no associated key with the internal field).

```
\newcommand*{\glsxtrgroupfield}{group}
```

The tabular-like glossary styles cause quite a problem with the iterative approach. In particular for the group skip. To compensate for this, the groups are now determined while `\@glsxtr@doglossary` is being constructed rather than in the handler.

`\@glsxtr@checkgroup` The argument is the entry's label. (This block of code was formerly in `\@glsxtr@noidx@do`.) Now that this is no longer within a tabular environment, the global definitions aren't needed. The result is now stored in

`\@glsxtr@groupheading`, which will be empty if no heading is required. The current hierarchical level must have first been saved to `\glscurrententrylevel`.

```
\newcommand*{\@glsxtr@checkgroup}[1]{%
  \def\@glsxtr@groupheading{%
    \key@ifundefined{glossentry}{group}%
    {%
      \letcs{\@gls@sort}{glo@\glsdetoklabel{#1}@sort}%
      \expandafter\glo@grabfirst\@gls@sort{}{}\@nil
    }%
    {%
      \protected@edef\@glo@thislettergrp{%
        \csuse{glo@\glsdetoklabel{#1}@\glsxtrgroupfield}}%
      }%
    }
```

Need to keep track of the current group for the current level.

```
\ifcsundef{\@gls@currentlettergroup\romannumeral\glscurrententrylevel}%
{\csdef{\@gls@currentlettergroup\romannumeral\glscurrententrylevel}{}}%
```

Has the group label changed for the current level?

```
\ifcsequal{\@glo@thislettergrp}{\@gls@currentlettergroup\romannumeral\glscurrententrylevel}%
{}%
{%
  \ifdefempty{\@glo@thislettergrp}
  {}%
  {%
```

Check the hierarchical level.

```
\ifnum\glscurrententrylevel>0\relax
  \protected@eappto\@glsxtr@groupheading{%
    \noexpand\gls subgroupheading
    {\@gls@currentlettergroup@level}{\glscurrententrylevel}%
    {\csuse{glo@\glsdetoklabel{#1}@parent}}%
    {\expandonce\@glo@thislettergrp}%
  }%
\else
  \ifdefempty{\@gls@currentlettergroup}{}%
  {%
```

Don't add `\gls groupskip` if `nogroupskip` setting is on.

```
\ifglsnogroupskip
\else
  \def\@glsxtr@groupheading{\gls groupskip}%
\fi
}%
\protected@eappto\@glsxtr@groupheading{%
  \noexpand\gls groupheading{\expandonce\@glo@thislettergrp}%
}%
\fi
\let\@gls@currentlettergroup@level\glscurrententrylevel
\cslet{\@gls@currentlettergroup\romannumeral\glscurrententrylevel}\@glo@thislettergrp
```

Perform the group hook, which can be used to add content.

```

\printunsrtglossarygrouphook{\@glstr@groupheading}%
}%
}%
}

```

```

\glssubgroupheading{<previous level>}{<level>}{<parent>}
{<group label>}

```

`\glssubgroupheading`

Default definition uses the same format as the top-level heading. Note that this won't include the group skip.

```

\newcommand*\glssubgroupheading[4]{\glsgroupheading{#4}}

```

`\GlsXtrLocationField` Stores the internal name of the location field.

```

\newcommand*\GlsXtrLocationField{location}

```

`\@glstr@noidx@do` Minor modification of `\@gls@noidx@do` to check for location field if present, but also need to check for the group field and flatten option.

```

\newcommand{\@glstr@noidx@do}[1]{%
\ifglstryexists{#1}%
{%
\global\letcs{\@gls@loclist}{glo@glstdetoklabel{#1}@loclist}%
\global\letcs{\@gls@location}{glo@glstdetoklabel{#1}@GlsXtrLocationField}%
}
}

```

Use level number to determine whether or not this entry has a parent.

```

\ifglstrprintglossflatten
\gls@level=\@glstr@leveloffset\relax
\else
\gls@level=\numexpr\csuse{glo@glstdetoklabel{#1}@level}+\@glstr@leveloffset\relax
\fi
\ifnum\gls@level>0
\let\@glstr@ifischild\@firstoftwo
\else
\let\@glstr@ifischild\@secondoftwo
\fi

```

Some glossary styles (such as `topicmcols`) save the level using `\def` so make sure `\gls@level` is expanded before being passed to `\subglossentry`.

```

\@glstr@ifischild
{%
\ifdefvoid{\@gls@location}%
{%

```

If `\GlsXtrLocationField` has been changed then don't fallback on `loclist`.

```

\ifdefstring{\GlsXtrLocationField}{location}%
{%
\ifdefvoid{\@gls@loclist}%
{%

```



Provide a way to conveniently define commands that behaves like `\gls` with a label prefix.

It's possible that the user might want minor variations with the same prefix but different default options, so use a counter to provide unique inner commands.

`\glsxtrnewgls`

```
\newcount\@glsxtrnewgls@inner
```

(The default options supplied in *<options>* below could possibly be used to form the inner control sequence name to help make it unique, but it might feasibly contain thevalue where the value might contain commands.)

`\glsxtrdoidentify`

```
\newcommand*\@glsxtrdoidentify}[1]{%
\ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off{#1}%
}
```

`\@glsxtr@providenewgls`

```
\newcommand*\@glsxtr@providenewgls{%
\protected@write\@auxout{}\@string\providecommand{\string\@glsxtr@newglslike}[2]{}%
\let\@glsxtr@providenewgls\relax
}
```

`\glsxtridentifyglslike` Identify the command given in the second argument for the benefit of `bib2gls` and also identify command as a blocker for `\makefirstuc`.

```
\newcommand\@glsxtridentifyglslike}[2]{%
\glsmfublocker{#2}%
\glsxtrdoidentify
{#1}
\@glsxtr@providenewgls
\protected@write\@auxout{}\@string\@glsxtr@newglslike{#1}{\string#2}}%
}%
}
```

`\@glsxtr@providenewglsfamily`

```
\newcommand*\@glsxtr@providenewglsfamily{%
\protected@write\@auxout{}\@string\providecommand{\string\@glsxtr@newglslikefamily}[8]{}%
\let\@glsxtr@providenewglsfamily\relax
}
```

```
\glsxtridentifyglsfamily{<options>}{<prefix>}{<gls>}
{<glspl>}{<Gls>}{<Glspl>}{<GLS>}{<GLSpl>}
```

`\glsxtridentifyglsfamily`

Identify the family of commands for the benefit of `bib2gls` and also establishes a sentence-case mapping.

```
\newcommand\@glsxtridentifyglsfamily}[8]{%
\glsmfuaddmap{#3}{#5}%
```

```

\glsmfuaddmap{#4}{#6}%
\glsmfublocker{#7}%
\glsmfublocker{#8}%
\glxtrdoidentify
{%
  \@glxtr@providenewglsfamily
  \protected@write\@auxout{}\string\@glxtr@newglslikefamily{\detokenize{#1}}{\detokenize{#2}}{\detokenize{#3}}
}%
}

```

\@glxtr@providenewglslink

```

\newcommand*\@glxtr@providenewglslink{%
  \protected@write\@auxout{}\string\providecommand{\string\@glxtr@newglslink}[2]{}%
  \let\@glxtr@providenewglslink\relax
}

```

\glxtridentifyglslink Identify the command given in the second argument for the benefit of bib2gls and identify the command as a blocker for \makefirstuc.

```

\newcommand{\glxtridentifyglslink}[2]{%
  \glsmfublocker{#2}%
  \glxtrdoidentify
  {%
    \@glxtr@providenewglslink
    \protected@write\@auxout{}\string\@glxtr@newglslink{#1}{\string#2}}%
  }%
}

```

```

\@glxtrnewglslink[\langle options \rangle]{\langle prefix \rangle}{\langle cs \rangle}{\langle inner cs name \rangle}

```

\@glxtrnewglslink

```

\newcommand*\@glxtrnewglslink}[4]{%
  \ifdef{#3}%
  {%
    \PackageError{glossaries-extra}{Command \string#3\space already defined}{}%
  }%
  {%

```

Write information to the aux file for bib2gls.

```

\glxtridentifyglslink{#2}{#3}%
\ifcsdef{@#4link@#2}%
{%
  \advance\@glxtrnewgls@inner by \@ne
  \def\@glxtrnewgls@innercsname{@#4link\number\@glxtrnewgls@inner @#2}%
}%
{\def\@glxtrnewgls@innercsname{@#4link@#2}}%
\expandafter\newrobustcmd\expandafter*\expandafter
#3\expandafter{\expandafter\@gls@hyp@opt\csname\@glxtrnewgls@innercsname\endcsname}%

```

```

\ifstrempy{#1}%
{%
\expandafter\newcommand\expandafter*\csname\@glxtrnewgls@innercsname\endcsname[2][]{%
\csname #4\endcsname{##1}{#2##2}%
}%
}%
{%
\expandafter\newcommand\expandafter*\csname\@glxtrnewgls@innercsname\endcsname[2][]{%
\csname #4\endcsname{#1,##1}{#2##2}%
}%
}%
}%
}

```

```
\glxtrnewglslink[<options>]{<prefix>}{<cs>}
```

\glxtrnewglslink

The first argument prepends to the options and the second argument is the prefix.

```

\newrobustcmd*\glxtrnewglslink}[3][]{%
\@glxtrnewglslink{#1}{#2}{#3}{@gls@link}%
}

```

```
\glxtrnewglsdisp[<options>]{<prefix>}{<cs>}
```

\glxtrnewglsdisp

The first argument prepends to the options and the second argument is the prefix.

```

\newrobustcmd*\glxtrnewglsdisp}[3][]{%
\@glxtrnewglslink{#1}{#2}{#3}{@glsdisp}%
}

```

```
\@glxtrnewgls[<options>]{<prefix>}{<cs>}{<inner cs name>}
```

\@glxtrnewgls

```

\newcommand*\@glxtrnewgls}[4]{%
\ifdef{#3}%
{%
\PackageError{glossaries-extra}{Command \string#3\space already
defined}{}%
}%
{%

```

Write information to the aux file for bib2gls.

```

\glxtridentifyglslike{#2}{#3}%
\ifcsdef{@#4like@#2}%

```



```

{%
  \advance\@glsxtrnewgls@inner by \@ne
  \def\@glsxtrnewgls@innercsname{#@4like\number\@glsxtrnewgls@inner @#2}%
}%
{\def\@glsxtrnewgls@innercsname{#@4like@#2}}%
\expandafter\newrobustcmd\expandafter*\expandafter
#3\expandafter{\expandafter\@gls@hyp@opt\csname\@glsxtrnewgls@innercsname\endcsname}%
\ifstrempy{#1}%
{%
  \expandafter\newcommand\expandafter*\csname\@glsxtrnewgls@innercsname\endcsname [2] [] {%
    \new@ifnextchar [%
      {\csname @#4@\endcsname{##1}{#2##2}}%
      {\csname @#4@\endcsname{##1}{#2##2} []}%
    ]%
  }%
}%
{%
  \expandafter\newcommand\expandafter*\csname\@glsxtrnewgls@innercsname\endcsname [2] [] {%
    \new@ifnextchar [%
      {\csname @#4@\endcsname{#1,##1}{#2##2}}%
      {\csname @#4@\endcsname{#1,##1}{#2##2} []}%
    ]%
  }%
}%
}
}

```

`\glsxtrnewgls`

`\glsxtrnewgls[<options>]{<prefix>}{<cs>}`

The first argument prepends to the options and the second argument is the prefix.

```

\newrobustcmd*\glsxtrnewgls}[3] [] {%
  \@glsxtrnewgls{#1}{#2}{#3}{gls}%
}

```

`\glsxtrnewglslike` Provide a way to conveniently define commands that behave like `\gls`, `\glspl`, `\Gls` and `\Glspl` with a label prefix. The first argument prepends to the options and the second argument is the prefix.

```

\newrobustcmd*\glsxtrnewglslike}[6] [] {%
  \glsxtridentifyglsfamily{#1}{#2}{#3}{#4}{#5}{#6}{-}{-}%
  \@glsxtrnewgls{#1}{#2}{#3}{gls}%
  \@glsxtrnewgls{#1}{#2}{#4}{glspl}%
  \@glsxtrnewgls{#1}{#2}{#5}{Gls}%
  \@glsxtrnewgls{#1}{#2}{#6}{Glspl}%
}

```

`\glsxtrnewGLSlike` Provide a way to conveniently define commands that behave like `\GLS`, `\GLSpl` with a label prefix. The first argument prepends to the options and the second argument is the prefix.

```

\newrobustcmd*\glsxtrnewGLSlike}[4] []{%
  \glsxtridentifyglsfamily{#1}{#2}{-}{-}{-}{#3}{#4}%
  \@glsxtrnewgls{#1}{#2}{#3}{GLS}%
  \@glsxtrnewgls{#1}{#2}{#4}{GLSpl}%
}

```

`\glsxtrnewrgls` As `\glsxtrnewgls` but for `\rgls`.

```

\newrobustcmd*\glsxtrnewrgls}[3] []{%
  \@glsxtrnewgls{#1}{#2}{#3}{rgls}%
}

```

`\glsxtrnewrglslike` As `\glsxtrnewglslike` but for `\rgls` etc.

```

\newrobustcmd*\glsxtrnewrglslike}[6] []{%
  \glsxtridentifyglsfamily{#1}{#2}{#3}{#4}{#5}{#6}{-}{-}%
  \@glsxtrnewgls{#1}{#2}{#3}{rgls}%
  \@glsxtrnewgls{#1}{#2}{#4}{rglspl}%
  \@glsxtrnewgls{#1}{#2}{#5}{rGLs}%
  \@glsxtrnewgls{#1}{#2}{#6}{rGLspl}%
}

```

`\glsxtrnewGLSlike` As `\glsxtrnewGLSlike` but for `\rGLS` etc.

```

\newrobustcmd*\glsxtrnewGLSlike}[4] []{%
  \glsxtridentifyglsfamily{#1}{#2}{-}{-}{-}{#3}{#4}%
  \@glsxtrnewgls{#1}{#2}{#3}{rGLS}%
  \@glsxtrnewgls{#1}{#2}{#4}{rGLSpl}%
}

```

Provide easy access to record count fields.

`\GlsXtrTotalRecordCount` Access total record count. This is designed to be expandable. The argument is the label.

```

\newcommand*\GlsXtrTotalRecordCount}[1]{%
  \ifcsdef{glo@glsdetoklabel{#1}@recordcount}%
  {\csname glo@glsdetoklabel{#1}@recordcount\endcsname}%
  {0}%
}

```

`\GlsXtrRecordCount` Access record count for a particular counter. The first argument is the label. The second argument is the counter name.

```

\newcommand*\GlsXtrRecordCount}[2]{%
  \ifcsdef{glo@glsdetoklabel{#1}@recordcount.#2}%
  {\csname glo@glsdetoklabel{#1}@recordcount.#2\endcsname}%
  {0}%
}

```

`\GlsXtrLocationRecordCount` Access record count for a particular counter and location. The first argument is the label. The second argument is the counter name. The third argument is the location. This command shouldn't be used if the location doesn't fully expand unless `\glsxtrdetoklocation` can be set to something sensible.

```

\newcommand*\GlsXtrLocationRecordCount}[3]{%
\ifcsdef{glo@glsdetoklabel{#1}@recordcount.#2.\glsxtrdetoklocation{#3}}%
{\csname glo@glsdetoklabel{#1}@recordcount.#2.\glsxtrdetoklocation{#3}\endcsname}%
{0}%
}

```

`\glsxtrdetoklocation`

```

\newcommand*\glsxtrdetoklocation}[1]{#1}

```

`\glsxtrenablerecordcount`

```

\newcommand*\glsxtrenablerecordcount{%
\renewcommand*\gls{\rgls}%
\renewcommand*\Gls{\rGls}%
\renewcommand*\glspl{\rglspl}%
\renewcommand*\Glspl{\rGlspl}%
\renewcommand*\GLS{\rGLS}%
\renewcommand*\GLSpl{\rGLSpl}%
\renewcommand*\shortcut@gls{\rgls}%
\renewcommand*\shortcut@glspl{\rglspl}%
\renewcommand*\shortcut@Gls{\rGls}%
\renewcommand*\shortcut@Glspl{\rGlspl}%
\renewcommand*\shortcut@GLS{\rGLS}%
\renewcommand*\shortcut@GLSpl{\rGLSpl}%
}

```

`\glsxtrrecordtriggervalue` The value used by the record trigger test. The argument is the entry's label.

```

\newcommand*\glsxtrrecordtriggervalue}[1]{%
\GlsXtrTotalRecordCount{#1}%
}

```

`sXtrSetRecordCountAttribute`

```

\newcommand*\GlsXtrSetRecordCountAttribute}[2]{%
\@for\@glsxtr@cat:=#1\do
{%
\ifdefempty{\@glsxtr@cat}{}%
{%
\glssetcategoryattribute{\@glsxtr@cat}{recordcount}{#2}%
}%
}%
}

```

`\glsxtrifrecordtrigger`

`\glsxtrifrecordtrigger{<label>}{<trigger format>}{<normal>}`

```

\newcommand*\glsxtrifrecordtrigger}[3]{%
\glshasattribute{#1}{recordcount}%
{%
\ifnum\glsxtrrecordtriggervalue{#1}>\glsgetattribute{#1}{recordcount}\relax
}
}

```

```

    #3%
  \else
    #2%
  \fi
}%
{#3}%
}

```

`\@glsxtr@rglstrigger@record` Still need a record to ensure that bib2gls selects the entry.

```

\newcommand*{\@glsxtr@rglstrigger@record}[3]{%
  \protected@edef\glslabel{\glsdetoklabel{#2}}%
  \let\@gls@link@label\glslabel
  \def\@glsxtr@thevalue{%
  \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
  \def\@glsnumberformat{glstriggerrecordformat}%
  \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
  \protected@edef\glstype{\csname glo@\glslabel @type\endcsname}%
  \def\@glsxtr@thevalue{%
  \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%

```

Save local setting.

```
\@gls@save@glslocal
```

Initialise preunset, prereset and postunset

```

\glsinitreunsets
\glsxtrinitwrgloss
\glslinkpresetkeys
\setkeys{glslink}{#1}%
\glslinkpostsetkeys
\ifdefempty{\@glsxtr@thevalue}%
{%
  \@gls@saveentrycounter
}%
{%
  \let\theglsentrycounter\@glsxtr@thevalue
  \def\theHglentrycounter{\@glsxtr@theHvalue}%
}%
\glslinkwrcontent
{%
  \ifglsxtrinitwrglossbefore
  \glsxtr@wrglossary@encap{#2}{\@do@wrglossary{#2}}%
  \fi
  #3%
  \ifglsxtrinitwrglossbefore
  \else
  \glsxtr@wrglossary@encap{#2}{\@do@wrglossary{#2}}%
  \fi
}%
\@gls@restore@glslocal
\@gls@do@glsunset{#2}%
}

```

`\glstriggerrecordformat` Typically won't be used as it should be recognised as a special type of ignored location by `bib2gls`.

```

\newcommand*\glstriggerrecordformat}[1]{

\rgls
\newrobustcmd*\rgls{\@gls@hyp@opt\rgls}

\@rgls
\newcommand*\@rgls}[2][{}]{%
\new@ifnextchar[{\@rgls@{#1}{#2}}{\@rgls@{#1}{#2}[]}]%
}

\@rgls@
\def\@rgls@#1#2[#3]{%
\glstriferecordtrigger{#2}%
{%
\glstr@rglstrigger@record{#1}{#2}{\rglsformat{#2}{#3}}%
}%
{%
\@gls@{#1}{#2}[#3]%
}%
}%

\rglsp1
\newrobustcmd*\rglsp1{\@gls@hyp@opt\rglsp1}

\@rglsp1
\newcommand*\@rglsp1}[2][{}]{%
\new@ifnextchar[{\@rglsp1@{#1}{#2}}{\@rglsp1@{#1}{#2}[]}]%
}

\@rglsp1@
\def\@rglsp1@#1#2[#3]{%
\glstriferecordtrigger{#2}%
{%
\glstr@rglstrigger@record{#1}{#2}{\rglsp1format{#2}{#3}}%
}%
{%
\@glspl@{#1}{#2}[#3]%
}%
}%

\rGls
\newrobustcmd*\rGls{\@gls@hyp@opt\rGls}
\glsmfuaddmap{\rgls}{\rGls}

\@rGls
\newcommand*\@rGls}[2][{}]{%
\new@ifnextchar[{\@rGls@{#1}{#2}}{\@rGls@{#1}{#2}[]}]%
}

```

```

\@rGls@
\def\@rGls@#1#2[#3]{%
  \glstrifrecordtrigger{#2}%
  {%
    \glstr@rglstrigger@record{#1}{#2}{\rGlsformat{#2}{#3}}%
  }%
  {%
    \@Gls@{#1}{#2}[#3]%
  }%
}%

\rGlspl
\newrobustcmd*{\rGlspl}{\@gls@hyp@opt\@rGlspl}
\glsmfuaddmap{\rglspl}{\rGlspl}

\@rGlspl
\newcommand*{\@rGlspl}[2][{}]{%
  \new@ifnextchar[{\@rGlspl@{#1}{#2}}{\@rGlspl@{#1}{#2}[]}%
}

\@rGlspl@
\def\@rGlspl@#1#2[#3]{%
  \glstrifrecordtrigger{#2}%
  {%
    \glstr@rglstrigger@record{#1}{#2}{\rGlsplformat{#2}{#3}}%
  }%
  {%
    \@Glspl@{#1}{#2}[#3]%
  }%
}%

\rGLS
\newrobustcmd*{\rGLS}{\@gls@hyp@opt\@rGLS}
\glsmfublocker{\rGLS}%

\@rGLS
\newcommand*{\@rGLS}[2][{}]{%
  \new@ifnextchar[{\@rGLS@{#1}{#2}}{\@rGLS@{#1}{#2}[]}%
}

\@rGLS@
\def\@rGLS@#1#2[#3]{%
  \glstrifrecordtrigger{#2}%
  {%
    \glstr@rglstrigger@record{#1}{#2}{\rGLSformat{#2}{#3}}%
  }%
  {%
    \@GLS@{#1}{#2}[#3]%
  }%
}%

```

```

\rGLSp1
\newrobustcmd*\rGLSp1{\@gls@hyp@opt\rGLSp1}
\glsmfublocker{\rGLSp1}%

\@rGLSp1
\newcommand*\@rGLSp1[2][\%
\new@ifnextchar[{\@rGLSp1@{#1}{#2}}{\@rGLSp1@{#1}{#2}[]}]%
}

\@rGLSp1@
\def\@rGLSp1@#1#2[#3]{%
\glsxtrifrecordtrigger{#2}%
{
\@glsxtr@rglstrigger@record{#1}{#2}{\rGLSp1format{#2}{#3}}%
}%
{
\@GLSp1@{#1}{#2}[#3]%
}%
}%

\rGLSp1format
\newcommand*\rGLSp1format[2]{%
\glsifregular{#1}
{\glsentryfirst{#1}}%
{\ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}}\#2%
}

\rGLSp1plformat
\newcommand*\rGLSp1plformat[2]{%
\glsifregular{#1}
{\glsentryfirstplural{#1}}%
{\ifglshaslong{#1}{\glsentrylongplural{#1}}{\glsentryfirstplural{#1}}}\#2%
}

\rGLSp1format
\newcommand*\rGLSp1format[2]{%
\glsifregular{#1}
{\Glsentryfirst{#1}}%
{\ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}}\#2%
}

\rGLSp1plformat
\newcommand*\rGLSp1plformat[2]{%
\glsifregular{#1}
{\Glsentryfirstplural{#1}}%
{\ifglshaslong{#1}{\Glsentrylongplural{#1}}{\Glsentryfirstplural{#1}}}\#2%
}

```

`\rGLSformat`

```
\newcommand*\rGLSformat}[2]{%
\expandafter\glsuppercase\expandafter{\rglsformat{#1}{#2}}%
}
```

`\rGLSplformat`

```
\newcommand*\rGLSplformat}[2]{%
\expandafter\glsuppercase\expandafter{\rglsplformat{#1}{#2}}%
}
```

## 1.4 Link Counting

This is different to the entry counting provided by the base package (which counts the number of times the first use flag is unset). Instead, this method hooks into `\@gls@link` (through `\glsxtr@inc@linkcount`) to increment an associated counter. To preserve resources, the counter is only defined if it needs to be incremented. This method is independent of the presence of hyperlinks. (The “link” part of the name refers to `\@gls@link` not `\hyperlink`.)

`\@glsxtr@do@inc@linkcount` This performs the actual incrementing and counter definition. The counter is given by `\c@glsxtr@linkcount@<label>` where *<label>* is the entry’s label. Since this is performed within `\@gls@link` the label can be accessed with `\glslabel`.

```
\newcommand*\@glsxtr@do@inc@linkcount}{%
```

Does this entry have the linkcount attribute set?

```
\glsifattribute{\glslabel}{linkcount}{true}%
{%
```

Does the counter exist?

```
\ifcsdef{c@glsxtr@linkcount@\glslabel}{}%
{%
```

Counter doesn’t exist, so define it.

```
\newcounter{glsxtr@linkcount@\glslabel}%
```

If linkcountmaster is set, add to counter reset.

```
\glsattribute{\glslabel}{linkcountmaster}%
{%
```

Need to ensure values are fully expanded.

```
\begingroup
\edef\@glo@tmp{\endgroup\noexpand\@addtoreset{glsxtr@linkcount@\glslabel}%
{\glsattribute{\glslabel}{linkcountmaster}}}%
\@glo@tmp
}%
{}%
}%
```



Increment counter:

```
\glxtrinlinkcounter{glxtr@linkcount@glslabel}%  
}%  
{}%  
}
```

`\glxtrinlinkcounter` May be redefined to use `\refstepcounter` if required.

```
\newcommand*{\glxtrinlinkcounter}[1]{\stepcounter{#1}}
```

`\GlsXtrLinkCounterValue` Expands to the associated link counter register or 0 if not defined.

```
\newcommand*{\GlsXtrLinkCounterValue}[1]{%  
  \ifcsundef{c@glxtr@linkcount@#1}{0}{\csname c@glxtr@linkcount@#1\endcsname}%  
}
```

`\GlsXtrTheLinkCounter` Expands to the display value of the associated link counter or 0 if not defined.

```
\newcommand*{\GlsXtrTheLinkCounter}[1]{%  
  \ifcsundef{theglxtr@linkcount@#1}{0}%  
  {\csname theglxtr@linkcount@#1\endcsname}%  
}
```

`\GlsXtrIfLinkCounterDef` Tests if the counter has been defined

```
\newcommand*{\GlsXtrIfLinkCounterDef}[3]{%  
  \ifcsundef{theglxtr@linkcount@#1}{#3}{#2}%  
}
```

`\GlsXtrLinkCounterName` Expands to the associated link counter name. (No check for existence.)

```
\newcommand*{\GlsXtrLinkCounterName}[1]{glxtr@linkcount@#1}
```

```
\GlsXtrEnableLinkCounting[master counter]{categories}
```

`\GlsXtrEnableLinkCounting`

Enable link counting for the given categories.

```
\newcommand*{\GlsXtrEnableLinkCounting}[2][1]{%  
  \let\glxtr@inc@linkcount\@glxtr@do@inc@linkcount  
  \@for\@glxtr@label:=#2\do  
  {%  
    \glssetcategoryattribute{\@glxtr@label}{linkcount}{true}%  
    \ifstrempy{#1}{}%  
    {%  
      \ifcsundef{c@#1}%  
      {\@nocounterr{#1}}%  
      {\glssetcategoryattribute{\@glxtr@label}{linkcountmaster}{#1}}%  
    }%  
  }%  
}
```

```
\@onlypreamble\GlsXtrEnableLinkCounting
```

## 1.5 Integration with glossaries-accsupp

Provide better integration with the `glossaries-accsupp` package. (Must be loaded before the main code of `glossaries-extra` either explicitly or through the `accsupp` package option.)

These commands have their definitions set according to whether or not `glossaries-extra` has been loaded.

To allow for formatting commands that need to go inside all other commands (such as the commands provided by `soul`), also add version of each command that takes a text-block command as an argument.

```
\@ifpackageloaded{glossaries-accsupp}
{
```

Define (or redefine) commands to use the accessibility information.

`\glsaccessname` Display the name value (no link and no check for existence).

```
\newcommand*\glsaccessname}[1]{%
  \glsnameaccessdisplay
  {%
    \glsentryname{#1}%
  }%
  {#1}%
}
```

`\glsaccessfmtname`

```
\glsaccessfmtname{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtname}[3]{%
  \glsnameaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{name}%
  }%
  {#3}%
}
```

`\Glsaccessname` Display the name value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessname}[1]{%
  \glsnameaccessdisplay
  {%
    \Glsentryname{#1}%
  }%
  {#1}%
}
```

`\Glsaccessfmtname`

```
\Glsaccessfmtname{<insert>}{<cs>}{<label>}
```

```

\newcommand*\GLSaccessfmtname}[3]{%
  \glsnameaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{name}%
  }%
  {#3}%
}

```

`\GLSaccessname` Display the name value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccessname}[1]{%
  \glsnameaccessdisplay
  {%
    \glsuppercase{\glsentryname{#1}}%
  }%
  {#1}%
}

```

```
\GLSaccessfmtname{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtname`

```

\newcommand*\GLSaccessfmtname}[3]{%
  \glsnameaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{name}%
  }%
  {#3}%
}

```

`\glsaccesstext` Display the text value (no link and no check for existence).

```

\newcommand*\glsaccesstext}[1]{%
  \glstextaccessdisplay
  {%
    \glsentrytext{#1}%
  }%
  {#1}%
}

```

```
\glsaccessfmttext{<insert>}{<cs>}{<label>}
```

`\glsaccessfmttext`

```

\newcommand*\glsaccessfmttext}[3]{%
  \glstextaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{text}%
  }%
}

```

```

    }%
    {#3}%
}

```

`\Glsaccesstext` Display the text value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccesstext[1]{%
  \glstextaccessdisplay
  {%
    \Glsentrytext{#1}%
  }%
  {#1}%
}

```

```

\Glsaccessfmttext{<insert>}{<cs>}{<label>}

```

`\Glsaccessfmttext`

```

\newcommand*\Glsaccessfmttext[3]{%
  \glstextaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{text}%
  }%
  {#3}%
}

```

`\GLSaccesstext` Display the text value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccesstext[1]{%
  \glstextaccessdisplay
  {%
    \glsuppercase{\Glsentrytext{#1}}%
  }%
  {#1}%
}

```

```

\GLSAccessfmttext{<insert>}{<cs>}{<label>}

```

`\GLSAccessfmttext`

```

\newcommand*\GLSAccessfmttext[3]{%
  \glstextaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{text}%
  }%
  {#3}%
}

```

`\glsaccessplural` Display the plural value (no link and no check for existence).

```
\newcommand*\glsaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \glsentryplural{#1}%
  }%
  {#1}%
}
```

```
\glsaccessfmtplural{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtplural`

```
\newcommand*\glsaccessfmtplural}[3]{%
  \glspluralaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{plural}%
  }%
  {#3}%
}
```

`\Glsaccessplural` Display the plural value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \Glsentryplural{#1}%
  }%
  {#1}%
}
```

```
\Glsaccessfmtplural{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtplural`

```
\newcommand*\Glsaccessfmtplural}[3]{%
  \glspluralaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{plural}%
  }%
  {#3}%
}
```

`\GLSaccessplural` Display the plural value (no link and no check for existence) converted to upper case.

```
\newcommand*\GLSaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \GLSentryplural{#1}%
  }%
  {#1}%
}
```

```

        \glssupercase{\glssentryplural{#1}}%
    }%
    {#1}%
}

```

```
\GLSaccessfmtplural{<insert>}{<cs>}{<label>}
```

\GLSaccessfmtplural

```

\newcommand*{\GLSaccessfmtplural}[3]{%
  \glspluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{plural}%
  }%
  {#3}%
}

```

\glsaccessfirst Display the first value (no link and no check for existence).

```

\newcommand*{\glsaccessfirst}[1]{%
  \glsfirstaccessdisplay
  {%
    \glssentryfirst{#1}%
  }%
  {#1}%
}

```

```
\glsaccessfmtfirst{<insert>}{<cs>}{<label>}
```

\glsaccessfmtfirst

```

\newcommand*{\glsaccessfmtfirst}[3]{%
  \glsfirstaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{first}%
  }%
  {#3}%
}

```

\Glsaccessfirst Display the first value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*{\Glsaccessfirst}[1]{%
  \glsfirstaccessdisplay
  {%
    \Glsentryfirst{#1}%
  }%
  {#1}%
}

```

`\Glsaccessfmtfirst`

```
\Glsaccessfmtfirst{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtfirst}[3]{%  
  \glsfirstaccessdisplay  
  {%  
    \Glsfmtfield{#1}{#2}{#3}{first}%  
  }%  
  {#3}%  
}
```

`\GLSaccessfirst` Display the first value (no link and no check for existence) converted to upper case.

```
\newcommand*\GLSaccessfirst}[1]{%  
  \glsfirstaccessdisplay  
  {%  
    \glsuppercase{\glsentryfirst{#1}}%  
  }%  
  {#1}%  
}
```

`\GLSaccessfmtfirst`

```
\GLSaccessfmtfirst{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtfirst}[3]{%  
  \glsfirstaccessdisplay  
  {%  
    \GLSfmtfield{#1}{#2}{#3}{first}%  
  }%  
  {#3}%  
}
```

`\glsaccessfirstplural` Display the firstplural value (no link and no check for existence).

```
\newcommand*\glsaccessfirstplural}[1]{%  
  \glsfirstpluralaccessdisplay  
  {%  
    \glsentryfirstplural{#1}%  
  }%  
  {#1}%  
}
```

`\glsaccessfmtfirstplural`

```
\glsaccessfmtfirstplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtfirstplural}[3]{%
```

```

\glsfirstpluralaccessdisplay
{%
  \glsfmtfield{#1}{#2}{#3}{firstpl}%
}%
{#3}%
}

```

`\Glsaccessfirstplural` Display the firstplural value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccessfirstplural[1]{%
  \glsfirstpluralaccessdisplay
  {%
    \Glsentryfirstplural{#1}%
  }%
  {#1}%
}

```

```

\Glsaccessfmtfirstplural{<insert>}{<cs>}{<label>}

```

`\Glsaccessfmtfirstplural`

```

\newcommand*\Glsaccessfmtfirstplural[3]{%
  \glsfirstpluralaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{firstpl}%
  }%
  {#3}%
}

```

`\GLSaccessfirstplural` Display the firstplural value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccessfirstplural[1]{%
  \glsfirstpluralaccessdisplay
  {%
    \glsuppercase{\Glsentryfirstplural{#1}}%
  }%
  {#1}%
}

```

```

\GLSaccessfmtfirstplural{<insert>}{<cs>}{<label>}

```

`\GLSaccessfmtfirstplural`

```

\newcommand*\GLSaccessfmtfirstplural[3]{%
  \glsfirstpluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{firstpl}%
  }%
}

```



```

    {#3}%
}

```

`\glsaccesssymbol` Display the symbol value (no link and no check for existence).

```

\newcommand*\glsaccesssymbol[1]{%
  \glsymbolaccessdisplay
  {%
    \glsentrysymbol{#1}%
  }%
  {#1}%
}

```

`\glsaccessfmtsymb`

```

\glsaccessfmtsymb{\insert}{\cs}{\label}

```

```

\newcommand*\glsaccessfmtsymb[3]{%
  \glsymbolaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{symbol}%
  }%
  {#3}%
}

```

`\Glsaccesssymbol` Display the symbol value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccesssymbol[1]{%
  \glsymbolaccessdisplay
  {%
    \Glsentrysymbol{#1}%
  }%
  {#1}%
}

```

`\Glsaccessfmtsymb`

```

\Glsaccessfmtsymb{\insert}{\cs}{\label}

```

```

\newcommand*\Glsaccessfmtsymb[3]{%
  \glsymbolaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{symbol}%
  }%
  {#3}%
}

```

`\GLSaccesssymbol` Display the symbol value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccesssymbol[1]{%
  \glssymbolaccessdisplay
  {%
    \glssupercase{\glsentrsymbol{#1}}%
  }%
  {#1}%
}

```

```
\GLSaccessfmtsymb $\langle insert \rangle\langle cs \rangle\langle label \rangle$ 
```

\GLSaccessfmtsymb

```

\newcommand*\GLSaccessfmtsymb[3]{%
  \glssymbolaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{symbol}%
  }%
  {#3}%
}

```

\glsaccesssymbolplural Display the symbolplural value (no link and no check for existence).

```

\newcommand*\glsaccesssymbolplural[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \glsentrsymbolplural{#1}%
  }%
  {#1}%
}

```

```
\glsaccessfmtsymb $\langle insert \rangle\langle cs \rangle\langle label \rangle$ 
```

\glsaccessfmtsymb

```

\newcommand*\glsaccessfmtsymb[3]{%
  \glssymbolpluralaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{symbolplural}%
  }%
  {#3}%
}

```

\Glsaccesssymbolplural Display the symbolplural value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccesssymbolplural[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \Glsentrsymbolplural{#1}%
  }%
}

```

```

    {#1}%
}

```

```

\Glsaccessfmtsymbolplural{<insert>}{<cs>}{<label>}

```

\Glsaccessfmtsymbolplural

```

\newcommand*\Glsaccessfmtsymbolplural}[3]{%
  \glssymbolpluralaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{symbolplural}%
  }%
  {#3}%
}

```

\GLSaccesssymbolplural Display the symbolplural value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccesssymbolplural}[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \Glsuppercase{\Glsentrysymbolplural{#1}}%
  }%
  {#1}%
}

```

```

\GLSaccessfmtsymbolplural{<insert>}{<cs>}{<label>}

```

\GLSaccessfmtsymbolplural

```

\newcommand*\GLSaccessfmtsymbolplural}[3]{%
  \glssymbolpluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{symbolplural}%
  }%
  {#3}%
}

```

\glsaccessdesc Display the desc value (no link and no check for existence).

```

\newcommand*\glsaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \Glsentrydesc{#1}%
  }%
  {#1}%
}

```

```

\glsaccessfmdesc{<insert>}{<cs>}{<label>}

```

\glsaccessfmdesc

```

\newcommand*\glsaccessfmtdesc}[3]{%
  \glsdescaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{desc}%
  }%
  {#3}%
}

```

`\Glsaccessdesc` Display the desc value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \Glsentrydesc{#1}%
  }%
  {#1}%
}

```

`\Glsaccessfmtdesc{<insert>}{<cs>}{<label>}`

`\Glsaccessfmtdesc`

```

\newcommand*\Glsaccessfmtdesc}[3]{%
  \glsdescaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{desc}%
  }%
  {#3}%
}

```

`\GLSaccessdesc` Display the desc value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \glsuppercase{\Glsentrydesc{#1}}%
  }%
  {#1}%
}

```

`\GLSaccessfmtdesc{<insert>}{<cs>}{<label>}`

`\GLSaccessfmtdesc`

```

\newcommand*\GLSaccessfmtdesc}[3]{%
  \glsdescaccessdisplay
  {%

```

```

\GLSfmtfield{#1}{#2}{#3}{desc}%
}%
{#3}%
}

```

`\glsaccessdescplural` Display the descplural value (no link and no check for existence).

```

\newcommand*\glsaccessdescplural}[1]{%
\glsdescriptionpluralaccessdisplay
{#1}%
\glsentrydescplural{#1}%
}%
{#1}%
}

```

```

\glsaccessfntdescplural{<insert>}{<cs>}{<label>}

```

`\glsaccessfntdescplural`

```

\newcommand*\glsaccessfntdescplural}[3]{%
\glsdescpluralaccessdisplay
{#1}%
\glsfmtfield{#1}{#2}{#3}{descplural}%
}%
{#3}%
}

```

`\Glsaccessdescplural` Display the descplural value (no link and no check for existence) with the first letter converted to upper case.

```

\newcommand*\Glsaccessdescplural}[1]{%
\glsdescriptionpluralaccessdisplay
{#1}%
\Glsentrydescplural{#1}%
}%
{#1}%
}

```

```

\Glsaccessfntdescplural{<insert>}{<cs>}{<label>}

```

`\Glsaccessfntdescplural`

```

\newcommand*\Glsaccessfntdescplural}[3]{%
\glsdescpluralaccessdisplay
{#1}%
\Glsfmtfield{#1}{#2}{#3}{descplural}%
}%
{#3}%
}

```

`\GLSaccessdescplural` Display the descplural value (no link and no check for existence) converted to upper case.

```
\newcommand*\GLSaccessdescplural[1]{%
  \glsdescriptionpluralaccessdisplay
  {%
    \glsuppercase{\glsentrydescplural{#1}}%
  }%
  {#1}%
}
```

`\GLSaccessfmtdescplural{<insert>}{<cs>}{<label>}`

`\GLSaccessfmtdescplural`

```
\newcommand*\GLSaccessfmtdescplural[3]{%
  \glsdescpluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{descplural}%
  }%
  {#3}%
}
```

`\glsaccessshort` Display the short form (no link and no check for existence).

```
\newcommand*\glsaccessshort[1]{%
  \glsshortaccessdisplay
  {%
    \glsentryshort{#1}%
  }%
  {#1}%
}
```

`\glsaccessfmtshort{<insert>}{<cs>}{<label>}`

`\glsaccessfmtshort`

```
\newcommand*\glsaccessfmtshort[3]{%
  \glsshortaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{short}%
  }%
  {#3}%
}
```

`\Glsaccessshort` Display the short form with first letter converted to uppercase (no link and no check for existence).

```
\newcommand*\Glsaccessshort[1]{%
  \glsshortaccessdisplay
  {%
```

```

\Glsentryshort{#1}%
}%
{#1}%
}

```

```
\Glsaccessfmtshort{<insert>}{<cs>}{<label>}
```

\Glsaccessfmtshort

```

\newcommand*\Glsaccessfmtshort}[3]{%
\glsshortaccessdisplay
{%
\Glsfmtfield{#1}{#2}{#3}{short}%
}%
{#3}%
}

```

\GLSaccessshort Display the short value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccessshort}[1]{%
\glsshortaccessdisplay
{%
\glssupercase{\Glsentryshort{#1}}%
}%
{#1}%
}

```

```
\GLSaccessfmtshort{<insert>}{<cs>}{<label>}
```

\GLSaccessfmtshort

```

\newcommand*\GLSaccessfmtshort}[3]{%
\glsshortaccessdisplay
{%
\GLSfmtfield{#1}{#2}{#3}{short}%
}%
{#3}%
}

```

\glsaccessshortpl Display the short plural form (no link and no check for existence).

```

\newcommand*\glsaccessshortpl}[1]{%
\glsshortpluralaccessdisplay
{%
\Glsentryshortpl{#1}%
}%
{#1}%
}

```

`\glsaccessfmtshortpl`

```
\glsaccessfmtshortpl{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\glsaccessfmtshortpl}[3]{%  
  \glsshortpluralaccessdisplay  
  {%  
    \glsfmtfield{#1}{#2}{#3}{shortpl}%  
  }%  
  {#3}%  
}
```

`\Glsaccessshortpl` Display the short plural form with first letter converted to uppercase (no link and no check for existence).

```
\newcommand*{\Glsaccessshortpl}[1]{%  
  \glsshortpluralaccessdisplay  
  {%  
    \Glsentryshortpl{#1}%  
  }%  
  {#1}%  
}
```

`\Glsaccessfmtshortpl`

```
\Glsaccessfmtshortpl{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\Glsaccessfmtshortpl}[3]{%  
  \glsshortpluralaccessdisplay  
  {%  
    \Glsfmtfield{#1}{#2}{#3}{shortpl}%  
  }%  
  {#3}%  
}
```

`\GLSaccessshortpl` Display the shortplural value (no link and no check for existence) converted to upper case.

```
\newcommand*{\GLSaccessshortpl}[1]{%  
  \glsshortpluralaccessdisplay  
  {%  
    \glsuppercase{\Glsentryshortpl{#1}}%  
  }%  
  {#1}%  
}
```

`\GLSaccessfmtshortpl`

```
\GLSaccessfmtshortpl{<insert>}{<cs>}{<label>}
```



```

\newcommand*\GLSaccessfmtshortpl}[3]{%
  \glshortpluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{shortpl}%
  }%
  {#3}%
}

```

`\glsaccesslong` Display the long form (no link and no check for existence).

```

\newcommand*\glsaccesslong}[1]{%
  \glslongaccessdisplay{\glsentrylong{#1}}{#1}%
}

```

`\glsaccessfmtlong`

```

\glsaccessfmtlong{<insert>}{<cs>}{<label>}

```

```

\newcommand*\glsaccessfmtlong}[3]{%
  \glslongaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{long}%
  }%
  {#3}%
}

```

`\Glsaccesslong` Display the long form (no link and no check for existence).

```

\newcommand*\Glsaccesslong}[1]{%
  \glslongaccessdisplay{\Glsentrylong{#1}}{#1}%
}

```

`\Glsaccessfmtlong`

```

\Glsaccessfmtlong{<insert>}{<cs>}{<label>}

```

```

\newcommand*\Glsaccessfmtlong}[3]{%
  \glslongaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{long}%
  }%
  {#3}%
}

```

`\GLSaccesslong` Display the long value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccesslong}[1]{%
  \glslongaccessdisplay
  {%
    \glsuppercase{\glsentrylong{#1}}%
  }%
}

```

```

}%
{#1}%
}

```

`\GLSaccessfmtlong` `\GLSaccessfmtlong{<insert>}{<cs>}{<label>}`

```

\newcommand*{\GLSaccessfmtlong}[3]{%
  \glslongaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{long}%
  }%
  {#3}%
}

```

`\glsaccesslongpl` Display the long plural form (no link and no check for existence).

```

\newcommand*{\glsaccesslongpl}[1]{%
  \glslongpluralaccessdisplay{\glsentrylongpl{#1}}{#1}%
}

```

`\glsaccessfmtlongpl` `\glsaccessfmtlongpl{<insert>}{<cs>}{<label>}`

```

\newcommand*{\glsaccessfmtlongpl}[3]{%
  \glslongpluralaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{longpl}%
  }%
  {#3}%
}

```

`\Glsaccesslongpl` Display the long plural form (no link and no check for existence).

```

\newcommand*{\Glsaccesslongpl}[1]{%
  \glslongpluralaccessdisplay{\Glsentrylongpl{#1}}{#1}%
}

```

`\Glsaccessfmtlongpl` `\Glsaccessfmtlongpl{<insert>}{<cs>}{<label>}`

```

\newcommand*{\Glsaccessfmtlongpl}[3]{%
  \glslongpluralaccessdisplay
  {%
    \Glsfmtfield{#1}{#2}{#3}{longpl}%
  }%
}

```

```

    }%
    {#3}%
  }

```

`\GLSaccesslongpl` Display the longplural value (no link and no check for existence) converted to upper case.

```

\newcommand*\GLSaccesslongpl[1]{%
  \glslongpluralaccessdisplay
  {%
    \glsuppercase{\glsentrylongpl{#1}}%
  }%
  {#1}%
}

```

```
\GLSaccessfmtlongpl{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtlongpl`

```

\newcommand*\GLSaccessfmtlongpl[3]{%
  \glslongpluralaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{longpl}%
  }%
  {#3}%
}

```

The user accessibility fields were added to glossaries-accsupp v4.45 so these may not be defined.

USER1

`\glsaccessuseri` Display the user1 value (no link and no check for existence).

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\glsaccessuseri[1]{%
    \glsuseriaccessdisplay
    {%
      \glsentryuseri{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\glsaccessuseri[1]{%
    \glsentryuseri{#1}%
  }
}

```

```
\glsaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtuseri`

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\glsaccessfmtuseri}[3]{%
    \glsuseriaccessdisplay
    {%
      \glsfmtfield{#1}{#2}{#3}{useri}%
    }%
    {#3}%
  }
}
{
  \newcommand*\glsaccessfmtuseri}[3]{%
    \glsfmtfield{#1}{#2}{#3}{useri}%
  }
}

```

`\Glsaccessuseri` Display the user1 value (no link and no check for existence) with the first letter converted to upper case.

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\Glsaccessuseri}[1]{%
    \glsuseriaccessdisplay
    {%
      \Glsentryuseri{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\Glsaccessuseri}[1]{%
    \Glsentryuseri{#1}%
  }
}

```

```
\Glsaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtuseri`

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\Glsaccessfmtuseri}[3]{%
    \glsuseriaccessdisplay
    {%
      \Glsfmtfield{#1}{#2}{#3}{useri}%
    }%
    {#3}%
  }
}

```

```

{
  \newcommand*\GLSaccessfmtuseri}[3]{%
    \GLSfmtfield{#1}{#2}{#3}{useri}%
  }
}

```

`\GLSaccessuseri` Display the user1 value (no link and no check for existence) converted to upper case.

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\GLSaccessuseri}[1]{%
    \glsuseriaccessdisplay
    {%
      \glsuppercase{\glsentryuseri{#1}}%
    }%
    {#1}%
  }
}
{
  \newcommand*\GLSaccessuseri}[1]{%
    \glsuppercase{\glsentryuseri{#1}}%
  }
}

```

```
\GLSaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtuseri`

```

\ifdef\glsuseriaccessdisplay
{
  \newcommand*\GLSaccessfmtuseri}[3]{%
    \glsuseriaccessdisplay
    {%
      \GLSfmtfield{#1}{#2}{#3}{useri}%
    }%
    {#3}%
  }
}
{
  \newcommand*\GLSaccessfmtuseri}[3]{%
    \GLSfmtfield{#1}{#2}{#3}{useri}%
  }
}

```

USER2

`\glsaccessuserii` Display the user2 value (no link and no check for existence).

```

\ifdef\glsuseriiaccessdisplay
{

```

```

\newcommand*\glsaccessuserii}[1]{%
  \glsuseriiaccessdisplay
  {%
    \glstryuserii{#1}%
  }%
  {#1}%
}
}
{
\newcommand*\glsaccessuserii}[1]{%
  \glstryuserii{#1}%
}
}

```

```
\glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

\glsaccessfmtuserii

```

\ifdef\glsuseriiaccessdisplay
{
\newcommand*\glsaccessfmtuserii}[3]{%
  \glsuseriiaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{userii}%
  }%
  {#3}%
}
}
{
\newcommand*\glsaccessfmtuserii}[3]{%
  \glsfmtfield{#1}{#2}{#3}{userii}%
}
}

```

\Glsaccessuserii Display the user2 value (no link and no check for existence) with the first letter converted to upper case.

```

\ifdef\glsuseriiaccessdisplay
{
\newcommand*\Glsaccessuserii}[1]{%
  \glsuseriiaccessdisplay
  {%
    \Glsentryuserii{#1}%
  }%
  {#1}%
}
}
{
\newcommand*\Glsaccessuserii}[1]{%
  \Glsentryuserii{#1}%
}
}

```

```
}  
}
```

```
\Glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

\Glsaccessfmtuserii

```
\ifdef\glsuseriiaccessdisplay  
{  
  \newcommand*{\Glsaccessfmtuserii}[3]{%  
    \glsuseriiaccessdisplay  
    {%  
      \Glsfmtfield{#1}{#2}{#3}{userii}%  
    }%  
    {#3}%  
  }  
}  
{  
  \newcommand*{\Glsaccessfmtuserii}[3]{%  
    \Glsfmtfield{#1}{#2}{#3}{userii}%  
  }  
}
```

\GLSaccessuserii Display the user2 value (no link and no check for existence) converted to upper case.

```
\ifdef\glsuseriiaccessdisplay  
{  
  \newcommand*{\GLSaccessuserii}[1]{%  
    \glsuseriiaccessdisplay  
    {%  
      \glsuppercase{\glsentryuserii{#1}}%  
    }%  
    {#1}%  
  }  
}  
{  
  \newcommand*{\GLSaccessuserii}[1]{%  
    \glsuppercase{\glsentryuserii{#1}}%  
  }  
}
```

```
\GLSaccessfmtuserii{<insert>}{<cs>}{<label>}
```

\GLSaccessfmtuserii

```
\ifdef\glsuseriiaccessdisplay  
{  
  \newcommand*{\GLSaccessfmtuserii}[3]{%  
    \glsuseriiaccessdisplay  
    {%  
      \Glsfmtfield{#1}{#2}{#3}{userii}%  
    }%  
    {#3}%  
  }  
}
```

```

\glsuseriiaccessdisplay
{%
  \GLSfmtfield{#1}{#2}{#3}{userii}%
}%
{#3}%
}
}
{
\newcommand*\GLSaccessfmtuserii}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{userii}%
}
}

```

USER3

`\glsaccessuseriii` Display the user3 value (no link and no check for existence).

```

\ifdef\glsuseriiiaccessdisplay
{
\newcommand*\glsaccessuseriii}[1]{%
  \glsuseriiiaccessdisplay
  {%
    \glentryuseriii{#1}%
  }%
  {#1}%
}
}
{
\newcommand*\glsaccessuseriii}[1]{%
  \glentryuseriii{#1}%
}
}

```

`\glsaccessfmtuseriii`{*insert*}{*cs*}{*label*}

`\glsaccessfmtuseriii`

```

\ifdef\glsuseriiiaccessdisplay
{
\newcommand*\glsaccessfmtuseriii}[3]{%
  \glsuseriiiaccessdisplay
  {%
    \glsfmtfield{#1}{#2}{#3}{useriii}%
  }%
  {#3}%
}
}
{
\newcommand*\glsaccessfmtuseriii}[3]{%
  \glsfmtfield{#1}{#2}{#3}{useriii}%
}
}

```



```

}
}

```

`\Glsaccessuseriii` Display the user3 value (no link and no check for existence) with the first letter converted to upper case.

```

\ifdef\glsuseriiiaccessdisplay
{
  \newcommand*\Glsaccessuseriii[1]{%
    \glsuseriiiaccessdisplay
    {%
      \Glsentryuseriii{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\Glsaccessuseriii[1]{%
    \Glsentryuseriii{#1}%
  }
}
}

```

`\Glsaccessfmtuseriii{<insert>}{<cs>}{<label>}`

`\Glsaccessfmtuseriii`

```

\ifdef\glsuseriiiaccessdisplay
{
  \newcommand*\Glsaccessfmtuseriii[3]{%
    \glsuseriiiaccessdisplay
    {%
      \Glsfmtfield{#1}{#2}{#3}{useriii}%
    }%
    {#3}%
  }
}
{
  \newcommand*\Glsaccessfmtuseriii[3]{%
    \Glsfmtfield{#1}{#2}{#3}{useriii}%
  }
}
}

```

`\GLSaccessuseriii` Display the user3 value (no link and no check for existence) converted to upper case.

```

\ifdef\glsuseriiiaccessdisplay
{
  \newcommand*\GLSaccessuseriii[1]{%
    \glsuseriiiaccessdisplay
    {%
      \glsuppercase{\Glsentryuseriii{#1}}%
    }%
  }
}
}

```

```

    }%
    {#1}%
  }
}
{
  \newcommand*\GLSaccessuseriii[1]{%
    \glsuppercase{\glsentryuseriii{#1}}%
  }
}
}

```

```
\GLSaccessfmtuseriii{<insert>}{<cs>}{<label>}
```

\GLSaccessfmtuseriii

```

\ifdef\glsuseriiiaccessdisplay
{
  \newcommand*\GLSaccessfmtuseriii[3]{%
    \glsuseriiiaccessdisplay
    {%
      \GLSfmtfield{#1}{#2}{#3}{useriii}%
    }%
    {#3}%
  }
}
{
  \newcommand*\GLSaccessfmtuseriii[3]{%
    \GLSfmtfield{#1}{#2}{#3}{useriii}%
  }
}
}

```

USER4

\glsaccessuseriv Display the user4 value (no link and no check for existence).

```

\ifdef\glsuserivaccessdisplay
{
  \newcommand*\glsaccessuseriv[1]{%
    \glsuserivaccessdisplay
    {%
      \glsentryuseriv{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\glsaccessuseriv[1]{%
    \glsentryuseriv{#1}%
  }
}
}

```

```
\glsaccessfmtuseriv{<insert>}{<cs>}{<label>}
```

\glsaccessfmtuseriv

```
\ifdef\glsuserivaccessdisplay
{
  \newcommand*{\glsaccessfmtuseriv}[3]{%
    \glsuserivaccessdisplay
    {%
      \glsfmtfield{#1}{#2}{#3}{useriv}%
    }%
    {#3}%
  }
}
{
  \newcommand*{\glsaccessfmtuseriv}[3]{%
    \glsfmtfield{#1}{#2}{#3}{useriv}%
  }
}
```

\Glsaccessuseriv Display the user4 value (no link and no check for existence) with the first letter converted to upper case.

```
\ifdef\glsuserivaccessdisplay
{
  \newcommand*{\Glsaccessuseriv}[1]{%
    \glsuserivaccessdisplay
    {%
      \Glsentryuseriv{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*{\Glsaccessuseriv}[1]{%
    \Glsentryuseriv{#1}%
  }
}
```

```
\Glsaccessfmtuseriv{<insert>}{<cs>}{<label>}
```

\Glsaccessfmtuseriv

```
\ifdef\glsuserivaccessdisplay
{
  \newcommand*{\Glsaccessfmtuseriv}[3]{%
    \glsuserivaccessdisplay
    {%
      \Glsfmtfield{#1}{#2}{#3}{useriv}%
    }%
  }
}
```

```

        {#3}%
    }
}
{
    \newcommand*\GLsaccessfmtuseriv}[3]{%
        \GLsfmtfield{#1}{#2}{#3}{useriv}%
    }
}

```

\GLSaccessuseriv Display the user4 value (no link and no check for existence) converted to upper case.

```

\ifdef\glsuserivaccessdisplay
{
    \newcommand*\GLSaccessuseriv}[1]{%
        \glsuserivaccessdisplay
        {%
            \glsuppercase{\glstentryuseriv{#1}}%
        }%
        {#1}%
    }
}
{
    \newcommand*\GLSaccessuseriv}[1]{%
        \glsuppercase{\glstentryuseriv{#1}}%
    }
}

```

\GLSaccessfmtuseriv{<insert>}{<cs>}{<label>}

\GLSaccessfmtuseriv

```

\ifdef\glsuserivaccessdisplay
{
    \newcommand*\GLSaccessfmtuseriv}[3]{%
        \glsuserivaccessdisplay
        {%
            \GLSfmtfield{#1}{#2}{#3}{useriv}%
        }%
        {#3}%
    }
}
{
    \newcommand*\GLSaccessfmtuseriv}[3]{%
        \GLSfmtfield{#1}{#2}{#3}{useriv}%
    }
}

```

USER5

`\glsaccessuserv` Display the user5 value (no link and no check for existence).

```
\ifdef\glsuservaccessdisplay
{
  \newcommand*\glsaccessuserv[1]{%
    \glsuservaccessdisplay
    {%
      \glentryuserv{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\glsaccessuserv[1]{%
    \glentryuserv{#1}%
  }
}
```

`\glsaccessfmtuserv{<insert>}{<cs>}{<label>}`

`\glsaccessfmtuserv`

```
\ifdef\glsuservaccessdisplay
{
  \newcommand*\glsaccessfmtuserv[3]{%
    \glsuservaccessdisplay
    {%
      \glsfmtfield{#1}{#2}{#3}{userv}%
    }%
    {#3}%
  }
}
{
  \newcommand*\glsaccessfmtuserv[3]{%
    \glsfmtfield{#1}{#2}{#3}{userv}%
  }
}
```

`\Glsaccessuserv` Display the user5 value (no link and no check for existence) with the first letter converted to upper case.

```
\ifdef\glsuservaccessdisplay
{
  \newcommand*\Glsaccessuserv[1]{%
    \glsuservaccessdisplay
    {%
      \Glsentryuserv{#1}%
    }%
    {#1}%
  }
}
```

```

{
  \newcommand*\Glsaccessuserv}[1]{%
    \Glsentryuserv{#1}%
  }
}

```

```
\Glsaccessfmtuserv{<insert>}{<cs>}{<label>}
```

\Glsaccessfmtuserv

```

\ifdef\glsuservaccessdisplay
{
  \newcommand*\Glsaccessfmtuserv}[3]{%
    \glsuservaccessdisplay
    {%
      \Glsfmtfield{#1}{#2}{#3}{userv}%
    }%
    {#3}%
  }
}
{
  \newcommand*\Glsaccessfmtuserv}[3]{%
    \Glsfmtfield{#1}{#2}{#3}{userv}%
  }
}

```

\GLSaccessuserv Display the user5 value (no link and no check for existence) converted to upper case.

```

\ifdef\glsuservaccessdisplay
{
  \newcommand*\GLSaccessuserv}[1]{%
    \glsuservaccessdisplay
    {%
      \glsuppercase{\glsentryuserv{#1}}%
    }%
    {#1}%
  }
}
{
  \newcommand*\GLSaccessuserv}[1]{%
    \glsuppercase{\glsentryuserv{#1}}%
  }
}

```

```
\GLSaccessfmtuserv{<insert>}{<cs>}{<label>}
```

\GLSaccessfmtuserv

```

\ifdef\glsuservaccessdisplay
{
  \newcommand*\GLSaccessfmtuserv}[3]{%
    \glsuservaccessdisplay
    {%
      \GLSfmtfield{#1}{#2}{#3}{userv}%
    }%
    {#3}%
  }
}
{
  \newcommand*\GLSaccessfmtuserv}[3]{%
    \GLSfmtfield{#1}{#2}{#3}{userv}%
  }
}

```

USER6

`\glsaccessuservi` Display the user6 value (no link and no check for existence).

```

\ifdef\glsuserviaccessdisplay
{
  \newcommand*\glsaccessuservi}[1]{%
    \glsuserviaccessdisplay
    {%
      \glsentryuservi{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\glsaccessuservi}[1]{%
    \glsentryuservi{#1}%
  }
}

```

`\glsaccessfmtuservi`

`\glsaccessfmtuservi{<insert>}{<cs>}{<label>}`

```

\ifdef\glsuserviaccessdisplay
{
  \newcommand*\glsaccessfmtuservi}[3]{%
    \glsuserviaccessdisplay
    {%
      \glsfmtfield{#1}{#2}{#3}{uservi}%
    }%
    {#3}%
  }
}

```

```

{
  \newcommand*\glsaccessfmtuservi}[3]{%
    \glsfmtfield{#1}{#2}{#3}{uservi}%
  }
}

```

`\Glsaccessuservi` Display the user6 value (no link and no check for existence) with the first letter converted to upper case.

```

\ifdef\glsuserviaccessdisplay
{
  \newcommand*\Glsaccessuservi}[1]{%
    \glsuserviaccessdisplay
    {%
      \Glsentryuservi{#1}%
    }%
    {#1}%
  }
}
{
  \newcommand*\Glsaccessuservi}[1]{%
    \Glsentryuservi{#1}%
  }
}

```

`\Glsaccessfmtuservi{<insert>}{<cs>}{<label>}`

`\Glsaccessfmtuservi`

```

\ifdef\glsuserviaccessdisplay
{
  \newcommand*\Glsaccessfmtuservi}[3]{%
    \glsuserviaccessdisplay
    {%
      \Glsfmtfield{#1}{#2}{#3}{uservi}%
    }%
    {#3}%
  }
}
{
  \newcommand*\Glsaccessfmtuservi}[3]{%
    \Glsfmtfield{#1}{#2}{#3}{uservi}%
  }
}

```

`\GLSaccessuservi` Display the user6 value (no link and no check for existence) converted to upper case.

```

\ifdef\glsuserviaccessdisplay
{
  \newcommand*\GLSaccessuservi}[1]{%

```



```

\glsuserviaccessdisplay
{%
  \glsuppercase{\glsentryuservi{#1}}%
}%
{#1}%
}
}
{
\newcommand*\GLSaccessuservi[1]{%
  \glsuppercase{\glsentryuservi{#1}}%
}
}
}

```

\GLSaccessfmtuservi{<insert>}{<cs>}{<label>}

\GLSaccessfmtuservi

```

\ifdef\glsuserviaccessdisplay
{
\newcommand*\GLSaccessfmtuservi[3]{%
  \glsuserviaccessdisplay
  {%
    \GLSfmtfield{#1}{#2}{#3}{uservi}%
  }%
  {#3}%
}
}
{
\newcommand*\GLSaccessfmtuservi[3]{%
  \GLSfmtfield{#1}{#2}{#3}{uservi}%
}
}
}

```

Keys for accessibility support while pre-parsing in \newabbreviation.

```

\define@key{glsxtrabbrv}{access}{%
  \def\@gls@nameaccess{#1}%
}
\define@key{glsxtrabbrv}{textaccess}{%
  \def\@gls@textaccess{#1}%
}
\define@key{glsxtrabbrv}{pluralaccess}{%
  \def\@gls@pluralaccess{#1}%
}
\define@key{glsxtrabbrv}{firstaccess}{%
  \def\@gls@firstaccess{#1}%
}
\define@key{glsxtrabbrv}{firstpluralaccess}{%

```

```

\def\@gls@firstpluralaccess{#1}%
}
\define@key{glsxtrabbrv}{shortaccess}{%
\def\@gls@shortaccess{#1}%
}
\define@key{glsxtrabbrv}{shortpluralaccess}{%
\def\@gls@shortaccesspl{#1}%
}
\define@key{glsxtrabbrv}{longaccess}{%
\def\@gls@longaccess{#1}%
}
\define@key{glsxtrabbrv}{longpluralaccess}{%
\def\@gls@longaccesspl{#1}%
}

```

\@gls@initaccesskeys

```

\newcommand*\@gls@initaccesskeys{%
\def\@gls@nameaccess{}%
\def\@gls@textaccess{}%
\def\@gls@pluralaccess{}%
\def\@gls@firstaccess{}%
\def\@gls@firstpluralaccess{}%
\def\@gls@shortaccess{}%
\def\@gls@shortaccesspl{}%
\def\@gls@longaccess{}%
\def\@gls@longaccesspl{}%
}

```

\gls@ifaccessattribute@set{<attribute>}{<true>}{<false>}

\@gls@ifaccessattribute@set

```

\newcommand*\@gls@ifaccessattribute@set[3]{%
\glsifcategoryattribute{\glscategorylabel}{access#1}{true}%
{#2}%
{%
\glsifcategoryattribute{\glscategorylabel}{access#1}{false}%
{#3}%
{%
\glsifcategoryattribute{\glscategorylabel}{#1}{true}%
{#2}%
{#3}%
}%
}%
}

```

As from `glossaries` v4.45, the replacement text support has been corrected so that the accessibility support for abbreviations use the “E” (expanded value) element. This should actually contain the long form since it’s supposed to explain the abbreviation. This is a bit redundant on first use for styles like `long-short`.

```
\glsdefaultshortaccess{<long>}{<short>}
```

`\glsdefaultshortaccess`

This command was only introduced to `glossaries-accsupp` 4.45 so it may not be defined. This was defined to do #1 (#2) but the original definition is more appropriate, so has been reverted back to the definition provided by `glossaries-accsupp`.

```
\providecommand*{\glsdefaultshortaccess}[2]{#1}
```

`\glstrassignactualsetup`

```
\newcommand{\glstrassignactualsetup}{%
  \let\@empty
  \let\emph\@firstofone
  \let\textbf\@firstofone
  \let\textmd\@firstofone
  \let\textit\@firstofone
  \let\textsl\@firstofone
  \let\textsc\@firstofone
  \let\textrm\@firstofone
  \let\textsf\@firstofone
  \let\texttt\@firstofone
  \let\glstextup\@firstofone
}
```

`\@gls@assign@actual`

```
\newcommand{\@gls@assign@actual}{%
  \begingroup
  \glstrassignactualsetup
  \protected@edef\@gls@tmp{\endgroup
    \def\noexpand\@gls@actualshort{\glstrorgshort}%
    \def\noexpand\@gls@actuallong{\glstrorglong}%
    \def\noexpand\@gls@actualshortpl{\@gls@shortpl}%
    \def\noexpand\@gls@actuallongpl{\@gls@longpl}%
  }%
  \@gls@tmp
}
```

`@setup@default@short@access` Renamed `\@gls@setup@default@access` and removed argument since it can be obtained from `\glstrorgshort`.

`\@gls@setup@default@access` Assign the default value of the `shortaccess` key. The argument is the short value passed to `\newabbreviation`. The `shortaccess` value should explain the abbreviation.

```

\newcommand{\@gls@setup@default@access}{%
\@gls@assign@actual
\ifdefempty\@gls@shortaccess
{%

```

Check if the `accessinsertdots` attribute has been set but only if `shortaccess` hasn't been set.

```

\@gls@ifaccessattribute@set{insertdots}%
{%
\expandafter\@glsxtr@insertdots\expandafter\@gls@actualshort\expandafter
{\@gls@actualshort}%
}%
{}%
\ifdefempty\@gls@longaccess
{%

\protected@edef\@gls@shortaccess{\glsdefaultshortaccess
{\expandonce\@gls@actuallong}{\expandonce\@gls@actualshort}}%
}%
{%
\protected@edef\@gls@shortaccess{\glsdefaultshortaccess
{\expandonce\@gls@longaccess}{\expandonce\@gls@actualshort}}%
}%
\ea\pto\ExtraCustomAbbreviationFields{shortaccess={\@gls@shortaccess},}%

```

If `shortaccessplural` hasn't been set, assign plural form.

```

\ifdefempty\@gls@shortaccesspl
{%
\@gls@ifaccessattribute@set{aposplural}%
{%
\expandafter\def\expandafter\@gls@shortaccesspl\expandafter{%
\@gls@actualshort'\glsxtrabbrvpluralsuffix}%
}%
{}%
\@gls@ifaccessattribute@set{noshortplural}%
{%
\let\@gls@shortaccesspl\@gls@shortaccess
}%
{}%
\let\@gls@shortaccesspl\@gls@actualshortpl
}%
}%
\ifdefempty\@gls@longaccesspl
{%

\protected@edef\@gls@shortaccesspl{\glsdefaultshortaccess
{\expandonce\@gls@actuallongpl}{\expandonce\@gls@actualshortpl}}%
}%
{%
\protected@edef\@gls@shortaccesspl{\glsdefaultshortaccess
{\expandonce\@gls@longaccesspl}{\expandonce\@gls@actualshort}}%

```

```

}%
\eappto\ExtraCustomAbbreviationFields{shortpluralaccess={\@gls@shortaccesspl},}%
}%
{}%
}%
{%
\ifdefempty\@gls@shortaccesspl
{\let\@gls@shortaccesspl\@gls@shortaccess}%
{}%
}%

```

If access key hasn't been set, check if the nameshortaccess attribute has been set.

```

\ifdefempty\@gls@nameaccess
{%
\glsifcategoryattribute{\gls@categorylabel}{nameshortaccess}{true}%
{%
\eappto\ExtraCustomAbbreviationFields{access={\@gls@shortaccess},}%
}%
{}%
}%
{}%

```

If textaccess key hasn't been set, check if the textshortaccess attribute has been set.

```

\ifdefempty\@gls@textaccess
{%
\glsifcategoryattribute{\gls@categorylabel}{textshortaccess}{true}%
{%
\eappto\ExtraCustomAbbreviationFields{textaccess={\@gls@shortaccess},}%
}%
{}%
}%
{}%
\ifdefempty\@gls@pluralaccess
{%
\glsifcategoryattribute{\gls@categorylabel}{textshortaccess}{true}%
{%
\eappto\ExtraCustomAbbreviationFields{%
pluralaccess={\@gls@shortaccesspl},%
}%
}%
{}%
}%
{}%

```

If firstaccess key hasn't been set, check if the firstshortaccess attribute has been set.

```

\ifdefempty\@gls@firstaccess
{%
\glsifcategoryattribute{\gls@categorylabel}{firstshortaccess}{true}%

```

```

    {%
      \eappto\ExtraCustomAbbreviationFields{firstaccess={\@gls@shortaccess},}%
    }%
    {}%
  }%
  {}%
  \ifdefempty\@gls@firstpluralaccess
  {%
    \glsifcategoryattribute{\gls@categorylabel}{firstshortaccess}{true}%
    {%
      \eappto\ExtraCustomAbbreviationFields{%
        firstpluralaccess={\@gls@shortaccesspl},%
      }%
    }%
    {}%
  }%
  {}%
}

```

Provide hooks for `\setabbreviationstyle` that automatically set the attributes appropriate for the style. If the name is just the short form and the description contains the long form, then it may not be necessary to set `nameshortaccess` but it would depend on the glossary style.

Need to provide `\glsxtr<category>\<field>accsupp` if not already defined.

`\glsxtrprovideaccsuppcmd`

```

\newcommand*\glsxtrprovideaccsuppcmd[2]{%
  \ifcsundef{glsxtr#1#2accsupp}%
  {\csdef{glsxtr#1#2accsupp}{\glsshortaccsupp}}%
  {}%
}

```

`\glsxtrAccSuppAbbrSetNoLongAttrs` For styles where the name, first and text are just the abbreviation.

```

\newcommand*\glsxtrAccSuppAbbrSetNoLongAttrs[1]{%
  \glssetcategoryattribute{#1}{nameshortaccess}{true}%
  \glssetcategoryattribute{#1}{firstshortaccess}{true}%
  \glssetcategoryattribute{#1}{textshortaccess}{true}%
  \glsxtrprovideaccsuppcmd{#1}{name}%
  \glsxtrprovideaccsuppcmd{#1}{first}%
  \glsxtrprovideaccsuppcmd{#1}{firstpl}%
  \glsxtrprovideaccsuppcmd{#1}{text}%
  \glsxtrprovideaccsuppcmd{#1}{plural}%
}

```

`\glsxtrAccSuppAbbrSetFirstLongAttrs` For styles where the name and text are just the abbreviation. The first form may just be long or may be short and long.

```

\newcommand*\glsxtrAccSuppAbbrSetFirstLongAttrs[1]{%
  \glssetcategoryattribute{#1}{nameshortaccess}{true}%
  \glssetcategoryattribute{#1}{textshortaccess}{true}%
}

```

```

\glxtrprovideaccsuppcmd{#1}{name}%
\glxtrprovideaccsuppcmd{#1}{text}%
\glxtrprovideaccsuppcmd{#1}{plural}%
}

```

`\accSuppAbbrSetTextShortAttrs` For styles where only the text is just the abbreviation. The name and first form may just be long or may be short and long. The name may also be short but followed by the long form in the description.

```

\newcommand*{\glxtrAccSuppAbbrSetTextShortAttrs}[1]{%
\glssetcategoryattribute{#1}{textshortaccess}{true}%
\glxtrprovideaccsuppcmd{#1}{text}%
\glxtrprovideaccsuppcmd{#1}{plural}%
}

```

`\accSuppAbbrSetNameShortAttrs` For styles where only the name is just the abbreviation. The first and subsequent form may just be long or may be short and long.

```

\newcommand*{\glxtrAccSuppAbbrSetNameShortAttrs}[1]{%
\glssetcategoryattribute{#1}{nameshortaccess}{true}%
\glxtrprovideaccsuppcmd{#1}{name}%
}

```

`\accSuppAbbrSetNameLongAttrs` For styles where the first and text are just the abbreviation. The name may just be long or may be short and long or the name may be short.

```

\newcommand*{\glxtrAccSuppAbbrSetNameLongAttrs}[1]{%
\glssetcategoryattribute{#1}{firstshortaccess}{true}%
\glssetcategoryattribute{#1}{textshortaccess}{true}%
\glxtrprovideaccsuppcmd{#1}{first}%
\glxtrprovideaccsuppcmd{#1}{firstpl}%
\glxtrprovideaccsuppcmd{#1}{text}%
\glxtrprovideaccsuppcmd{#1}{plural}%
}

```

End of if accsupp part

```

}
{

```

No accessibility support. Just define these commands to do `\glentry<xxx>`

`\glsaccessname` Display the name value (no link and no check for existence).

```

\newcommand*{\glsaccessname}[1]{\glentryname{#1}}

```

`\glsaccessfmtname`

```

\glsaccessfmtname{<insert>}{<cs>}{<label>}

```

```

\newcommand*{\glsaccessfmtname}[3]{%
\glsfmtfield{#1}{#2}{#3}{name}%
}

```

`\Glsaccessname` Display the name value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessname}[1]{\Glsentryname{#1}}
```

```
\Glsaccessfmtname{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtname`

```
\newcommand*\Glsaccessfmtname}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{name}%  
}
```

`\GLSaccessname` Display the name value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessname}[1]{%  
  \protect\glsuppercase{\Glsentryname{#1}}}
```

```
\GLSaccessfmtname{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtname`

```
\newcommand*\GLSaccessfmtname}[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{name}%  
}
```

`\glsaccessstext` Display the text value (no link and no check for existence).

```
\newcommand*\glsaccessstext}[1]{\Glsentrytext{#1}}
```

```
\glsaccessfmtttext{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtttext`

```
\newcommand*\glsaccessfmtttext}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{text}%  
}
```

`\Glsaccessstext` Display the text value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessstext}[1]{\Glsentrytext{#1}}
```

```
\Glsaccessfmtttext{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtttext`

```
\newcommand*\Glsaccessfmtttext}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{text}%  
}
```



`\GLSaccessstext` Display the text value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessstext[1]{%
\protect\glsupercase{\glsentrytext{#1}}}
```

`\GLSaccessfmttext`

```
\GLSaccessfmttext{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmttext[3]{%
\GLSfmtfield{#1}{#2}{#3}{text}%
}
```

`\glsaccessplural` Display the plural value (no link and no check for existence).

```
\newcommand*\glsaccessplural[1]{\glsentryplural{#1}}
```

`\glsaccessfmtplural`

```
\glsaccessfmtplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtplural[3]{%
\glsfmtfield{#1}{#2}{#3}{plural}%
}
```

`\Glsaccessplural` Display the plural value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessplural[1]{\Glsentryplural{#1}}
```

`\Glsaccessfmtplural`

```
\Glsaccessfmtplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtplural[3]{%
\Glsfmtfield{#1}{#2}{#3}{plural}%
}
```

`\GLSaccessplural` Display the plural value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessplural[1]{%
\protect\glsupercase{\glsentryplural{#1}}}
```

`\GLSaccessfmtplural`

```
\GLSaccessfmtplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtplural[3]{%
\GLSfmtfield{#1}{#2}{#3}{plural}%
}
```

`\glsaccessfirst` Display the first value (no link and no check for existence).  
`\newcommand*\glsaccessfirst}[1]{\glsentryfirst{#1}}`

`\glsaccessfmtfirst`

```
\glsaccessfmtfirst{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtfirst}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{first}%  
}
```

`\Glsaccessfirst` Display the first value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessfirst}[1]{\Glsentryfirst{#1}}
```

`\Glsaccessfmtfirst`

```
\Glsaccessfmtfirst{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtfirst}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{first}%  
}
```

`\GLSaccessfirst` Display the first value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessfirst}[1]{%  
  \protect\glsuppercase{\glsentryfirst{#1}}}
```

`\GLSaccessfmtfirst`

```
\GLSaccessfmtfirst{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtfirst}[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{first}%  
}
```

`\glsaccessfirstplural` Display the firstplural value (no link and no check for existence).

```
\newcommand*\glsaccessfirstplural}[1]{\glsentryfirstplural{#1}}
```

`\glsaccessfmtfirstplural`

```
\glsaccessfmtfirstplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtfirstplural}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{firstpl}%  
}
```

`\Glsaccessfirstplural` Display the firstplural value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessfirstplural[1]{\Glsentryfirstplural{#1}}
```

```
\Glsaccessfntfirstplural{<insert>}{<cs>}{<label>}
```

`\Glsaccessfntfirstplural`

```
\newcommand*\Glsaccessfntfirstplural[3]{%  
  \Glsfntfield{#1}{#2}{#3}{firstpl}%  
}
```

`\GLSaccessfirstplural` Display the firstplural value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessfirstplural[1]{%  
  \protect\glsuppercase{\glsentryfirstplural{#1}}}
```

```
\GLSaccessfntfirstplural{<insert>}{<cs>}{<label>}
```

`\GLSaccessfntfirstplural`

```
\newcommand*\GLSaccessfntfirstplural[3]{%  
  \GLSfntfield{#1}{#2}{#3}{firstpl}%  
}
```

`\glsaccesssymbol` Display the symbol value (no link and no check for existence).

```
\newcommand*\glsaccesssymbol[1]{\glsentrysymbol{#1}}
```

```
\glsaccessfntsymbol{<insert>}{<cs>}{<label>}
```

`\glsaccessfntsymbol`

```
\newcommand*\glsaccessfntsymbol[3]{%  
  \glsfntfield{#1}{#2}{#3}{symbol}%  
}
```

`\Glsaccesssymbol` Display the symbol value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccesssymbol[1]{\Glsentrysymbol{#1}}
```

```
\Glsaccessfntsymbol{<insert>}{<cs>}{<label>}
```

`\Glsaccessfntsymbol`

```
\newcommand*\Glsaccessfntsymbol[3]{%  
  \Glsfntfield{#1}{#2}{#3}{symbol}%  
}
```

`\GLSaccesssymbol` Display the symbol value (no link and no check for existence). converted to upper case.

```
\newcommand*{\GLSaccesssymbol}[1]{%
\protect\glsuppercase{\glsentrysymbol{#1}}}
```

```
\GLSaccessfmsymbol{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmsymbol`

```
\newcommand*{\GLSaccessfmsymbol}[3]{%
\GLSfmtfield{#1}{#2}{#3}{symbol}%
}
```

`\glsaccesssymbolplural` Display the symbolplural value (no link and no check for existence).

```
\newcommand*{\glsaccesssymbolplural}[1]{\glsentrysymbolplural{#1}}
```

```
\glsaccessfmsymbolplural{<insert>}{<cs>}{<label>}
```

`\glsaccessfmsymbolplural`

```
\newcommand*{\glsaccessfmsymbolplural}[3]{%
\glsfmtfield{#1}{#2}{#3}{symbolplural}%
}
```

`\Glsaccesssymbolplural` Display the symbolplural value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*{\Glsaccesssymbolplural}[1]{\Glsentrysymbolplural{#1}}
```

```
\Glsaccessfmsymbolplural{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmsymbolplural`

```
\newcommand*{\Glsaccessfmsymbolplural}[3]{%
\Glsfmtfield{#1}{#2}{#3}{symbolplural}%
}
```

`\GLSaccesssymbolplural` Display the symbolplural value (no link and no check for existence). converted to upper case.

```
\newcommand*{\GLSaccesssymbolplural}[1]{%
\protect\glsuppercase{\glsentrysymbolplural{#1}}}
```

```
\GLSaccessfmsymbolplural{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmsymbolplural`

```
\newcommand*{\GLSaccessfmsymbolplural}[3]{%
\GLSfmtfield{#1}{#2}{#3}{symbolplural}%
}
```

`\glsaccessdesc` Display the desc value (no link and no check for existence).

```
\newcommand*\glsaccessdesc[1]{\glsentrydesc{#1}}
```

`\glsaccessfmtdesc`

```
\glsaccessfmtdesc{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtdesc[3]{%  
  \glsfmtfield{#1}{#2}{#3}{desc}%  
}
```

`\Glsaccessdesc` Display the desc value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessdesc[1]{\Glsentrydesc{#1}}
```

`\Glsaccessfmtdesc`

```
\Glsaccessfmtdesc{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtdesc[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{desc}%  
}
```

`\GLSaccessdesc` Display the desc value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessdesc[1]{%  
  \protect\glsuppercase{\glsentrydesc{#1}}}
```

`\GLSaccessfmtdesc`

```
\GLSaccessfmtdesc{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtdesc[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{desc}%  
}
```

`\glsaccessdescplural` Display the descplural value (no link and no check for existence).

```
\newcommand*\glsaccessdescplural[1]{\glsentrydescplural{#1}}
```

`\glsaccessfmtdescplural`

```
\glsaccessfmtdescplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtdescplural[3]{%  
  \glsfmtfield{#1}{#2}{#3}{descplural}%  
}
```

`\Glsaccessdescplural` Display the descplural value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessdescplural}[1]{\Glsentrydescplural{#1}}
```

`\Glsaccessfmtdescplural`

```
\Glsaccessfmtdescplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtdescplural}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{descplural}%  
}
```

`\GLSaccessdescplural` Display the descplural value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessdescplural}[1]{%  
  \protect\glsuppercase{\glsentrydescplural{#1}}}
```

`\GLSaccessfmtdescplural`

```
\GLSaccessfmtdescplural{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtdescplural}[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{descplural}%  
}
```

`\glsaccessshort` Display the short form (no link and no check for existence).

```
\newcommand*\glsaccessshort}[1]{\glsentryshort{#1}}
```

`\glsaccessfmtshort`

```
\glsaccessfmtshort{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtshort}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{short}%  
}
```

`\Glsaccessshort` Display the short form with first letter converted to uppercase (no link and no check for existence).

```
\newcommand*\Glsaccessshort}[1]{\Glsentryshort{#1}}
```

`\Glsaccessfmtshort`

```
\Glsaccessfmtshort{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtshort}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{short}%  
}
```

`\GLSaccessshort` Display the short value (no link and no check for existence). converted to upper case.

```
\newcommand*{\GLSaccessshort}[1]{%
\protect\glsupercase{\glsentryshort{#1}}}
```

```
\GLSaccessfmtshort{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtshort`

```
\newcommand*{\GLSaccessfmtshort}[3]{%
\GLSfmtfield{#1}{#2}{#3}{short}%
}
```

`\glsaccessshortpl` Display the short plural form (no link and no check for existence).

```
\newcommand*{\glsaccessshortpl}[1]{\glsentryshortpl{#1}}
```

```
\glsaccessfmtshortpl{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtshortpl`

```
\newcommand*{\glsaccessfmtshortpl}[3]{%
\glsfmtfield{#1}{#2}{#3}{shortpl}%
}
```

`\Glsaccessshortpl` Display the short plural form with first letter converted to uppercase (no link and no check for existence).

```
\newcommand*{\Glsaccessshortpl}[1]{\Glsentryshortpl{#1}}
```

```
\Glsaccessfmtshortpl{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtshortpl`

```
\newcommand*{\Glsaccessfmtshortpl}[3]{%
\Glsfmtfield{#1}{#2}{#3}{shortpl}%
}
```

`\GLSAccessshortpl` Display the shortplural value (no link and no check for existence). converted to upper case.

```
\newcommand*{\GLSAccessshortpl}[1]{%
\protect\glsupercase{\glsentryshortpl{#1}}}
```

```
\GLSAccessfmtshortpl{<insert>}{<cs>}{<label>}
```

`\GLSAccessfmtshortpl`

```
\newcommand*{\GLSAccessfmtshortpl}[3]{%
\GLSfmtfield{#1}{#2}{#3}{shortpl}%
}
```

`\glsaccesslong` Display the long form (no link and no check for existence).

```
\newcommand*\glsaccesslong[1]{\glsentrylong{#1}}
```

`\glsaccessfmtlong`

```
\glsaccessfmtlong{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtlong[3]{%  
  \glsfmtfield{#1}{#2}{#3}{long}%  
}
```

`\Glsaccesslong` Display the long form (no link and no check for existence).

```
\newcommand*\Glsaccesslong[1]{\Glsentrylong{#1}}
```

`\Glsaccessfmtlong`

```
\Glsaccessfmtlong{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtlong[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{long}%  
}
```

`\GLSaccesslong` Display the long value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccesslong[1]{%  
  \protect\glsuppercase{\glsentrylong{#1}}}
```

`\GLSaccessfmtlong`

```
\GLSaccessfmtlong{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtlong[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{long}%  
}
```

`\glsaccesslongpl` Display the long plural form (no link and no check for existence).

```
\newcommand*\glsaccesslongpl[1]{\glsentrylongpl{#1}}
```

`\glsaccessfmtlongpl`

```
\glsaccessfmtlongpl{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtlongpl[3]{%  
  \glsfmtfield{#1}{#2}{#3}{longpl}%  
}
```



`\Glsaccesslongpl` Display the long plural form (no link and no check for existence).

```
\newcommand*\Glsaccesslongpl[1]{\Glsentrylongpl{#1}}
```

```
\Glsaccessfmtlongpl{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtlongpl`

```
\newcommand*\Glsaccessfmtlongpl[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{longpl}%  
}
```

`\GLSaccesslongpl` Display the longplural value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccesslongpl[1]{%  
  \protect\glsuppercase{\glsentrylongpl{#1}}}
```

```
\GLSaccessfmtlongpl{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtlongpl`

```
\newcommand*\GLSaccessfmtlongpl[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{longpl}%  
}
```

USER1

`\glsaccessuseri` Display the user1 value (no link and no check for existence).

```
\newcommand*\glsaccessuseri[1]{\glsentryuseri{#1}}
```

```
\glsaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtuseri`

```
\newcommand*\glsaccessfmtuseri[3]{%  
  \glsfmtfield{#1}{#2}{#3}{useri}%  
}
```

`\Glsaccessuseri` Display the user1 value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessuseri[1]{\Glsentryuseri{#1}}
```

```
\Glsaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtuseri`

```
\newcommand*\Glsaccessfmtuseri[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{useri}%  
}
```

`\GLSaccessuseri` Display the user1 value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessuseri[1]{%
\protect\glsuppercase{\glsentryuseri{#1}}}
```

```
\GLSaccessfmtuseri{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtuseri`

```
\newcommand*\GLSaccessfmtuseri[3]{%
\GLSfmtfield{#1}{#2}{#3}{useri}%
}
```

USER2

`\glsaccessuserii` Display the user2 value (no link and no check for existence).

```
\newcommand*\glsaccessuserii[1]{\glsentryuserii{#1}}
```

```
\glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

`\glsaccessfmtuserii`

```
\newcommand*\glsaccessfmtuserii[3]{%
\glsfmtfield{#1}{#2}{#3}{userii}%
}
```

`\Glsaccessuserii` Display the user2 value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessuserii[1]{\Glsentryuserii{#1}}
```

```
\Glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

`\Glsaccessfmtuserii`

```
\newcommand*\Glsaccessfmtuserii[3]{%
\Glsfmtfield{#1}{#2}{#3}{userii}%
}
```

`\GLSaccessuserii` Display the user2 value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessuserii[1]{%
\protect\glsuppercase{\glsentryuserii{#1}}}
```

```
\GLSaccessfmtuserii{<insert>}{<cs>}{<label>}
```

`\GLSaccessfmtuserii`

```
\newcommand*\GLSaccessfmtuserii}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{userii}%
}
```

USER3

`\glsaccessuserii` Display the user3 value (no link and no check for existence).

```
\newcommand*\glsaccessuserii}[1]{\glsentryuserii{#1}}
```

`\glsaccessfmtuserii`

```
\glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtuseriii}[3]{%
  \glsfmtfield{#1}{#2}{#3}{useriii}%
}
```

`\Glsaccessuserii` Display the user3 value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessuserii}[1]{\Glsentryuserii{#1}}
```

`\Glsaccessfmtuserii`

```
\Glsaccessfmtuserii{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtuseriii}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{useriii}%
}
```

`\GLSaccessuserii` Display the user3 value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessuserii}[1]{%
  \protect\glsuppercase{\glsentryuserii{#1}}
```

`\GLSaccessfmtuserii`

```
\GLSaccessfmtuserii{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtuseriii}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{useriii}%
}
```

USER4

`\glsaccessuseriv` Display the user4 value (no link and no check for existence).

```
\newcommand*\glsaccessuseriv}[1]{\glsentryuseriv{#1}}
```

`\glsaccessfmtuseriv`

```
\glsaccessfmtuseriv{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\glsaccessfmtuseriv}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{useriv}%  
}
```

`\Glsaccessuseriv` Display the user4 value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*{\Glsaccessuseriv}[1]{\Glsentryuseriv{#1}}
```

`\Glsaccessfmtuseriv`

```
\Glsaccessfmtuseriv{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\Glsaccessfmtuseriv}[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{useriv}%  
}
```

`\GLSaccessuseriv` Display the user4 value (no link and no check for existence). converted to upper case.

```
\newcommand*{\GLSaccessuseriv}[1]{%  
  \protect\glsuppercase{\glsentryuseriv{#1}}}
```

`\GLSaccessfmtuseriv`

```
\GLSaccessfmtuseriv{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\GLSaccessfmtuseriv}[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{useriv}%  
}
```

USER5

`\glsaccessuserv` Display the user5 value (no link and no check for existence).

```
\newcommand*{\glsaccessuserv}[1]{\glsentryuserv{#1}}
```

`\glsaccessfmtuserv`

```
\glsaccessfmtuserv{<insert>}{<cs>}{<label>}
```

```
\newcommand*{\glsaccessfmtuserv}[3]{%  
  \glsfmtfield{#1}{#2}{#3}{userv}%  
}
```

`\Glsaccessuserv` Display the `user5` value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessuserv[1]{\Glsentryuserv{#1}}
```

`\Glsaccessfmtuserv`

```
\Glsaccessfmtuserv{<insert>}{<cs>}{<label>}
```

```
\newcommand*\Glsaccessfmtuserv[3]{%  
  \Glsfmtfield{#1}{#2}{#3}{userv}%  
}
```

`\GLSaccessuserv` Display the `user5` value (no link and no check for existence). converted to upper case.

```
\newcommand*\GLSaccessuserv[1]{%  
  \protect\glsuppercase{\glsentryuserv{#1}}}
```

`\GLSaccessfmtuserv`

```
\GLSaccessfmtuserv{<insert>}{<cs>}{<label>}
```

```
\newcommand*\GLSaccessfmtuserv[3]{%  
  \GLSfmtfield{#1}{#2}{#3}{userv}%  
}
```

USER6

`\glsaccessuservi` Display the `user6` value (no link and no check for existence).

```
\newcommand*\glsaccessuservi[1]{\glsentryuservi{#1}}
```

`\glsaccessfmtuservi`

```
\glsaccessfmtuservi{<insert>}{<cs>}{<label>}
```

```
\newcommand*\glsaccessfmtuservi[3]{%  
  \glsfmtfield{#1}{#2}{#3}{uservi}%  
}
```

`\Glsaccessuservi` Display the `user6` value (no link and no check for existence) with the first letter converted to upper case.

```
\newcommand*\Glsaccessuservi[1]{\Glsentryuservi{#1}}
```

`\Glsaccessfmtuservi`

```
\Glsaccessfmtuservi{<insert>}{<cs>}{<label>}
```

```

\newcommand*\GLSaccessfmtuservi}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{uservi}%
}

```

`\GLSaccessuservi` Display the user6 value (no link and no check for existence). converted to upper case.

```

\newcommand*\GLSaccessuservi}[1]{%
  \protect\glsuppercase{\glsentryuservi{#1}}
}

```

```

\GLSaccessfmtuservi{<insert>}{<cs>}{<label>}

```

`\GLSaccessfmtuservi`

```

\newcommand*\GLSaccessfmtuservi}[3]{%
  \GLSfmtfield{#1}{#2}{#3}{uservi}%
}

```

`\@gls@initaccesskeys` This does nothing if there's no accessibility support.

```

\newcommand*\@gls@initaccesskeys}{
}

```

`\@gls@setup@default@access` This does nothing if there's no accessibility support.

```

\newcommand*\@gls@setup@default@access}{
}

```

`\trAccSuppAbbrSetNoLongAttrs` This does nothing if there's no accessibility support.

```

\newcommand*\glsxtrAccSuppAbbrSetNoLongAttrs}[1]{
}

```

`\ccSuppAbbrSetFirstLongAttrs` This does nothing if there's no accessibility support.

```

\newcommand*\glsxtrAccSuppAbbrSetFirstLongAttrs}[1]{
}

```

`\ccSuppAbbrSetTextShortAttrs` This does nothing if there's no accessibility support.

```

\newcommand*\glsxtrAccSuppAbbrSetTextShortAttrs}[1]{
}

```

`\ccSuppAbbrSetNameShortAttrs` This does nothing if there's no accessibility support.

```

\newcommand*\glsxtrAccSuppAbbrSetNameShortAttrs}[1]{
}

```

`\ccSuppAbbrSetNameLongAttrs` This does nothing if there's no accessibility support.

```

\newcommand*\glsxtrAccSuppAbbrSetNameLongAttrs}[1]{
}

```

End of else part

```

}

```

Identify sentence-case mappings:

```

\glsmfuaddmap{\glsaccessname}{\Glsaccessname}
\glsmfuaddmap{\glsaccessfmtname}{\Glsaccessfmtname}
\glsmfublocker{\GLSaccessname}
\glsmfublocker{\GLSaccessfmtname}
\glsmfuaddmap{\glsaccessstext}{\Glsaccessstext}
\glsmfuaddmap{\glsaccessfmttext}{\Glsaccessfmttext}

```

```

\glsmfublocker{\GLSaccesstext}
\glsmfublocker{\GLSaccessfmttext}
\glsmfuaddmap{\glsaccessplural}{\Glsaccessplural}
\glsmfuaddmap{\glsaccessfmtplural}{\Glsaccessfmtplural}
\glsmfublocker{\GLSaccessplural}
\glsmfublocker{\GLSaccessfmtplural}
\glsmfuaddmap{\glsaccessfirst}{\Glsaccessfirst}
\glsmfuaddmap{\glsaccessfmtfirst}{\Glsaccessfmtfirst}
\glsmfublocker{\GLSaccessfirst}
\glsmfublocker{\GLSaccessfmtfirst}
\glsmfuaddmap{\glsaccessfirstplural}{\Glsaccessfirstplural}
\glsmfuaddmap{\glsaccessfmtfirstplural}{\Glsaccessfmtfirstplural}
\glsmfublocker{\GLSaccessfirstplural}
\glsmfublocker{\GLSaccessfmtfirstplural}
\glsmfuaddmap{\glsaccesssymbol}{\Glsaccesssymbol}
\glsmfuaddmap{\glsaccessfmtsymbol}{\Glsaccessfmtsymbol}
\glsmfublocker{\GLSaccesssymbol}
\glsmfublocker{\GLSaccessfmtsymbol}
\glsmfuaddmap{\glsaccesssymbolplural}{\Glsaccesssymbolplural}
\glsmfuaddmap{\glsaccessfmtsymbolplural}{\Glsaccessfmtsymbolplural}
\glsmfublocker{\GLSaccesssymbolplural}
\glsmfublocker{\GLSaccessfmtsymbolplural}
\glsmfuaddmap{\glsaccessdesc}{\Glsaccessdesc}
\glsmfuaddmap{\glsaccessfmtdesc}{\Glsaccessfmtdesc}
\glsmfublocker{\GLSaccessdesc}
\glsmfublocker{\GLSaccessfmtdesc}
\glsmfuaddmap{\glsaccessdescplural}{\Glsaccessdescplural}
\glsmfuaddmap{\glsaccessfmtdescplural}{\Glsaccessfmtdescplural}
\glsmfublocker{\GLSaccessdescplural}
\glsmfublocker{\GLSaccessfmtdescplural}
\glsmfuaddmap{\glsaccessshort}{\Glsaccessshort}
\glsmfuaddmap{\glsaccessfmtshort}{\Glsaccessfmtshort}
\glsmfublocker{\GLSaccessshort}
\glsmfublocker{\GLSaccessfmtshort}
\glsmfuaddmap{\glsaccessshortpl}{\Glsaccessshortpl}
\glsmfuaddmap{\glsaccessfmtshortpl}{\Glsaccessfmtshortpl}
\glsmfublocker{\GLSaccessshortpl}
\glsmfublocker{\GLSaccessfmtshortpl}
\glsmfuaddmap{\glsaccesslong}{\Glsaccesslong}
\glsmfuaddmap{\glsaccessfmtlong}{\Glsaccessfmtlong}
\glsmfublocker{\GLSaccesslong}
\glsmfublocker{\GLSaccessfmtlong}
\glsmfuaddmap{\glsaccesslongpl}{\Glsaccesslongpl}
\glsmfuaddmap{\glsaccessfmtlongpl}{\Glsaccessfmtlongpl}
\glsmfublocker{\GLSaccesslongpl}
\glsmfublocker{\GLSaccessfmtlongpl}
\glsmfuaddmap{\glsaccessuseri}{\Glsaccessuseri}
\glsmfuaddmap{\glsaccessfmtuseri}{\Glsaccessfmtuseri}
\glsmfublocker{\GLSaccessuseri}
\glsmfublocker{\GLSaccessfmtuseri}

```

```

\glsmfuaddmap{\glsaccessuserii}{\Glsaccessuserii}
\glsmfuaddmap{\glsaccessfmtuserii}{\Glsaccessfmtuserii}
\glsmfublocker{\GLSaccessuserii}
\glsmfublocker{\GLSaccessfmtuserii}
\glsmfuaddmap{\glsaccessuseriii}{\Glsaccessuseriii}
\glsmfuaddmap{\glsaccessfmtuseriii}{\Glsaccessfmtuseriii}
\glsmfublocker{\GLSaccessuseriii}
\glsmfublocker{\GLSaccessfmtuseriii}
\glsmfuaddmap{\glsaccessuseriv}{\Glsaccessuseriv}
\glsmfuaddmap{\glsaccessfmtuseriv}{\Glsaccessfmtuseriv}
\glsmfublocker{\GLSaccessuseriv}
\glsmfublocker{\GLSaccessfmtuseriv}
\glsmfuaddmap{\glsaccessuserv}{\Glsaccessuserv}
\glsmfuaddmap{\glsaccessfmtuserv}{\Glsaccessfmtuserv}
\glsmfublocker{\GLSaccessuserv}
\glsmfublocker{\GLSaccessfmtuserv}
\glsmfuaddmap{\glsaccessuservi}{\Glsaccessuservi}
\glsmfuaddmap{\glsaccessfmtuservi}{\Glsaccessfmtuservi}
\glsmfublocker{\GLSaccessuservi}
\glsmfublocker{\GLSaccessfmtuservi}

```

## 1.6 Categories

`\glscategory` Add a new storage key that can be used to indicate a category. The default category is `general`.

```
\glsaddstoragekey{category}{general}{\glscategory}
```

`\glsifcategory` Convenient shortcut to determine if an entry has the given category.

```

\newcommand{\glsifcategory}[4]{%
  \ifglsfieldeq{#1}{category}{#2}{#3}{#4}%
}

```

Categories can have attributes.

```

\glssetcategoryattribute{<category>}{<attribute-label>}
  {<value>}

```

`\glssetcategoryattribute`

Set (or override if already set) an attribute for the given category.

```

\newcommand*{\glssetcategoryattribute}[3]{%
  \csdef{@glsxtr@categoryattr@#1#2}{#3}%
}

```

```

\glssetcategoriesattribute{<category list>}
  {<attribute-label>}{<value>}

```

`\glssetcategoriesattribute`

Similar to above, but globally apply to each category in the list.



```

\newcommand*\glsssetcategoriesattribute}[3]{%
  \@for\@gls@thiscatlabel:=#1\do{%
    \csgdef{@glsxtr@categoryattr@#@gls@thiscatlabel @#2}{#3}%
  }%
}

```

```

\glsssetcategoriesattributes{<category list>
  {<attribute-label list>}{<value>}

```

`\glsssetcategoriesattributes`

Similar to above, but apply to each category and attribute in the list.

```

\newcommand*\glsssetcategoriesattributes}[3]{%

```

Group to avoid problems with nested `\@for`.

```

{%
  \@for\@gls@thisattrlabel:=#2\do{%
    \glsssetcategoriesattribute{#1}{\@gls@thisattrlabel}{#3}%
  }%
}%
}

```

```

\glsssetcategoryattributes{<category>}{<attribute list>
  {<value>}

```

`\glsssetcategoryattributes`

Similar to above, but globally apply to each attribute in the list to the given category.

```

\newcommand*\glsssetcategoryattributes}[3]{%
  \@for\@gls@thisattrlabel:=#2\do{%
    \csgdef{@glsxtr@categoryattr@#@#1@\@gls@thisattrlabel}{#3}%
  }%
}

```

```

\glssgetcategoryattribute{<category>}{<attribute-label>}

```

`\glssgetcategoryattribute`

Get the value of the given attribute for the given category. Does nothing if the attribute isn't defined.

```

\newcommand*\glssgetcategoryattribute}[2]{%
  \csuse{@glsxtr@categoryattr@#@#1@#2}%
}

```

```

\glssunsetcategoryattribute{<category>}{<attribute-label>}

```

`\glssunsetcategoryattribute`

Unsets the given attribute for the given category.

```

\newcommand*\glssunsetcategoryattribute}[2]{%

```

```

\csundef{@glxtr@categoryattr@#1@#2}%
}

```

```

\glshascategoryattribute{<category>}{<attribute-label>}
{<true>}{<false>}

```

`\glshascategoryattribute`

Tests if the category has the given attribute set.

```

\newcommand*{\glshascategoryattribute}[4]{%
\ifcsvoid{@glxtr@categoryattr@#1@#2}{#4}{#3}%
}

```

```

\glsssetattribute{<entry label>}{<attribute-label>}{<value>}

```

`\glsssetattribute`

Short cut where the category label is obtained from the entry information.

```

\newcommand*{\glsssetattribute}[3]{%
\glsssetcategoryattribute{\glscategory{#1}}{#2}{#3}%
}

```

```

\glsggetattribute{<entry label>}{<attribute-label>}

```

`\glsggetattribute`

Short cut where the category label is obtained from the entry information.

```

\newcommand*{\glsggetattribute}[2]{%
\glsggetcategoryattribute{\glscategory{#1}}{#2}%
}

```

```

\glshasattribute{<entry
label>}{<attribute-label>}{<true>}{<false>}

```

`\glshasattribute`

Short cut to test if the given attribute has been set where the category label is obtained from the entry information.

```

\newcommand*{\glshasattribute}[4]{%
\ifglentryexists{#1}%
{\glshascategoryattribute{\glscategory{#1}}{#2}{#3}{#4}}%
{#4}%
}

```

```

\glssifcategoryattribute{<category>}{<attribute-label>}
{<value>}{<true
part>}{<false part>}

```

`\glssifcategoryattribute`

True if category has the attribute with the given value.

```

\newcommand{\glsifcategoryattribute}[5]{%
  \ifcsundef{@glsxtr@categoryattr@#1@#2}%
  {#5}%
  {\ifcsstring{@glsxtr@categoryattr@#1@#2}{#3}{#4}{#5}}%
}

```

```

\glsifattribute{<entry label>}{<attribute-label>}{<value>}
  {<true
  part>}{<false part>}

```

`\glsifattribute`

Short cut to determine if the given entry has a category with the given attribute set.

```

\newcommand{\glsifattribute}[5]{%
  \ifglsentryexists{#1}%
  {\glsifcategoryattribute{\glscategory{#1}}{#2}{#3}{#4}{#5}}%
  {#5}%
}

```

Provide expandable test to determine if attribute is set to true.

`\@glsxtr@truevalue`

```

\newcommand*{\@glsxtr@truevalue}{true}

```

```

\glsifcategoryattributetrue{<category-label>}{<attribute>}
  {<true>}{<false>}

```

`\glsifcategoryattributetrue`

Does *<false>* if the entry hasn't been defined.

```

\newcommand*{\glsifcategoryattributetrue}[4]{%
  \ifcsequal{@glsxtr@categoryattr@#1@#2}%
  {@glsxtr@truevalue}%
  {#3}{#4}%
}

```

```

\glsifattributetrue{<label>}{<attribute>}{<true>}{<false>}

```

`\glsifattributetrue`

Does *<false>* if the entry hasn't been defined.

```

\newcommand*{\glsifattributetrue}[4]{%
  \ifcsundef{glo@\glsdetoklabel{#1}@category}%
  {#4}
  {\ifcsequal
   {\glsxtr@categoryattr@\csgname glo@\glsdetoklabel{#1}@category\endcsgname @#2}%
   {@glsxtr@truevalue}%
   {#3}{#4}%
  }%
}

```

`\glsifcategoryattributehasitem`

```
\glsifcategoryattributehasitem{<category>}
{<attribute-label>}{<item>}{<true
part>}{<false part>}
```

True if category has the attribute (whose value is a comma-separated list) contains the given item. The *<item>* is expanded.

```
\newrobustcmd{\glsifcategoryattributehasitem}[5]{%
\ifcsundef{@glstr@categoryattr@#1@#2}%
{#5}%
{%
\protected@edef\gls@tmp{%
\noexpand\DTLifinlist{#3}{\csuse{@glstr@categoryattr@#1@#2}}}%
\gls@tmp{#4}{#5}%
}%
}
```

Set attributes for the default general category:

```
\glssetcategoryattribute{general}{regular}{true}
```

Acronyms are regular by default, since they're typically just treated like normal words.

```
\glssetcategoryattribute{acronym}{regular}{true}
```

`\glssetregularcategory` Convenient shortcut to add the regular attribute.

```
\newcommand*{\glssetregularcategory}[1]{%
\glssetcategoryattribute{#1}{regular}{true}%
}
```

`\glsifregularcategory`

```
\glsifregularcategory{<category>}{<true part>}{<false part>}
```

Short cut to determine if a category has the regular attribute explicitly set to true.

```
\newcommand{\glsifregularcategory}[3]{%
\glsifcategoryattribute{#1}{regular}{true}{#2}{#3}%
}
```

`\glsifnotregularcategory`

```
\glsifnotregularcategory{<category>}{<true part>}{<false
part>}
```

Short cut to determine if a category has the regular attribute explicitly set to false.

```
\newcommand{\glsifnotregularcategory}[3]{%
\glsifcategoryattribute{#1}{regular}{false}{#2}{#3}%
}
```

`\glsifregular`

```
\glsifregular{<entry label>}{<true part>}{<false part>}
```

Short cut to determine if an entry has a regular attribute set to true.

```
\newcommand{\glsifregular}[3]{%
  \glsifregularcategory{\glscategory{#1}}{#2}{#3}%
}
```

`\glsifnotregular`

```
\glsifnotregular{<entry label>}{<true part>}{<false part>}
```

Short cut to determine if an entry has a regular attribute set to false.

```
\newcommand{\glsifnotregular}[3]{%
  \glsifnotregularcategory{\glscategory{#1}}{#2}{#3}%
}
```

`\glsforeachincategory`

```
\glsforeachincategory[<glossary
labels>]{<category-label>}{<glossary-cs>}{<label-cs>}
{<body>}
```

Iterates through all entries in all the glossaries (or just those listed in `<glossary labels>`) and does `<body>` if the category matches `<category-label>`. The control sequences `<glossary-cs>` and `<label-cs>` may be used in `<body>` to access the glossary label and entry label for the current iteration.

```
\newcommand{\glsforeachincategory}[5][\@glo@types]{%
  \forallglossaries[#1]{#3}%
  {%
    \forglsentries[#3]{#4}%
    {%
      \glsifcategory{#4}{#2}{#5}{}%
    }%
  }%
}
```

`\glsforeachwithattribute`

```
\glsforeachwithattribute[<glossary
labels>]{<attribute-label>}{<attribute-value>}
{<glossary-cs>}{<label-cs>}{<body>}
```

Iterates through all entries in all the glossaries (or just those listed in `<glossary labels>`) and does `<body>` if the category attribute `<attribute-label>` matches `<attribute-value>`. The control sequences `<glossary-cs>` and `<label-cs>` may be used in `<body>` to access the glossary label and entry label for the current iteration.

```
\newcommand{\glsforeachwithattribute}[6][\@glo@types]{%
```

```

\forallglossaries[#1]{#4}%
{%
  \forallglsentries[#4]{#5}%
  {%
    \glsifattribute{#5}{#2}{#3}{#6}{}%
  }%
}%
}

```

If `\newterm` has been defined, redefine it so that it automatically sets the category label to `index` and add `\glsxtrpostdescription`.

```

\ifdef\newterm
{%

```

```

\newterm

```

```

  \renewcommand*\newterm}[2] [] {%
    \newglossaryentry{#2}%
    {type={index},category=index,name={#2},%
     description={\glsxtrpostdescription\nopostdesc},#1}%
  }

```

Indexed terms are regular by default.

```

\glssetcategoryattribute{index}{regular}{true}

```

```

\glsxtrpostdescindex

```

```

  \newcommand*\glsxtrpostdescindex{}
}
{}

```

If the `symbols` package option was used, define a similar command for symbols, but set the default sort to the label rather than the name as the symbols will typically contain commands that will confuse `makeindex` and `xindy`.

```

\ifdef\printsymbols
{%

```

`\glsxtrnewsymbol` Unlike `\newterm`, this has a separate argument for the label (since the symbol will likely contain commands).

```

  \newcommand*\glsxtrnewsymbol}[3] [] {%
    \newglossaryentry{#2}{name={#3},sort={#2},type=symbols,category=symbol,#1}%
  }

```

Symbols are regular by default.

```

\glssetcategoryattribute{symbol}{regular}{true}

```

```

\glsxtrpostdescsymbol

```

```

  \newcommand*\glsxtrpostdescsymbol{}
}
{}

```

Similar for the numbers option.

```
\ifdef\printnumbers
{%
```

`\glsxtrnewnumber`

```
\ifdef\printnumbers
\newcommand*\glsxtrnewnumber[3][ ]{
  \newglossaryentry{#2}{name={#3},sort={#2},type=numbers,category=number,#1}%
}
```

Numbers are regular by default.

```
\glssetcategoryattribute{number}{regular}{true}
```

`\glsxtrpostdescnumber`

```
\newcommand*\glsxtrpostdescnumber{}
}
{}
```

`\glsxtrsetcategory` Set the category for all listed labels. The first argument is the list of entry labels and the second argument is the category label.

```
\newcommand*\glsxtrsetcategory[2]{
  \@for\@glsxtr@label:=#1\do
  {
    \glsfieldxdef{\@glsxtr@label}{category}{#2}%
  }%
}
```

`\glsxtrsetcategoryforall` Set the category for all entries in the listed glossaries. The first argument is the list of glossary labels and the second argument is the category label.

```
\newcommand*\glsxtrsetcategoryforall[2]{
  \forallglossaries[#1]{\@glsxtr@type}{
    \forglsentries[\@glsxtr@type]{\@glsxtr@label}%
    {
      \glsfieldxdef{\@glsxtr@label}{category}{#2}%
    }%
  }%
}
```

`\glsxtrfieldtitlecase`

```
\glsxtrfieldtitlecase{<label>}{<field>}
```

Apply title casing to the contents of the given field.

```
\newcommand*\glsxtrfieldtitlecase[2]{
  \expandafter\glsxtrfieldtitlecasecs\expandafter
  {\csname glo@glsdetoklabel{#1}@#2\endcsname}%
}
```

`\glxtrfieldtitlecasecs` The command used by `\glxtrfieldtitlecase`. May be redefined to use a different command, for example, `\xcapitalisefmtwords`. Check for `\glscapitalisewords`, which was added to glossaries v4.48.

```

\ifdef\glscapitalisewords
{
  \newcommand*\glxtrfieldtitlecasecs[1]{%
    \expandafter\glscapitalisewords\expandafter{#1}}
}
{
  \newcommand*\glxtrfieldtitlecasecs[1]{\xcapitalisewords{#1}}
}

```

Provide a convenient way to modify glossary styles without having to define a new style just to convert the first letter of fields to upper case.

`\glossentrydesc` If the `glossdesc` attribute is “firstuc” convert first letter to upper case. If the attribute is “title” use title case.

```

\@ifpackageloaded{glossaries-accsupp}
{
  \renewcommand*\glossentrydesc[1]{%
    \glsdoifexistsorwarn{#1}%
    {%
      \glssetabbrvfmt{\glscategory{#1}}%

```

As from version 1.04, allow the `glossdescfont` attribute to determine the font applied.

```

\glshasattribute{#1}{glossdescfont}%
{%
  \protected@edef\@glxtr@attrval{\glsggetattribute{#1}{glossdescfont}}%
  \ifcsdef{\@glxtr@attrval}%
  {%
    \letcs{\@glxtr@glossdescfont}{\@glxtr@attrval}%
  }%
  {%
    \GlossariesExtraWarning{Unknown control sequence name
      ‘\@glxtr@attrval’ supplied in glossdescfont attribute
      for entry ‘#1’. Ignoring}%
    \let\@glxtr@glossdescfont\@firstofone
  }%
}%
{\let\@glxtr@glossdescfont\@firstofone}%
\glsifattribute{#1}{glossdesc}{firstuc}%
{%
  \@glxtr@glossdescfont{\Glsaccessdesc{#1}}%
}%
{%
  \glsifattribute{#1}{glossdesc}{title}%
  {%
    \@glxtr@do@titlecaps@warn
    \glsdescriptionaccessdisplay

```



```

        {%
        \@glxtr@glossdescfont{\glxtrfieldtitlecase{#1}{desc}}%
        }%
        {#1}%
    }%
    {%
    \@glxtr@glossdescfont{\glsaccessdesc{#1}}%
    }%
    }%
    }%
}
}
{
\renewcommand*{\glossentrydesc}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\glssetabbrvfmt{\glscategory{#1}}%
\glsattribute{#1}{glossdescfont}%
{%
\protected@edef\@glxtr@attrval{\glsgetattribute{#1}{glossdescfont}}%
\ifcsdef{\@glxtr@attrval}%
{%
\letcs{\@glxtr@glossdescfont}{\@glxtr@attrval}%
}%
{%
\GlossariesExtraWarning{Unknown control sequence name
'\@glxtr@attrval' supplied in glossdescfont attribute
for entry '#1'. Ignoring}%
\let\@glxtr@glossdescfont\@firstofone
}%
}%
{\let\@glxtr@glossdescfont\@firstofone}%
\glsifattribute{#1}{glossdesc}{firstuc}%
{%
\@glxtr@glossdescfont{\Glsentrydesc{#1}}%
}%
{%
\glsifattribute{#1}{glossdesc}{title}%
{%
\@glxtr@do@titlecaps@warn
\@glxtr@glossdescfont{\glxtrfieldtitlecase{#1}{desc}}%
}%
{%
\@glxtr@glossdescfont{\Glsentrydesc{#1}}%
}%
}%
}%
}
}

```

`\glossentryname` If the `glossname` attribute is “firstuc” convert first letter to upper case. If the attribute is “title” use title case.

```
\@ifpackageloaded{glossaries-accsupp}
{
  \renewcommand*{\glossentryname}[1]{%
    \@glsdoifexistsorwarn{#1}%
    {%
      \glssetabbrvfmt{\glscategory{#1}}%
```

As from v1.54, do pre-name hook:

```
\glsxtrprenamehook{#1}%
```

As from version 1.04, allow the `glossnamefont` attribute to determine the font applied.

```
\glsasattribute{#1}{glossnamefont}%
{%
  \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
  \ifcsdef{\@glsxtr@attrval}%
  {%
    \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
  }%
  {%
    \GlossariesExtraWarning{Unknown control sequence name
      ‘\@glsxtr@attrval’ supplied in glossnamefont attribute
      for entry ‘#1’. Reverting to default \string\glsnamefont}%
    \let\@glsxtr@glossnamefont\glsnamefont
  }%
}%
{\let\@glsxtr@glossnamefont\glsnamefont}%
\glsifattribute{#1}{glossname}{firstuc}%
{%
  \glsnameaccessdisplay
  {%
    \@glsxtr@glossnamefont{\Glsentryname{#1}}%
  }%
  {#1}%
}%
{%
  \glsifattribute{#1}{glossname}{title}%
  {%
    \@glsxtr@do@titlecaps@warn
    \glsnameaccessdisplay
    {%
      \@glsxtr@glossnamefont{\glsxtrfieldtitlecase{#1}{name}}%
    }%
    {#1}%
  }%
  {%
    \glsifattribute{#1}{glossname}{uc}%
  }%
```

```

\glsnameaccessdisplay
{%
Hide the label from the upper-casing command.
\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\@glsxtr@glossnamefont{\glsuppercase{\glo@name}}%
}%
{#1}%
}%
{%
\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\glsnameaccessdisplay
{%
\expandafter\@glsxtr@glossnamefont\expandafter{\glo@name}%
}%
{#1}%
}%
}%
}%

```

Do post-name hook:

```

\glsxtrpostnamehook{#1}%
}%
}
}
{
\renewcommand*{\glossentryname}[1]{%
\@glsdoifexistsorwarn{#1}%
{%
\glssetabbrvfmt{\glscategory{#1}}%

```

As from v1.54, do pre-name hook:

```

\glsxtrprenamehook{#1}%
\glsattribute{#1}{glossnamefont}%
{%
\protected@edef\@glsxtr@attrval{\glsattribute{#1}{glossnamefont}}%
\ifcsdef{\@glsxtr@attrval}%
{%
\letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
}%
{%
\GlossariesExtraWarning{Unknown control sequence name
'\@glsxtr@attrval' supplied in glossnamefont attribute
for entry '#1'. Reverting to default \string\glsnamefont}%
\let\@glsxtr@glossnamefont\glsnamefont
}%
}%
{\let\@glsxtr@glossnamefont\glsnamefont}%
\glsifattribute{#1}{glossname}{firstuc}%
{%

```

```

\@glxtr@glossnamefont{\Glsentryname{#1}}%
}%
{%
\glsifattribute{#1}{glossname}{title}%
{%
\@glxtr@do@titlecaps@warn
\@glxtr@glossnamefont{\glxtrfieldtitlecase{#1}{name}}%
}%
{%
\glsifattribute{#1}{glossname}{uc}%
{%

```

Hide the label from the upper-casing command.

```

\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\@glxtr@glossnamefont{\glsuppercase{\glo@name}}%
}%
{%

```

This little trick is used by glossaries to allow the user to redefine `\glsnamefont` to use `\makefirstuc`. Support it even though they can now use the `firstuc` attribute.

```

\letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
\expandafter\@glxtr@glossnamefont\expandafter{\glo@name}%
}%
}%
}%

```

Do post-name hook.

```

\glxtrpostnamehook{#1}%
}%
}
}

```

`\Glossentryname` Redefine to set the abbreviation format and accessibility support.

```

\@ifpackageloaded{glossaries-accsupp}
{
\renewcommand*{\Glossentryname}[1]{%
\@glsdoifexistsorwarn{#1}%
{%
\glssetabbrvfmt{\glscategory{#1}}%

```

As from v1.54, do pre-name hook:

```

\glxtrprenamehook{#1}%

```

As from version 1.04, allow the `glossnamefont` attribute to determine the font applied.

```

\glsasattribute{#1}{glossnamefont}%
{%

\protected@edef\@glxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
\ifcsdef{\@glxtr@attrval}%

```

```

    {%
      \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
    }%
    {%
      \GlossariesExtraWarning{Unknown control sequence name
        '\@glsxtr@attrval' supplied in glossnamefont attribute
        for entry '#1'. Reverting to default \string\glsnamefont}%
      \let\@glsxtr@glossnamefont\glsnamefont
    }%
  }%
  {\let\@glsxtr@glossnamefont\glsnamefont}%
  \glsnameaccessdisplay
  {%
    \@glsxtr@glossnamefont{\Glsentryname{#1}}%
  }%
  {#1}%

```

Do post-name hook:

```

    \glsxtrpostnamehook{#1}%
  }%
}
{
  \renewcommand*{\Glossentryname}[1]{%
    \@glsdoifexistsorwarn{#1}%
    {%
      \glssetabbrvfmt{\glscategory{#1}}%

```

As from v1.54, do pre-name hook:

```

  \glsxtrprenamehook{#1}%
  \glschasattribute{#1}{glossnamefont}%
  {%
    \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
    \ifcsdef{\@glsxtr@attrval}%
    {%
      \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
    }%
    {%
      \GlossariesExtraWarning{Unknown control sequence name
        '\@glsxtr@attrval' supplied in glossnamefont attribute
        for entry '#1'. Reverting to default \string\glsnamefont}%
      \let\@glsxtr@glossnamefont\glsnamefont
    }%
  }%
  {\let\@glsxtr@glossnamefont\glsnamefont}%
  \@glsxtr@glossnamefont{\Glsentryname{#1}}%

```

Do post-name hook:

```

  \glsxtrpostnamehook{#1}%
}

```

```

    }
}

```

`\glstrprenamehook`

```
\newcommand*\glstrprenamehook[1]{}
```

Provide a convenient way to also index the entries using the standard `\index` mechanism. This may use different actual, encap and escape characters to those used for the glossaries.

`\glstrpostnamehook` Hook to append stuff after the name is displayed in the glossary. The argument is the entry's label.

```
\newcommand*\glstrpostnamehook[1]{%
  \let\@glsnumberformat\@glstrdefaultnumberformat
  \glstrdoautoindexname{#1}{indexname}%
}
```

Allow additional code regardless of category:

```
\glsextrapostnamehook{#1}%
```

Allow categories to hook in here.

```
\csuse{glstrpostname\glscategory{#1}}%
}
```

`\glsextrapostnamehook`

```
\newcommand*\glsextrapostnamehook[1]{}%
```

`\glsdefpostname` Provide a convenient command for defining the post-name hook for the given category.

```
\newcommand*\glsdefpostname[2]{%
  \csdef{glstrpostname#1}{#2}%
}
```

`\glstr@setaccessdisplay`

```
\@ifpackageloaded{glossaries-accsupp}
{
  \newcommand*\glstr@setaccessdisplay[1]{%
    \ifcsdef{gls#1accessdisplay}%
    {\letcs\@glstr@accessdisplay{gls#1accessdisplay}}%
    {}%
  }
}
```

This is essentially the reverse of `\gls@fetchfield`, since the field supplied to `\glossentryname` has to be the internal label, but the `\gls<field>accessdisplay` commands use the key name.

```
\protected@edef\@gls@thisval{#1}%
\@for\@gls@map:=\@gls@keymap\do{%
  \protected@edef\@this@key{\expandafter\@secondoftwo\@gls@map}%
  \ifdefequal{\@this@key}{\@gls@thisval}%
  {%
    \protected@edef\@gls@thisval{\expandafter\@firstoftwo\@gls@map}%
  }%
}
```

```

    }%
    {}%
  }%
  \ifcsdef{gls\@gls@thisval accessdisplay}%
  {\letcs\@glsxtr@accessdisplay{gls\@gls@thisval accessdisplay}}%
  {\let\@glsxtr@accessdisplay\@firstoftwo}%
}
}
}
{
  \newcommand*\@glsxtr@setaccessdisplay}[1]{%
  \let\@glsxtr@accessdisplay\@firstoftwo}
}

```

`\glossentrynameother` Provide a command that works like `\glossentryname` but accesses a different field (which must be supplied using its internal field label).

```

\newrobustcmd*\@glossentrynameother}[2]{%
  \glsdoifexistsorwarn{#1}%
  {%

```

Accessibility support:

```

  \glsxtr@setaccessdisplay{#2}%

```

Set the abbreviation format:

```

  \glssetabbrvfmt{\glscategory{#1}}%

```

As from v1.54, do pre-name hook:

```

\glsxtrprenamehook{#1}%
\glsattribute{#1}{glossnamefont}%
{%
  \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
  \ifcsdef{\@glsxtr@attrval}%
  {%
    \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
  }%
  {%
    \GlossariesExtraWarning{Unknown control sequence name
    '\@glsxtr@attrval' supplied in glossnamefont attribute
    for entry '#1'. Reverting to default \string\glsnamefont}%
    \let\@glsxtr@glossnamefont\glsnamefont
  }%
}%
{\let\@glsxtr@glossnamefont\glsnamefont}%
\glsifattribute{#1}{glossname}{firstuc}%
{%
  \@glsxtr@accessdisplay
  {\@glsxtr@glossnamefont{\@Gls@entry@field{#1}{#2}}}%
  {#1}%
}%
{
  \glsifattribute{#1}{glossname}{title}%

```

```

{%
  \@glsxtr@do@titlecaps@warn
  \@glsxtr@accessdisplay
  {\@glsxtr@glossnamefont{\glsxtrfieldtitlecase{#1}{#2}}}%
  {#1}%
}%
{%
  \glsifattribute{#1}{glossname}{uc}%
  {%
    \letcs{\glo@name}{glo@\glsdetoklabel{#1}@#2}%
    \@glsxtr@accessdisplay
    {\@glsxtr@glossnamefont{\glsupercase{\glo@name}}}%
    {#1}%
  }%
  {%
    \letcs{\glo@name}{glo@\glsdetoklabel{#1}@#2}%
    \@glsxtr@accessdisplay
    {\expandafter\@glsxtr@glossnamefont\expandafter{\glo@name}}%
    {#1}%
  }%
}%
}%

```

Do post-name hook.

```

  \glsxtrpostnamehook{#1}%
}%
}

```

`\Glossentrynameother` Provide a command that works like `\Glossentryname` but accesses a different field (which must be supplied using its internal field label).

```

  \newrobustcmd*{\Glossentrynameother}[2]{%
    \@glsdoifexistsorwarn{#1}%
    {%

```

Accessibility support:

```

    \glsxtr@setaccessdisplay{#2}%

```

Set the abbreviation format:

```

    \glssetabbrvfmt{\glscategory{#1}}%

```

Do pre-name hook:

```

    \glsxtrprenamehook{#1}%
    \glsifhasattribute{#1}{glossnamefont}%
    {%
      \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
      \ifcsdef{\@glsxtr@attrval}%
      {%
        \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
      }%
    }%
    \GlossariesExtraWarning{Unknown control sequence name

```



```

        '\@glxtr@attrval' supplied in glossnamefont attribute
        for entry '#1'. Reverting to default \string\glsnamefont}%
        \let\@glxtr@glossnamefont\glsnamefont
    }%
}%
{\let\@glxtr@glossnamefont\glsnamefont}%
\@glxtr@accessdisplay
{\@glxtr@glossnamefont{\@Gls@entry@field{#1}{#2}}}%
{#1}%

```

Do post-name hook.

```

    \glxtrpostnamehook{#1}%
}%
}

```

`\if@glxtr@format@override` Determines if the format key should override the indexing attribute value.

```

\newif\if@glxtr@format@override
\@glxtr@format@overridefalse

```

If overriding is enabled, the `\glshypernumber` command will have to be redefined in the index to use `\hyperpage` instead.

`\GlsXtrEnableIndexFormatOverride`

```

\@ifpackageloaded{hyperref}
{

```

If `hyperref`'s `hyperindex` option is on, then `hyperref` will automatically add `\hyperpage`, so don't add it.

```

    \ifHy@hyperindex
    \newcommand*\GlsXtrEnableIndexFormatOverride}{%
    \@glxtr@format@overridetrue
    \appto\theindex{\let\glshypernumber\@firstofone}%
    }
    \else
    \newcommand*\GlsXtrEnableIndexFormatOverride}{%
    \@glxtr@format@overridetrue
    \appto\theindex{\let\glshypernumber\hyperpage}%
    }
    \fi
}

```

```

{
    \newcommand*\GlsXtrEnableIndexFormatOverride}{%
    \@glxtr@format@overridetrue
    }
}
\@onlypreamble\GlsXtrEnableIndexFormatOverride

```

`\glxtrdoautoindexname`

```

\newcommand*\glxtrdoautoindexname[2]{%
    \glshasattribute{#1}{#2}%
    {%

```

Escape any makeindex/xindy characters in the value of the name field. Take care with babel as this won't work if the category code has changed for those characters.

```
\@glxtr@autoindex@setname{#1}%
```

If the attribute value is simply “true” don't add an encap, otherwise use the value as the encap.

```
\protected@edef\@glxtr@attrval{\glsggetattribute{#1}{#2}}%
\if@glxtr@format@override

\ifx\@glxnumberformat\@glxtr@defaultnumberformat
\else
\let\@glxtr@attrval\@glxnumberformat
\fi
\fi

\ifdefstring{\@glxtr@attrval}{true}%
{}%
{\protected@eappto\@glo@name{\@glxtr@autoindex@encap\@glxtr@attrval}}%
\expandafter\glxtrautoindex\expandafter{\@glo@name}%
}%
{}%
}
```

```
\glxtrautoindex
```

```
\newcommand*\glxtrautoindex{\index}
```

```
\glxtrautoindexesc
```

```
\newcommand{\glxtrautoindexesc}{%
\@gls@checkmkidxchars\@glo@sort
\@glxtr@autoindex@doextra@esc\@glo@sort
}
```

`\@glxtr@autoindex@setname` Assign \@glo@name for use with indexname attribute.

```
\newcommand*\@glxtr@autoindex@setname}[1]{%
\protected@edef\@glo@name{\glxtrautoindexentry{#1}}%
\glxtrautoindexassignsort{\@glo@sort}{#1}%
\glxtrautoindexesc
\epreto\@glo@name{\@glo@sort\@glxtr@autoindex@at}%
}
```

`\glxtrautoindexentry` Command used for the actual part when auto-indexing.

```
\newcommand*\glxtrautoindexentry}[1]{\string\glsentryname{#1}}
```

`\glxtrautoindexassignsort` Used to assign the sort value when auto-indexing.

```
\newcommand*\glxtrautoindexassignsort}[2]{%
\glsletentryfield{#1}{#2}{sort}%
}
```

lgsxtr@autoindex@doextra@esc

```
\newcommand*{\@glsxtr@autoindex@doextra@esc}[1]{%
```

Escape the escape character unless it has already been escaped.

```
\ifx\@glsxtr@autoindex@esc\@gls@quotechar
\else
\def\@gls@checkedmkidx{}%
\edef\@@glsxtr@checkspch{%
\noexpand\@glsxtr@autoindex@escquote\expandonce{#1}%
\noexpand\@empty\@glsxtr@autoindex@esc\noexpand\@nnil
\@glsxtr@autoindex@esc\noexpand\@empty\noexpand\@glsxtr@endescspch}%
\@glsxtr@checkspch
\let#1\@gls@checkedmkidx\relax
\fi
```

Escape actual character unless it has already been escaped.

```
\ifx\@glsxtr@autoindex@at\@gls@actualchar
\else
\def\@gls@checkedmkidx{}%
\edef\@@glsxtr@checkspch{%
\noexpand\@glsxtr@autoindex@escat\expandonce{#1}%
\noexpand\@empty\@glsxtr@autoindex@at\noexpand\@nnil
\@glsxtr@autoindex@at\noexpand\@empty\noexpand\@glsxtr@endescspch}%
\@glsxtr@checkspch
\let#1\@gls@checkedmkidx\relax
\fi
```

Escape level character unless it has already been escaped.

```
\ifx\@glsxtr@autoindex@level\@gls@levelchar
\else
\def\@gls@checkedmkidx{}%
\edef\@@glsxtr@checkspch{%
\noexpand\@glsxtr@autoindex@esclevel\expandonce{#1}%
\noexpand\@empty\@glsxtr@autoindex@level\noexpand\@nnil
\@glsxtr@autoindex@level\noexpand\@empty\noexpand\@glsxtr@endescspch}%
\@glsxtr@checkspch
\let#1\@gls@checkedmkidx\relax
\fi
```

Escape encap character unless it has already been escaped.

```
\ifx\@glsxtr@autoindex@encap\@gls@encapchar
\else
\def\@gls@checkedmkidx{}%
\edef\@@glsxtr@checkspch{%
\noexpand\@glsxtr@autoindex@escencap\expandonce{#1}%
\noexpand\@empty\@glsxtr@autoindex@encap\noexpand\@nnil
\@glsxtr@autoindex@encap\noexpand\@empty\noexpand\@glsxtr@endescspch}%
\@glsxtr@checkspch
\let#1\@gls@checkedmkidx\relax
\fi
```

```
}
```

The user commands here have a preamble-only restriction to ensure they are set before required and also to reduce the chances of complications caused by babel's shorthands.

```

\@glxtr@autoindex@at Actual character for use with \index.
    \newcommand*{\@glxtr@autoindex@at}{-}

\GlsXtrSetActualChar Set the actual character.
    \newcommand*{\GlsXtrSetActualChar}[1]{%
    \gdef\@glxtr@autoindex@at{#1}%
    \def\@glxtr@autoindex@escat##1##2##3\@glxtr@endescspch{%
    \@glxtr@autoindex@escspch{#1}{\@glxtr@autoindex@escat}{##1}{##2}{##3}%
    }%
    }
    \@onlypreamble\GlsXtrSetActualChar
    \makeatother
    \GlsXtrSetActualChar{@}
    \makeatletter

\@glxtr@autoindex@encap Encap character for use with \index.
    \newcommand*{\@glxtr@autoindex@encap}{-}

\GlsXtrSetEncapChar Set the encap character.
    \newcommand*{\GlsXtrSetEncapChar}[1]{%
    \gdef\@glxtr@autoindex@encap{#1}%
    \def\@glxtr@autoindex@escencap##1##2##3\@glxtr@endescspch{%
    \@glxtr@autoindex@escspch{#1}{\@glxtr@autoindex@escencap}{##1}{##2}{##3}%
    }%
    }
    \GlsXtrSetEncapChar{|}
    \@onlypreamble\GlsXtrSetEncapChar

\@glxtr@autoindex@level Level character for use with \index.
    \newcommand*{\@glxtr@autoindex@level}{-}

\GlsXtrSetLevelChar Set the encap character.
    \newcommand*{\GlsXtrSetLevelChar}[1]{%
    \gdef\@glxtr@autoindex@level{#1}%
    \def\@glxtr@autoindex@esclevel##1##2##3\@glxtr@endescspch{%
    \@glxtr@autoindex@escspch{#1}{\@glxtr@autoindex@esclevel}{##1}{##2}{##3}%
    }%
    }
    \GlsXtrSetLevelChar{!}
    \@onlypreamble\GlsXtrSetLevelChar

\@glxtr@autoindex@esc Escape character for use with \index.
    \newcommand*{\@glxtr@autoindex@esc}{-}

```

`\GlsXtrSetEscChar` Set the escape character.

```
\newcommand*{\GlsXtrSetEscChar}[1]{%
  \gdef\@glsxtr@autoindex@esc{#1}%
  \def\@glsxtr@autoindex@escquote##1#1##2#1##3\@glsxtr@endescspch{%
    \@glsxtr@autoindex@escspch{#1}{\@glsxtr@autoindex@escquote}{##1}{##2}{##3}%
  }%
}
\GlsXtrSetEscChar{}
\@onlypreamble\GlsXtrSetEscChar
```

Set if defined. (For example, if `doc` package has been loaded.) Actual character `\actualchar`:

```
\ifdef\actualchar
  {\expandafter\GlsXtrSetActualChar\expandafter{\actualchar}}
{}
\endif
```

Quote character `\quotechar`:

```
\ifdef\quotechar
  {\expandafter\GlsXtrSetEscChar\expandafter{\quotechar}}
{}
\endif
```

Level character `\levelchar`:

```
\ifdef\levelchar
  {\expandafter\GlsXtrSetLevelChar\expandafter{\levelchar}}
{}
\endif
```

Encap character `\encapchar`:

```
\ifdef\encapchar
  {\expandafter\GlsXtrSetEncapChar\expandafter{\encapchar}}
{}
\endif
```

`\@glsxtr@gobbleto@endescspch`

```
\def\@glsxtr@gobbleto@endescspch#1\@glsxtr@endescspch{}
```

```
\@glsxtr@autoindex@escspch{<char>}{<cs>}{<pre>}{<mid>}
{<post>}
```

`\@glsxtr@autoindex@esc@spch`

```
\newcommand*{\@glsxtr@autoindex@escspch}[5]{%
  \@gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#3}%
  \ifx\@nnil#3\relax
    \def\@glsxtr@checkspch{\@glsxtr@gobbleto@endescspch#5\@glsxtr@endescspch}%
  \else
    \ifx\@nnil#4\relax
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@glsxtr@checkspch{\@glsxtr@gobbleto@endescspch
        #4#5\@glsxtr@endescspch}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
```

```

        \@glxtr@autoindex@esc#1}%
        \def\@glxtr@checkspch{#2#5#1\@nnil#1\@glxtr@endescspch}%
    \fi
\fi
\@glxtr@checkspch
}

```

`\Glossentrydesc` Redefine to set the abbreviation format and accessibility support.

```

\renewcommand*\Glossentrydesc[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \Glsaccessdesc{#1}%
  }%
}

```

`\glossentrysymbol` Redefine to set the format and accessibility support. Allow for the possibility of being used in a section heading for standalone entry definitions.

```

\renewcommand*\glossentrysymbol[1]{%
  \glstexorpdfstring{\glossentrysymbol{#1}}{\glstentrypdfsymbol{#1}}%
}

```

`\glstentrypdfsymbol` May be redefined to a field that expands to a value that's more suitable for PDF bookmarks.

```

\newcommand{\glstentrypdfsymbol}[1]{\glsentrysymbol{#1}}

```

`\@glossentrysymbol` There are no case-changing attributes as it's less usual for symbols.

```

\newrobustcmd*\@glossentrysymbol[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \begingroup
      \glssetabbrvfmt{\glscategory{#1}}%
      \glshasattribute{#1}{glosssymbolfont}%
      {%
        \protected@edef\@glxtr@attrval{\glsggetattribute{#1}{glosssymbolfont}}%
        \ifcsdef{\@glxtr@attrval}%
          {%
            \letcs{\@glxtr@glosssymbolfont}{\@glxtr@attrval}%
          }%
          {%
            \GlossariesExtraWarning{Unknown control sequence name
              '\@glxtr@attrval' supplied in glosssymbolfont attribute
              for entry '#1'. Ignoring}%
            \let\@glxtr@glosssymbolfont\@firstofone
          }%
        }%
      }%
      {\let\@glxtr@glosssymbolfont\@firstofone}%
      \@glxtr@glosssymbolfont{\glsaccesssymbol{#1}}%
    \endgroup
  }%
}

```

```

    }%
}

```

`\Glossentrysymbol` Redefine to set the abbreviation format and accessibility support.

```

\renewcommand*{\Glossentrysymbol}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \Glsaccesssymbol{#1}%
  }%
}

```

Allow initials to be marked but only use the formatting for the tag in the glossary.

`\GlsXtrEnableInitialTagging` Allow initial tagging. The first argument is a list of categories to apply this to. The second argument is the name of the command to use to tag the initials. This can't already be defined for safety unless the starred version is used.

```

\newcommand*{\GlsXtrEnableInitialTagging}{%
  \ifstar\s@glsextr@enabletagging\@glsextr@enabletagging
}
\@onlypreamble\GlsXtrEnableInitialTagging

```

`\glsextr@enabletagging` Starred version undefines command.

```

\newcommand*{\s@glsextr@enabletagging}[2]{%
  \undef#2%
  \@glsextr@enabletagging{#1}{#2}%
}

```

`\@glsextr@enabletagging` Internal command.

```

\newcommand*{\@glsextr@enabletagging}[2]{%
  Set attributes for categories given in the first argument.
  \@for\@glsextr@cat:=#1\do
  {%
    \ifdefempty\@glsextr@cat
    {}%
    {\glssetcategoryattribute{\@glsextr@cat}{tagging}{true}}%
  }%
  \newrobustcmd*#2[1]{##1}%
  \def\@glsextr@taggingcs{#2}%
  \renewcommand*\@glsextr@activate@initialtagging{%
    \let#2\@glsextr@tag
  }%
  \ifundef\@gls@preglossaryhook
  {\GlossariesExtraWarning{Initial tagging requires at least
    glossaries.sty v4.19 to work correctly}}%
  {}%
}

```

Are we using an old version of mfirstuc that has a bug in `\capitalisewords`? If so, patch it so we don't have a problem with a combination of tagging and title case.

`\mfu@checkword@do` If this command hasn't been defined, then we have pre v2.02 of mfirstuc

```
\ifundef\mfu@checkword@do
{
  \newcommand*\mfu@checkword@do}[1]{%
    \ifdefstring{\mfu@checkword@arg}{#1}%
    {%
      \let\@mfu@domakefirstuc\@firstofone
      \listbreak
    }%
  }%
}
```

`\mfu@checkword` `\capitalisewords` was introduced in mfirstuc v1.06. If `\mfu@checkword` hasn't been defined mfirstuc is too old to support the title case attribute.

```
\ifundef\mfu@checkword
{
  \newcommand{\@glsxtr@do@titlecaps@warn}{%
    \GlossariesExtraWarning{mfirstuc.sty too old. Title Caps
      support not available}%
  }
```

One warning should suffice.

```
\let\@glsxtr@do@titlecaps@warn\relax
}
{
  \renewcommand*\mfu@checkword}[1]{%
    \def\mfu@checkword@arg{#1}%
    \let\@mfu@domakefirstuc\makefirstuc
    \forlistloop\mfu@checkword@do\@mfu@nocaplist
  }
}
}% no patch required
```

`\@glsxtr@do@titlecaps@warn` Do warning if title case not supported.

```
\newcommand*\@glsxtr@do@titlecaps@warn{}
```

`xtr@activate@initialtagging` Used in `\printglossary` but at least v4.19 of glossaries required.

```
\newcommand*\@glsxtr@activate@initialtagging{}
```

`\@glsxtr@tag` Definition of tagging command when used in glossary.

```
\newrobustcmd*\@glsxtr@tag}[1]{%
  \glsifattribute{\glscurrententrylabel}{tagging}{true}%
  {\glsxtrtagfont{#1}}{#1}%
}
```



`\glsxtrtagfont` Used in the glossary.

```
\newcommand*\glsxtrtagfont}[1]{\underline{#1}}
```

`\@gls@preglossaryhook` This macro was introduced in glossaries version 4.19, so it may not be defined. If it hasn't been defined this feature is unavailable. A check is added for the entry's existence to prevent errors from occurring if the user removes an entry or changes the label, which can interrupt the build process.

```
\ifdef\@gls@preglossaryhook
{
  \renewcommand*\@gls@preglossaryhook}{%
    \glsxtr@activate@initialtagging
```

Since the glossaries are automatically scoped, `\@glsxtr@org@postdescription` shouldn't already be defined, but check anyway just as a precautionary measure.

```
\ifundef\@glsxtr@org@postdescription
{%
  \let\@glsxtr@org@postdescription\glspostdescription
  \renewcommand*\glspostdescription}{%
    \ifglsentryexists{\glscurrententrylabel}%
    {%
      \glsxtrpostdescription
      \@glsxtr@org@postdescription
    }%
  }%
}
```

Enable the options used by `\@@glsxtrp`:

```
\glossxtrsetpopts
}%
}
```

`\glsxtrpostdescription` This command will only be used if `\@gls@preglossaryhook` is available *and* the glossary style uses `\glspostdescription` without modifying it. (`\nopostdesc` will suppress this.) The `glossaries-extra-stylemods` package will add the post description hook to all the predefined styles that don't include it.

```
\newcommand*\glsxtrpostdescription}{%
  \csuse{glsxtrpostdesc\glscategory{\glscurrententrylabel}}%
}
```

`\glsxtrpostdescgeneral`

```
\newcommand*\glsxtrpostdescgeneral}{}
```

`\glsxtrpostdescterm` This is redundant as it doesn't match any common categories. `\newterm` sets the category to index.

```
\newcommand*\glsxtrpostdescterm}{}
```

```

\glxtrpostdescacronym
    \newcommand*\glxtrpostdescacronym{}

\glxtrpostdescabbreviation
    \newcommand*\glxtrpostdescabbreviation{}

\glsdefpostdesc Provide a convenient command for defining the post-description hook for the
given category.
    \newcommand*\glsdefpostdesc}[2]{%
        \csdef{glxtrpostdesc#1}{#2}%
    }

\glspostlinkhook Redefine the post link hook used by commands like \gls to make it easier for
categories or attributes to modify this action. Since this hook occurs outside
the existence check of commands like \gls, this needs to be checked again here.
Do nothing if the entry hasn't been defined.
    \renewcommand*\glspostlinkhook{%
        \ifglstryexists{glslabel}{\glxtrpostlinkhook}{}%
    }

\glxtrpostlinkhook The entry label should already be stored in \glslabel by \@gls@link.
    \newcommand*\glxtrpostlinkhook{%
        \glxtrdiscardperiod{glslabel}%
        {\glxtrpostlinkendsentence}%
        {\glxtrifcustomdiscardperiod
            {\glxtrifperiod{\glxtrpostlinkendsentence}{\glxtrpostlink}}%
            {\glxtrpostlink}%
        }%
    }

\glxtrifcustomdiscardperiod Allow user to provide a custom check. Should expand to #2 if no check is
required otherwise expand to #1.
    \newcommand*\glxtrifcustomdiscardperiod}[2]{#2}

\glxtrpostlink
    \newcommand*\glxtrpostlink{%
        \csuse{glxtrpostlinkglscategory}{glslabel}%
    }

\glsdefpostlink Provide a convenient command for defining the post-link hook for the given cate-
gory. Doesn't allow an empty argument (which would overwrite \glxtrpostlink.
    \newcommand*\glsdefpostlink}[2]{%
\ifthenelse is used to ensure that the expanded value is tested. (The category
label must be fully expandable.)
        \ifthenelse{\equal{#1}{}}%
            {\PackageError{glossaries-extra}
                {Invalid empty category label in \string\glsdefpostlink}{}}%
            {\csdef{glxtrpostlink#1}{#2}}%
    }

```

`\glspretopostlink` Similar to the above but prepend.

```
\newcommand*\glspretopostlink}[2]{%
\ifthenelse is used to ensure that the expanded value is tested. (The category
label must be fully expandable.)
\ifthenelse{\equal{#1}{}}{%
{\PackageError{glossaries-extra}
{Invalid empty category label in \string\glspretopostlink}{}}%
}%
\ifcsundef{glsxtrpostlink#1}
{\csdef{glsxtrpostlink#1}{#2}}%
{\cspretopostlink{glsxtrpostlink#1}{#2}}%
}%
}
```

`\glsapptopostlink` Similar to the above but append.

```
\newcommand*\glsapptopostlink}[2]{%
\ifthenelse is used to ensure that the expanded value is tested. (The category
label must be fully expandable.)
\ifthenelse{\equal{#1}{}}{%
{\PackageError{glossaries-extra}
{Invalid empty category label in \string\glspretopostlink}{}}%
}%
\ifcsundef{glsxtrpostlink#1}
{\csdef{glsxtrpostlink#1}{#2}}%
{\csapptopostlink{glsxtrpostlink#1}{#2}}%
}%
}
```

`\glsxtrpostlinkendsentence` Done by `\glsxtrpostlinkhook` if a full stop is discarded.

```
\newcommand*\glsxtrpostlinkendsentence){%
\ifcsdef{glsxtrpostlink\glscategory{glslabel}}
{%
\csuse{glsxtrpostlink\glscategory{glslabel}}%
}
```

Put the full stop back.

```
.\spacefactor\sfcode‘\.\ \relax
}%
{%
```

Assume the full stop was discarded because the entry ends with a period, so adjust the spacefactor.

```
\spacefactor\sfcode‘\.\ \relax
}%
}
```

`\glsxtrpostlinkAddDescOnFirstUse` Provide a command for appending the description in parentheses on first use, for the convenience of users wanting to add this to the post link hook.

```
\newcommand*\glsxtrpostlinkAddDescOnFirstUse){%
```

```

\glxtrifwasfirstuse{\glxtrgenentrytextfmt{ }%
\glxtrparen{\glsaccessfmtdesc}{\glxtrgenentrytextfmt}{\glslabel}}{ }%
}

```

`\glxtrpostlinkAddSymbolOnFirstUse` Provide a command for appending the symbol (if defined) in parentheses on first use, for the convenience of users wanting to add this to the post link hook.

```

\newcommand*\glxtrpostlinkAddSymbolOnFirstUse{%
\glxtrifwasfirstuse
{%
\ifglshassymbol{\glslabel}%
{\glxtrgenentrytextfmt{ }%
\glxtrparen{\glsaccessfmtsymboll}{\glxtrgenentrytextfmt}{\glslabel}}}%
}%
}%
}

```

`\glxtrpostlinkAddSymbolDescOnFirstUse` Provide a command for appending the symbol (if defined) and description in parentheses on first use, for the convenience of users wanting to add this to the post link hook.

```

\newcommand*\glxtrpostlinkAddSymbolDescOnFirstUse{%
\glxtrifwasfirstuse
{%
\glxtrgenentrytextfmt{ }\glxtrparen
{%
\ifglshassymbol{\glslabel}%
{\glsaccessfmtsymboll}{\glxtrgenentrytextfmt}{\glslabel}%
\expandafter\glxtrgenentrytextfmt\expandafter{\glxtrpostlinkSymbolDescSep}}%
}%
\glsaccessfmtdesc}{\glxtrgenentrytextfmt}{\glslabel}%
}%
}%
}

```

`\glxtrpostlinkSymbolDescSep` Separator used in the above

```

\newcommand*\glxtrpostlinkSymbolDescSep}{, }

```

`\glxtrdiscardperiodretainfirstuse`

```

\newcommand*\glxtrdiscardperiodretainfirstuse}[3]{%
\glxtrifwassubsequentorshort{\glxtrifperiod{#2}{#3}}{#3}%
}

```

`\glxtrdiscardperiod` Discard following period (if present) if the `discardperiod` attribute is true. If a period is discarded, do the second argument otherwise do the third argument. The entry label is in the first argument. Since this is designed for abbreviations that end with a period, check if the plural form was used (which typically won't end with a period).

```

\newcommand*\glxtrdiscardperiod}[3]{%
\glsifattribute{#1}{retainfirstuseperiod}{true}%
{\glxtrdiscardperiodretainfirstuse{#1}{#2}{#3}}%
{%
\glsifattribute{#1}{discardperiod}{true}%
{%
\glsifplural
{%
\glsifattribute{#1}{pluraldiscardperiod}{true}%
{\glxtrifperiod{#2}{#3}}%
{#3}%
}%
}%
\glxtrifperiod{#2}{#3}%
}%
}{#3}%
}

```

`\glxtrifperiod` Make a convenient user command to check if the next character is a full stop (period). Works like `\@ifstar` but uses `\new@ifnextchar` rather than `\@ifnextchar`

```

\newcommand*\glxtrifperiod}[1]{\new@ifnextchar.{\@firstoftwo{#1}}}

```

Sometimes it's useful to test if there's a punctuation character following the glossary entry.

`\glxtr@punclist` List of characters identified as punctuation marks. (Be careful of `babel` short-hands!) This doesn't allow for punctuation marks made up from multiple characters (such as `'`).

```

\newcommand*\glxtr@punclist}{.,;?!}

```

`\glxtraddpunctuationmark` Add character to punctuation list.

```

\newcommand*\glxtraddpunctuationmark}[1]{\appto\glxtr@punclist{#1}}

```

`\glxtrsetpunctuationmarks` Reset the punctuation list.

```

\newcommand*\glxtrsetpunctuationmarks}[1]{\def\glxtr@punclist{#1}}

```

```

\glxtrifnextpunc{<true part>}{<false part>}

```

`\glxtrifnextpunc`

Test if this is followed by a punctuation mark. (Adapted from `\new@ifnextchar`.)

```

\newcommand*\glxtrifnextpunc}[2]{%
\def\reserved@a{#1}%
\def\reserved@b{#2}%
\futurelet\@glspunc@token\glxtr@ifnextpunc
}

```

```

\glxtr@ifnextpunc
    \newcommand*\glxtr@ifnextpunc}{%
    \glxtr@ifpunctoken{\@glspunc@token}{\let\reserved@b\reserved@a}{}%
    \reserved@b
    }

\glxtr@ifpunctoken Test if the token given in the first argument is in the punctuation list.
    \newcommand*\glxtr@ifpunctoken}[1]{%
    \expandafter\glxtr@ifpunctoken\expandafter#1\glxtr@punclist\@nnil
    }

\@glxtr@ifpunctoken
    \def\@glxtr@ifpunctoken#1#2{%
    \let\reserved@d=#2%
    \ifx\reserved@d\@nnil
    \let\glxtr@next\glxtr@notfoundinlist
    \else
    \ifx#1\reserved@d
    \let\glxtr@next\glxtr@foundinlist
    \else
    \let\glxtr@next\glxtr@ifpunctoken
    \fi
    \fi
    \glxtr@next#1%
    }

\@glxtr@foundinlist
    \def\@glxtr@foundinlist#1\@nnil{\@firstoftwo}

\@glxtr@notfoundinlist
    \def\@glxtr@notfoundinlist#1{\@secondoftwo}

\glxtr@dopostpunc
    \glxtr@dopostpunc{<code>}
    If this is followed by a punctuation character, do <code> after the character
    otherwise do <code> before whatever comes next.
    \newrobustcmd*\glxtr@dopostpunc}[1]{%
    \glxtr@ifnextpunc{\@glxtr@swaptwo{#1}}{#1}%
    }

\@glxtr@swaptwo
    \newcommand*\@glxtr@swaptwo}[2]{#2#1}

```

## 1.7 Abbreviations

The “acronym” code from `glossaries` is misnamed as it’s more often used for other forms of abbreviations. This code corrects this inconsistency, but rather than just having synonyms, provide commands for abbreviations that have a similar, but not identical, underlying mechanism to acronyms.

If there’s a style for the given category, it needs to be applied by `\newabbreviation`.

```
\define@key{glsxtrabbrv}{category}{%
  \protected@edef\glscategorylabel{#1}%
}
```

The `shortplural` and `longplural` are parsed separately, so are now in another key family. Save the short plural form. This may be needed before the entry is defined.

```
\define@key{glsxtrabbrvpl}{shortplural}{%
  \def\@gls@shortpl{#1}%
}
```

Similarly for the long plural form.

```
\define@key{glsxtrabbrvpl}{longplural}{%
  \def\@gls@longpl{#1}%
}
```

Token registers for the short plural and long plural, provided for use in the abbreviation style definitions.

```
\glsshortpltok
\newtoks\glsshortpltok
```

```
\glslongpltok
\newtoks\glslongpltok
```

`\@glsxtr@insertdots` Provided in case user wants to automatically insert dots between each letter of the abbreviation. This should be applied before defining the abbreviation to optimise the document build. (Otherwise, it would have to be done each time the short form is required, which is an unnecessary waste of time.) For this to work the short form must be expanded when passed to `\newabbreviation`. Note that explicitly using the `short` or `shortplural` keys will override this.

```
\newcommand*{\@glsxtr@insertdots}[2]{%
  \def#1{%
    \@glsxtr@insert@dots#1#2\@nnil
  }
}
```

```
\@glsxtr@insert@dots
\newcommand*{\@glsxtr@insert@dots}[2]{%
  \ifx\@nnil#2\relax
  \let\@glsxtr@insert@dots@next\@gobble
  \else
  \ifx\relax#2\relax
```

```

\else
\appto#1{#2.}%
\fi
\let\@glxtr@insert@dots@next\@glxtr@insert@dots
\fi
\@glxtr@insert@dots@next#1%
}

```

Similarly provide a way of replacing spaces with `\glxtrwordsep`, which first needs to be defined:

```

\glxtrwordsep
\newcommand*\glxtrwordsep{\glxtrgenentrytextfmt{ }}

```

```

\glxtrwordsephyphen
\newcommand*\glxtrwordsephyphen{\glxtrgenentrytextfmt{-}}

```

Each word is marked with

```

\glxtrword
\newcommand*\glxtrword[1]{\glxtrgenentrytextfmt{#1}}

```

```

\@glxtr@markwordseps
\newcommand*\@glxtr@markwordseps[2]{%
\def#1{%
\@glxtr@mark@wordseps#1#2 \@nnil
}

```

```

\@glxtr@mark@wordseps
\def\@glxtr@mark@wordseps#1#2 #3{%
\ifdefempty{#1}%
{\def#1{\protect\glxtrword{#2}}}%
{\appto#1{\protect\glxtrwordsep\protect\glxtrword{#2}}}%
\ifx\@nnil#3\relax
\let\@glxtr@mark@wordseps@next\relax
\else
\def\@glxtr@mark@wordseps@next{%
\@glxtr@mark@wordseps#1#3}%
\fi
\@glxtr@mark@wordseps@next
}

```

`\newabbreviation` Define a new generic abbreviation.

```

\newcommand*\newabbreviation[4][[]]{%
\glxtr@newabbreviation{#1}{#2}{#3}{#4}%
}

```



`\glstr@newabbreviation` Internal macro. (bib2gls has an option that needs to temporarily redefine `\newabbreviation`. This is just makes it easier to save and restore the original definition.)

```
\newcommand*{\glstr@newabbreviation}[4]{%
  \glskeylisttok{#1}%
  \glslabeltok{#2}%
  \glsshorttok{#3}%
  \glslongtok{#4}%
```

Save the original short and long values (before attribute settings modify them).

```
\def\glstrorgshort{#3}%
\def\glstrorglong{#4}%
```

```
\def\glstrorgkeylist{#1}%
```

Provide extra settings for hooks. Make sure to append a comma if this hook is changed.

```
\def\ExtraCustomAbbreviationFields{}
```

Initialise accessibility settings if required.

```
\@gls@initaccesskeys
```

Get the category.

```
\def\glscategorylabel{abbreviation}%
```

Ignore the shortplural and longplural keys.

```
\setkeys*{\glstrabbrv}{#1}%
```

Save remaining keys, just in case any hook also uses `\setkeys`

```
\let\@glstrabbrv@rmkeys\XKV@rm
```

Set the abbreviation style.

```
\ifcsdef{\@glstrabbrv@current@\glscategorylabel}%
  {%
```

Warning should already have been issued.

```
\let\@glstr@orgwarndep\GlsXtrWarnDeprecatedAbbrStyle
\let\GlsXtrWarnDeprecatedAbbrStyle\@gobbletwo
\glstr@applyabbrvstyle{\csname \@glstrabbrv@current@\glscategorylabel\endcsname}%
\let\GlsXtrWarnDeprecatedAbbrStyle\@glstr@orgwarndep
}%
{%
```

If no style has been associated with this category, fallback on the style for the abbreviation category.

```
\glstr@applyabbrvstyle{\@glstrabbrv@current@abbreviation}%
}%
```

Set the default long plural

```
\def\@gls@longpl{#4\glspluralsuffix}%
```

Has the markwords attribute been set?

```
\glsifcategoryattribute{\glscategorylabel}{markwords}{true}%  
{%  
  \glsxtr@keywordseps\@gls@long{#4}%
```

Update \glslongtok.

```
\expandafter\glslongtok\expandafter{\@gls@long}%
```

Mark this entry as having a description with formatting.

```
\glsxclapplyinnerfmtfield{\the\glslabeltok}{desc}%  
}%  
{}%
```

Has the markshortwords attribute been set? (Not compatible with insertdots.)

```
\let\@glsxtr@if@markshortwords\@secondoftwo  
\glsifcategoryattribute{\glscategorylabel}{markshortwords}{true}%  
{%
```

Don't mark words until the default plural has been obtained.

```
\let\@glsxtr@if@markshortwords\@firstoftwo  
\def\@gls@short{#3}%  
}%  
{%
```

Has the insertdots attribute been set?

```
\glsifcategoryattribute{\glscategorylabel}{insertdots}{true}%  
{%  
  \glsxtr@insertdots\@gls@short{#3}%  
  
  \appto\@gls@short{\@}%  
}%  
{\def\@gls@short{#3}}%  
}%
```

Has the aposplural attribute been set? (Not compatible with noshortplural.)

```
\glsifcategoryattribute{\glscategorylabel}{aposplural}{true}%  
{%  
  \expandafter\def\expandafter\@gls@shortpl\expandafter{\@gls@short  
  '\abbrvpluralsuffix}%  
}%  
{%
```

Has the noshortplural attribute been set?

```
\glsifcategoryattribute{\glscategorylabel}{noshortplural}{true}%  
{%  
  \let\@gls@shortpl\@gls@short  
}%  
{%  
  \expandafter\def\expandafter\@gls@shortpl\expandafter{\@gls@short  
  '\abbrvpluralsuffix}%  
}%  
}%
```

```

\@glstr@if@markshortwords
{%
  \expandafter\@glstr@keywordseps\expandafter\@gls@short
  \expandafter{\@gls@short}%
}%
{}%

Update \glsshorttok:
  \expandafter\glsshorttok\expandafter{\@gls@short}%

Hook for further customisation if required:
  \glstrnewabbrevpresetkeyhook{#1}{#2}{#3}%

Get the short and long plurals provided by user in optional argument to override
defaults, if necessary. Save the default short plural.
  \let\@gls@default@shortpl\@gls@shortpl
  \let\XKV@rm\@glstrabbrv@rmkeys
  \setrmkeys*\@glstrabbrvpl}%

Update \glskeylisttok so that it only has the remaining keys.
  \expandafter\glskeylisttok\expandafter{\XKV@rm}%

Save in case required.
  \let\@gls@org@longpl\@gls@longpl
  \let\@gls@org@shortpl\@gls@shortpl

Has the markwords attribute been set?
\glsifcategoryattribute{\gls@categorylabel}{markwords}{true}%
{%
  \expandafter\@glstr@keywordseps\expandafter\@gls@longpl\expandafter
  {\@gls@longpl}%
}%
{}%

Has the markshortwords attribute been set?
\@glstr@if@markshortwords
{%
  \expandafter\@glstr@keywordseps\expandafter\@gls@shortpl
  \expandafter{\@gls@shortpl}%
}%
{}%

Has the insertdots attribute been set?
  \ifx\@gls@default@shortpl\@gls@shortpl
  \else
  \glsifcategoryattribute{\gls@categorylabel}{insertdots}{true}%
  {%
    \expandafter\@glstr@insertdots\expandafter\@gls@shortpl
    \expandafter{\@gls@shortpl}%
    \appto\@gls@shortpl{\@}%
  }%
  {}%
  \fi
}%

```

Set the plural token registers so the values can be accessed by the abbreviation styles.

```
\expandafter\glsshortpltok\expandafter{\@gls@shortpl}%
\expandafter\glslongpltok\expandafter{\@gls@longpl}%
```

Hook for accessibility support (does nothing if glossaries-accsupp hasn't been loaded).

```
\@gls@setup@default@access
```

Do any extra setup provided by hook:

```
\newabbreviationhook
```

Define this entry:

```
\protected@edef\@do@newglossaryentry{%
  \noexpand\newglossaryentry{\the\glslabeltok}%
  {%
    type={\glsxtrabbrvtype},%
    category={\glscategorylabel},%
    short={\the\glsshorttok},%
    shortplural={\the\glsshortpltok},%
    long={\the\glslongtok},%
    longplural={\the\glslongpltok},%
    name={\the\glsshorttok},%
    \CustomAbbreviationFields,%
  }
```

Hook may override abbreviation style default settings.

```
\ExtraCustomAbbreviationFields
```

Any explicit fields set in the optional argument override all other settings, except for the ones that have already been processed.

```
\the\glskeylisttok
}%
}%
\@do@newglossaryentry
```

Obtain the type and add it to the list of abbreviations.

```
\@glsxtr@addabbreviationlist{\glsentrytype{\the\glslabeltok}}%
```

Exclude name, first, firstpl, text and plural fields from inner fmt as they include formatting commands. The description may also need adding, depending on the style.

```
\glsexclapplyinnerfmtfield{\the\glslabeltok}{first}%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{firstpl}%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{text}%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{plural}%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{name}%
\GlsXtrPostNewAbbreviation
}
```

`\glsxtrnewabbrevpresetkeyhook` Hook for extra stuff in `\newabbreviation`

```
\newcommand*{\glsxtrnewabbrevpresetkeyhook}[3]{}
```

`\GlsXtrPostNewAbbreviation` Hook used by abbreviation styles.

```
\newcommand*{\GlsXtrPostNewAbbreviation}{}
```

`\newabbreviationhook` Hook for use with `\newabbreviation`.

```
\newcommand*{\newabbreviationhook}{}
```

`\CustomAbbreviationFields`

```
\newcommand*{\CustomAbbreviationFields}{}
```

`\glstrparen` For the parenthetical styles.

```
\newcommand*{\glstrparen}[1]{%
  \glstrgenentrytextfmt{(#1\glstrgenentrytextfmt{#1})}}
```

`\glstrfullformat` Full format without case change.

```
\newcommand*{\glstrfullformat}[2]{%
  \ifglstrinsertinside
    \glsfirstlongfont{\glsaccessfmtlong{#2}{\glstrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\glsaccessfmtlong{}{\glstrgenentrytextfmt}{#1}}%
    \glstrgenentrytextfmt{#2}%
  \fi
  \glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont
    {\glsaccessfmtshort{}{\glstrgenentrytextfmt}{#1}}}%
}
```

`\Glsxtrfullformat` Full format with case change.

```
\newcommand*{\Glsxtrfullformat}[2]{%
  \ifglstrinsertinside
    \glsfirstlongfont{\Glsaccessfmtlong{#2}{\glstrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\Glsaccessfmtlong{}{\glstrgenentrytextfmt}{#1}}%
    \glstrgenentrytextfmt{#2}%
  \fi
  \glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont
    {\glsaccessfmtshort{}{\glstrgenentrytextfmt}{#1}}}%
}
\glsmfuaddmap{\glstrfullformat}{\Glsxtrfullformat}
```

`\GLSxtrfullformat` Full format with all caps.

```
\newcommand*{\GLSxtrfullformat}[2]{%
  \ifglstrinsertinside
    \glsfirstlongfont{\GLSaccessfmtlong{#2}{\glstrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\GLSaccessfmtlong{}{\glstrgenentrytextfmt}{#1}}%
    \glsuppercase{\glstrgenentrytextfmt{#2}}%
  \fi
  \glstrfullsep{#1}%
}
```

```

\glxtrparen{\protect\glsfirstabbrvfont
  {\GLSaccessfmtshort}{\glxtrgenentrytextfmt}{#1}}%
}
\glsmfublocker{\GLSxtrfullformat}

```

`\glxtrfullplformat` Plural full format without case change.

```

\newcommand*{\glxtrfullplformat}[2]{%
  \ifglxtrinsertinside
    \glsfirstlongfont{\glsaccessfmtlongpl{#2}{\glxtrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\glsaccessfmtlongpl}{\glxtrgenentrytextfmt}{#1}}%
    \glxtrgenentrytextfmt{#2}%
  \fi
  \glxtrfullsep{#1}%
  \glxtrparen{\protect\glsfirstabbrvfont
    {\glsaccessfmtshortpl}{\glxtrgenentrytextfmt}{#1}}%
}

```

`\Glsxtrfullplformat` Plural full format with case change.

```

\newcommand*{\Glsxtrfullplformat}[2]{%
  \ifglxtrinsertinside
    \glsfirstlongfont{\Glsaccessfmtlongpl{#2}{\glxtrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\Glsaccessfmtlongpl}{\glxtrgenentrytextfmt}{#1}}%
    \glxtrgenentrytextfmt{#2}%
  \fi
  \glxtrfullsep{#1}%
  \glxtrparen{\protect\glsfirstabbrvfont
    {\Glsaccessfmtshortpl}{\glxtrgenentrytextfmt}{#1}}%
}
\glsmfuaddmap{\glxtrfullplformat}{\Glsxtrfullplformat}

```

`\GLSxtrfullplformat` Full format with all caps.

```

\newcommand*{\GLSxtrfullplformat}[2]{%
  \ifglxtrinsertinside
    \glsfirstlongfont{\GLSaccessfmtlongpl{#2}{\glxtrgenentrytextfmt}{#1}}%
  \else
    \glsfirstlongfont{\GLSaccessfmtlongpl}{\glxtrgenentrytextfmt}{#1}}%
    \glsuppercase{\glxtrgenentrytextfmt{#2}}%
  \fi
  \glxtrfullsep{#1}%
  \glxtrparen{\protect\glsfirstabbrvfont
    {\GLSaccessfmtshortpl}{\glxtrgenentrytextfmt}{#1}}%
}
\glsmfublocker{\GLSxtrfullplformat}

```

`\GLSxtr@fullformat@fallback` Fallback for custom styles that don't implement all caps version.

```

\newcommand*{\GLSxtr@fullformat@fallback}[2]{%
  \glsuppercase{\glxtrfullformat{##1}{##2}}%
}%

```

`\GLSxtr@fullplformat@fallback` Fallback for custom styles that don't implement all caps version.

```
\newcommand*\GLSxtr@fullplformat@fallback}[2]{%
  \glssupercase{\glsxtrfullplformat{##1}{##2}}%
}%
```

`\glsxtrfullsep` Separator used by full format is a space by default. The argument is the entry's label.

```
\newcommand*\glsxtrfullsep}[1]{\glsxtrgenentrytextfmt{ }}
```

In-line formats in case first use isn't compatible with `\glssentryfull` (for example, first use suppresses the long form or uses a footnote).

`\glsxtrinlinefullformat` Full format without case change.

```
\newcommand*\glsxtrinlinefullformat{\glsxtrfullformat}
```

`\Glsxtrinlinefullformat` Full format with case change.

```
\newcommand*\Glsxtrinlinefullformat{\GLSxtrfullformat}
```

`\GLSxtrinlinefullformat` Full format with all caps.

```
\newcommand*\GLSxtrinlinefullformat{\GLSxtrfullformat}
```

`\glsxtrfullplformat` Plural full format without case change.

```
\newcommand*\glsxtrfullplformat{\glsxtrfullplformat}
```

`\Glsxtrfullplformat` Plural full format with case change.

```
\newcommand*\Glsxtrfullplformat{\GLSxtrfullplformat}
```

`\GLSxtrfullplformat` Full format with all caps.

```
\newcommand*\GLSxtrfullplformat{\GLSxtrfullplformat}
```

Redefine `\glssentryfull` etc to use the inline format. Since these commands are supposed to be expandable, they can only use the currently applied style. If there are mixed styles, you'll need to use the `\glsxtrfull` set of commands instead. If expandable sentence case is required, use `\MFUsentencecase` on the non-case-change version.

`\glssentryfull`

```
\renewcommand*\glssentryfull}[1]{\glsxtrinlinefullformat{#1}{}}
```

`\Glsentryfull`

```
\renewcommand*\Glsentryfull}[1]{\Glsxtrinlinefullformat{#1}{}}
\glsmfuaddmap{\glssentryfull}{\Glsentryfull}
```

`\glssentryfullpl`

```
\renewcommand*\glssentryfullpl}[1]{\glsxtrfullplformat{#1}{}}
```

`\Glsentryfullpl`

```
\renewcommand*\Glsentryfullpl}[1]{\Glsxtrfullplformat{#1}{}}
\glsmfuaddmap{\glssentryfullpl}{\Glsentryfullpl}
```

`\glsfirstabbrvfont` Font changing command used for the abbreviation on first use or in the full format.

```
\newcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{#1}}
```

`\glsfirstinnerfmtabbrvfont` Include inner formatting command.

```
\newrobustcmd*{\glsfirstinnerfmtabbrvfont}[1]{%
  \glsfirstabbrvfont{\glsxtrgenentrytextfmt{#1}}%
}
```

`\glsfirstxpabbrvfont` Expand to appropriate formatting command.

```
\newcommand*{\glsfirstxpabbrvfont}[2]{%
  \glsifcategoryattributetrue{#2}{markshortwords}%
  {\protect\glsfirstabbrvfont{#1}}%
  {\glsfirstinnerfmtabbrvfont{#1}}%
}
```

`\glsfirstabbrvdefaultfont` Font changing command used for the abbreviation on first use or in the full format.

```
\newcommand*{\glsfirstabbrvdefaultfont}[1]{\glsabbrvdefaultfont{#1}}
```

`\glsabbrvfont` Font changing command used for the abbreviation on subsequent use. This is redefined by the abbreviation styles, as appropriate.

```
\newcommand*{\glsabbrvfont}[1]{\glsabbrvdefaultfont{#1}}
```

`\glsinnerfmtabbrvfont` Include inner formatting command.

```
\newrobustcmd*{\glsinnerfmtabbrvfont}[1]{%
  \glsabbrvfont{\glsxtrgenentrytextfmt{#1}}%
}
```

`\glsxpabbrvfont` Expand to appropriate formatting command.

```
\newcommand*{\glsxpabbrvfont}[2]{%
  \glsifcategoryattributetrue{#2}{markshortwords}%
  {\protect\glsabbrvfont{#1}}%
  {\glsinnerfmtabbrvfont{#1}}%
}
```

`\glsabbrvdefaultfont`

```
\newcommand*{\glsabbrvdefaultfont}[1]{#1}
```

`\glslongfont` Font changing command used for the long form in commands like `\glsxtrlong`.

```
\newcommand*{\glslongfont}[1]{\glslongdefaultfont{#1}}
```

`\glsinnerfmtlongfont` Include inner formatting command.

```
\newrobustcmd*{\glsinnerfmtlongfont}[1]{%
  \glslongfont{\glsxtrgenentrytextfmt{#1}}%
}
```



```

\glsexplongfont Expand to appropriate formatting command.
\newcommand*\glsexplongfont}[2]{%
\glscategoryattributetrue{#2}{keywords}%
{\protect\glsfont{#1}}%
{\glsinnerfmtlongfont{#1}}%
}

\glslongdefaultfont Default font changing command used for the long form in commands like
\glsextrlong.
\newcommand*\glslongdefaultfont}[1]{#1}

\glsfirstlongfont Font changing command used for the long form on first use or in the full format.
\newcommand*\glsfirstlongfont}[1]{\glsfont{#1}}

\glsfirstinnerfmtlongfont Include inner formatting command.
\newrobustcmd*\glsfirstinnerfmtlongfont}[1]{%
\glsfirstlongfont{\glsextrgenentrytextfmt{#1}}%
}

\glsfirstxplongfont Expand to appropriate formatting command.
\newcommand*\glsfirstxplongfont}[2]{%
\glscategoryattributetrue{#2}{keywords}%
{\protect\glsfirstlongfont{#1}}%
{\glsfirstinnerfmtlongfont{#1}}%
}

\glsfirstlongdefaultfont
\newcommand*\glsfirstlongdefaultfont}[1]{\glslongdefaultfont{#1}}

\glsextrabbrvpluralsuffix Default plural suffix. Allow an alternative default suffix for abbreviations.
\newcommand*\glsextrabbrvpluralsuffix{\glspluralsuffix}

\abbrvpluralsuffix Default plural suffix.
\newcommand*\abbrvpluralsuffix{\glsextrabbrvpluralsuffix}

\glsextrrevert Provide a way to counteract the abbreviation font.
\newcommand*\glsextrrevert}[1]{\glsextrdefaultrevert{#1}}%

\glsextrdefaultrevert The default simply does its argument.
\newcommand*\glsextrdefaultrevert}[1]{#1}%

\glsextrfull Full form (no case-change).
\newrobustcmd*\glsextrfull[\@gls@hyp@opt\@ns@glsextrfull]
\newcommand*\@ns@glsextrfull[2][ ]{%
\new@ifnextchar[\@glsextr@full{#1}{#2}}%
{\@glsextr@full{#1}{#2}[ ]}%
}

```

`\@glxtr@full` Low-level macro:

```
\def\@glxtr@full#1#2[#3]{%
\def\glxtrcurrentfield{}
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxtr@record{#1}{#2}{glslink}%
\glstoifexists{#2}%
{%
\glsssetabbrvfmt{\glscategory{#2}}%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\let\glxtrifwasglslike\@secondoftwo
\let\gl@ifplural\@secondoftwo
\let\glscapscase\@firstofthree
\glxtrfullsaveinsert{#2}{#3}%
```

The `innertextformat` support should be provided within the inline command.

```
\def\glscustomtext{\glxtrinlinefullformat{#2}{#3}}%
```

What should `\glxtrifwasfirstuse` be set to here? Where the inline and display full forms are the same, this is essentially emulating first use, to it make sense for the postlink hook to pretend it was a first use instance. It makes less sense if the inline and display forms are different. Provide a hook to make it easier to reconfigure.

```
\glxtrsetupfulldefs
\@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
```

`\glxtrsetupfulldefs`

```
\newcommand*\glxtrsetupfulldefs{%
\let\glxtrifwasfirstuse\@firstoftwo
}
```

`\Glsxtrfull` Full form (first letter uppercase).

```
\newrobustcmd*\Glsxtrfull{\@gl@hyp@opt\ns@Glsxtrfull}
\newcommand*\ns@Glsxtrfull[2][ ]{%
\new@ifnextchar[{\@Glsxtr@full{#1}{#2}}%
{\@Glsxtr@full{#1}{#2}[ ]}%
}
\glsmfuaddmap{\glxtrfull}{\Glsxtrfull}
```

`\@Glsxtr@full` Low-level macro:

```
\def\@Glsxtr@full#1#2[#3]{%
\def\glxtrcurrentfield{%
\glstoifexists{#2}%
{%
\glsssetabbrvfmt{\glscategory{#2}}%
```

```

\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\let\glxtrifwasglslike\@secondoftwo
\let\glsifplural\@secondoftwo
\let\glscapscase\@secondofthree
\glxtrfullsaveinsert{#2}{#3}%

```

The innertextformat support should be provided within the inline command.

```

\def\glscustomtext{\GLxtrinlinefullformat{#2}{#3}}%
\glxtrsetupfulldefs
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

`\GLSxtrfull` Full form (all uppercase).

```

\newrobustcmd*{\GLSxtrfull}{\@gl@hyp@opt\ns@GLSxtrfull}
\newcommand*\ns@GLSxtrfull[2] []{%
\new@ifnextchar[{\@GLSxtr@full{#1}{#2}}%
{\@GLSxtr@full{#1}{#2} []}%
}

```

`\@GLSxtr@full` Low-level macro:

```

\def\@GLSxtr@full#1#2[#3]{%
\def\glxtrcurrentfield{%
\glsdoifexists{#2}%
{%
\glsssetabbrvfmt{\glscategory{#2}}%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\let\glxtrifwasglslike\@secondoftwo
\let\glsifplural\@secondoftwo
\let\glscapscase\@thirdofthree
\glxtrfullsaveinsert{#2}{#3}%
}
}

```

The innertextformat support should be provided within the inline command.

```

\def\glscustomtext{\GLSxtrinlinefullformat{#2}{#3}}%
\glxtrsetupfulldefs
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\glsmfublocker{\GLSxtrfull}

```

`\glxtrfullpl` Plural full form (no case-change).

```

\newrobustcmd*{\glxtrfullpl}{\@gl@hyp@opt\ns@glxtrfullpl}
\newcommand*\ns@glxtrfullpl[2] []{%
\new@ifnextchar[{\@glxtr@fullpl{#1}{#2}}%
{\@glxtr@fullpl{#1}{#2} []}%
}

```

`\@glxtr@fullpl` Low-level macro:

```

\def\@glstr@fullpl#1#2[#3]{%
  \def\glstrcurrentfield{}}%

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glstr@record{#1}{#2}{glslink}%
\glstoifexists{#2}%
{%
  \glsssetabbrvfmt{\glscategory{#2}}%
  \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
  \let\glstrifwasglslike\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@firstofthree
  \glstrfullsaveinsert{#2}{#3}%

```

The innertextformat support should be provided within the inline command.

```

\def\glscustomtext{\glstrinlinefullplformat{#2}{#3}}%
\glstrsetupfulldefs
\@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

`\Glsxtrfullpl` Plural full form (first letter uppercase).

```

\newrobustcmd*{\Glsxtrfullpl}{\@gl@hyp@opt\ns@Glsxtrfullpl}
\newcommand*\ns@Glsxtrfullpl[2][]{%
  \new@ifnextchar[{\@Glsxtr@fullpl{#1}{#2}}%
    {\@Glsxtr@fullpl{#1}{#2} []}%
}
\glsmfuaddmap{\glstrfullpl}{\Glsxtrfullpl}

```

`\@Glsxtr@fullpl` Low-level macro:

```

\def\@Glsxtr@fullpl#1#2[#3]{%
  \def\glstrcurrentfield{}}%

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glstr@record{#1}{#2}{glslink}%
\glstoifexists{#2}%
{%
  \glsssetabbrvfmt{\glscategory{#2}}%
  \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
  \let\glstrifwasglslike\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@secondofthree
  \glstrfullsaveinsert{#2}{#3}%

```

The innertextformat support should be provided within the inline command.

```

\def\glscustomtext{\Glsxtrinlinefullplformat{#2}{#3}}%

```

```

\glxtrsetupfulldefs
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

`\GLSxtrfullpl` Plural full form (all upper case).

```

\newrobustcmd*{\GLSxtrfullpl}{\@gls@hyp@opt\@ns@GLSxtrfullpl}
\newcommand*\ns@GLSxtrfullpl[2] [] {%
  \new@ifnextchar[{\@GLSxtr@fullpl{#1}{#2}}%
    {\@GLSxtr@fullpl{#1}{#2} []}%
}
\glsmfublocker{\GLSxtrfullpl}

```

`\@GLSxtr@fullpl` Low-level macro:

```

\def\@GLSxtr@fullpl#1#2[#3] {%
  \def\glxtrcurrentfield{%

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glxtr@record{#1}{#2}{glslink}%
\glsoifexists{#2}%
{%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glxtrifwasglslike\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@thirdofthree
  \glxtrfullsaveinsert{#2}{#3}%
}

```

The `innertextformat` support should be provided within the inline command.

```

\def\glscustomtext{%
  \GLSxtrinlinefullplformat{#2}{#3}}%
\glxtrsetupfulldefs
\@gls@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

The short and long forms work in a similar way to acronyms.

`\glxtrshort`

```

\newrobustcmd*{\glxtrshort}{\@gls@hyp@opt\@ns@glxtrshort}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@glxtrshort}[2] [] {%
  \new@ifnextchar[{\@glxtrshort{#1}{#2}}{\@glxtrshort{#1}{#2} []}%
}

```

Read in the final optional argument:

```
\def\@glxtrshort#1#2[#3]{%
\def\glxtrcurrentfield{short}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
```

Need to make sure `\glsabbrvfont` is set correctly.

```
\glssetabbrvfmt{\glscategory{#2}}%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\let\glxtrifwasglslike\@secondoftwo
\let\glxtrifwasfirstuse\@secondoftwo
\let\glsifplural\@secondoftwo
\let\glscapscase\@firstofthree
\glxtrsaveinsert{#2}{#3}%
\def\glscustomtext{%
\glxtrshortformat{#2}{#3}{\glsabbrvfont}%
}%
\@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
```

`\Glsxtrshort`

```
\newrobustcmd*{\Glsxtrshort}{\@gl@hyp@opt\@ns@Glsxtrshort}
\glsmfuaddmap{\glxtrshort}{\Glsxtrshort}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Glsxtrshort}[2] []{%
\new@ifnextchar[{\@Glsxtrshort{#1}{#2}}{\@Glsxtrshort{#1}{#2} []}%
}
```

Read in the final optional argument:

```
\def\@Glsxtrshort#1#2[#3]{%
\def\glxtrcurrentfield{short}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
\glssetabbrvfmt{\glscategory{#2}}%
\let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
\let\glxtrifwasglslike\@secondoftwo
\let\glxtrifwasfirstuse\@secondoftwo
```

```

\let\glsifplural\@secondoftwo
\let\glsifcaps\@secondofthree
\glsxtrsaveinsert{#2}{#3}%
\def\glscustomtext{%
  \Glsxtrshortformat{#2}{#3}{\glsabbrvfont}%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

`\GLSxtrshort`

```

\newrobustcmd*{\GLSxtrshort}{\@gls@hyp@opt\@ns@GLSxtrshort}
\glsmfublocker{\GLSxtrshort}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@GLSxtrshort}[2] [] {%
  \new@ifnextchar[{\@GLSxtrshort{#1}{#2}}{\@GLSxtrshort{#1}{#2} []}%
}

```

Read in the final optional argument:

```

\def\@GLSxtrshort#1#2[#3]{%
  \def\glsxtrcurrentfield{short}%
}

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{\glslink}%
\glsdoifexists{#2}%
{%
  \glssetabbrvfmt{\glscategory{#2}}%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glsifcaps\@thirdofthree
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{\Glsxtrshortformat{#2}{#3}{\glsabbrvfont}}%
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

`\glsxtrsetlongfirstuse` Assigns `\glsxtrifwasfirstuse` for the long commands. The argument is the entry label. This now makes commands such as `\glsxtrlong` simulate first use.

```

\newcommand{\glsxtrsetlongfirstuse}[1]{%
  \let\glsxtrifwasfirstuse\@firstoftwo
}

```

`\glxtrlong`

```
\newrobustcmd*{\glxtrlong}{\@gls@hyp@opt\ns@glxtrlong}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@glxtrlong}[2] []{%  
  \new@ifnextchar[{\@glxtrlong{#1}{#2}}{\@glxtrlong{#1}{#2} []}]%  
}
```

Read in the final optional argument:

```
\def\@glxtrlong#1#2[#3]{%  
  \def\glxtrcurrentfield{long}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxtr@record{#1}{#2}{glslink}%  
\glsdoifexists{#2}%  
{%  
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper  
  \let\glxtrifwasglslike\@secondoftwo  
  \let\glsifplural\@secondoftwo  
  \let\glscapscase\@firstofthree  
  \glxtrsetlongfirstuse{#2}%  
  \glxtrsaveinsert{#2}{#3}%  
  \def\glscustomtext{%  
    \glxtrlongformat{#2}{#3}{\glslongfont}%  
  }%  
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%  
}%  
\glspostlinkhook  
}
```

`\Glsxtrlong`

```
\newrobustcmd*{\Glsxtrlong}{\@gls@hyp@opt\ns@Glsxtrlong}  
\glsmfuaddmap{\glxtrlong}{\Glsxtrlong}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Glsxtrlong}[2] []{%  
  \new@ifnextchar[{\@Glsxtrlong{#1}{#2}}{\@Glsxtrlong{#1}{#2} []}]%  
}
```

Read in the final optional argument:

```
\def\@Glsxtrlong#1#2[#3]{%  
  \def\glxtrcurrentfield{long}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxtr@record{#1}{#2}{glslink}%
```



```

\glsdoifexists{#2}%
{%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glscapscase\@secondofthree
  \glsxtrsetlongfirstuse{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \Glsxtrlongformat{#2}{#3}{\glslongfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\GLSxtrlong

```

\newrobustcmd*{\GLSxtrlong}{\@gls@hyp@opt\ns@GLSxtrlong}
\glsmfublocker{\GLSxtrlong}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@GLSxtrlong}[2] [] {%
  \new@ifnextchar[{\@GLSxtrlong{#1}{#2}}{\@GLSxtrlong{#1}{#2} []}%
}

```

Read in the final optional argument:

```

\def\@GLSxtrlong#1#2[#3] {%
  \def\glsxtrcurrentfield{long}%
}

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{\glslink}%
\glsdoifexists{#2}%
{%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glscapscase\@thirdofthree
  \glsxtrsetlongfirstuse{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \GLSxtrlongformat{#2}{#3}{\glslongfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

Plural short forms:

`\glsxtrshortpl`

```
\newrobustcmd*{\glsxtrshortpl}{\@gls@hyp@opt\ns@glsxtrshortpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@glsxtrshortpl}[2] [] {%  
  \new@ifnextchar[{\@glsxtrshortpl{#1}{#2}}{\@glsxtrshortpl{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@glsxtrshortpl#1#2[#3] {%  
  \def\glsxtrcurrentfield{short}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glsxtr@record{#1}{#2}{glslink}%  
\glsdoifexists{#2}%  
{%  
  \glssetabbrvfmt{\glscategory{#2}}%  
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper  
  \let\glsxtrifwasglslike\@secondoftwo  
  \let\glsxtrifwasfirstuse\@secondoftwo  
  \let\glsifplural\@firstoftwo  
  \let\glscapscase\@firstofthree  
  \glsxtrsaveinsert{#2}{#3}%  
  \def\glscustomtext{%  
    \glsxtrshortplformat{#2}{#3}{\glsabbrvfont}%  
  }%  
  \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%  
}%  
\glspostlinkhook  
}
```

`\Glsxtrshortpl`

```
\newrobustcmd*{\Glsxtrshortpl}{\@gls@hyp@opt\ns@Glsxtrshortpl}  
\glsmfuaddmap{\glsxtrshortpl}{\Glsxtrshortpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Glsxtrshortpl}[2] [] {%  
  \new@ifnextchar[{\@Glsxtrshortpl{#1}{#2}}{\@Glsxtrshortpl{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@Glsxtrshortpl#1#2[#3] {%  
  \def\glsxtrcurrentfield{short}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
  \glssetabbrvfmt{\glscategory{#2}}%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@secondofthree
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \Glsxtrshortplformat{#2}{#3}{\glsabbrvfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\Glsxtrshortpl

```

\newrobustcmd*{\Glsxtrshortpl}{\@gls@hyp@opt\@ns@Glsxtrshortpl}
\glsmfublocker{\Glsxtrshortpl}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@Glsxtrshortpl}[2][ ]{%
  \new@ifnextchar[{\@Glsxtrshortpl{#1}{#2}}{\@Glsxtrshortpl{#1}{#2}[ ]}%
}

```

Read in the final optional argument:

```

\def\@Glsxtrshortpl#1#2[#3]{%
  \def\glsxtrcurrentfield{short}%
}

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
  \glssetabbrvfmt{\glscategory{#2}}%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@thirdofthree
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \Glsxtrshortplformat{#2}{#3}{\glsabbrvfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook

```

}

Plural long forms:

`\glxstrlongpl`

```
\newrobustcmd*{\glxstrlongpl}{\@gls@hyp@opt\ns@glxstrlongpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@glxstrlongpl}[2] [] {%  
  \new@ifnextchar[{\@glxstrlongpl{#1}{#2}}{\@glxstrlongpl{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@glxstrlongpl#1#2[#3] {%  
  \def\glxstrcurrentfield{long}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```
\@glxstr@record{#1}{#2}{glslink}%  
\glsdoifexists{#2}%  
{%  
  \let\do@glis@link@checkfirsthyper\@glis@link@nocheckfirsthyper  
  \let\glxstrifwasglslike\@secondoftwo  
  \let\glisifplural\@firstoftwo  
  \let\glscapscase\@firstofthree  
  \glxstrsetlongfirstuse{#2}%  
  \glxstrsaveinsert{#2}{#3}%  
  \def\glscustomtext{%  
    \glxstrlongplformat{#2}{#3}{\glslongfont}%  
  }%  
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%  
}%  
\glspostlinkhook  
}
```

`\Glsxtrlongpl`

```
\newrobustcmd*{\Glsxtrlongpl}{\@gls@hyp@opt\ns@Glsxtrlongpl}  
\glsmfuaddmap{\glxstrlongpl}{\Glsxtrlongpl}
```

Define the un-starred form. Need to determine if there is a final optional argument

```
\newcommand*{\ns@Glsxtrlongpl}[2] [] {%  
  \new@ifnextchar[{\@Glsxtrlongpl{#1}{#2}}{\@Glsxtrlongpl{#1}{#2} []}%  
}
```

Read in the final optional argument:

```
\def\@Glsxtrlongpl#1#2[#3] {%  
  \def\glxstrcurrentfield{long}%
```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glscapscase\@secondofthree
  \glsxtrsetlongfirstuse{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \GLSxtrlongplformat{#2}{#3}{\glslongfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}

```

\GLSxtrlongpl

```

\newrobustcmd*{\GLSxtrlongpl}{\@gls@hyp@opt\ns@GLSxtrlongpl}
\glsmfublocker{\GLSxtrlongpl}

```

Define the un-starred form. Need to determine if there is a final optional argument

```

\newcommand*{\ns@GLSxtrlongpl}[2][{}]{%
  \new@ifnextchar[{\@GLSxtrlongpl{#1}{#2}}{\@GLSxtrlongpl{#1}{#2}[]}%
}

```

Read in the final optional argument:

```

\def\@GLSxtrlongpl#1#2[#3]{%
  \def\glsxtrcurrentfield{long}%
}

```

If the record option has been used, the information needs to be written to the aux file regardless of whether the entry exists (unless indexing has been switched off).

```

\@glsxtr@record{#1}{#2}{glslink}%
\glsdoifexists{#2}%
{%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasglslike\@secondoftwo
  \let\glsifplural\@firstoftwo
  \let\glsapspace\@thirdofthree
  \glsxtrsetlongfirstuse{#2}%
  \glsxtrsaveinsert{#2}{#3}%
  \def\glscustomtext{%
    \GLSxtrlongplformat{#2}{#3}{\glslongfont}%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@glstype @entryfmt\endcsname}%
}

```

```

    }%
    \glspostlinkhook
  }

\glssetabbrvfmt Set the current format for the given category (or the abbreviation category if
unset).
\newcommand*\glssetabbrvfmt}[1]{%
  \ifcsdef{@glsabbrv@current@#1}%
  {\glsxtr@applyabbrvfmt{\csname @glsabbrv@current@#1\endcsname}}%
  {\glsxtr@applyabbrvfmt{\@glsabbrv@current@abbreviation}}%
}

\glsuseabbrvfont Provide a way to use the abbreviation font for a given category for arbitrary
text.
\newrobustcmd*\glsuseabbrvfont}[2]{\glssetabbrvfmt{#2}\glsabbrvfont{#1}}

\glsuselongfont Provide a way to use the long font for a given category for arbitrary text.
\newrobustcmd*\glsuselongfont}[2]{\glssetabbrvfmt{#2}\glslongfont{#1}}

\glsxtrgenabbrvfmt Similar to \glsngenacfmt, but for abbreviations. The expansion is to ensure
that \glsinsert is expanded before being passed to \glsfmtfield etc in the
event that an inner command is being used (which typically signifies a complex
formatting command such as those provided by soul).
\newcommand*\glsxtrgenabbrvfmt{%
  \ifdefempty\glscustomtext
  {%
    \ifglsused\glslabel
    {%
      Subsequent use:
      \glsifplural
      {%
        Subsequent plural form:
        \glscapscase
        {%
          Subsequent plural form, don't adjust case:
          \expandafter\glsxtrsubsequentplfmt\expandafter\glslabel
          \expandafter{\glsinsert}%
          }%
          {%
            Subsequent plural form, make first letter upper case:
            \expandafter\Glsxtrsubsequentplfmt\expandafter\glslabel
            \expandafter{\glsinsert}%
            }%
            {%

```

Subsequent plural form, all caps:

```
\expandafter\GLSxtrsubsequentplfmt\expandafter\glslabel  
  \expandafter{\glsinsert}%  
}%  
}%  
{%
```

Subsequent singular form

```
\glscapscase  
{%
```

Subsequent singular form, don't adjust case:

```
\expandafter\glsxtrsubsequentfmt\expandafter\glslabel  
  \expandafter{\glsinsert}%  
}%  
{%
```

Subsequent singular form, make first letter upper case:

```
\expandafter\GLSxtrsubsequentfmt\expandafter  
  \glslabel\expandafter{\glsinsert}%  
}%  
{%
```

Subsequent singular form, all caps:

```
\expandafter\GLSxtrsubsequentfmt\expandafter  
  \glslabel\expandafter{\glsinsert}%  
}%  
}%  
}%  
{%
```

First use:

```
\glsifplural  
{%
```

First use plural form:

```
\glscapscase  
{%
```

First use plural form, don't adjust case:

```
\expandafter\glsxtrfullplformat\expandafter\glslabel  
  \expandafter{\glsinsert}%  
}%  
{%
```

First use plural form, make first letter upper case:

```
\expandafter\GLSxtrfullplformat\expandafter\glslabel  
  \expandafter{\glsinsert}%  
}%  
{%
```

First use plural form, all caps:

```
\expandafter\GLSxtrfullplformat\expandafter\glslabel
```

```

        \expandafter{\glsinsert}%
    }%
}%
{%
```

First use singular form

```

    \glscapscase
    {%
```

First use singular form, don't adjust case:

```

        \expandafter\glsxtrfullformat\expandafter\glslabel
        \expandafter{\glsinsert}%
    }%
    {%
```

First use singular form, make first letter upper case:

```

        \expandafter\Glsxtrfullformat\expandafter\glslabel
        \expandafter{\glsinsert}%
    }%
    {%
```

First use singular form, all caps:

```

        \expandafter\GLSxtrfullformat\expandafter\glslabel
        \expandafter{\glsinsert}%
    }%
}%
}%
}%
{%
```

Custom text provided in `\glsdisp`. (The insert is most likely to be empty at this point.) Any inner formatting can be supplied with the custom text.

```

    \glscustomtext
}%
}
```

`\glsxtrsubsequentfmt` Subsequent use format (singular no case change).

```

\newcommand*{\glsxtrsubsequentfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\glsaccessshort{#1}}\glsxtrgenentrytextfmt{#2}}%
    \else
      \glsabbrvfont{\glsaccessshort{#1}}\glsxtrgenentrytextfmt{#2}}%
    \fi
  }%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\glsaccessfmtshort{#2}}{\glsxtrgenentrytextfmt{#1}}}%
    \else
      \glsabbrvfont{\glsaccessfmtshort{}}{\glsxtrgenentrytextfmt{#1}}}%
  }
```



```

        \glxtrgenentrytextfmt{#2}%
    \fi
  }%
}
\let\glxtrdefaultsubsequentfmt\glxtrsubsequentfmt

```

`\glxtrsubsequentplfmt` Subsequent use format (plural no case change).

```

\newcommand*{\glxtrsubsequentplfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglxtrininsertinside
      \glsabbrvfont{\glsaccessshortpl{#1}\glxtrgenentrytextfmt{#2}}%
    \else
      \glsabbrvfont{\glsaccessshortpl{#1}}\glxtrgenentrytextfmt{#2}%
    \fi
  }%
  {%
    \ifglxtrininsertinside
      \glsabbrvfont{\glsaccessfmtshortpl{#2}{\glxtrgenentrytextfmt}{#1}}%
    \else
      \glsabbrvfont{\glsaccessfmtshortpl{}{\glxtrgenentrytextfmt}{#1}}%
      \glxtrgenentrytextfmt{#2}%
    \fi
  }%
}
\let\glxtrdefaultsubsequentplfmt\glxtrsubsequentplfmt

```

`\Glsxtrsubsequentfmt` Subsequent use format (singular, first letter uppercase).

```

\newcommand*{\Glsxtrsubsequentfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglxtrininsertinside
      \glsabbrvfont{\Glsaccessshort{#1}\glxtrgenentrytextfmt{#2}}%
    \else
      \glsabbrvfont{\Glsaccessshort{#1}}\glxtrgenentrytextfmt{#2}%
    \fi
  }%
  {%
    \ifglxtrininsertinside
      \glsabbrvfont{\Glsaccessfmtshort{#2}{\glxtrgenentrytextfmt}{#1}}%
    \else
      \glsabbrvfont{\Glsaccessfmtshort{}{\glxtrgenentrytextfmt}{#1}}%
      \glxtrgenentrytextfmt{#2}%
    \fi
  }%
}
\let\Glsxtrdefaultsubsequentfmt\Glsxtrsubsequentfmt
\glsmfuaddmap{\glxtrsubsequentfmt}{\Glsxtrsubsequentfmt}

```

`\Glsxtrsubsequentplfmt` Subsequent use format (plural, first letter uppercase).

```

\newcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\Glsaccessshortpl{#1}\glsxtrgenentrytextfmt{#2}}%
    \else
      \glsabbrvfont{\Glsaccessshortpl{#1}}\glsxtrgenentrytextfmt{#2}%
    \fi
  }%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\Glsaccessfmtshortpl{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      \glsabbrvfont{\Glsaccessfmtshortpl}{\glsxtrgenentrytextfmt}{#1}}%
      \glsxtrgenentrytextfmt{#2}%
    \fi
  }%
}
\let\Glsxtrdefaultsubsequentplfmt\Glsxtrsubsequentplfmt
\glsmfuaddmap{\glsxtrsubsequentplfmt}{\Glsxtrsubsequentplfmt}

```

`\Glsxtrsubsequentfmt` Subsequent use format (singular, all caps).

```

\newcommand*\Glsxtrsubsequentfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\Glsaccessshort{#1}}%
      \glsuppercase{\glsxtrgenentrytextfmt{#2}}}%
    \else
      \glsabbrvfont{\Glsaccessshort{#1}}%
      \glsuppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    \ifglsxtrininsertinside
      \glsabbrvfont{\Glsaccessfmtshort{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      \glsabbrvfont{\Glsaccessfmtshort}{\glsxtrgenentrytextfmt}{#1}}%
      \glsuppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
  }%
}
\glsmfublocker{\Glsxtrsubsequentfmt}
\let\Glsxtrdefaultsubsequentfmt\Glsxtrsubsequentfmt

```

`\Glsxtrsubsequentplfmt` Subsequent use format (plural, all caps).

```

\newcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglsxtrininsertinside

```

```

        \glsabbrvfont{\GLSaccessshortpl{#1}%
        \glsuppercase{\glsxtrgenentrytextfmt{#2}}}%
    \else
        \glsabbrvfont{\GLSaccessshortpl{#1}}%
        \glsuppercase{\glsxtrgenentrytextfmt{#2}}%
    \fi
}%
{%
    \ifglsxtrinsertinside
        \glsabbrvfont{\GLSaccessfmtshortpl{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
        \glsabbrvfont{\GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{#1}}%
        \glsuppercase{\glsxtrgenentrytextfmt{#2}}%
    \fi
}%
}
\glsmfublocker{\GLSxtrsubsequentplfmt}
\let\GLSxtrdefaultsubsequentplfmt\GLSxtrsubsequentplfmt

```

### 1.7.1 Abbreviation Styles Setup

```

\setabbreviationstyle
    \newcommand*{\setabbreviationstyle}[2][abbreviation]{%
        \ifcsundef{@glsabbrv@dispstyle@setup@#2}
        {%
            \PackageError{glossaries-extra}{Undefined abbreviation style ‘#2’}{%
            }%
        }%
        {%
            Have abbreviations already been defined for this category?
            \ifcsstring{@glsabbrv@current@#1}{#2}%
            {%
                Style already set.
            }%
            {%
                \def@glsxtr@dostylewarn{}%
                \glsforeachincategory{#1}{\@gls@type}{\@gls@label}%
                {%
                    \def@glsxtr@dostylewarn{\GlossariesWarning{Abbreviation
                    style has been switched \MessageBreak
                    for category ‘#1’, \MessageBreak
                    but there have already been entries \MessageBreak
                    defined for this category. Unwanted \MessageBreak
                    side-effects may result}}%
                    \@endfortrue
                }%
                \@glsxtr@dostylewarn
            }%
            Set up the style for the given category.
            \csdef{@glsabbrv@current@#1}{#2}%
        }%
    }%

```

```

        \protected@edef\glscategorylabel{#1}%
        \glsxtr@applyabbrvstyle{#2}%
    }%
}

```

`\glsxtr@applyabbrvstyle` Apply the abbreviation style without existence check.

```

\newcommand*\glsxtr@applyabbrvstyle}[1]{%
  \csuse{@glsabbrv@dispstyle@setup@#1}%
  \csuse{@glsabbrv@dispstyle@fmts@#1}%
}

```

`\glsxtr@applyabbrvfmt` Only apply the style formats.

```

\newcommand*\glsxtr@applyabbrvfmt}[1]{%
  \csuse{@glsabbrv@dispstyle@fmts@#1}%
}

```

`\glsxtrsetcomplexstyle` Identify an entry as having a complex abbreviation style that doesn't work with `\GLSfirst` etc. The argument is the entry label. The second argument should be numeric: 1 (all caps doesn't work), 2 (all caps and insert don't work), 3 (insert doesn't work).

```

\newcommand*\glsxtrsetcomplexstyle}[2]{%
  \csdef{@glsxtr@has@complexstyle@#1}{#2}%
}

```

`\glsxtr@do@ifcomplexstyle@allcaps` Do second argument if entry identified by first argument has a problem with all caps. Does nothing otherwise.

```

\newcommand*\glsxtr@do@ifcomplexstyle@allcaps}[2]{%
  \ifcsdef{@glsxtr@has@complexstyle@#1}%
  {%
    \ifnum\csuse{@glsxtr@has@complexstyle@#1}<1
    \else
    \ifnum\csuse{@glsxtr@has@complexstyle@#1}<3
      #2%
    \fi
  }%
  \fi
}

```

`\glsxtr@do@ifcomplexstyle@insert` Do second argument if entry identified by first argument has a problem with the insert argument. Does nothing otherwise.

```

\newcommand*\glsxtr@do@ifcomplexstyle@insert}[2]{%
  \ifcsdef{@glsxtr@has@complexstyle@#1}%
  {%
    \ifnum\csuse{@glsxtr@has@complexstyle@#1}<2
    \else
      #2%
    \fi
  }%
}

```

```

}%
{}%
}

```

sAbbrStyleTooComplexWarning

```

\newcommand*{\GlossariesAbbrStyleTooComplexWarning}[2]{%
  \GlossariesExtraWarning{Abbreviation style used by ‘#1’ too complex #2}%
}

```

\glsxtr@check@complexstyle The first argument is the label the second is the insert.

```

\newcommand*{\glsxtr@check@complexstyle}[2]{%
  \ifx\glscapscase\@thirdofthree
  \glsxtr@do@ifcomplexstyle@allcaps{#1}%
  {%
    \glsxtrifwasfirstuse
    {%
      \glsifplural
      {%
        \GlossariesAbbrStyleTooComplexWarning{#1}{for \string\GLSfirstplural.
          Use \string\GLSpl{#1} or \string\GLSxtrfullpl{#1} instead.
          Switching off all-caps%
        }%
      }%
    }%
    \GlossariesAbbrStyleTooComplexWarning{#1}{for \string\GLSfirst.
      Use \string\GLS{#1} or \string\GLSxtrfull{#1} instead.
      Switching off all-caps%
    }%
  }%
  }%
  {%
    \glsifplural
    {%
      \GlossariesAbbrStyleTooComplexWarning{#1}{for \string\GLSplplural.
        Use \string\GLSpl{#1} or \string\GLSxtrshortpl{#1} instead.
        Switching off all-caps%
      }%
    }%
  }%
  \GlossariesAbbrStyleTooComplexWarning{#1}{for \string\GLSxtrshort.
    Use \string\GLS{#1} or \string\GLSxtrshort{#1} instead.
    Switching off all-caps%
  }%
  }%
  \let\glscapscase\@firstofthree
}%
\fi
\ifstrempy{#2}{}%
{%

```

```

\glxtr@do@ifcomplexstyle@insert{#1}%
{%
  \GlossariesAbbrStyleTooComplexWarning{#1}%
  {to support insert argument with commands like \string\glfirst\space or
  \string\glstext. Unexpected results may occur. Use commands
  like \string\gls\space or \string\glxtrshort\space instead}%
}%
}%
}

```

`\newabbreviationstyle` This is different from `\newacronymstyle`. The first argument is the label, the second argument sets the information required when defining the new abbreviation and the third argument sets the commands used to display the full format.

```

\newcommand*{\newabbreviationstyle}[3]{%
  \ifcsdef{@glsabbrv@dispstyle@setup@#1}
  {%
    \PackageError{glossaries-extra}{Abbreviation style ‘#1’ already
    defined}{}%
  }%
  {%
    \csdef{@glsabbrv@dispstyle@setup@#1}{%

```

Initialise hook to do nothing. The style may change this.

```

  \renewcommand*{\GlsXtrPostNewAbbreviation}{}%
  #2}%
  \csdef{@glsabbrv@dispstyle@fmts@#1}{%

```

Assume in-line form is the same as first use. The style may change this.

```

  \renewcommand*{\glxtrinlinefullformat}{\glxtrfullformat}%
  \renewcommand*{\Glsxtrinlinefullformat}{\Glsxtrfullformat}%
  \renewcommand*{\GLSxtrinlinefullformat}{\GLSxtrfullformat}%
  \renewcommand*{\glxtrinlinefullplformat}{\glxtrfullplformat}%
  \renewcommand*{\Glsxtrinlinefullplformat}{\Glsxtrfullplformat}%
  \renewcommand*{\GLSxtrinlinefullplformat}{\GLSxtrfullplformat}%

```

In the event that some custom styles predate the introduction of the all caps versions, provide default definitions:

```

  \renewcommand*{\GLSxtrfullformat}{\GLSxtr@fullformat@fallback}%
  \renewcommand*{\GLSxtrfullplformat}{\GLSxtr@fullplformat@fallback}%

```

Reset `\glxtrsubsequentfmt` etc in case a style changes this.

```

  \let\glxtrsubsequentfmt\glxtrdefaultsubsequentfmt
  \let\glxtrsubsequentplfmt\glxtrdefaultsubsequentplfmt
  \let\Glsxtrsubsequentfmt\Glsxtrdefaultsubsequentfmt
  \let\Glsxtrsubsequentplfmt\Glsxtrdefaultsubsequentplfmt
  \let\GLSxtrsubsequentfmt\GLSxtrdefaultsubsequentfmt
  \let\GLSxtrsubsequentplfmt\GLSxtrdefaultsubsequentplfmt
  #3}%
}%
}

```

`\renewabbreviationstyle`

```
\newcommand*\renewabbreviationstyle}[3]{%
  \ifcsundef{@glsabbrv@dispstyle@setup@#1}
  {%
    \PackageError{glossaries-extra}{Abbreviation style ‘#1’ not defined}{}%
  }%
  {%
    \csdef{@glsabbrv@dispstyle@setup@#1}{%

```

Initialise hook to do nothing. The style may change this.

```
\renewcommand*\GlsXtrPostNewAbbreviation}{}%
#2}%
\csdef{@glsabbrv@dispstyle@fmts@#1}{%

```

Assume in-line form is the same as first use. The style may change this.

```
\renewcommand*\glsxtrinlinefullformat{\glsxtrfullformat}%
\renewcommand*\Glsxtrinlinefullformat{\Glsxtrfullformat}%
\renewcommand*\GLSxtrinlinefullformat{\GLSxtrfullformat}%
\renewcommand*\glsxtrinlinefullplformat{\glsxtrfullplformat}%
\renewcommand*\Glsxtrinlinefullplformat{\Glsxtrfullplformat}%
\renewcommand*\GLSxtrinlinefullplformat{\GLSxtrfullplformat}%

```

In the event that some custom styles predate the introduction of the all caps versions, provide default definitions:

```
\renewcommand*\GLSxtrfullformat{\GLSxtr@fullformat@fallback}%
\renewcommand*\GLSxtrfullplformat{\GLSxtr@fullplformat@fallback}%

```

Reset `\glsxtrsubsequentfmt` etc in case a style changes this.

```
\let\glsxtrsubsequentfmt\glsxtrdefaultsubsequentfmt
\let\glsxtrsubsequentplfmt\glsxtrdefaultsubsequentplfmt
\let\Glsxtrsubsequentfmt\Glsxtrdefaultsubsequentfmt
\let\Glsxtrsubsequentplfmt\Glsxtrdefaultsubsequentplfmt
\let\GLSxtrsubsequentfmt\GLSxtrdefaultsubsequentfmt
\let\GLSxtrsubsequentplfmt\GLSxtrdefaultsubsequentplfmt
#3}%
}%
}
```

`\letabbreviationstyle` Define a synonym for an abbreviation style. The first argument is the new name. The second argument is the original style's name.

```
\newcommand*\letabbreviationstyle}[2]{%
  \csletcs{@glsabbrv@dispstyle@setup@#1}{@glsabbrv@dispstyle@setup@#2}%
  \csletcs{@glsabbrv@dispstyle@fmts@#1}{@glsabbrv@dispstyle@fmts@#2}%
}
```

`\@glsxtr@deprecated@abbrstyle{<old-name>}{<new-name>}`

`\@glsxtr@deprecated@abbrstyle`

Define a synonym for a deprecated abbreviation style.

```
\newcommand*\@glsxtr@deprecated@abbrstyle}[2]{%

```

```

\csdef{@glsabbrv@dispstyle@setup@#1}{%
  \GlsXtrWarnDeprecatedAbbrStyle{#1}{#2}%
  \csuse{@glsabbrv@dispstyle@setup@#2}%
}%
\csletcs{@glsabbrv@dispstyle@fmts@#1}{@glsabbrv@dispstyle@fmts@#2}%
}

```

`\GlsXtrWarnDeprecatedAbbrStyle` Generate warning for deprecated style use.

```

\newcommand*{\GlsXtrWarnDeprecatedAbbrStyle}[2]{%
  \GlossariesExtraWarning{Deprecated abbreviation style name ‘#1’,
  use ‘#2’ instead}%
}

```

`\GlsXtrUseAbbrStyleSetup`

```

\newcommand*{\GlsXtrUseAbbrStyleSetup}[1]{%
  \ifcsundef{@glsabbrv@dispstyle@setup@#1}%
  {%
    \PackageError{glossaries-extra}%
    {Unknown abbreviation style definitions ‘#1’}{}%
  }%
  {%
    \csname @glsabbrv@dispstyle@setup@#1\endcsname
  }%
}

```

`\GlsXtrUseAbbrStyleFmts`

```

\newcommand*{\GlsXtrUseAbbrStyleFmts}[1]{%
  \ifcsundef{@glsabbrv@dispstyle@fmts@#1}%
  {%
    \PackageError{glossaries-extra}%
    {Unknown abbreviation style formats ‘#1’}{}%
  }%
  {%
    \csname @glsabbrv@dispstyle@fmts@#1\endcsname
  }%
}

```

## 1.7.2 Predefined Styles

Define some common styles. These will set the `first`, `firstplural`, `text` and `plural` keys, even if the `regular` attribute isn’t set to “true”. If this attribute is set, commands like `\gls` will use them as per a regular entry, otherwise those keys will be ignored unless explicitly invoked by the user with commands like `\glsfirst`. In order for the sentence case versions to work correctly, `\glsxtrfullformat` needs to be expanded when those keys are set. The final optional argument of `\glsfirst` will behave differently to the final optional argument of `\gls` with some styles.

v1.49 has introduced `innertextformat` for formatting commands that need access to the actual text (which is normally too deeply embedded). The styles



have been modified to allow for this. The all caps versions also now need to be implemented within the styles as again the text is now to deeply embedded for the case change to otherwise work.

`\ifglxtrinsertinside` Switch to determine if the insert text should be inside or outside the font changing command. The default is outside.

```
\newif\ifglxtrinsertinside
\glxtrinsertinsidefalse
```

The abbreviation styles are now defined in the file `glossaries-extra-abbrstyles.def`, which needs to be input here:

```
\input{glossaries-extra-abbrstyles.def}
```

## 1.8 Using Entries in Headings

There are four main problems with using entries in sectioning commands: they can mess with the first use flag if they end up in the table of contents, they can add unwanted numbers to the entry's location list, the label is corrupted if used inside `\MakeUppercase` (which is used by the default headings style) and they need to be expandable for PDF bookmarks. The `glossaries` package therefore recommends the use of the expandable commands, such as `\glstryshort`, instead but this doesn't reflect the formatting since it doesn't include `\glabbrvfont`. The commands below are an attempt to get around these problems.

The PDF bookmark issue can easily be fixed with `hyperref`'s `\texorpdfstring` which can simply use the expandable command in the PDF string case. The `TEX` string case can now use `\glxtrshort` with the `noindex` key set, which prevents the unwanted additions to the location list, and the `hyper` key set to `false`, which prevents the problem of nested links. This just leaves one thing left that needs to be dealt with, and that's what to do if the heading style uses `\MakeUppercase`.

Note that `glossaries` automatically loads `textcase` unless `mfirstuc 2.08+` is detected, so the label can be protected from case change with `textcase`'s `\NoCaseChange`. This means that we don't have a problem provided the page style uses `\MakeTextUppercase`, but the default heading page style uses `\MakeUppercase`. (With newer versions of `mfirstuc`, exclusions are used to protect labels).

To get around this, save the original definition of `\markboth` and `\markright` and adjust it so that `\MakeUppercase` is temporarily redefined to `\MakeTextUppercase`. Some packages or classes redefine these commands, so we can't just assume they still have the original kernel definition. This only needs to be done with old versions of `mfirstuc`.

`\markright` Save original definition:

```
\let\@glxtr@org@markright\markright
```

Redefine (grouping not added in case it interferes with the original code):

```
\renewcommand*\markright}[1]{%
\glxtrmarkhook
\@glxtr@org@markright{\@glxtrinmark#1\@glxtrnotinmark}%
\glxtrrestoremarkhook
}
```

`\markboth` Save original definition:

```
\let\@glxtr@org@markboth\markboth
```

Redefine (grouping not added in case it interferes with the original code):

```
\renewcommand*\markboth}[2]{%
\glxtrmarkhook
\@glxtr@org@markboth
  {\@glxtrinmark#1\@glxtrnotinmark}%
  {\@glxtrinmark#2\@glxtrnotinmark}%
\glxtrrestoremarkhook
}
```

Also do this for `\@starttoc`

`\@starttoc` Save original definition:

```
\let\@glxtr@org@@starttoc\@starttoc
```

Redefine:

```
\renewcommand*\@starttoc}[1]{%
\let\glxtrifintoc\@firstoftwo
\glxtrmarkhook
\@glxtrinmark
\@glxtr@org@@starttoc{#1}%
\@glxtrnotinmark
\glxtrrestoremarkhook
\let\glxtrifintoc\@secondoftwo
}
```

If this causes a problem provide a simple way of switching back to the original definitions:

`\glxtrRevertMarks`

```
\newcommand*\glxtrRevertMarks){%
\let\markright\@glxtr@org@markright
\let\markboth\@glxtr@org@markboth
\let\@starttoc\@glxtr@org@@starttoc
}
```

`\glxtrRevertTocMarks` Just restores `\@starttoc`.

```
\newcommand*\glxtrRevertTocMarks){%
\let\@starttoc\@glxtr@org@@starttoc
}
```

```
\glxtrifinmark
\newcommand*\glxtrifinmark}[2]{#2}
```

```
\@glxtrinmark
\newrobustcmd*\@glxtrinmark{%
\let\glxtrifinmark\@firstoftwo
}
```

```
\@glxtrnotinmark
\newrobustcmd*\@glxtrnotinmark{%
\let\glxtrifinmark\@secondoftwo
}
```

```
\glxtrtitleorpdforheading
\newcommand*\glxtrtitleorpdforheading}[3]{%
\glxtrifinmark{#3}{\glstexorpdfstring{#1}{#2}}}
```

This will require `\GetTitleStringSetup{expand}` to work.

```
\ifdef\GetTitleStringDisableCommands
{\GetTitleStringDisableCommands{\let\glxtrtitleorpdforheading\@thirdofthree
\let\glxtrifinmark\@firstoftwo}}
{}}
```

`\glxtrmarkhook` Hook used in new definition of `\markboth` and `\markright` to make some changes to apply to the marks:

```
\newcommand*\glxtrmarkhook{%
```

Save current definitions:

```
\@glxtr@saveMakeUppercase
\let\@glxtr@org@glxtrtitleorpdforheading\glxtrtitleorpdforheading
\let\@glxtr@org@glxtrtitleshort\glxtrtitleshort
\let\@glxtr@org@glxtrtitleshortpl\glxtrtitleshortpl
\let\@glxtr@org@GLxtrtitleshort\GLxtrtitleshort
\let\@glxtr@org@GLxtrtitleshortpl\GLxtrtitleshortpl
\let\@glxtr@org@GLSxtrtitleshort\GLSxtrtitleshort
\let\@glxtr@org@GLSxtrtitleshortpl\GLSxtrtitleshortpl
\let\@glxtr@org@glxtrtitlename\glxtrtitlename
\let\@glxtr@org@GLxtrtitlename\GLxtrtitlename
\let\@glxtr@org@GLSxtrtitlename\GLSxtrtitlename
\let\@glxtr@org@glxtrtitletext\glxtrtitletext
\let\@glxtr@org@GLxtrtitletext\GLxtrtitletext
\let\@glxtr@org@GLSxtrtitletext\GLSxtrtitletext
\let\@glxtr@org@glxtrtitleplural\glxtrtitleplural
\let\@glxtr@org@GLxtrtitleplural\GLxtrtitleplural
\let\@glxtr@org@GLSxtrtitleplural\GLSxtrtitleplural
\let\@glxtr@org@glxtrtitlefirst\glxtrtitlefirst
\let\@glxtr@org@GLxtrtitlefirst\GLxtrtitlefirst
```

```

\let\@glsxtr@org@GLSxtrtitlefirst\GLSxtrtitlefirst
\let\@glsxtr@org@glsxtrtitlefirstplural\glsxtrtitlefirstplural
\let\@glsxtr@org@Glsxtrtitlefirstplural\Glsxtrtitlefirstplural
\let\@glsxtr@org@GLSxtrtitlefirstplural\GLSxtrtitlefirstplural
\let\@glsxtr@org@glsxtrtitlelong\glsxtrtitlelong
\let\@glsxtr@org@glsxtrtitlelongpl\glsxtrtitlelongpl
\let\@glsxtr@org@Glsxtrtitlelong\Glsxtrtitlelong
\let\@glsxtr@org@Glsxtrtitlelongpl\Glsxtrtitlelongpl
\let\@glsxtr@org@glsxtrtitlefull\glsxtrtitlefull
\let\@glsxtr@org@glsxtrtitlefullpl\glsxtrtitlefullpl
\let\@glsxtr@org@Glsxtrtitlefull\Glsxtrtitlefull
\let\@glsxtr@org@Glsxtrtitlefullpl\Glsxtrtitlefullpl
\let\@glsxtr@org@GLSxtrtitlefull\GLSxtrtitlefull
\let\@glsxtr@org@GLSxtrtitlefullpl\GLSxtrtitlefullpl

```

New definitions

```

\let\glsxtrifinmark\@firstoftwo
\@glsxtr@assignMakeUppercase
\let\glsxtrtitleorpdforheading\@thirdofthree
\let\glsxtrtitleshort\glsxtrheadshort
\let\glsxtrtitleshortpl\glsxtrheadshortpl
\let\Glsxtrtitleshort\Glsxtrheadshort
\let\Glsxtrtitleshortpl\Glsxtrheadshortpl
\let\GLSxtrtitleshort\GLSxtrheadshort
\let\GLSxtrtitleshortpl\GLSxtrheadshortpl
\let\glsxtrtitlename\glsxtrheadname
\let\Glsxtrtitlename\Glsxtrheadname
\let\GLSxtrtitlename\GLSxtrheadname
\let\glsxtrtitletext\glsxtrheadtext
\let\Glsxtrtitletext\Glsxtrheadtext
\let\GLSxtrtitletext\GLSxtrheadtext
\let\glsxtrtitleplural\glsxtrheadplural
\let\Glsxtrtitleplural\Glsxtrheadplural
\let\GLSxtrtitleplural\GLSxtrheadplural
\let\glsxtrtitlefirst\glsxtrheadfirst
\let\Glsxtrtitlefirst\Glsxtrheadfirst
\let\GLSxtrtitlefirst\GLSxtrheadfirst
\let\glsxtrtitlefirstplural\glsxtrheadfirstplural
\let\Glsxtrtitlefirstplural\Glsxtrheadfirstplural
\let\GLSxtrtitlefirstplural\GLSxtrheadfirstplural
\let\glsxtrtitlelong\glsxtrheadlong
\let\glsxtrtitlelongpl\glsxtrheadlongpl
\let\Glsxtrtitlelong\Glsxtrheadlong
\let\Glsxtrtitlelongpl\Glsxtrheadlongpl
\let\glsxtrtitlefull\glsxtrheadfull
\let\glsxtrtitlefullpl\glsxtrheadfullpl
\let\Glsxtrtitlefull\Glsxtrheadfull
\let\Glsxtrtitlefullpl\Glsxtrheadfullpl
\let\GLSxtrtitlefull\GLSxtrheadfull
\let\GLSxtrtitlefullpl\GLSxtrheadfullpl

```

```
}
```

`\glxtrrestoremarkhook` Hook used in new definition of `\markboth` and `\markright` to restore the modified definitions. (This is in case the original `\markboth` and `\markright` shouldn't be grouped for some reason. There already is some grouping within those original definitions, but some of the code lies outside that grouping, and possibly there's a reason for it.)

```
\newcommand*{\glxtrrestoremarkhook}{%
  \let\glxtrifinmark\@secondoftwo
  \@glxtr@restoreMakeUppercase
  \let\glxtrtitleorpdforheading\@glxtr@org@glxtrtitleorpdforheading
  \let\glxtrtitleshort\@glxtr@org@glxtrtitleshort
  \let\glxtrtitleshortpl\@glxtr@org@glxtrtitleshortpl
  \let\Glsxtrtitleshort\@glxtr@org@Glsxtrtitleshort
  \let\Glsxtrtitleshortpl\@glxtr@org@Glsxtrtitleshortpl
  \let\GLSxtrtitleshort\@glxtr@org@GLSxtrtitleshort
  \let\GLSxtrtitleshortpl\@glxtr@org@GLSxtrtitleshortpl
  \let\glxtrtitlename\@glxtr@org@glxtrtitlename
  \let\Glsxtrtitlename\@glxtr@org@Glsxtrtitlename
  \let\GLSxtrtitlename\@glxtr@org@GLSxtrtitlename
  \let\glxtrtitletext\@glxtr@org@glxtrtitletext
  \let\Glsxtrtitletext\@glxtr@org@Glsxtrtitletext
  \let\GLSxtrtitletext\@glxtr@org@GLSxtrtitletext
  \let\glxtrtitleplural\@glxtr@org@glxtrtitleplural
  \let\Glsxtrtitleplural\@glxtr@org@Glsxtrtitleplural
  \let\GLSxtrtitleplural\@glxtr@org@GLSxtrtitleplural
  \let\glxtrtitlefirst\@glxtr@org@glxtrtitlefirst
  \let\Glsxtrtitlefirst\@glxtr@org@Glsxtrtitlefirst
  \let\GLSxtrtitlefirst\@glxtr@org@GLSxtrtitlefirst
  \let\glxtrtitlefirstplural\@glxtr@org@glxtrtitlefirstplural
  \let\Glsxtrtitlefirstplural\@glxtr@org@Glsxtrtitlefirstplural
  \let\GLSxtrtitlefirstplural\@glxtr@org@GLSxtrtitlefirstplural
  \let\glxtrtitlelong\@glxtr@org@glxtrtitlelong
  \let\glxtrtitlelongpl\@glxtr@org@glxtrtitlelongpl
  \let\Glsxtrtitlelong\@glxtr@org@Glsxtrtitlelong
  \let\Glsxtrtitlelongpl\@glxtr@org@Glsxtrtitlelongpl
  \let\glxtrtitlefull\@glxtr@org@glxtrtitlefull
  \let\glxtrtitlefullpl\@glxtr@org@glxtrtitlefullpl
  \let\Glsxtrtitlefull\@glxtr@org@Glsxtrtitlefull
  \let\Glsxtrtitlefullpl\@glxtr@org@Glsxtrtitlefullpl
  \let\GLSxtrtitlefull\@glxtr@org@GLSxtrtitlefull
  \let\GLSxtrtitlefullpl\@glxtr@org@GLSxtrtitlefullpl
}
```

Instead of using one document-wide conditional, use `headuc` attribute to determine whether or not to use the all upper case form.

`\glxtrtitleopts` Make it possible to change the default options within the title (but not the page header or table of contents).

```
\newcommand*{\glxtrtitleopts}{noindex,hyper=false}
```

```
\glxtr@title@field{<cs>}{<label>}
```

`\glxtr@title@field`

Used by all the `\glxtrtitle<field>` commands for consistency.

```
\newcommand*{\glxtr@title@field}[2]{%
  \expandafter#1\expandafter[\glxtrtitleopts]{#2} []%
}
```

`\glxtrheadshort` Command used to display short form in the page header.

```
\newcommand*{\glxtrheadshort}[1]{%
  \protect\NoCaseChange
  {%
    \glxtrifheaduc{#1}%
    {%
      \GLSxtrshort[noindex,hyper=false]{#1} []%
    }%
    {%
      \glxtrshort[noindex,hyper=false]{#1} []%
    }%
  }%
}
```

`\glxtrtitleshort` Command to display short form of abbreviation in section title.

```
\newrobustcmd*{\glxtrtitleshort}[1]{%
  \glxtr@title@field\glxtrshort{#1}%
}
```

`\glxtrheadshortpl` Command used to display plural short form in the page header. If you want the text converted to upper case, this needs to be redefined to use `\GLSxtrshortpl` instead. If you are using a smallcaps style, the default fonts don't provide italic smallcaps.

```
\newcommand*{\glxtrheadshortpl}[1]{%
  \protect\NoCaseChange
  {%
    \glxtrifheaduc{#1}%
    {%
      \GLSxtrshortpl[noindex,hyper=false]{#1} []%
    }%
    {%
      \glxtrshortpl[noindex,hyper=false]{#1} []%
    }%
  }%
}
```

`\glxtrtitleshortpl` Command to display plural short form of abbreviation in section title.

```
\newrobustcmd*{\glxtrtitleshortpl}[1]{%
  \glxtr@title@field\glxtrshortpl{#1}%
}
```

`\Glsxtrheadshort` Command used to display short form in the page header with the first letter converted to upper case.

```

\newcommand*{\Glsxtrheadshort}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
}%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
}

```

`\Glsxtrtitleshort` Command to display short form of abbreviation in section title with the first letter converted to upper case.

```

\newrobustcmd*{\Glsxtrtitleshort}[1]{%
\glsxtr@title@field\Glsxtrshort{#1}%
}

```

`\GLSxtrheadshort` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadshort}[1]{%
\protect\NoCaseChange
{%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
}

```

`\GLSxtrtitleshort` Command to display short form of abbreviation in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitleshort}[1]{%
\glsxtr@title@field\GLSxtrshort{#1}%
}

```

`\GLSxtrheadshortpl` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadshortpl}[1]{%
\protect\NoCaseChange
{%
\Glsxtrshortpl[noindex,hyper=false]{#1}[]%
}%
}

```

`\Glsxtrheadshortpl` Command used to display plural short form in the page header with the first letter converted to upper case.

```

\newcommand*{\Glsxtrheadshortpl}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%

```

```

        \GLSxtrshortpl [noindex,hyper=false] {#1} []%
    }%
    {%
        \GLSxtrshortpl [noindex,hyper=false] {#1} []%
    }%
}
}

```

`\Glsxtrtitleshortpl` Command to display plural short form of abbreviation in section title with the first letter converted to upper case.

```

\newrobustcmd*{\Glsxtrtitleshortpl}[1]{%
  \glsxtr@title@field\GLSxtrshortpl{#1}%
}

```

`\GLSxtrtitleshortpl` Command to display plural short form of abbreviation in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitleshortpl}[1]{%
  \glsxtr@title@field\GLSxtrshortpl{#1}%
}

```

`\glsxtrheadname` As above but for the name value.

```

\newcommand*{\glsxtrheadname}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
  }%
  {%
    \GLSname [noindex,hyper=false] {#1} []%
  }%
  {%
    \glsname [noindex,hyper=false] {#1} []%
  }%
}

```

`\glsxtrtitlename` Command to display name value in section title.

```

\newrobustcmd*{\glsxtrtitlename}[1]{%
  \glsxtr@title@field\glsname{#1}%
}

```

`\Glsxtrheadname` First letter converted to upper case

```

\newcommand*{\Glsxtrheadname}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
  }%
  {%
    \GLSname [noindex,hyper=false] {#1} []%
  }%
  {%
    \Glsname [noindex,hyper=false] {#1} []%
  }%
}

```



```

    }%
  }%
}

```

`\GLSxtrtitlename` Command to display name value in section title with the first letter changed to upper case.

```

\newrobustcmd*{\GLSxtrtitlename}[1]{%
  \glsxtr@title@field\GLSname{#1}%
}

```

`\GLSxtrheadname` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadname}[1]{%
  \protect\NoCaseChange
  {%
    \GLSname[noindex,hyper=false]{#1}[]%
  }%
}

```

`\GLSxtrtitlename` Command to display name value in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitlename}[1]{%
  \glsxtr@title@field\GLSname{#1}%
}

```

`\glsxtrheadtext` As above but for the text value.

```

\newcommand*{\glsxtrheadtext}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
    {%
      \GLStext[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glstext[noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

`\glsxtrtitletext` Command to display text value in section title.

```

\newrobustcmd*{\glsxtrtitletext}[1]{%
  \glsxtr@title@field\glstext{#1}%
}

```

`\GLSxtrheadtext` First letter converted to upper case

```

\newcommand*{\GLSxtrheadtext}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
    {%
      \GLStext[noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

```

    }%
    {%
    \GLstext[noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

`\GLsxtrtitletext` Command to display text value in section title with the first letter changed to upper case.

```

\newrobustcmd*{\GLsxtrtitletext}[1]{%
  \glxtr@title@field\GLstext{#1}%
}

```

`\GLSxtrheadtext` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadtext}[1]{%
  \protect\NoCaseChange
  {%
  \GLStext[noindex,hyper=false]{#1}[]%
  }%
}

```

`\GLSxtrtitletext` Command to display text value in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitletext}[1]{%
  \glxtr@title@field\GLStext{#1}%
}

```

`\glxtrheadplural` As above but for the plural value.

```

\newcommand*{\glxtrheadplural}[1]{%
  \protect\NoCaseChange
  {%
  \glxtrifheaduc{#1}%
  {%
  \GLSplural[noindex,hyper=false]{#1}[]%
  }%
  {%
  \glsplural[noindex,hyper=false]{#1}[]%
  }%
  }%
}

```

`\glxtrtitleplural` Command to display plural value in section title.

```

\newrobustcmd*{\glxtrtitleplural}[1]{%
  \glxtr@title@field\glsplural{#1}%
}

```

`\Glsxtrheadplural` Convert first letter to upper case.

```

\newcommand*{\Glsxtrheadplural}[1]{%
  \protect\NoCaseChange
  {%

```

```

\glxtrifheaduc{#1}%
{%
  \GLSplural [noindex,hyper=false]{#1}[]%
}%
{%
  \GLsplural [noindex,hyper=false]{#1}[]%
}%
}%
}

```

`\GLSxtrtitleplural` Command to display plural value in section title with the first letter changed to upper case.

```

\newrobustcmd*{\GLSxtrtitleplural}[1]{%
  \glxtr@title@field\GLSplural{#1}%
}

```

`\GLSxtrheadplural` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadplural}[1]{%
  \protect\NoCaseChange
  {%
    \GLSplural [noindex,hyper=false]{#1}[]%
  }%
}

```

`\GLSxtrtitleplural` Command to display plural value in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitleplural}[1]{%
  \glxtr@title@field\GLSplural{#1}%
}

```

`\glxtrheadfirst` As above but for the first value.

```

\newcommand*{\glxtrheadfirst}[1]{%
  \protect\NoCaseChange
  {%
    \glxtrifheaduc{#1}%
    {%
      \GLSfirst [noindex,hyper=false]{#1}[]%
    }%
    {%
      \glSfirst [noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

`\glxtrtitlefirst` Command to display first value in section title.

```

\newrobustcmd*{\glxtrtitlefirst}[1]{%
  \glxtr@title@field\glSfirst{#1}%
}

```

`\Glsxtrheadfirst` First letter converted to upper case

```

\newcommand*{\Glsxtrheadfirst}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\GLSfirst[noindex,hyper=false]{#1}[]%
}%
}%
\GLSfirst[noindex,hyper=false]{#1}[]%
}%
}

```

`\Glsxtrtitlefirst` Command to display first value in section title with the first letter changed to upper case.

```

\newrobustcmd*{\Glsxtrtitlefirst}[1]{%
\glsxtr@title@field\GLSfirst{#1}%
}

```

`\GLSxtrheadfirst` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadfirst}[1]{%
\protect\NoCaseChange
{%
\GLSfirst[noindex,hyper=false]{#1}[]%
}%
}

```

`\GLSxtrtitlefirst` Command to display first value in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitlefirst}[1]{%
\glsxtr@title@field\GLSfirst{#1}%
}

```

`\glsxtrheadfirstplural` As above but for the firstplural value.

```

\newcommand*{\glsxtrheadfirstplural}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\GLSfirstplural[noindex,hyper=false]{#1}[]%
}%
}%
\glsfirstplural[noindex,hyper=false]{#1}[]%
}%
}

```

`\glsxtrtitlefirstplural` Command to display firstplural value in section title.

```

\newrobustcmd*{\glsxtrtitlefirstplural}[1]{%

```

```

\glxtr@title@field\glsfirstplural{#1}%
}

```

`\Glsxtrheadfirstplural` First letter converted to upper case

```

\newcommand*{\Glsxtrheadfirstplural}[1]{%
\protect\NoCaseChange
{%
\glxtrifheaduc{#1}%
}%
\Glsfirstplural[noindex,hyper=false]{#1}[]%
}%
}

```

`\Glsxtrtitlefirstplural` Command to display first value in section title with the first letter changed to upper case.

```

\newrobustcmd*{\Glsxtrtitlefirstplural}[1]{%
\glxtr@title@field\Glsfirstplural{#1}%
}

```

`\GLSxtrheadfirstplural` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadfirstplural}[1]{%
\protect\NoCaseChange
{%
\GLSfirstplural[noindex,hyper=false]{#1}[]%
}%
}

```

`\GLSxtrtitlefirstplural` Command to display first value in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitlefirstplural}[1]{%
\glxtr@title@field\GLSfirstplural{#1}%
}

```

`\glxtrheadlong` Command used to display long form in the page header.

```

\newcommand*{\glxtrheadlong}[1]{%
\protect\NoCaseChange
{%
\glxtrifheaduc{#1}%
}%
\GLSxtrlong[noindex,hyper=false]{#1}[]%
}%
}

```

`\glsxtrtitlelong` Command to display long form of abbreviation in section title.

```
\newrobustcmd*{\glsxtrtitlelong}[1]{%
  \glsxtr@title@field\glsxtrlong{#1}%
}
```

`\glsxtrheadlongpl` Command used to display plural long form in the page header. If you want the text converted to upper case, this needs to be redefined to use `\GLSxtrlongpl` instead. If you are using a smallcaps style, the default fonts don't provide italic smallcaps.

```
\newcommand*{\glsxtrheadlongpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
    {%
      \GLSxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
  }%
}
```

`\glsxtrtitlelongpl` Command to display plural long form of abbreviation in section title.

```
\newrobustcmd*{\glsxtrtitlelongpl}[1]{%
  \glsxtr@title@field\glsxtrlongpl{#1}%
}
```

`\Glsxtrheadlong` Command used to display long form in the page header with the first letter converted to upper case.

```
\newcommand*{\Glsxtrheadlong}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
    {%
      \GLSxtrlong[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsxtrlong[noindex,hyper=false]{#1}[]%
    }%
  }%
}
```

`\Glsxtrtitlelong` Command to display long form of abbreviation in section title with the first letter converted to upper case.

```
\newrobustcmd*{\Glsxtrtitlelong}[1]{%
  \glsxtr@title@field\Glsxtrlong{#1}%
}
```

`\GLSxtrtitlelong` Command to display long form of abbreviation in section title in all upper case.

```
\newrobustcmd*{\GLSxtrtitlelong}[1]{%
  \glsxtr@title@field\GLSxtrlong{#1}%
}
```

`\GLSxtrheadlong` There's no need to check for the headuc attribute.

```
\newcommand*{\GLSxtrheadlong}[1]{%
  \protect\NoCaseChange
  {%
    \GLSxtrlong[noindex,hyper=false]{#1}[]%
  }%
}
```

`\Glsxtrheadlongpl` Command used to display plural long form in the page header with the first letter converted to upper case.

```
\newcommand*{\Glsxtrheadlongpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsxtrifheaduc{#1}%
    {%
      \GLSxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
  }%
}
```

`\Glsxtrtitlelongpl` Command to display plural long form of abbreviation in section title with the first letter converted to upper case.

```
\newrobustcmd*{\Glsxtrtitlelongpl}[1]{%
  \glsxtr@title@field\Glsxtrlongpl{#1}%
}
```

`\GLSxtrtitlelongpl` Command to display plural long form of abbreviation in section title in all upper case.

```
\newrobustcmd*{\GLSxtrtitlelongpl}[1]{%
  \glsxtr@title@field\GLSxtrlongpl{#1}%
}
```

`\GLSxtrheadlongpl` There's no need to check for the headuc attribute.

```
\newcommand*{\GLSxtrheadlongpl}[1]{%
  \protect\NoCaseChange
  {%
    \GLSxtrlongpl[noindex,hyper=false]{#1}[]%
  }%
}
```

`\glsxtrheadfull` Command used to display full form in the page header.

```
\newcommand*{\glsxtrheadfull}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\GLSxtrfull[noindex,hyper=false]{#1}[]%
}%
}%
\glsxtrfull[noindex,hyper=false]{#1}[]%
}%
}
```

`\glsxtrtitlefull` Command to display full form of abbreviation in section title.

```
\newrobustcmd*{\glsxtrtitlefull}[1]{%
\glsxtr@title@field\glsxtrfull{#1}%
}
```

`\glsxtrheadfullpl` Command used to display plural full form in the page header. If you want the text converted to upper case, this needs to be redefined to use `\GLSxtrfullpl` instead. If you are using a smallcaps style, the default fonts don't provide italic smallcaps.

```
\newcommand*{\glsxtrheadfullpl}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\GLSxtrfullpl[noindex,hyper=false]{#1}[]%
}%
}%
\glsxtrfullpl[noindex,hyper=false]{#1}[]%
}%
}
```

`\glsxtrtitlefullpl` Command to display plural full form of abbreviation in section title.

```
\newrobustcmd*{\glsxtrtitlefullpl}[1]{%
\glsxtr@title@field\glsxtrfullpl{#1}%
}
```

`\Glsxtrheadfull` Command used to display full form in the page header with the first letter converted to upper case.

```
\newcommand*{\Glsxtrheadfull}[1]{%
\protect\NoCaseChange
{%
\glsxtrifheaduc{#1}%
{%
\GLSxtrfull[noindex,hyper=false]{#1}[]%
}
```



```

    }%
    {%
    \Glsxtrfull[noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

`\Glsxtrtitlefull` Command to display full form of abbreviation in section title with the first letter converted to upper case.

```

\newrobustcmd*{\Glsxtrtitlefull}[1]{%
  \glsxtr@title@field\Glsxtrfull{#1}%
}

```

`\GLSxtrheadfull` There's no need to check for the headuc attribute.

```

\newcommand*{\GLSxtrheadfull}[1]{%
  \protect\NoCaseChange
  {%
  \GLSxtrfull[noindex,hyper=false]{#1}[]%
  }%
}

```

`\GLSxtrtitlefull` Command to display full form of abbreviation in section title in all upper case.

```

\newrobustcmd*{\GLSxtrtitlefull}[1]{%
  \glsxtr@title@field\GLSxtrfull{#1}%
}

```

`\Glsxtrheadfullpl` Command used to display plural full form in the page header with the first letter converted to upper case.

```

\newcommand*{\Glsxtrheadfullpl}[1]{%
  \protect\NoCaseChange
  {%
  \glsxtrifheaduc{#1}%
  {%
  \GLSxtrfullpl[noindex,hyper=false]{#1}[]%
  }%
  {%
  \Glsxtrfullpl[noindex,hyper=false]{#1}[]%
  }%
  }%
}

```

`\Glsxtrtitlefullpl` Command to display plural full form of abbreviation in section title with the first letter converted to upper case.

```

\newrobustcmd*{\Glsxtrtitlefullpl}[1]{%
  \glsxtr@title@field\Glsxtrfullpl{#1}%
}

```

`\GLSxtrheadfullpl` There's no need to check for the headuc attribute.

```
\newcommand*{\GLSxtrheadfullpl}[1]{%
\protect\NoCaseChange
{%
\GLSxtrfullpl[noindex,hyper=false]{#1}[]%
}%
}
```

`\GLSxtrtitlefullpl` Command to display plural full form of abbreviation in section title in all upper case.

```
\newrobustcmd*{\GLSxtrtitlefullpl}[1]{%
\glxtr@title@field\GLSxtrfullpl{#1}%
}
```

`\glsfmtshort` Provide a way of using the formatted short form in section headings. If `hyperref` has been loaded, use `\texorpdfstring` for convenience in PDF bookmarks.

```
\newcommand*{\glsfmtshort}[1]{%
\glstexorpdfstring
{\glsxtrtitleshort{#1}}%
{\glsentryshort{#1}}%
}
```

Similarly for the plural version.

`\glsfmtshortpl`

```
\newcommand*{\glsfmtshortpl}[1]{%
\glstexorpdfstring
{\glsxtrtitleshortpl{#1}}%
{\glsentryshortpl{#1}}%
}
```

Use the expandable `\MFUsentencecase` in the PDF bookmark.

`\Glsfmtshort` Singular form (first letter uppercase).

```
\newcommand*{\Glsfmtshort}[1]{%
\glstexorpdfstring
{\Glsxtrtitleshort{#1}}%
{\MFUsentencecase{\glsentryshort{#1}}}%
}
\glsmfuaddmap{\glsfmtshort}{\Glsfmtshort}
```

`\Glsfmtshortpl` Plural form (first letter uppercase).

```
\newcommand*{\Glsfmtshortpl}[1]{%
\glstexorpdfstring
{\Glsxtrtitleshortpl{#1}}%
{\MFUsentencecase{\glsentryshortpl{#1}}}%
}
\glsmfuaddmap{\glsfmtshortpl}{\Glsfmtshortpl}
```

Similarly for all-caps.

```

\GLSfmtshort
  \newcommand*{\GLSfmtshort}[1]{%
    \glstexorpdfstring
      {\GLSxtrtitleshort{#1}}%
      {\GLSxtrusefield{#1}{short}}%
  }
  \glsmfublocker{\GLSfmtshort}

\GLSfmtshortpl
  \newcommand*{\GLSfmtshortpl}[1]{%
    \glstexorpdfstring
      {\GLSxtrtitleshortpl{#1}}%
      {\GLSxtrusefield{#1}{shortpl}}%
  }
  \glsmfublocker{\GLSfmtshortpl}

\glsfmtname As above but for the name value.
  \newcommand*{\glsfmtname}[1]{%
    \glstexorpdfstring
      {\glsxtrtitlename{#1}}%
      {\glsentryname{#1}}%
  }

\Glsfmtname First letter converted to upper case.
  \newcommand*{\Glsfmtname}[1]{%
    \glstexorpdfstring
      {\Glsxtrtitlename{#1}}%
      {\MFUsentencecase{\glsentryname{#1}}}%
  }
  \glsmfuaddmap{\glsfmtname}{\Glsfmtname}

\GLSfmtname All upper case.
  \newcommand*{\GLSfmtname}[1]{%
    \glstexorpdfstring
      {\GLSxtrtitlename{#1}}%
      {\GLSxtrusefield{#1}{name}}%
  }
  \glsmfublocker{\GLSfmtname}

\glsfmttext As above but for the text value.
  \newcommand*{\glsfmttext}[1]{%
    \glstexorpdfstring
      {\glsxtrtitletext{#1}}%
      {\glsentrytext{#1}}%
  }

\Glsfmttext First letter converted to upper case.
  \newcommand*{\Glsfmttext}[1]{%
    \glstexorpdfstring

```

```

        {\GLsxrtrtitletext{#1}}%
        {\MFUsentencecase{\glstrytext{#1}}}%
    }
    \glsmfuaddmap{\glsfmtext}{\Glsfnttext}

\GLSfnttext All upper case.
    \newcommand*{\GLSfnttext}[1]{%
        \glstexorpdfstring
        {\GLSxrtrtitletext{#1}}%
        {\GLSxrtrusefield{#1}{text}}%
    }
    \glsmfublocker{\GLSfnttext}

\glsfmtpplural As above but for the plural value.
    \newcommand*{\glsfmtpplural}[1]{%
        \glstexorpdfstring
        {\glsxtrtitleplural{#1}}%
        {\glstryplural{#1}}%
    }

\Glsfmpplural First letter converted to upper case.
    \newcommand*{\Glsfmpplural}[1]{%
        \glstexorpdfstring
        {\Glsxrtitleplural{#1}}%
        {\MFUsentencecase{\glstryplural{#1}}}%
    }
    \glsmfuaddmap{\glsfmtpplural}{\Glsfmpplural}

\GLSfmpplural All upper case.
    \newcommand*{\GLSfmpplural}[1]{%
        \glstexorpdfstring
        {\GLSxrtitleplural{#1}}%
        {\GLSxrtrusefield{#1}{plural}}%
    }
    \glsmfublocker{\GLSfmpplural}

\glsfmfirst As above but for the first value.
    \newcommand*{\glsfmfirst}[1]{%
        \glstexorpdfstring
        {\glsxtrtitlefirst{#1}}%
        {\glstryfirst{#1}}%
    }

\Glsfmpfirst First letter converted to upper case.
    \newcommand*{\Glsfmpfirst}[1]{%
        \glstexorpdfstring
        {\Glsxrtitlefirst{#1}}%
        {\MFUsentencecase{\glstryfirst{#1}}}%
    }
    \glsmfuaddmap{\glsfmfirst}{\Glsfmpfirst}

```

`\GLSfmtfirst` All upper case.

```
\newcommand*{\GLSfmtfirst}[1]{%
  \glstexorpdfstring
  {\GLSxtrtitlefirst{#1}}%
  {\GLSxtrusefield{#1}{first}}%
}
\glsmfublocker{\GLSfmtfirst}
```

`\glsfmtfirstpl` As above but for the firstplural value.

```
\newcommand*{\glsfmtfirstpl}[1]{%
  \glstexorpdfstring
  {\glsxtrtitlefirstplural{#1}}%
  {\GLSxtrusefield{#1}{firstpl}}%
}
```

`\Glsfmtfirstpl` First letter converted to upper case.

```
\newcommand*{\Glsfmtfirstpl}[1]{%
  \glstexorpdfstring
  {\Glsxtrtitlefirstplural{#1}}%
  {\MFUsentencecase{\glsentryfirstplural{#1}}}%
}
```

`\GLSfmtfirstpl` All upper case.

```
\newcommand*{\GLSfmtfirstpl}[1]{%
  \glstexorpdfstring
  {\GLSxtrtitlefirstplural{#1}}%
  {\GLSxtrusefield{#1}{firstpl}}%
}
\glsmfublocker{\GLSfmtfirstpl}
```

`\glsfmtlong` As above but for the long value.

```
\newcommand*{\glsfmtlong}[1]{%
  \glstexorpdfstring
  {\glsxtrtitlelong{#1}}%
  {\glsentrylong{#1}}%
}
```

`\Glsfmtlong` First letter converted to upper case.

```
\newcommand*{\Glsfmtlong}[1]{%
  \glstexorpdfstring
  {\Glsxtrtitlelong{#1}}%
  {\glspdfsentencecase{\glsentrylong{#1}}}%
}
\glsmfuaddmap{\glsfmtlong}{\Glsfmtlong}
```

`\GLSfmtlong` All upper case.

```
\newcommand*{\GLSfmtlong}[1]{%
  \glstexorpdfstring
  {\GLSxtrtitlelong{#1}}%
```

```

        {\GLSxtrusefield{#1}{long}}%
    }
    \glsmfublocker{\GLSfmtlong}

\glsfmtlongpl As above but for the longplural value.
    \newcommand*{\glsfmtlongpl}[1]{%
        \glstexorpdfstring
        {\glsxtrtitlelongpl{#1}}%
        {\glsentrylongpl{#1}}%
    }

\Glsfmtlongpl First letter converted to upper case.
    \newcommand*{\Glsfmtlongpl}[1]{%
        \glstexorpdfstring
        {\Glsxtrtitlelongpl{#1}}%
        {\glspdfsentencecase{\glsentrylongpl{#1}}}%
    }
    \glsmfuaddmap{\glsfmtlongpl}{\Glsfmtlongpl}

\GLSfmtlongpl All upper case.
    \newcommand*{\GLSfmtlongpl}[1]{%
        \glstexorpdfstring
        {\GLSxtrtitlelongpl{#1}}%
        {\GLSxtrusefield{#1}{longpl}}%
    }
    \glsmfublocker{\GLSfmtlongpl}

\glspdffmtfull Can't use \glsxtrinlinefullformat in PDF bookmarks as it's not fully ex-
pandable. This command is for the PDF part of \texorpdfstring for the full
form.
    \newcommand*{\glspdffmtfull}[1]{\glsentrylong{#1} (\glsentryshort{#1})}%

\glspdffmtfullpl Likewise for plural.
    \newcommand*{\glspdffmtfullpl}[1]{\glsentrylongpl{#1} (\glsentryshortpl{#1})}%

\glsfmtfull In-line full format.
    \newcommand*{\glsfmtfull}[1]{%
        \glstexorpdfstring
        {\glsxtrtitlefull{#1}}%
        {\glspdffmtfull{#1}}%
    }

\Glsfmtfull First letter converted to upper case.
    \newcommand*{\Glsfmtfull}[1]{%
        \glstexorpdfstring
        {\Glsxtrtitlefull{#1}}%
        {\glspdfsentencecase{\glspdffmtfull{#1}-{}}}%
    }
    \glsmfuaddmap{\glsfmtfull}{\Glsfmtfull}

```

`\GLSfmtfull` All upper case. This explicitly uses `\text_uppercase:n` in case an old version of glossaries or mfirstuc is present.

```
\ExplSyntaxOn
\newcommand*\GLSfmtfull}[1]{%
  \glstexorpdfstring
  {\GLSxtrtitlefull{#1}}%
  {\text_uppercase:n{\glspdfmtfull{#1}}}%
}
\ExplSyntaxOff
\glsmfublocker{\GLSfmtfull}
```

`\glsfmtfullpl` In-line full plural format.

```
\newcommand*\glsfmtfullpl}[1]{%
  \glstexorpdfstring
  {\glsxtrtitlefullpl{#1}}%
  {\glspdfmtfullpl{#1}}%
}
```

`\Glsfmtfullpl` First letter converted to upper case.

```
\newcommand*\Glsfmtfullpl}[1]{%
  \glstexorpdfstring
  {\Glsxtrtitlefullpl{#1}}%
  {\glspdfsentencecase{\glspdfmtfullpl{#1}}}%
}
\glsmfuaddmap{\glsfmtfullpl}{\Glsfmtfullpl}
```

`\GLSfmtfullpl` All upper case. This explicitly uses `\text_uppercase:n` in case an old version of glossaries or mfirstuc is present.

```
\ExplSyntaxOn
\newcommand*\GLSfmtfullpl}[1]{%
  \glstexorpdfstring
  {\GLSxtrtitlefullpl{#1}}%
  {\text_uppercase:n{\glspdfmtfullpl{#1}}}%
}
\ExplSyntaxOff
\glsmfublocker{\GLSfmtfullpl}
```

## 1.9 Prefixes

Provide support for glossaries-prefix.

`\pglsprefix`

```
\pglsprefix{<entry-label>}{<prefix-field>}
```

A shortcut way of inserting the prefix and separator if they are required. If this needs to be redefined, use `\ifglsfieldvoid` for an expandable test.

```
\newcommand{\pglsprefix}[2]{%
  \ifcempty{glo@glsdetoklabel{#1}@#2}{}}
```

```

    {\csuse{glo@glsdetoklabel{#1}@#2}\glsprefixsep}%
}

```

`\Pglsprefix` `\Pglsprefix{<entry-label>}{<prefix-field>}`

Similar to `\pglsprefix` but sentence case. The conditional is omitted as it will have to already be checked.

```

\newcommand{\Pglsprefix}[2]{%
  \Glsxtrusefield{#1}{#2}\glsprefixsep
}

```

`\PGLSprefix` `\PGLSprefix{<entry-label>}{<prefix-field>}`

As `\pglsprefix` but all caps.

```

\newcommand{\PGLSprefix}[2]{%
  \ifcempty{glo@glsdetoklabel{#1}@#2}{}%
  {\glsuppercase{\csuse{glo@glsdetoklabel{#1}@#2}\glsprefixsep}}%
}

```

Abbreviations. Short form uses prefix and prefixplural fields.

`\pglsxtrshort` No case-change.

```

\newrobustcmd*{\pglsxtrshort}{\@gls@hyp@opt\ns@pglsxtrshort}
\newcommand*{\ns@pglsxtrshort}[2][{}]{%
  \new@ifnextchar[{\@pglsxtrshort{#1}{#2}}{\@pglsxtrshort{#1}{#2}[]}%
}
\def\@pglsxtrshort#1#2[#3]{%
  \pglsprefix{#2}{prefix}%
  \@glsxtrshort{#1}{#2}[#3]%
}

```

`\Pglxtrshort` Sentence case.

```

\newrobustcmd*{\Pglxtrshort}{\@gls@hyp@opt\ns@Pglxtrshort}
\newcommand*{\ns@Pglxtrshort}[2][{}]{%
  \new@ifnextchar[{\@Pglxtrshort{#1}{#2}}{\@Pglxtrshort{#1}{#2}[]}%
}
\def\@Pglxtrshort#1#2[#3]{%
  \ifglshasprefix{#2}%
  {%
    \Pglsprefix{#2}{prefix}%
    \@glsxtrshort{#1}{#2}[#3]%
  }%
  {\@Glsxtrshort{#1}{#2}[#3]%
}
\glsmfuaddmap{\pglsxtrshort}{\Pglxtrshort}

```



`\PGLSxtrshort` All-caps is also fairly simple.

```
\newrobustcmd*{\PGLSxtrshort}{\@gls@hyp@opt\ns@PGLSxtrshort}
\newcommand*{\ns@PGLSxtrshort}[2] [] {%
  \new@ifnextchar[{\@PGLSxtrshort{#1}{#2}}{\@PGLSxtrshort{#1}{#2} []}%
}
\def\@PGLSxtrshort#1#2[#3]{%
  \PGLSprefix{#2}{prefix}%
  \@GLSxtrshort{#1}{#2}[#3]%
}
\glsmfublocker{\PGLSxtrshort}
```

Short plural.

`\pglsxtrshortpl`

```
\newrobustcmd*{\pglsxtrshortpl}{\@gls@hyp@opt\ns@pglsxtrshortpl}
\newcommand*{\ns@pglsxtrshortpl}[2] [] {%
  \new@ifnextchar[{\@pglsxtrshortpl{#1}{#2}}{\@pglsxtrshortpl{#1}{#2} []}%
}
\def\@pglsxtrshortpl#1#2[#3]{%
  \pglsprefix{#2}{prefixplural}%
  \@glsxtrshortpl{#1}{#2}[#3]%
}
}
```

`\Pglxtrshortpl`

```
\newrobustcmd*{\Pglxtrshortpl}{\@gls@hyp@opt\ns@Pglxtrshortpl}
\newcommand*{\ns@Pglxtrshortpl}[2] [] {%
  \new@ifnextchar[{\@Pglxtrshortpl{#1}{#2}}{\@Pglxtrshortpl{#1}{#2} []}%
}
\def\@Pglxtrshortpl#1#2[#3]{%
  \ifglshasprefixplural{#2}%
  {%
    \Pglsprefix{#2}{prefixplural}%
    \@glsxtrshortpl{#1}{#2}[#3]%
  }%
  {\@Glsxtrshortpl{#1}{#2}[#3]}%
}
\glsmfuaddmap{\pglsxtrshortpl}{\Pglxtrshortpl}
```

`\PGLSxtrshortpl` All-caps is also fairly simple.

```
\newrobustcmd*{\PGLSxtrshortpl}{\@gls@hyp@opt\ns@PGLSxtrshortpl}
\newcommand*{\ns@PGLSxtrshortpl}[2] [] {%
  \new@ifnextchar[{\@PGLSxtrshortpl{#1}{#2}}{\@PGLSxtrshortpl{#1}{#2} []}%
}
\def\@PGLSxtrshortpl#1#2[#3]{%
  \PGLSprefix{#2}{prefixplural}%
  \@GLSxtrshortpl{#1}{#2}[#3]%
}
\glsmfublocker{\PGLSxtrshortpl}
```

Long form uses `prefixfirst` and `prefixfirstplural` fields.

`\pglsxtrlong` No case-change.

```
\newrobustcmd*{\pglsxtrlong}{\@gls@hyp@opt\ns@pglsxtrlong}
\newcommand*{\ns@pglsxtrlong}[2] [] {%
  \new@ifnextchar[{\@pglsxtrlong{#1}{#2}}{\@pglsxtrlong{#1}{#2} []}%
}
\def\@pglsxtrlong#1#2[#3]{%
  \pglsprefix{#2}{prefixfirst}%
  \@glsxtrlong{#1}{#2}[#3]%
}
```

`\PglSxtrlong` Sentence case.

```
\newrobustcmd*{\PglSxtrlong}{\@gls@hyp@opt\ns@PglSxtrlong}
\newcommand*{\ns@PglSxtrlong}[2] [] {%
  \new@ifnextchar[{\@PglSxtrlong{#1}{#2}}{\@PglSxtrlong{#1}{#2} []}%
}
\def\@PglSxtrlong#1#2[#3]{%
  \ifglshasprefixfirst{#2}%
  {%
    \PglSprefix{#2}{prefixfirst}%
    \@glsxtrlong{#1}{#2}[#3]%
  }%
  {\@Glsxtrlong{#1}{#2}[#3]}%
}
\glsmfuaddmap{\pglsxtrlong}{\PglSxtrlong}
```

`\PGLSxtrlong` All-caps is also fairly simple.

```
\newrobustcmd*{\PGLSxtrlong}{\@gls@hyp@opt\ns@PGLSxtrlong}
\newcommand*{\ns@PGLSxtrlong}[2] [] {%
  \new@ifnextchar[{\@PGLSxtrlong{#1}{#2}}{\@PGLSxtrlong{#1}{#2} []}%
}
\def\@PGLSxtrlong#1#2[#3]{%
  \PGLSprefix{#2}{prefixfirst}%
  \@GLSxtrlong{#1}{#2}[#3]%
}
\glsmfublocker{\PGLSxtrlong}
```

Long plural.

`\pglsxtrlongpl`

```
\newrobustcmd*{\pglsxtrlongpl}{\@gls@hyp@opt\ns@pglsxtrlongpl}
\newcommand*{\ns@pglsxtrlongpl}[2] [] {%
  \new@ifnextchar[{\@pglsxtrlongpl{#1}{#2}}{\@pglsxtrlongpl{#1}{#2} []}%
}
\def\@pglsxtrlongpl#1#2[#3]{%
  \pglsprefix{#2}{prefixfirstplural}%
  \@glsxtrlongpl{#1}{#2}[#3]%
}
```

`\PglSxtrlongpl`

```

\newrobustcmd*{\Pglxstrlongpl}{\@gls@hyp@opt\ns@Pglxstrlongpl}
\newcommand*{\ns@Pglxstrlongpl}[2] [] {%
  \new@ifnextchar[{\@Pglxstrlongpl{#1}{#2}}{\@Pglxstrlongpl{#1}{#2} []}%
}
\def\@Pglxstrlongpl#1#2[#3] {%
  \ifglshasprefixfirstplural{#2}%
  {%
    \Pglsprefix{#2}{prefixfirstplural}%
    \@glxstrlongpl{#1}{#2}[#3]%
  }%
  {\@Glsxtrlongpl{#1}{#2}[#3]}%
}
\glsmfuaddmap{\pglxstrlongpl}{\Pglxstrlongpl}

```

\PGLSxtrlongpl All-caps is also fairly simple.

```

\newrobustcmd*{\PGLSxtrlongpl}{\@gls@hyp@opt\ns@PGLSxtrlongpl}
\newcommand*{\ns@PGLSxtrlongpl}[2] [] {%
  \new@ifnextchar[{\@PGLSxtrlongpl{#1}{#2}}{\@PGLSxtrlongpl{#1}{#2} []}%
}
\def\@PGLSxtrlongpl#1#2[#3] {%
  \PGLSprefix{#2}{prefixfirstplural}%
  \@GLSxtrlongpl{#1}{#2}[#3]%
}
\glsmfublocker{\PGLSxtrlongpl}

```

Title commands (analogous to \glsfmtshort etc).

\pglsfmtshort

```

\newcommand*{\pglsfmtshort}[1] {%
  \pglsprefix{#1}{prefix}%
  \glsfmtshort{#1}%
}

```

\Pglfmtshort

```

\newcommand*{\Pglfmtshort}[1] {%
  \glstexorpdfstring
  {\Pglxtrtitleshort{#1}}%
  {\glspdfsentencecase%
    \pglsprefix{#1}{prefix}%
    \glsentryshort{#1}}%
  }%
}
\glsmfuaddmap{\pglsfmtshort}{\Pglfmtshort}

```

\Pglxtrtitleshort

```

\newrobustcmd*{\Pglxtrtitleshort}[1] {%
  \glsxtr@title@field\Pglxtrshort{#1}%
}

```

```

\PGLSfmtshort
\newcommand*\PGLSfmtshort}[1]{%
  \PGLSprefix{#1}{prefix}%
  \GLSfmtshort{#1}%
}
\glsmfublocker{\PGLSfmtshort}

\pglsfmtshortpl
\newcommand*\pglsfmtshortpl}[1]{%
  \pglsprefix{#1}{prefixplural}%
  \glsfmtshortpl{#1}%
}

\Pglsfmtshortpl
\newcommand*\Pglsfmtshortpl}[1]{%
  \glstexorpdfstring
  {\Pglxtrtitleshortpl{#1}}%
  {\glspdfsentencecase
  {%
    \pglsprefix{#1}{prefixplural}%
    \glsentryshortpl{#1}%
  }%
  }%
}
\glsmfuaddmap{\pglsfmtshortpl}{\Pglsfmtshortpl}

\Pglxtrtitleshortpl
\newrobustcmd*\Pglxtrtitleshortpl}[1]{%
  \glsxtr@title@field\Pglxtrshortpl{#1}%
}

\PGLSfmtshortpl
\newcommand*\PGLSfmtshortpl}[1]{%
  \PGLSprefix{#1}{prefixplural}%
  \GLSfmtshortpl{#1}%
}
\glsmfublocker{\PGLSfmtshortpl}

\pglsfmtlong
\newcommand*\pglsfmtlong}[1]{%
  \pglsprefix{#1}{prefixfirst}%
  \glsfmtlong{#1}%
}

\Pglsfmtlong
\newcommand*\Pglsfmtlong}[1]{%
  \glstexorpdfstring
  {\Pglxtrtitlelong{#1}}%
  {\glspdfsentencecase{%

```

```

        \pglsprefix{#1}{prefixfirst}%
        \glstentrylong{#1}}%
    }%
}
\glsmfuaddmap{\pglsfmtlong}{\Pglfmtlong}

\Pglstrtitlelong
\newrobustcmd*{\Pglstrtitlelong}[1]{%
  \glstr@title@field\Pglstrlong{#1}%
}

\PGLSfmtlong
\newcommand*{\PGLSfmtlong}[1]{%
  \PGLSprefix{#1}{prefixfirst}%
  \GLSfmtlong{#1}%
}
\glsmfublocker{\PGLSfmtlong}

\pglsfmtlongpl
\newcommand*{\pglsfmtlongpl}[1]{%
  \pglsprefix{#1}{prefixfirstplural}%
  \glstentrylongpl{#1}%
}

\Pglstentrylongpl
\newcommand*{\Pglstentrylongpl}[1]{%
  \glstexorpdfstring
  {\Pglstrtitlelongpl{#1}}%
  {\glspdfsentencecase
  {%
    \pglsprefix{#1}{prefixfirstplural}%
    \glstentrylongpl{#1}%
  }}%
}
\glsmfuaddmap{\pglsfmtlongpl}{\Pglstentrylongpl}

\Pglstrtitlelongpl
\newrobustcmd*{\Pglstrtitlelongpl}[1]{%
  \glstr@title@field\Pglstrlongpl{#1}%
}

\PGLSfmtlongpl
\newcommand*{\PGLSfmtlongpl}[1]{%
  \PGLSprefix{#1}{prefixfirstplural}%
  \GLSfmtlongpl{#1}%
}
\glsmfublocker{\PGLSfmtlongpl}

```

## 1.10 Multi (Combined/Compound) Entries

(I'd rather call these combined or compound entries but `\cgl`s is already taken.)

New to version 1.48, the commands here provide a way of referencing multiple entries as a single unit. For example, biological organisms are often referred to by their genus and species, such as *Clostridium botulinum* and *Clostridium perfringens* (where the genus is *Clostridium*). The genus is often abbreviated after first use, regardless of which species in the genus is being referenced. For example, “*Clostridium botulinum* and *C. perfringens*”. This can't be supported by any abbreviation styles unless the genus and species names are defined separately. For example:

```
%\setabbreviationstyle{long-only-short-only}
%\newabbreviation{clostridium}{C.}{Clostridium}
%\newglossaryentry{botulinum}{name={botulinum},description={}}
%\newglossaryentry{perfringens}{name={perfringens},description={}}
%
```

This means that the entries then need to be referenced using a rather cumbersome method:

```
%\gls{clostridium} \gls{botulinum} and \gls{clostridium}
%\gls{perfringens}
%
```

This section provides a command that will provide a way of defining a label that represents a combination of entries (which must all be first defined). For example:

```
%\multiglossaryentry{cbot}{clostridium,botulinum}
%
```

This label can then be referenced using `\mgls`, which internally uses `\gls` for each component. The last component in the list is considered the “main” component (not to be confused with the main glossary). If this isn't the case, the label of the main component should be added in the optional argument before the label list. Note that the multi-label (`cbot` in this case) can't be referenced using commands like `\gls`.

First define the general set of options that should be applied to all multi-entries. These can be set with:

```
\multiglossaryentrysetup
    \newcommand*{\multiglossaryentrysetup}[1]{\setkeys{glsxtrcombined}{#1}}
\@gls@combined@indexmain Numeric value: 0=false (don't index main component), 1=true (always index
main component), 2=first (only index main component on first use). Default:
1 (true);
    \newcommand*{\@gls@combined@indexmain}{1}
    \define@choicekey{glsxtrcombined}{indexmain}%
        [\@gls@combined@indexmain@val\@gls@combined@indexmain]
        {false,true,first}[true]{}
```

`\@gls@combined@indexothers` Numeric value: 0=false (don't index other components), 1=true (always index other components), 2=first (only index other components on first use). Default: 2 (first);

```

\newcommand*\@gls@combined@indexothers}{2}
\define@choicekey{glsxtrcombined}{indexothers}%
[\@gls@combined@indexothers@val\@gls@combined@indexothers]
{false,true,first}[true]{}

```

`\@gls@combined@hyper` Numeric value: 0=none (`\mgls` doesn't create a hyperlink), 1=allmain (all content hyperlinks to the main component), 2=mainonly (only the main component has a hyperlink), 3=individual (each component has a hyperlink to their own target). Default: 3.

```

\newcommand*\@gls@combined@hyper}{3}
\define@choicekey{glsxtrcombined}{hyper}%
[\@gls@combined@hyper@val\@gls@combined@hyper]
{none,allmain,mainonly,individual,otheronly,notmainfirst,nototherfirst,notfirst}{}

```

`\@gls@combined@encapmain` Location encap value for main component (corresponding to format key in `\gls`).

```

\newcommand*\@gls@combined@encapmain}{glsnumberformat}
\define@key{glsxtrcombined}{encapmain}{%
\renewcommand*\@gls@combined@encapmain}{#1}%
}

```

`\@gls@combined@encapothers` Location encap value for other components (corresponding to format key in `\gls`).

```

\newcommand*\@gls@combined@encapothers}{glsnumberformat}
\define@key{glsxtrcombined}{encapothers}{%
\renewcommand*\@gls@combined@encapothers}{#1}%
}

```

`\@gls@combined@textformat` Encapsulate entire content with the command identified by the given control sequence name.

```

\newcommand*\@gls@combined@textformat}{@firstofone}
\define@key{glsxtrcombined}{textformat}{%
\renewcommand*\@gls@combined@textformat}{#1}%
}

```

`\@gls@combined@category` Assign a category to the combined set.

```

\newcommand*\@gls@combined@category}{}
\define@key{glsxtrcombined}{category}{%
\renewcommand*\@gls@combined@category}{#1}%
}

```

Pre-options family:

```

\define@key{glsxtrcombinedpreopts}{category}{%
\renewcommand*\@gls@combined@category}{#1}%
}

```

`\@gls@combined@mglsopts` Default options to pass to `\mgl`.

```
\newcommand*\@gls@combined@mglsopts{}
\define@key{glsxtrcombined}{mglsopts}{%
  \renewcommand*\@gls@combined@mglsopts{#1}%
}
\define@key{glsxtrcombinedpreopts}{mglsopts}{%
  \@gls@combined@mglsopts@do
  {%
    \renewcommand*\@gls@combined@mglsopts{#1}%
  }%
}
```

`\@gls@combined@mglsopts@do`

```
\newcommand*\@gls@combined@mglsopts@do}[1]{#1}
```

`\mgl@disable@mglsopts`

```
\newcommand*\mgl@disable@mglsopts{%
  \let\@gls@combined@mglsopts@do\@gls@combined@mglsopts@do@not
}
```

`\mgl@enable@mglsopts`

```
\newcommand*\mgl@enable@mglsopts{%
  \let\@gls@combined@mglsopts@do\@firstofone
}
```

`\@gls@combined@mglsopts@do`

```
\newcommand*\@gls@combined@mglsopts@do@not}[1]{%
  \PackageError{glossaries-extra}{‘mglsopts’ key not permitted inside
  ‘setup’ value}{}%
}
```

`\@gls@combined@firstprefix` Prefix for multi-entry first use.

```
\newcommand*\@gls@combined@firstprefix{}
\define@key{glsxtrcombined}{firstprefix}{%
  \renewcommand*\@gls@combined@firstprefix{#1}%
}
```

`\@gls@combined@usedprefix` Prefix for multi-entry subsequent first use.

```
\newcommand*\@gls@combined@usedprefix{}
\define@key{glsxtrcombined}{usedprefix}{%
  \renewcommand*\@gls@combined@usedprefix{#1}%
}
```

`\@gls@combined@firstsuffix` Suffix for multi-entry first use.

```
\newcommand*\@gls@combined@firstsuffix{}
\define@key{glsxtrcombined}{firstsuffix}{%
  \renewcommand*\@gls@combined@firstsuffix{#1}%
}
```



`\@gls@combined@usedsuffix` Suffix for multi-entry subsequent first use.

```

\newcommand*\@gls@combined@usedsuffix{}
\define@key{glsxtrcombined}{usedsuffix}{%
\renewcommand*\@gls@combined@usedsuffix{#1}%
}

```

`\@gls@combined@firstskipmain` Skip the main element on first use (multi-entry first use not element first use).

```

\define@boolkey{glsxtrcombined}{firstskipmain}[true]{}
\KV@glsxtrcombined@firstskipmainfalse

```

`\@gls@combined@firstskipothers` Skip the other elements on first use (multi-entry first use not element first use).

```

\define@boolkey{glsxtrcombined}{firstskipothers}[true]{}
\KV@glsxtrcombined@firstskipothersfalse

```

`\@gls@combined@usedskipmain` Skip the main element on subsequent use (multi-entry subsequent use not element subsequent use).

```

\define@boolkey{glsxtrcombined}{usedskipmain}[true]{}
\KV@glsxtrcombined@usedskipmainfalse

```

`\@gls@combined@usedskipothers` Skip the other elements on subsequent use (multi-entry subsequent use not element subsequent use).

```

\define@boolkey{glsxtrcombined}{usedskipothers}[true]{}
\KV@glsxtrcombined@usedskipothersfalse

```

`\@gls@combined@postlinks` Determine whether or not to use the individual element post-link hooks.

```

\newcommand*\@gls@combined@postlinks@nr{0}
\define@choicekey{glsxtrcombined}{postlinks}%
[\@gls@combined@postlinks@val\@gls@combined@postlinks@nr]
{none,all,notlast,mainnotlast,mainonly,othernotlast,otheronly}{}

```

`\@gls@combined@mpostlink` Determine whether or not to use the multi-entry post-link hook.

```

\newcommand*\@gls@combined@mpostlink@nr{1}
\define@choicekey{glsxtrcombined}{mpostlink}%
[\@gls@combined@mpostlink@val\@gls@combined@mpostlink@nr]
{false,true,firstonly,usedonly}[true]{}

```

`\@gls@combined@mpostlinkelement` Determine which element to use for the post-link hook.

```

\newcommand*\@gls@combined@mpostlinkelement@nr{0}
\define@choicekey{glsxtrcombined}{mpostlinkelement}%
[\@gls@combined@mpostlinkelement@val\@gls@combined@mpostlinkelement@nr]
{last,main,custom}{}

```

`\glsxtrifmulti`

```

\newcommand*\glsxtrifmulti[3]{\ifcsdef{@gls@combined@#1@main}{#2}{#3}}

```

`\glsxtrmultimain`

```

\newcommand*\glsxtrmultimain[1]{\csuse{@gls@combined@#1@main}}

```

`\glstrmultilist`  
`\newcommand*\glstrmultilist}[1]{\csuse{@gls@combined@#1@list}}`

`\glstrmultitotalelements` Total number of elements.  
`\newcommand*\glstrmultitotalelements}[1]{\csuse{@gls@combined@#1@total}}`

`\glstrmultimainindex` Index of main element (starting from 1). If the main element is the last element in the list then this should equal the total number of elements.  
`\newcommand*\glstrmultimainindex}[1]{\csuse{@gls@combined@#1@mainindex}}`

`\glstrmultilastotherindex` Index of the last non-main element.  
`\newcommand*\glstrmultilastotherindex}[1]{\csuse{@gls@combined@#1@lastotherindex}}`

`\ifmultiglossaryentryglobal` Make definitions global.  
`\newif\ifmultiglossaryentryglobal`  
`\multiglossaryentryglobalfalse`

`\mglselementindex` Count register to keep track of the current element index.  
`\newcount\mglselementindex`

```

\multiglossaryentry[\langle options \rangle]{\langle multi-label \rangle}[\langle main label \rangle]{\langle label list \rangle}
```

`\multiglossaryentry`  
Defines the label `\langle multi-label \rangle` that can be used in `\mgl`s.  
`\newrobustcmd{\multiglossaryentry}[1][{}]{%`  
`\def@gls@combined@current@opts{#1}%`  
`\ifnum@glsxtr@docdefval=1\relax`  
`\let@multi@glossentry@donext\defmultiglossaryentry`  
`\else`  
`\let@multi@glossentry@donext\multiglossaryentry`  
`\fi`  
`\@multi@glossentry@donext`  
`}`

`\@multiglossaryentry`  
`\newcommand*\@multiglossaryentry}[1]{%`  
`\def@gls@combined@current@label{#1}%`  
`\@multi@glossaryentry`  
`}`

`\@multi@glossaryentry` Check for existence.  
`\newcommand*\@multi@glossaryentry}[2][{}]{%`  
`\ifcsdef@gls@combined@\@gls@combined@current@label @main}%`  
`{\PackageError{glossaries-extra}%`  
`{Multi-entry label ‘\@gls@combined@current@label’ already defined}%`  
`}%`

```

}%
{%
  \@multi@glossary@entry{#1}{#2}%
}%
}

```

`\@defmultiglossaryentry` Used if document definitions are on.

```

\newcommand*{\@defmultiglossaryentry}[1]{%
  \def\@gls@combined@current@label{#1}%
  \@def@multi@glossaryentry
}

```

`\@def@multi@glossaryentry` Used if document definitions are on.

```

\newcommand*{\@def@multi@glossaryentry}[2] [] {%
  \let\@def@multi@glossaryentry@do\@multi@glossary@entry
  \ifundef\@glsxtr@docdefs@multilist
  {%
    \gdef\@glsxtr@docdefs@multilist{%
      \listxadd
        {\@glsxtr@docdefs@multilist}{\expandonce\@gls@combined@current@label}%
    }%
  }%
  \xifinlist{\@gls@combined@current@label}{\@glsxtr@docdefs@multilist}%
  {%
    \PackageError{glossaries-extra}%
      {Multi-entry label ‘\@gls@combined@current@label’ already defined}%
      {}%
    \let\@def@multi@glossaryentry@do\@gobbletwo
  }%
  {%
    \listxadd
      {\@glsxtr@docdefs@multilist}{\expandonce\@gls@combined@current@label}%
  }%
  }%
  \@def@multi@glossaryentry@do{#1}{#2}%
}

```

`\@multi@glossary@doifexists`

```

\newcommand*{\@multi@glossary@doifexists}{\glsdoifexists}

```

```

\providemultiglossaryentry[options]{multi-label}[main
label]{label
list}

```

`\providemultiglossaryentry`

Defines a multi-entry unless it has already been defined.

```

\newrobustcmd{\providemultiglossaryentry}[2] [] {%
  \def\@gls@combined@current@opts{#1}%
}

```

```

\def\@gls@combined@current@label{#2}%
\ifcsdef\@gls@combined@\@gls@combined@current@label @main}%
{\def\@multi@glossentry@donext{\@provide@multi@glossaryentry@noop}}%
{%
  \ifnum\@gls@xtr@docdefval=1\relax
  \def\@multi@glossentry@donext{\@def@multi@glossaryentry}%
  \else
  \def\@multi@glossentry@donext{\@multi@glossaryentry}%
  \fi
}%
\@multi@glossentry@donext
}

```

\@multi@glossaryentry@noop Do nothing.

```
\newcommand*\@provide@multi@glossaryentry@noop}[2] [] {}
```

\@multi@glossaryentry@list List of all defined multi-entry sets.

```
\newcommand*\@multi@glossaryentry@list}{}
```

\@multi@glossary@entry

```

\newcommand*\@multi@glossary@entry}[2]{%
  \protected@edef\@gls@combined@current@main{#1}%

```

Fully expand list.

```
\protected@edef\@gls@combined@currentlist{#2}%
```

Count items in list, check they are all defined, and find last item at the same time.

```

\mglselementindex=0\relax
\@for\@gls@tmp:=\@gls@combined@currentlist\do{%
  \advance\mglselementindex by 1\relax
  \@multi@glossary@doifexists{\@gls@tmp}{}%
  \let\@gls@combined@finalitem\@gls@tmp
  \ifdefvoid\@gls@combined@current@main
  {}%
  {%
    \ifx\@gls@combined@current@main\@gls@tmp
    \ifmultiglossaryentryglobal
    \global\cslet{\@gls@combined@\@gls@combined@current@label @main}%
      \@gls@combined@current@main
    \csxdef{\@gls@combined@\@gls@combined@current@label @mainindex}%
      {\the\mglselementindex}%
    \else
    \cslet{\@gls@combined@\@gls@combined@current@label @main}%
      \@gls@combined@current@main
    \csedef{\@gls@combined@\@gls@combined@current@label @mainindex}%
      {\the\mglselementindex}%
    \fi
  \else
  \ifmultiglossaryentryglobal

```

```

        \csxdef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
            {\the\mglselementindex}%
    \else
        \csedef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
            {\the\mglselementindex}%
    \fi
\fi
}%
}%
\ifmultiglossaryentryglobal
    \csxdef{@gls@combined@\@gls@combined@current@label @total}%
        {\the\mglselementindex}%
\else
    \csedef{@gls@combined@\@gls@combined@current@label @total}%
        {\the\mglselementindex}%
\fi
\ifnum\mglselementindex<2\relax
    \PackageError{glossaries-extra}{At least 2 labels required in
        multi-entry element list (\number\mglselementindex\space found)}{ }%
\else
    \ifdefvoid\@gls@combined@current@main
    {}%
    {%

```

If `\@gls@combined@<label>@main` hasn't been set then it wasn't included in the list.

```

        \ifcsundef{@gls@combined@\@gls@combined@current@label @main}%
        {\PackageError{glossaries-extra}
            {Main element '@gls@combined@current@main' not found in list}%
            {The final element '@gls@combined@finalitem' will be used instead}}

```

Set to empty so that the default (final element) is used instead.

```

        \let\@gls@combined@current@main\@empty
    }%
    {}%
}%
\ifdefvoid\@gls@combined@current@main
{%

```

Set main to final element.

```

\ifmultiglossaryentryglobal
    \global\cslet{@gls@combined@\@gls@combined@current@label @main}%
        \@gls@combined@finalitem
    \global\csletcs{@gls@combined@\@gls@combined@current@label @mainindex}%
        {@gls@combined@\@gls@combined@current@label @total}%
    \csxdef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
        {\the\numexpr\mglselementindex-1 }%
\else
    \cslet{@gls@combined@\@gls@combined@current@label @main}%
        \@gls@combined@finalitem
    \csletcs{@gls@combined@\@gls@combined@current@label @mainindex}%

```

```

        {@gls@combined@\@gls@combined@current@label @total}%
        \csedef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
            {\the\numexpr\mglselementindex-1 }%
    \fi
}%
{}%
\ifmultiglossaryentryglobal

```

Globally define element list.

```

\global\cslet{@gls@combined@\@gls@combined@current@label @list}%
    \@gls@combined@currentlist

```

Globally define options.

```

\protected\csxdef{@gls@combined@\@gls@combined@current@label @options}%
    {@gls@combined@current@opts}%

```

Global conditional definition.

```

\expandafter\@ifdefinable
\csname if@gls@combined@\@gls@combined@current@label @flag\endcsname
{\expandafter\global\expandafter
\newif\csname if@gls@combined@\@gls@combined@current@label @flag\endcsname}%
\expandafter\global
\csname @gls@combined@\@gls@combined@current@label @flagfalse\endcsname
\else

```

Locally define element list.

```

\cslet{@gls@combined@\@gls@combined@current@label @list}%
    \@gls@combined@currentlist

```

Locally define options.

```

\protected\csedef{@gls@combined@\@gls@combined@current@label @options}%
    {@gls@combined@current@opts}%

```

Local conditional definition.

```

\newboolean{@gls@combined@\@gls@combined@current@label @flag}%
\csname @gls@combined@\@gls@combined@current@label @flagfalse\endcsname
\fi
\fi
\writemultiglossentry
{\@gls@combined@current@opts}{\@gls@combined@current@label}%
{\csuse{@gls@combined@\@gls@combined@current@label @main}}{#2}%

```

Append label to list.

```

\ifmultiglossaryentryglobal
\ifdefempty\@multi@glossaryentry@list
{\let\@multi@glossaryentry@list\@gls@combined@current@label}%
}%
\eappto\@multi@glossaryentry@list{\, \expandonce\@gls@combined@current@label}%
}%
\else
\ifdefempty\@multi@glossaryentry@list
{\global\let\@multi@glossaryentry@list\@gls@combined@current@label}%

```

```

    {%
    \xappto\@multi@glossaryentry@list{,\expandonce\@gls@combined@current@label}%
    }%
    \fi
}

```

```
\@glsxtr@multientry{<options>}{<multilabel>}{<main>}{<list>}
```

\@glsxtr@multientry

Information for aux file. Useful for bib2gls and also for docdef.

```

\newcommand*\@glsxtr@multientry}[4]{%
\ifnum\@glsxtr@docdefval=1\relax
\bgroup
\def\@gls@combined@current@opts{#1}%
\def\@gls@combined@current@label{#2}%
\let\@multi@glossary@doifexists\@secondoftwo
\let\writemultiglossentry\@gobblefour
\multiglossaryentryglobaltrue
\@multi@glossary@entry{#3}{#4}%
\egroup
\fi
}

```

\writemultiglossentry This can be redefined to do nothing if the information isn't required.

```

\newcommand*\writemultiglossentry}[4]{%
\protected@write\@auxout{ }\string\@glsxtr@multientry{#1}{#2}{#3}{#4}%
}

```

\ifmglsused Determines whether or not the multi-entry set has been referenced by commands like \mgls or \mglsname.

```

\newcommand*\ifmglsused}[3]{%
\ifbool{\@gls@combined@#1@flag}{#2}{#3}%
}

```

\mglsunset Unset the flag.

```

\newcommand*\mglsunset}[1]{%
\gls@ifnotmeasuring
{%
\glsxtrifmulti{#1}{\@mglsunset{#1}}%
{%
\glsxtrundefaction{Multi entry ‘#1’ hasn’t been defined}%
{You need to define ‘#1’ with \string\multiglossaryentry}%
}%
}%
}

```

\@mglsunset

```
\newcommand*\@mglsunset}[1]{%
```

```

        \expandafter\global\csname @gls@combined@#1@flagtrue\endcsname
    }

\mglsreset Unset the flag.
\newcommand*\mglsreset}[1]{%
  \gls@ifnotmeasuring
  {%
    \glstrifmulti{#1}{\mglsreset{#1}}%
    {%
      \glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
      {You need to define ‘#1’ with \string\multiglossaryentry}%
    }%
  }%
}

\@mglsreset
\newcommand*\@mglsreset}[1]{%
  \expandafter\global\csname @gls@combined@#1@flagfalse\endcsname
}

\mglslocalunset Unset the flag.
\newcommand*\mglslocalunset}[1]{%
  \gls@ifnotmeasuring
  {%
    \glstrifmulti{#1}{\mglslocalunset{#1}}%
    {%
      \glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
      {You need to define ‘#1’ with \string\multiglossaryentry}%
    }%
  }%
}

\@mglslocalunset
\newcommand*\@mglslocalunset}[1]{%
  \csname @gls@combined@#1@flagtrue\endcsname
}

\mglslocalreset Unset the flag.
\newcommand*\mglslocalreset}[1]{%
  \gls@ifnotmeasuring
  {%
    \glstrifmulti{#1}{\mglslocalreset{#1}}%
    {%
      \glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
      {You need to define ‘#1’ with \string\multiglossaryentry}%
    }%
  }%
}

```



```

\@mglsllocalreset
  \newcommand*{\@mglsllocalreset}[1]{%
    \csname @gls@combined@#1@flagfalse\endcsname
  }

\mglusunsetall Unset all.
  \newcommand*{\mglusunsetall}{%
    \for\@mglsthislabel:=\@multiglossaryentry@list\do{\mglusunset\@mglsthislabel}%
  }%

\mglrsresetall Reset all.
  \newcommand*{\mglrsresetall}{%
    \for\@mglsthislabel:=\@multiglossaryentry@list\do{\mglrsreset\@mglsthislabel}%
  }%

```

```
\mglSetName{<multi-label>}{<new main>}
```

```
\mglSetMain
```

Allow the main label to be changed (local).

```

\newrobustcmd{\mglSetMain}[2]{%
  \ifcsundef{@gls@combined@#1@main}%
  {\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
  {%
    \protected@edef\@gls@combined@current@main{#2}%
    \letcs\@gls@combined@currentlist{\@gls@combined@#1@list}%
  }

```

Check that the given label is in the list of elements and update main and last other element index.

```

\mglselementindex=0\relax
\count@=0\relax
\@for\@gls@tmp:=\@gls@combined@currentlist\do{%
  \advance\mglselementindex by 1\relax
  \ifx\@gls@combined@current@main\@gls@tmp
    \count@=\mglselementindex\relax
    \let\@gls@combined@finalitem\@gls@tmp
    \ifmultiglossaryentryglobal
      \global\cslet{\@gls@combined@#1@main}\@gls@combined@current@main
      \csxdef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
    \else
      \cslet{\@gls@combined@#1@main}\@gls@combined@current@main
      \csedef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
    \fi
  \else
    \ifmultiglossaryentryglobal
      \csxdef{\@gls@combined@#1@lastotherindex}{\the\mglselementindex}%
    \else
      \csedef{\@gls@combined@#1@lastotherindex}{\the\mglselementindex}%
    \fi
  \fi
}

```

```

}%
\ifnum\count@=0\relax
\PackageError{glossaries-extra}{Label ‘#2’ is not in ‘#1’ set
(\@gls@combined@currentlist)}{ }%

```

Default to final item.

```

\ifmultiglossaryentryglobal
\global\cslet{@gls@combined@#1@main}\@gls@combined@finalitem
\csxdef{@gls@combined@#1@mainindex}{\the\mglselementindex}%
\csxdef{@gls@combined@#1@lastotherindex}{%
\number\numexpr\mglselementindex-1 }%
\else
\cslet{@gls@combined@#1@main}\@gls@combined@finalitem
\csedef{@gls@combined@#1@mainindex}{\the\mglselementindex}%
\csedef{@gls@combined@#1@lastotherindex}{%
\number\numexpr\mglselementindex-1 }%
\fi
\fi
}%
}

```

```
\mglSetOptions{<multi-label>}{<new options>}
```

\mglSetOptions

Allow the options to be changed (local). No expansion is applied.

```

\newrobustcmd{\mglSetOptions}[2]{%
\ifcsundef{@gls@combined@#1@main}%
{\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
{%
\csdef{@gls@combined@#1@options}{#2}%
}%
}

```

```
\mglAddOptions{<multi-label>}{<extra options>}
```

\mglAddOptions

Allow the options to be changed (local). No expansion is applied.

```

\newrobustcmd{\mglAddOptions}[2]{%
\ifcsundef{@gls@combined@#1@main}%
{\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
{%
\ifcsemtyp{@gls@combined@#1@options}%
{\csdef{@gls@combined@#1@options}{#2}}%
{\csappto{@gls@combined@#1@options}{, #2}}%
}%
}

```

Options for \mgl:

```

\@mgl@all Options to apply to all elements.
\newcommand*\@mgl@all{}
\define@key{mgl}{all}{\renewcommand*\@mgl@all{#1}}

\@mgl@main Options to apply to the main element only.
\newcommand*\@mgl@main{}
\define@key{mgl}{main}{\renewcommand*\@mgl@main{#1}}

\@mgl@others Options to apply to the other (no main) elements.
\newcommand*\@mgl@others{}
\define@key{mgl}{others}{\renewcommand*\@mgl@others{#1}}

\@mgl@setup Options to apply to \multiglossaryentrysetup.
\newcommand*\@mgl@setup{}
\define@key{mgl}{setup}{%
\@mgl@setup@do{\renewcommand*\@mgl@setup{#1}}%
}

\@mgl@setup@do
\newcommand*\@mgl@setup@do[1]{#1}

\@mgl@setup@do@not
\newcommand*\@mgl@setup@do@not[1]{%
\PackageError{glossaries-extra}{‘setup’ key not permitted inside
‘mglsopts’ value}{}%
}

\mgl@disable@setup
\newcommand*\mgl@disable@setup{%
\let\@mgl@setup@do\@mgl@setup@do@not
}

\mgl@enable@setup
\newcommand*\mgl@enable@setup{%
\let\@mgl@setup@do\@firstofone
}

\@mgl@unsetaction
\newcommand\@mgl@unsetaction{0}
\define@choicekey{mgl}{multiunset}{\@mgl@unsetaction@val\@mgl@unsetaction}%
{global,local,none}{}

\ifKV@mgl@presetlocal
\define@boolkey{mgl}{presetlocal}[true]{}
\KV@mgl@presetlocalfalse

```

```

\@mgls@hyper
\newcommand*\@mgls@hyper{}
\define@choicekey{mgl}{hyper}[\@mgls@hyper@val\@mgls@hyper@nr]{true,false}[true]%
{%
  \renewcommand*\@mgls@hyper{hyper=#1}%
  \ifnum\@mgls@hyper@nr=1\relax
    \let\@mgls@hyperlink\@secondoftwo
  \else
    \let\@mgls@hyperlink\@@mgls@hyperlink
  \fi
}

\@@mgls@hyperlink
\newcommand*\@@mgls@hyperlink[2]{%
  \ifx\@glslink\glsdonohyperlink
    #2%
  \else
    \glsxtr@org@dohyperlink{\glslinkprefix#1}{#2}%
  \fi
}

\@mgls@hyperlink
\let\@mgls@hyperlink\@@mgls@hyperlink

\mglsforelements{\langle multi-label \rangle}{\langle cs \rangle}{\langle body \rangle}
\newcommand*\mglsforelements[3]{%
  \expandafter\@for\expandafter#2\expandafter:\expandafter
    =\csname @gls@combined@#1@list\endcsname\do{#3}%
}

\mglsforotherelements{\langle multi-label \rangle}{\langle cs \rangle}{\langle body \rangle}
\newcommand*\mglsforotherelements[3]{%
  \expandafter\@for\expandafter#2\expandafter:\expandafter
    =\csname @gls@combined@#1@list\endcsname\do
    {\expandafter\ifdefequal\csname @gls@combined@#1@main\endcsname{#2}{-}{#3}}%
}

\mglsunsetothers
\newcommand*\mglsunsetothers[1]{%
  \mglsforotherelements{#1}{\@gls@tmp}{\glsunset{\@gls@tmp}}%
}

\mglslocalunsetothers
\newcommand*\mglslocalunsetothers[1]{%

```

```

    \mglsotherelements{#1}{\@gls@tmp}{\glslocalunset{\@gls@tmp}}%
  }

\mglselementreset
\newcommand*\mglselementreset[1]{%
  \ifKV@mglso@presetlocal
    \glslocalreset{#1}%
  \else
    \glsreset{#1}%
  \fi
}

\mglselementunset
\newcommand*\mglselementunset[1]{%
  \ifKV@mglso@presetlocal
    \glslocalunset{#1}%
  \else
    \glsunset{#1}%
  \fi
}

\@mglso@resetall
\newcommand*\@mglso@resetall{}
\define@choicekey{mglso}{resetall}%
[\@mglso@resetall@val\@mglso@resetall@nr]{false,true}[true]%
{%
  \ifcase\@mglso@resetall@nr\relax
    \renewcommand*\@mglso@resetall{}%
  \or
    \renewcommand*\@mglso@resetall{%
      \@for\@gls@resetlabel:=\mglso@currentlist\do{\mglselementreset\@gls@resetlabel}}%
    \renewcommand*\@mglso@unsetall{}%
  \fi
}

\@mglso@resetmain
\newcommand*\@mglso@resetmain{}
\define@choicekey{mglso}{resetmain}
[\@mglso@resetmain@val\@mglso@resetmain@nr]{false,true}[true]%
{%
  \ifcase\@mglso@resetmain@nr\relax
    \renewcommand*\@mglso@resetmain{}%
  \or
    \renewcommand*\@mglso@resetmain{\mglselementreset\mglso@currentmainlabel}%
    \renewcommand*\@mglso@unsetmain{}%
  \fi
}

\@mglso@resetothers

```

```

\newcommand*\@mgl@resetothers{}
\define@choicekey{mgl}{resetothers}
[ \@mgl@resetothers@val \@mgl@resetothers@nr ] {false, true} [true] %
{%
  \ifcase \@mgl@resetothers@nr \relax
    \renewcommand*\@mgl@resetothers{} %
  \or
    \renewcommand*\@mgl@resetothers{%
      \@for \@gls@resetlabel := \mgl@currentlist \do {%
        \ifx \@gls@resetlabel \mgl@currentmainlabel
          \else
            \mgl@elementreset \@gls@resetlabel
          \fi
        } %
      } %
    \renewcommand*\@mgl@unsetothers{} %
  \fi
}

```

\@mgl@unsetall

```

\newcommand*\@mgl@unsetall{}
\define@choicekey{mgl}{unsetall} %
[ \@mgl@unsetall@val \@mgl@unsetall@nr ] {false, true} [true] %
{%
  \ifcase \@mgl@unsetall@nr \relax
    \renewcommand*\@mgl@unsetall{} %
  \or
    \renewcommand*\@mgl@unsetall{%
      \@for \@gls@unsetlabel := \mgl@currentlist \do { \mgl@elementunset \@gls@unsetlabel } %
    \renewcommand*\@mgl@resetall{} %
  \fi
}

```

\@mgl@unsetmain

```

\newcommand*\@mgl@unsetmain{}
\define@choicekey{mgl}{unsetmain}
[ \@mgl@unsetmain@val \@mgl@unsetmain@nr ] {false, true} [true] %
{%
  \ifcase \@mgl@unsetmain@nr \relax
    \renewcommand*\@mgl@unsetmain{} %
  \or
    \renewcommand*\@mgl@unsetmain { \mgl@elementunset \mgl@currentmainlabel } %
    \renewcommand*\@mgl@resetmain{} %
  \fi
}

```

\@mgl@unsetothers

```

\newcommand*\@mgl@unsetothers{}
\define@choicekey{mgl}{unsetothers}

```

```

[\@mgl@unsetothers@val\@mgl@unsetothers@nr]{false,true}[true]%
{%
  \ifcase\@mgl@unsetothers@nr\relax
    \renewcommand*\@mgl@unsetothers}{}%
  \or
    \renewcommand*\@mgl@unsetothers}{%
      \@for\@gls@unsetLabel:=\mglcurrentlist\do{%
        \ifx\@gls@unsetLabel\mglcurrentmainlabel
          \else
            \mglselementunset\@gls@unsetLabel
          \fi
        }%
      }%
    \renewcommand*\@mgl@resetothers}{}%
  \fi
}

```

`\glsxtr@setup@docurrent` Set up the commands to determine whether or not to do the current element.

```
\newcommand{\glsxtr@setup@docurrent}{%
```

`\mglcurrentlabel` expands to the label of the current element. Should this element be skipped?

```
\ifx\mglcurrentlabel\mglcurrentmainlabel
```

Main element. Should it be skipped?

```
\mglsisfirstuse
```

```
{%
```

```
\ifKV@glsxtrcombined@firstskipmain
```

```
\let\@mgl@do@current@element\@gobble
```

```
\else
```

```
\let\@mgl@do@current@element\@firstofone
```

```
\fi
```



```
{%
```

```
\ifKV@glsxtrcombined@usedskipmain
```

```
\let\@mgl@do@current@element\@gobble
```

```
\else
```

```
\let\@mgl@do@current@element\@firstofone
```

```
\fi
```



```
\else
```

Other element. Should it be skipped?

```
\mglsisfirstuse
```

```
{%
```

```
\ifKV@glsxtrcombined@firstskipothers
```

```
\let\@mgl@do@current@element\@gobble
```

```
\else
```

```
\let\@mgl@do@current@element\@firstofone
```

```
\fi
```

```

    {%
      \ifKV@glstrcombined@usedskipothers
        \let@mgl@do@current@element@gobble
      \else
        \let@mgl@do@current@element@firstofone
      \fi
    }%
  \fi
}

```

`\glstr@mgl@checklastelement` If the last element is skipped, `\mgl@siflast` needs adjusting. The first argument should be either "first" or "used". The second argument is the multi-element label.

```

\newcommand*{\glstr@mgl@checklastelement}[2]{%
  \ifbool{KV@glstrcombined@#1skipmain}%
  {%
    \ifbool{KV@glstrcombined@#1skipothers}%
    {%

```

This condition has already been checked for.

```

    }%
  {%

```

Main skipped. The last item will be the last other element.

```

    \ifnum\mglselementindex=\glstrmultilastotherindex{#2}\relax
      \let@mgl@siflast@firstoftwo
    \else
      \let@mgl@siflast@secondoftwo
    \fi
  }%
}%
{%

```

Main not skipped.

```

    \ifbool{KV@glstrcombined@#1skipothers}%
    {%

```

Others skipped. The main element is the only item.

```

    \ifnum\mglselementindex=\glstrmultimainindex{#2}\relax
      \let@mgl@siflast@firstoftwo
    \else
      \let@mgl@siflast@secondoftwo
    \fi
  }%
}%
{%

```

None skipped. This isn't the last element.

```

    \let@mgl@siflast@secondoftwo
  }%
}%
}

```



`\glxtrmglsWarnAllSkipped` Warning if all elements are skipped. The first argument is the warning message, the second argument is the inserted content (final optional argument), the third command is the encapsulation command (which may be a hyperlink).

```
\newcommand{\glxtrmglsWarnAllSkipped}[3]{%
  \GlossariesExtraWarning{#1}%
  #3{#2}%
}
```

`\glxtr@mgl@applyopts`

```
\newcommand*{\glxtr@mgl@applyopts}[1]{%
  \edef\@mgl@doptions{\noexpand\setkeys*{mgl}{\expandonce#1}}%
  \@mgl@doptions
```

Append any unknown options to all.

```
\ifvoid\XKV@rm{\eappto\@mgl@all{\expandonce\XKV@rm}}%
```

If setup key has been used, check for pre-option keys:

```
\ifvoid\@mgl@setup
{}%
{%
  \edef\@mgl@doptions{%
    \noexpand\setkeys*{glxtrcombinedpreopts}{\expandonce\@mgl@setup}}%
  \mgl@disable@mglsopts
  \@mgl@doptions
  \mgl@enable@mglsopts
```

Save remaining setup options.

```
\ifx\@mgl@setuptoptions\@empty
\let\@mgl@setuptoptions\XKV@rm
\else
\eappto\@mgl@setuptoptions{\expandonce\XKV@rm}%
\fi
}%
```

Apply gls unset/reset options.

```
\@mgl@resetall
\@mgl@unsetall
\@mgl@resetmain
\@mgl@unsetmain
\@mgl@resetothers
\@mgl@unsetothers
```

Disable.

```
\let\@mgl@resetall\@empty
\let\@mgl@resetmain\@empty
\let\@mgl@resetothers\@empty
\let\@mgl@unsetall\@empty
\let\@mgl@unsetmain\@empty
\let\@mgl@unsetothers\@empty
```

First use flags.

```

\ifmglsused\mglscurrentmultilabel
{\let\mglsisfirstuse\@secondoftwo}%
{\let\mglsisfirstuse\@firstoftwo}%
}

```

\@firstofthree

```
\providecommand{\@firstofthree}[3]{#1}
```

\@secondofthree

```
\providecommand{\@secondofthree}[3]{#2}
```

\@thirdofthree

```
\providecommand{\@thirdofthree}[3]{#3}
```

The main internal command for referencing multi-entries:

```

\glxtr@mgl@s@inner{<options>}{<label>}{<insert>}{<first
cs>}{<not first cs>}{<main first cs>}{<main other cs>}

```

\glxtr@mgl@s@inner

```

\newcommand*{\glxtr@mgl@s@inner}[7]{%
\let\mglslastmainlabel\@empty
\let\mglsiflastmainwasfirstuse\@firstoftwo
\let\mglsiflastmainwasplural\@secondoftwo
\let\mglsiflastmaincapscase\@firstofthree
\let\mglsiflastmainskipped\@firstoftwo
\bgroup
\ifcsundef{@gls@combined@#2@main}%
{%
\glxtrundefaction{Multi entry ‘#2’ hasn’t been defined}%
{You need to define ‘#2’ with \string\multiglossaryentry}%
\gdef\@mgls@post@hookdefs{%
\protected@edef\mglslastmultilabel{#2}%
\let\mglswasfirstuse\@firstoftwo
\let\mglslastcategory\@empty
\let\mglsiflastelements skipped\@firstoftwo
\let\mglsiflastelementwasfirstuse\@firstoftwo
\let\mglsiflastelementwasplural\@secondoftwo
\let\mglsiflastelementcapscase\@firstofthree
\let\mglslastelementlabel\@empty
\let\mgls@do@postlinkhook\relax
}%
}%
}%

```

Initialise hooks in case component entries haven’t been defined (which may happen with bib2gls).

```

\let\glxtrifwasfirstuse\@firstoftwo
\let\glxifplural\@secondoftwo
\let\glscapscase\@firstofthree

```

Save information for hooks.

```
\protected@edef\mglscurrentmultilabel{#2}%  
\letcs\mglscurrentmainlabel{@gls@combined@#2@main}%  
\letcs\mglscurrentlist{@gls@combined@#2@list}%  
\letcs\mglscurrentoptions{@gls@combined@#2@options}%
```

Initialise (may be changed if multiunset is present):

```
\ifmglused\mglscurrentmultilabel  
{\let\mglsisfirstuse\@secondoftwo}%  
{\let\mglsisfirstuse\@firstoftwo}%
```

Only obtain pre-option keys:

```
\edef\@mgl@doptions{%  
  \noexpand\setkeys*{glsxtrcombinedpreopts}{\expandonce\mglscurrentoptions}}%  
\@mgl@doptions
```

Save remaining setup options.

```
\let\@mgl@setuptoptions\XKV@rm
```

Apply \mgl options.

```
\mgl@disable@setup  
\ifdefvoid\@gls@combined@mglsopts  
{}%  
\glsxtr@mgl@applyopts\@gls@combined@mglsopts}%  
\mgl@enable@setup
```

Apply options provided in #1.

```
\ifstrempy{#1}{\def\@mgl@options{#1}\glsxtr@mgl@applyopts\@mgl@options}%
```

Check for attribute settings.

```
\ifx\@gls@combined@category\empty
```

No category

```
\else
```

Attribute options:

```
\gls@categoryattribute{\@gls@combined@category}{multioptions}%  
{%  
  \letcs\@mgl@attroptions{@glsxtr@categoryattr@\@gls@combined@category  
    @multioptions}%
```

Only obtain pre-option keys:

```
\let\@gls@combined@mglsopts\@empty  
\edef\@mgl@doptions{%  
  \noexpand\setkeys*{glsxtrcombinedpreopts}{\expandonce\@mgl@attroptions}}%  
\@mgl@doptions
```

Append remaining options:

```
\eappto\@mgl@setuptoptions{,\expandonce\XKV@rm}%  
\ifx\@gls@combined@mglsopts\@empty  
\else
```

mgls options found:

```
\let\@mgls@setup\@empty
\mgls@disable@setup
\glstr@mgls@applyopts\@gls@combined@mglsopts
\mgls@enable@setup
\fi
}%
{}%
\fi
```

Apply setup options.

```
\edef\@mgls@dooptions{%
  \noexpand\setkeys{glstrcombined}{\expandonce\@mgls@setupoptions}}%
\@mgls@dooptions
```

Provide local user-level access to category:

```
\let\mglscurrentcategory\@gls@combined@category
```

Should the entire content be a hyperlink?

```
\ifnum\@gls@combined@hyper=1\relax
  \def\@mgls@combinedlink{\@mgls@hyperlink{\mglscurrentmainlabel}}%
\else
  \def\@mgls@combinedlink{\@firstofone}%
\fi
```

Entire content encapsulator.

```
\def\@gls@combined@encapsulator##1{%
  \@mgls@combinedlink{\csuse{\@gls@combined@textformat}{##1}}}%
```

Initialise.

```
\let\@mgls@do@current@element\@firstofone
```

Check if all elements are being skipped.

```
\mglsisfirstuse
{%
  \ifKV@glstrcombined@firstskipmain
  \ifKV@glstrcombined@firstskipothers
```

Just do the warning and insert. This will ignore the loop.

```
\let\@gls@org@combined@encapsulator\@gls@combined@encapsulator
\def\@gls@combined@encapsulator##1{%
  \glstrmglsWarnAllSkipped{All elements skipped for
    first use of multi-entry '#2'}{#3}%
  {\@gls@org@combined@encapsulator}%
}%
\let\@mgls@do@current@element\@gobble
\fi
\fi
}%
{}%
\ifKV@glstrcombined@usedskipmain
\ifKV@glstrcombined@usedskipothers
```

Just do the warning and insert. This will ignore the loop.

```

\let\@gls@org@combined@encapsulator\@gls@combined@encapsulator
\def\@gls@combined@encapsulator##1{%
  \glstrmglswarnallskipped{All elements skipped for
subsequent use of multi-entry '#2'}{#3}%
  {\@gls@org@combined@encapsulator}%
}%
\let\@mgl@do@current@element\@gobble
\fi
\fi
}%

```

Determine prefix and suffix.

```

\mglsisfirstuse
{%
  \let\mglscurrentprefix\@gls@combined@firstprefix
  \let\mglscurrentsuffix\@gls@combined@firstsuffix
}%
{%
  \let\mglscurrentprefix\@gls@combined@usedprefix
  \let\mglscurrentsuffix\@gls@combined@usedsuffix
}%

```

Set up post-link hook used after current scope.

```

\xdef\@mgl@post@hookdefs{%
  \noexpand\def\noexpand\mglslastmultilabel{\expandonce\mglscurrentmultilabel}%
  \noexpand\def\noexpand\mglslastcategory{\mglscurrentcategory}%
}%
\ifx\@mgl@do@current@element\@gobble
  \gappto\@mgl@post@hookdefs{%
    \let\mgl@iflastelementskipped\@firstoftwo
    \let\mgl@iflastelementlabel\@empty
    \let\mgl@iflastelementwasfirstuse\@firstoftwo
    \let\mgl@iflastelementwasplural\@secondoftwo
    \let\mgl@iflastelementcapscase\@firstofthree
  }%
\fi
\mglsisfirstuse
{%
  \gappto\@mgl@post@hookdefs{\let\mglswasfirstuse\@firstoftwo}%

```

Determine if the multi-entry post-link hook should be applied.

```

\ifcase\@gls@combined@mpostlink@nr\relax
mpostlink=false.
  \gappto\@mgl@post@hookdefs{\let\mgl@do@postlinkhook\relax}%
\or
mpostlink=true.
  \ifcase\@gls@combined@mpostlinkelement@nr\relax
    \gappto\@mgl@post@hookdefs{\let\mgl@do@postlinkhook\mglslastelementpostlinkhook}%

```

```

        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastmainpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\custompostlinkhook}%
        \fi
    \or
mpostlink=firstonly.
        \ifcase\@gls@combined@mpostlinkelement@nr\relax
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastelementpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastmainpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\custompostlinkhook}%
        \fi
    \or
mpostlink=usedonly.
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\relax}%
    \fi
}%
{%
    \gappto\@mgl\@post@hookdefs{\let\mgl\wasfirstuse\@secondoftwo}%
Determine if the multi-entry post-link hook should be applied.
    \ifcase\@gls@combined@mpostlink@nr\relax
mpostlink=false.
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\relax}%
    \or
mpostlink=true.
        \ifcase\@gls@combined@mpostlinkelement@nr\relax
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastelementpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastmainpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\custompostlinkhook}%
        \fi
    \or
mpostlink=firstonly.
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\relax}%
    \or
mpostlink=usedonly.
        \ifcase\@gls@combined@mpostlinkelement@nr\relax
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastelementpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\lastmainpostlinkhook}%
        \or
        \gappto\@mgl\@post@hookdefs{\let\mgl\do@postlinkhook\mgl\custompostlinkhook}%

```

```

        \fi
    \fi
}%

Save current post-link hook.
\let\mgls@org@postlinkhook\glspostlinkhook

Prefix.
\mglsprefix

Initialise last element label (for \mglssuffix).
\let\mglslastelementlabel\@empty
\@gls@combined@encapsulator
{%

Save previous label.
\def\@mgls@previouslabel{}%
\mglselementindex=0\relax
\@for\mglscurrentlabel:=\mglscurrentlist\do{%
\advance\mglselementindex by 1\relax
\glstr@setup@docurrent

Is this the last element?
\ifx\@xfor@nextelement\@nnil
\let\mglsiflast\@firstoftwo
\else
\let\mglsiflast\@secondoftwo

Are any elements being skipped?
\mglsisfirstuse
{%
\glstr@mgls@checklastelement{first}{#2}%
}%
{%
\glstr@mgls@checklastelement{used}{#2}%
}%
\fi

Should the element post-link hook be used?
\ifcase\@gls@combined@postlinks@nr\relax

postlinks=none
\let\glspostlinkhook\relax
\or

postlinks=all
\let\glspostlinkhook\mgls@org@postlinkhook
\or

postlinks=notlast
\mglsiflast
{%
\let\glspostlinkhook\relax
}%

```

```

    {%
      \let\glspostlinkhook\mgls@org@postlinkhook
    }%
  \or
postlinks=mainnotlast
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \mglsiflast
    {%
      \let\glspostlinkhook\relax
    }%
    {%
      \let\glspostlinkhook\mgls@org@postlinkhook
    }%
  \else
    \let\glspostlinkhook\relax
  \fi
\or
postlinks=mainonly
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\mgls@org@postlinkhook
  \else
    \let\glspostlinkhook\relax
  \fi
\or
postlinks=othernotlast
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\relax
  \else
    \mglsiflast
    {%
      \let\glspostlinkhook\relax
    }%
    {%
      \let\glspostlinkhook\mgls@org@postlinkhook
    }%
  \fi
\or
postlinks=otheronly
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\relax
  \else
    \let\glspostlinkhook\mgls@org@postlinkhook
  \fi
\fi
Save the last element for the multi-entry post-link hook.
\mglsiflast
{%

```



```

\zappto\@mglspost@hookdefs{%
\noexpand\def\noexpand\mglslastelementlabel
{\expandonce\mglscurrentlabel}}%
}%
{}%

```

Do current element:

```

\@mglsto@do@current@element
{%

```

Pre element hook.

```

\mglselementprehook

```

Is this the first use of the current element?

```

\GlsXtrIfUnusedOrUndefined{\mglscurrentlabel}%
{\let\@mglsto@current@iffirstuse\@firstoftwo}%
{\let\@mglsto@current@iffirstuse\@secondoftwo}%
\ifx\mglscurrentlabel\mglscurrentmainlabel

```

Main element. Location encap option:

```

\edef\@mglsto@current@options{format=\@gls@combined@encapmain}%

```

Indexing option:

```

\ifcase\@gls@combined@indexmain
\appto\@mglsto@current@options{,noindex}%
\or
\appto\@mglsto@current@options{,noindex=false}%
\or
\@mglsto@current@iffirstuse
{\appto\@mglsto@current@options{,noindex=false}}%
{\appto\@mglsto@current@options{,noindex}}%
\fi

```

Hyperlink option:

```

\ifcase\@gls@combined@hyper\relax
\appto\@mglsto@current@options{,hyper=false}% none
\or
\appto\@mglsto@current@options{,hyper=false}% allmain
\or
\@appto\@mglsto@current@options{,\@mglsto@hyper}% mainonly
\or
\@appto\@mglsto@current@options{,\@mglsto@hyper}% individual
\or
\appto\@mglsto@current@options{,hyper=false}% otheronly
\or
\mglsto@current@iffirstuse
{%
\appto\@mglsto@current@options{,hyper=false}% notmainfirst
}%
{%
\@appto\@mglsto@current@options{,\@mglsto@hyper}% notmainfirst
}%

```

```

\or
\eaopto\@mglscurrent@options{,\@mglshyper}% nototherfirst
\or
\mglsisfirstuse
{%
\appto\@mglscurrent@options{,hyper=false}% notfirst
}%
{%
\eaopto\@mglscurrent@options{,\@mglshyper}% notfirst
}%
\fi

```

Append all and then main:

```

\eaopto\@mglscurrent@options{,\@mglscall,\@mglscmain}%
\else

```

Other element. Location encap option:

```

\edef\@mglscurrent@options{format=\@gls@combined@encapothers}%

```

Indexing option:

```

\ifcase\@gls@combined@indexothers\relax
\appto\@mglscurrent@options{,noindex}%
\or
\appto\@mglscurrent@options{,noindex=false}%
\or
\@mglscurrent@iffirstuse
{\appto\@mglscurrent@options{,noindex=false}}%
{\appto\@mglscurrent@options{,noindex}}%
\fi

```

Hyperlink option:

```

\ifcase\@gls@combined@hyper\relax
\appto\@mglscurrent@options{,hyper=false}% none
\or
\appto\@mglscurrent@options{,hyper=false}% allmain
\or
\appto\@mglscurrent@options{,hyper=false}% mainonly
\or
\eaopto\@mglscurrent@options{,\@mglshyper}% individual
\or
\eaopto\@mglscurrent@options{,\@mglshyper}% otheronly
\or
\eaopto\@mglscurrent@options{,\@mglshyper}% notmainfirst
\or
\mglsisfirstuse
{%
\appto\@mglscurrent@options{,hyper=false}% nototherfirst
}%
{%
\eaopto\@mglscurrent@options{,\@mglshyper}% nototherfirst
}%

```

```

\or
\mglisfirstuse
{%
\appto\@mgl\@current@options{,hyper=false}% notfirst
}%
{%
\eappto\@mgl\@current@options{,\@mgl\@hyper}% notfirst
}%
\fi

```

Append all and then others:

```

\eappto\@mgl\@current@options{,\@mgl\@all,\@mgl\@others}%
\fi

```

Is this the first element?

```

\ifx\@mgl\@previouslabel\empty
\ifx\mgl\@currentlabel\mgl\@currentmainlabel
\let\@mgl\@cs#6\relax
\else
\let\@mgl\@cs#4\relax
\fi
\else

```

Not the first element so add separator.

```

\@mgl\@previous@iffirstuse
{%
\@mgl\@current@iffirstuse
{\glscombinedfirstsepfirst{\@mgl\@previouslabel}{\mgl\@currentlabel}}%
{\glscombinedfirstsep{\@mgl\@previouslabel}{\mgl\@currentlabel}}%
}%
{%
\@mgl\@current@iffirstuse
{\glscombinedsepfirst{\@mgl\@previouslabel}{\mgl\@currentlabel}}%
{\glscombinedsep{\@mgl\@previouslabel}{\mgl\@currentlabel}}%
}%
\ifx\mgl\@currentlabel\mgl\@currentmainlabel
\let\@mgl\@cs#7\relax
\else
\let\@mgl\@cs#5\relax
\fi
\fi

```

Is this the last element?

```

\mgl\@siflast
{\expandafter\@mgl\@cs\expandafter{\@mgl\@current@options}{\mgl\@currentlabel}[\#3]}%
{\expandafter\@mgl\@cs\expandafter{\@mgl\@current@options}{\mgl\@currentlabel}[]}%

```

Is this the main element? If so, save information for post-link hook.

```

\ifx\mgl\@currentlabel\mgl\@currentmainlabel
\xappto\@mgl\@post@hookdefs{%
\noexpand\def\noexpand\mgl\@lastmainlabel
{\expandonce\mgl\@currentmainlabel}%
}

```

```

}%
\glstrifwasfirstuse
{%
\gappto@mglspost@hookdefs{\let\mglslastmainwasfirstuse\@firstoftwo}%
}%
{%
\gappto@mglspost@hookdefs{\let\mglslastmainwasfirstuse\@secondoftwo}%
}%
\glslplural
{%
\gappto@mglspost@hookdefs{\let\mglslastmainwasplural\@firstoftwo}%
}%
{%
\gappto@mglspost@hookdefs{\let\mglslastmainwasplural\@secondoftwo}%
}%
\glscapscase
{%
\gappto@mglspost@hookdefs{%
\let\mglslastmaincapscase\@firstofthree
}%
}%
{%
\gappto@mglspost@hookdefs{%
\let\mglslastmaincapscase\@secondofthree
}%
}%
{%
\gappto@mglspost@hookdefs{%
\let\mglslastmaincapscase\@thirdofthree
}%
}%
\fi
\let@mglspreviouslabel\mglscurrentlabel
\let@mglsprevious@iffirstuse@mglscurrent@iffirstuse
}%

```

Post element hook.

```

\mglselementposthook
}%
\ifx\mglslastmainlabel\@empty
\gappto@mglspost@hookdefs{\let\mglslastmainskipped\@firstoftwo}%
\else
\gappto@mglspost@hookdefs{\let\mglslastmainskipped\@secondoftwo}%
\fi

```

Encapsulator may introduce grouping so check here.

```

\ifx@mglscurrent@element\@gobble
\gappto@mglspost@hookdefs{\let\mglslastelementskipped\@firstoftwo}%
\else
\gappto@mglspost@hookdefs{\let\mglslastelementskipped\@secondoftwo}%
\fi

```

```

\glxtrifwasfirstuse
{%
\gappto\@mgl\@post\@hookdefs{\let\mgl\iflastelementwasfirstuse\@firstoftwo}%
}%
{%
\gappto\@mgl\@post\@hookdefs{\let\mgl\iflastelementwasfirstuse\@secondoftwo}%
}%
\gl\ifplural
{%
\gappto\@mgl\@post\@hookdefs{\let\mgl\iflastelementwasplural\@firstoftwo}%
}%
{%
\gappto\@mgl\@post\@hookdefs{\let\mgl\iflastelementwasplural\@secondoftwo}%
}%
\gl\scapscase
{%
\gappto\@mgl\@post\@hookdefs{%
\let\mgl\iflastelementcapscase\@firstofthree
}%
}%
{%
\gappto\@mgl\@post\@hookdefs{%
\let\mgl\iflastelementcapscase\@secondofthree
}%
}%
{%
\gappto\@mgl\@post\@hookdefs{%
\let\mgl\iflastelementcapscase\@thirdofthree
}%
}%
}%
}

```

Suffix needs post-link hook commands.

```

\@mgl\@post\@hookdefs
\mgl\suffix

```

Unset multi-entry first use flag after current scope.

```

\ifcase\@mgl\@unsetaction\relax
\gappto\@mgl\@post\@hookdefs{%
\noexpand\mgl\unset{\expandonce\mgl\currentmultilabel}}%
\or
\gappto\@mgl\@post\@hookdefs{%
\noexpand\mgl\localunset{\expandonce\mgl\currentmultilabel}}%
\fi
}%
\glxtrmgl\write{#2}%
\egroup
\@mgl\@post\@hookdefs
\mgl\@do\@postlinkhook
}

```

```

\mglscustompostlinkhook
    \newcommand*{\mglscustompostlinkhook}{}

\mglslastelementpostlinkhook
    \newcommand*{\mglslastelementpostlinkhook}{%
    \let\glstrifwasfirstuse\mglsiflastelementwasfirstuse
    \let\glstrifplural\mglsiflastelementwasplural
    \let\glscapscase\mglsiflastelementcapscase
    \let\glslabel\mglslastelementlabel
    \glspostlinkhook
    }

\mglslastmainpostlinkhook
    \newcommand*{\mglslastmainpostlinkhook}{%
    \let\glstrifwasfirstuse\mglsiflastmainwasfirstuse
    \let\glstrifplural\mglsiflastmainwasplural
    \let\glscapscase\mglsiflastmaincapscase
    \let\glslabel\mglslastmainlabel
    \glspostlinkhook
    }

\mglsdefcategoryprefix
    \newcommand*{\mglsdefcategoryprefix}[2]{%
    \csdef{mglsprefix@#1}{#2}%
    }

\mglsdescategoryprefix
    \newcommand*{\mglsdescategoryprefix}[3]{%
    \ifcsdef{mglsprefix@#1}{#2}{#3}%
    }

\mglsusecategoryprefix
    \newcommand*{\mglsusecategoryprefix}[1]{%
    \csuse{mglsprefix@#1}%
    }

\mglsprefix
    \newcommand*{\mglsprefix}{%
    \ifdefempty\mglscurrentcategory
    {\mglscurrentprefix}%
    {%
    \mglsdescategoryprefix{\mglscurrentcategory}%
    {\mglsusecategoryprefix{\mglscurrentcategory}}%
    {\mglscurrentprefix}%
    }%
    }

```

```

\glsdefcategorysuffix
    \newcommand*\glsdefcategorysuffix[2]{%
    \csdef{mglssuffix@#1}{#2}%
    }

\glsdescategorysuffix
    \newcommand*\glsdescategorysuffix[3]{%
    \ifcsdef{mglssuffix@#1}{#2}{#3}%
    }

\glsusecategorysuffix
    \newcommand*\glsusecategorysuffix[1]{%
    \csuse{mglssuffix@#1}%
    }

    \mglssuffix
        \newcommand*\mglssuffix{%
        \ifdefempty\mglscurrentcategory
        {\ifdefempty\mglscurrentsuffix}{\space(\mglscurrentsuffix)}}%
        {%
        \mglshascategorysuffix{\mglscurrentcategory}%
        {\mglssusecategorysuffix{\mglscurrentcategory}}%
        {\ifdefempty\mglscurrentsuffix}{\space(\mglscurrentsuffix)}}%
        }%
        }

\mglselementprehook
    \newcommand*\mglselementprehook{}

\mglselementposthook
    \newcommand*\mglselementposthook{}

    Separators.

\glscombinedsep Separator between two elements that have been marked as used. This takes the
two element labels as arguments.
    \newcommand*\glscombinedsep[2]{%
    \glsattribute{#1}{combinedsep}%
    {\glsattribute{#1}{combinedsep}}%
    { }%
    }

\glscombinedfirstsepfirst Separator following and preceding a first use.
    \newcommand*\glscombinedfirstsepfirst[2]{%
    \glsattribute{#1}{combinedfirstsepfirst}%
    {\glsattribute{#1}{combinedfirstsepfirst}}%
    {\glscombinedsep{#1}{#2}}%
    }

```

`\glscombinedfirstsep` Separator following a first use.

```
\newcommand*\glscombinedfirstsep}[2]{%
  \glsattribute{#1}{combinedfirstsep}%
  {\glsgetattribute{#1}{combinedfirstsep}}%
  {\glscombinedsep{#1}{#2}}%
}
```

`\glscombinedsepfirst` Separator preceding a first use.

```
\newcommand*\glscombinedsepfirst}[2]{%
  \glsattribute{#1}{combinedsepfirst}%
  {\glsgetattribute{#1}{combinedsepfirst}}%
  {\glscombinedsep{#1}{#2}}%
}
```

`\glssetcombinedsepabbrvnbs` Provide shortcut for using non-breakable space following an abbreviation that has already been used.

```
\newcommand*\glssetcombinedsepabbrvnbs{%
  \renewcommand*\glscombinedsep}[2]{%
    \glsattribute{##1}{combinedsep}%
    {\glsgetattribute{##1}{combinedsep}}%
    {\ifglshashshort{##1}{~}{ }}%
  }%
  \renewcommand*\glscombinedsepfirst}[2]{%
    \glsattribute{##1}{combinedsepfirst}%
    {\glsgetattribute{##1}{combinedsepfirst}}%
    {\ifglshashshort{##1}{~}{ }}%
  }%
  \renewcommand*\glscombinedfirstsep}[2]{%
    \glsattribute{##1}{combinedfirstsep}%
    {\glsgetattribute{##1}{combinedfirstsep}}%
    { }%
  }%
  \renewcommand*\glscombinedfirstsepfirst}[2]{%
    \glsattribute{##1}{combinedfirstsepfirst}%
    {\glsgetattribute{##1}{combinedfirstsepfirst}}%
    { }%
  }%
}
```

`\glssetcombinedsepabbrvnone` Provide shortcut for using nothing if either on next use are abbreviations (otherwise use space).

```
\newcommand*\glssetcombinedsepabbrvnone{%
  \renewcommand*\glscombinedsep}[2]{%
    \glsattribute{##1}{combinedsep}%
    {\glsgetattribute{##1}{combinedsep}}%
    {\ifglshashshort{##1}{}\ifglshashshort{##2}{}{ }}%
  }%
  \renewcommand*\glscombinedsepfirst}[2]{%
    \glsattribute{##1}{combinedsepfirst}%
  }
```



```

    {\glsgetattribute{##1}{combinedsepfirst}}%
    {\ifglshasshort{##1}{ } }%
}%
\renewcommand*\glscombinedfirstsep}[2]{%
\glsattribute{##1}{combinedfirstsep}%
{\glsgetattribute{##1}{combinedfirstsep}}%
{\ifglshasshort{##2}{ } }%
}%
\renewcommand*\glscombinedfirstsepfirst}[2]{%
\glsattribute{##1}{combinedfirstsepfirst}%
{\glsgetattribute{##1}{combinedfirstsepfirst}}%
{ }%
}%
}

```

`\glssetcombinedsepnarrow` Measures both.

```

\newcommand*\glssetcombinedsepnarrow}[2]{%
\renewcommand*\glscombinedsep}[2]{%
\glsattribute{##1}{combinedsep}%
{\glsgetattribute{##1}{combinedsep}}%
{%
\ifglshasshort{##1}%
{\glsmeasurewidth{\dimen@}{\glsentryshort{##1}}}%
{\glsmeasurewidth{\dimen@}{\glsentrytext{##1}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\ifglshasshort{##2}%
{\glsmeasurewidth{\dimen@}{\glsentryshort{##2}}}%
{\glsmeasurewidth{\dimen@}{\glsentrytext{##2}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\space
\fi
\fi
}%
}%
\renewcommand*\glscombinedsepfirst}[2]{%
\glsattribute{##1}{combinedsepfirst}%
{\glsgetattribute{##1}{combinedsepfirst}}%
{%
\ifglshasshort{##1}%
{\glsmeasurewidth{\dimen@}{\glsentryshort{##1}}}%
{\glsmeasurewidth{\dimen@}{\glsentrytext{##1}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\ifhaslong{##2}%
{\glsmeasurewidth{\dimen@}{\glsentrylong{##2}}}%

```

```

        {\glsmeasurewidth{\dimen@}{\glsentryfirst{##2}}}%
        \ifdim\dimen@<#1\relax
            #2%
        \else
            \space
        \fi
    \fi
} %
} %
\renewcommand*{\glscombinedfirstsep}[2]{%
\glsattribute{##1}{combinedfirstsep}%
{\glsgetattribute{##1}{combinedfirstsep}}%
{%
    \ifhaslong{##1}%
        {\glsmeasurewidth{\dimen@}{\glsentrylong{##1}}}%
        {\glsmeasurewidth{\dimen@}{\glsentryfirst{##1}}}%
        \ifdim\dimen@<#1\relax
            #2%
        \else
            \ifglsattribute{##2}%
                {\glsmeasurewidth{\dimen@}{\glsentryshort{##2}}}%
                {\glsmeasurewidth{\dimen@}{\glsentrytext{##2}}}%
                \ifdim\dimen@<#1\relax
                    #2%
                \else
                    \space
                \fi
            \fi
        \fi
    } %
} %
\renewcommand*{\glscombinedfirstsepfirst}[2]{%
\glsattribute{##1}{combinedfirstsepfirst}%
{\glsgetattribute{##1}{combinedfirstsepfirst}}%
{%
    \ifhaslong{##1}%
        {\glsmeasurewidth{\dimen@}{\glsentrylong{##1}}}%
        {\glsmeasurewidth{\dimen@}{\glsentryfirst{##1}}}%
        \ifdim\dimen@<#1\relax
            #2%
        \else
            \ifhaslong{##2}%
                {\glsmeasurewidth{\dimen@}{\glsentrylong{##2}}}%
                {\glsmeasurewidth{\dimen@}{\glsentryfirst{##2}}}%
                \ifdim\dimen@<#1\relax
                    #2%
                \else
                    \space
                \fi
            \fi
        \fi
    } %
} %

```

```
}%
}
```

`\@glxtr@mglswrite` Write information to the aux file for `bib2gls` to pick up, but only need to do it once per label since it only indicates which multi-entry has been referenced without any additional information.

```
\newcommand{\glxtr@mglswrite}[1]{%
\ifx\@glxtr@record@setting\@glxtr@record@setting@off
\else
\protected@edef\@glxtr@mglslabel{#1}%
\ifdef\@glxtr@mglssreflist
{%
\expandafter\DTLifinlist\expandafter{\@glxtr@mglslabel}%
{\@glxtr@mglssreflist}{}%
{%
\xappto\@glxtr@mglssreflist{,\expandonce\@glxtr@mglslabel}%
\if@mgl@writeseparaterefs
\protected@write\@auxout{ }\string\@glxtr@mglssrefs{#1}}%
\fi
}%
}%
{%
\global\let\@glxtr@mglssreflist\@glxtr@mglslabel
\if@mgl@writeseparaterefs
\protected@write\@auxout{ }\string\@glxtr@mglssrefs{#1}}%
\else
```

Bug fix #262: `\immediate\protected@write` doesn't work in end document hook when `tikz` loaded. No real need for `\protected@write` as `\@glxtr@mglssreflist` is just a comma-separated list of labels, but use `\expandonce` in case labels contain UTF-8 characters.

```
\AtEndDocument{\immediate\write\@auxout
{\string\@glxtr@mglssrefs{\expandonce{\@glxtr@mglssreflist}}}}%
\fi
\@mgl@disable@writeseparateref@cond
}%
\fi
}
```

`\@glxtr@mglssrefs`

```
\newcommand{\@glxtr@mglssrefs}[1]{}
```

`\if@mgl@writeseparaterefs` If this conditional is changed, it must be done before the first instance of any `\mgl`-like command.

```
\newif\if@mgl@writeseparaterefs \@mgl@writeseparaterefsfalse
```

`\mglWriteSeparateRefsTrue`

```
\newcommand{\mglWriteSeparateRefsTrue}{\global\@mgl@writeseparaterefstrue}
```

```

\mglWriteSeparateRefsFalse
\newcommand{\mglWriteSeparateRefsFalse}{\global\@mglswriteseparaterefsfalse}

\disable@writeseparateref@cond
\newcommand*{\@mgl@disable@writeseparateref@cond}{%
\gdef\mglWriteSeparateRefsTrue{\PackageError{glossaries-extra}%
{Too late to use \string\mglWriteSeparateRefsTrue}%
{\string\mglWriteSeparateRefsTrue\space can only be used before
the first instance of any \string\mgl-like command}}%
\gdef\mglWriteSeparateRefsFalse{\PackageError{glossaries-extra}%
{Too late to use \string\mglWriteSeparateRefsFalse}%
{\string\mglWriteSeparateRefsFalse\space can only be used before
the first instance of any \string\mgl-like command}}%
}

```

```

\glxtr@newmgl
\newcommand{\glxtr@newmgl}[6][[]]{%
\edef\@glxtr@newmgl@do{%
\noexpand\newrobustcmd*{\expandonce{\csname #2\endcsname}}%
{\noexpand\@gl@hyp@opt\expandonce{\csname ns@glxtr@#2\endcsname}}%
\noexpand\newcommand*{\expandonce{\csname ns@glxtr@#2\endcsname}}[2][[]]{%
\noexpand\new@ifnextchar [%
{\expandonce{\csname glxtr@#2\endcsname}{###1}{###2}}%
{\expandonce{\csname glxtr@#2\endcsname}{###1}{###2}[]}%
}%
\noexpand\def\expandonce{\csname glxtr@#2\endcsname}###1###2[###3]{%
\noexpand\@glxtr@mgl@linkdefs{\unexpanded{#1}}%
\noexpand\def\noexpand\glxtrcurrentmglscsname{#2}%
\noexpand\glxtr@mgl@inner{###1}{###2}{###3}%
{\noexpand#3}{\noexpand#4}{\noexpand#5}{\noexpand#6}%
}%
}%
\@glxtr@newmgl@do
\ifx\@glxtr@record@setting\@glxtr@record@setting@off
\else

```

Provide a way for bib2gls to recognise the command (this will make it easier to add extra commands without having to modify bib2gls).

```

\ifdef\@glxtr@mgl@likelist
{\xappto\@glxtr@mgl@likelist{,#2}}%
{%
\gdef\@glxtr@mgl@likelist{#2}%
\AtEndDocument{\immediate\protected@write\@auxout{}%
{\string\@glxtr@mgl@like{\@glxtr@mgl@likelist}}%
}%
\fi
}

```

```

\@glxtr@mgl@linkdefs

```

```

\newcommand{\@glsxtr@mglsl@linkdefs}[1]{%
\ifstrempy{#1}%
{%
\let\glsxtrifwasglslike\@firstoftwo
\def\glsxtrcurrentfield{}%
}%
{%
\let\glsxtrifwasglslike\@secondoftwo
\def\glsxtrcurrentfield{#1}%
}%
}

```

\@glsxtr@mglsl

```

\newcommand*{\@glsxtr@mglsl}[1]{%

```

\GlsXtrMglslOrGls{<mglsl cs>}{<gls cs>}{<modifier>}[<options>]  
{<label>}[<insert>]

\GlsXtrMglslOrGls

```

\newcommand*{\GlsXtrMglslOrGls}[2]{%
\def\@glsxtr@mglsl@or@gls@mcs{#1}%
\def\@glsxtr@mglsl@or@gls@gcs{#2}%
\@ifstar{\s@GlsXtrMglslOrGls}%
{%
\ifnextchar+{\@firstoftwo{\p@GlsXtrMglslOrGls}}%
{%
\ifdefempty\@gls@alt@hyp@opt@char\@GlsXtrMglslOrGls\alt@GlsXtrMglslOrGls
}%
}%
}

```

\alt@GlsXtrMglslOrGls

```

\newcommand*{\alt@GlsXtrMglslOrGls}{%
\expandafter\@ifnextchar\@gls@alt@hyp@opt@char
{\@firstoftwo{\alt@GlsXtrMglslOrGls}}{\@GlsXtrMglslOrGls}%
}

```

\@GlsXtrMglslOrGls

```

\newcommand*{\@GlsXtrMglslOrGls}[2][ ]{%
\glsxtrifmulti{#2}%
{\@glsxtr@mglsl@or@gls@mcs[#{1}]{#2}}%
{\@glsxtr@mglsl@or@gls@gcs[#{1}]{#2}}%
}

```

\s@GlsXtrMglslOrGls

```

\newcommand*{\s@GlsXtrMglslOrGls}[2][ ]{%
\glsxtrifmulti{#2}%
}

```

```

{\@glsxtr@mglso@r@glso@mcs*{#1}{#2}}%
{\@glsxtr@mglso@r@glso@gcs*{#1}{#2}}%
}

```

`\p@GlsXtrMglso@r@Gls`

```

\newcommand*{\p@GlsXtrMglso@r@Gls}[2][{}]{%
\glsxtrifmulti{#2}%
{\@glsxtr@mglso@r@glso@mcs+{#1}{#2}}%
{\@glsxtr@mglso@r@glso@gcs+{#1}{#2}}%
}

```

`\@alt@GlsXtrMglso@r@Gls`

```

\newcommand*{\@alt@GlsXtrMglso@r@Gls}[2][{}]{%
\glsxtrifmulti{#2}%
{\expandafter\@glsxtr@mglso@r@glso@mcs\@gls@alt@hyp@opt@char{#1}{#2}}%
{\expandafter\@glsxtr@mglso@r@glso@gcs\@gls@alt@hyp@opt@char{#1}{#2}}%
}

```

`\mglso[<options>]{<label>}[<insert>]`

`\mglso`

Use `\mglso` for all elements.

```

\glsxtr@newmglso{mglso}{\@gls@}{\@gls@}{\@gls@}{\@gls@}%

```

`\mglsopl[<options>]{<label>}[<insert>]`

`\mglsopl`

Use `\mglsopl` for all elements.

```

\glsxtr@newmglso{mglsopl}{\@glspl@}{\@glspl@}{\@glspl@}{\@glspl@}%

```

`\mglsoainpl[<options>]{<label>}[<insert>]`

`\mglsoainpl`

Only use `\mglsopl` for the main element, otherwise use `\mglso`.

```

\glsxtr@newmglso{mglsoainpl}{\@gls@}{\@gls@}{\@glspl@}{\@glspl@}%

```

`\Mglso[<options>]{<label>}[<insert>]`

`\Mglso`

Use `\Mglso` for first element and `\mglso` for others.

```

\glsxtr@newmglso{Mglso}{\@Gls@}{\@gls@}{\@Gls@}{\@gls@}%
\glsmfuaddmap{mglso}{Mglso}

```

`\Mglsopl[<options>]{<label>}[<insert>]`

`\Mglsopl`

Use `\Glspl` for first element and `\glspl` for others.

```
\glstr@newmgl{s}{Mglspl}{\@Glspl@}{\@glspl@}{\@Glspl@}{\@glspl@}%  
\glsmfuaddmap{\mglsp1}{\Mglspl}
```

`\Mglsmainpl`

```
\Mglsmainpl[<options>]{<label>}[<insert>]
```

Upper case the first element, no case change for others. Use plural for the main element only.

```
\glstr@newmgl{s}{Mglsmainpl}{\@Gls@}{\@gls@}{\@Glspl@}{\@glspl@}%  
\glsmfuaddmap{\mglsmainpl}{\Mglsmainpl}
```

`\MGls`

```
\MGls[<options>]{<label>}[<insert>]
```

Use `\Gls` for all elements.

```
\glstr@newmgl{s}{MGls}{\@Gls@}{\@Gls@}{\@Gls@}{\@Gls@}%  
\glsmfublocker{\MGls}
```

`\MGLspl`

```
\MGLspl[<options>]{<label>}[<insert>]
```

Use `\Glspl` for all elements.

```
\glstr@newmgl{s}{MGLspl}{\@Glspl@}{\@Glspl@}{\@Glspl@}{\@Glspl@}%  
\glsmfublocker{\MGLspl}
```

`\MGLsmainpl`

```
\MGLsmainpl[<options>]{<label>}[<insert>]
```

Start all elements with upper case. Only use plural for main element.

```
\glstr@newmgl{s}{MGLsmainpl}{\@Gls@}{\@Gls@}{\@Glspl@}{\@Glspl@}%  
\glsmfublocker{\MGLsmainpl}
```

`\MGLS`

```
\MGLS[<options>]{<label>}[<insert>]
```

Use `\GLS` for all elements.

```
\glstr@newmgl{s}{MGLS}{\@GLS@}{\@GLS@}{\@GLS@}{\@GLS@}%  
\glsmfublocker{\MGLS}
```

`\MGLSpl`

```
\MGLSpl[<options>]{<label>}[<insert>]
```

Use `\GLSpl` for all elements.

```
\glstr@newmgl{s}{MGLSpl}{\@GLSpl@}{\@GLSpl@}{\@GLSpl@}{\@GLSpl@}%  
\glsmfublocker{\MGLSpl}
```

`\MGLSmainpl`

`\MGLSmainpl[<options>]{<label>}[<insert>]`

Upper case all elements. Only use plural for main element.

```
\glxtr@newmgl{s}{\@GLS@}{\@GLS@}{\@GLSp1@}{\@GLSp1@}%
\glsmfublocker{\MGLSmainpl}
```

`\@glslongortext@`

```
\def\@glslongortext#1#2[#3]{%
  \ifglshaslong{#2}{\@glxtrlong{#1}{#2}[#3]}{\@glstext@{#1}{#2}[#3]}%
}
```

`\@glsshortortext@`

```
\def\@glsshortortext#1#2[#3]{%
  \ifglshasshort{#2}{\@glxtrshort{#1}{#2}[#3]}{\@glstext@{#1}{#2}[#3]}%
}
```

`\@glfullorfirst@`

```
\def\@glfullorfirst#1#2[#3]{%
  \ifglshasshort{#2}{\@glxtr@full{#1}{#2}[#3]}{\@glfirst@{#1}{#2}[#3]}%
}
```

`\@Glslongortext@`

```
\def\@Glslongortext#1#2[#3]{%
  \ifglshaslong{#2}{\@Glsxtrlong{#1}{#2}[#3]}{\@Glstext@{#1}{#2}[#3]}%
}
```

`\@Glsshortortext@`

```
\def\@Glsshortortext#1#2[#3]{%
  \ifglshasshort{#2}{\@Glsxtrshort{#1}{#2}[#3]}{\@Glstext@{#1}{#2}[#3]}%
}
```

`\@Glsfullorfirst@`

```
\def\@Glsfullorfirst#1#2[#3]{%
  \ifglshasshort{#2}{\@Glsxtr@full{#1}{#2}[#3]}{\@Glsfirst@{#1}{#2}[#3]}%
}
```

`\mglsshort`

`\mglsshort[<options>]{<label>}[<insert>]`

Use short or text for all elements.

```
\glxtr@newmgl{s}[short]{mglsshort}%
{\@glsshortortext}{\@glsshortortext}{\@glsshortortext}{\@glsshortortext}%
```

`\mglslong`

`\mglslong[<options>]{<label>}[<insert>]`



Use long or text for all elements.

```
\glxtr@newmglslong{mglslong}%  
{\@glslongortext}{\@glslongortext}{\@glslongortext}{\@glslongortext}%
```

\mglslfull

```
\mglslfull[<options>]{<label>}[<insert>]
```

Use full or first for all elements.

```
\glxtr@newmglslfirst{mglslfull}%  
{\@glsfullorfirst}{\@glsfullorfirst}{\@glsfullorfirst}{\@glsfullorfirst}%
```

\Mglsshort

```
\Mglsshort[<options>]{<label>}[<insert>]
```

Use short or text for all elements with initial cap on first element.

```
\glxtr@newmglslshort{Mglsshort}%  
{\@Glsshortortext}{\@Glsshortortext}{\@Glsshortortext}{\@Glsshortortext}%  
\glsmfuaddmap{mglsshort}{Mglsshort}
```

\Mglslong

```
\Mglslong[<options>]{<label>}[<insert>]
```

Use long or text for all elements with initial cap on first element.

```
\glxtr@newmglslong{Mglslong}%  
{\@Glslongortext}{\@Glslongortext}{\@Glslongortext}{\@Glslongortext}%  
\glsmfuaddmap{mglslong}{Mglslong}
```

\Mglslfull

```
\Mglslfull[<options>]{<label>}[<insert>]
```

Use full or first for all elements with initial cap on first element.

```
\glxtr@newmglslfirst{Mglslfull}%  
{\@Glsfullorfirst}{\@Glsfullorfirst}{\@Glsfullorfirst}{\@Glsfullorfirst}%  
\glsmfuaddmap{mglslfull}{Mglslfull}
```

\mglslname

```
\mglslname[<options>]{<label>}[<insert>]
```

Use name for all elements.

```
\glxtr@newmglslname{mglslname}%  
{\@glsname@}{\@glsname@}{\@glsname@}{\@glsname@}%
```

\Mglslname

```
\Mglslname[<options>]{<label>}[<insert>]
```

Use name for all elements with initial cap on first element.

```
\glxtr@newmgl [name]{Mglname}%  
{\@Glsname@}{\@glsname@}{\@Glsname@}{\@glsname@}%  
\glsmfuaddmap{\mglname}{\Mglname}
```

```
\Mglname [options]{label}[insert]
```

\Mglname

Use name for all elements with initial cap on all elements.

```
\glxtr@newmgl [name]{Mglname}%  
{\@Glsname@}{\@Glsname@}{\@Glsname@}{\@Glsname@}%  
\glsmfublocker{\Mglname}
```

\@glssymbolorgls

```
\def \@glssymbolorgls#1#2[#3]{%  
  \ifglshassymbol{#2}{\@glssymbol@{#1}{#2}[#3]}{\@gls@{#1}{#2}[#3]}%  
}
```

\@glssymbolorGls

```
\def \@glssymbolorGls#1#2[#3]{%  
  \ifglshassymbol{#2}{\@glssymbol@{#1}{#2}[#3]}{\@Gls@{#1}{#2}[#3]}%  
}
```

```
\mglssymbol [options]{label}[insert]
```

\mglssymbol

Use \glssymbol if the symbol key is set otherwise use \gls.

```
\glxtr@newmgl [symbol]{mglssymbol}%  
{\@glssymbolorgls}{\@glssymbolorgls}{\@glssymbolorgls}{\@glssymbolorgls}%
```

```
\Mglssymbol [options]{label}[insert]
```

\Mglssymbol

As above but initial the first element if it's not a symbol.

```
\glxtr@newmgl [symbol]{Mglssymbol}%  
{\@glssymbolorGls}{\@glssymbolorgls}{\@glssymbolorGls}{\@glssymbolorgls}%  
\glsmfuaddmap{\mglssymbol}{\Mglssymbol}
```

```
\MGlssymbol [options]{label}[insert]
```

\MGlssymbol

As above but initial each element if it's not a symbol.

```
\glxtr@newmgl [symbol]{MGlssymbol}%  
{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorGls}%  
\glsmfublocker{\MGlssymbol}
```

```

\mglsfield
\newcommand{\mglsfield}{useri}

\@glsfieldorgls
\def\@glsfieldorgls#1#2[#3]{%
  \glstrifhasfield{\mglsfield}{#2}%
  {\@glsdisp[#1]{#2}{\glscurrentfieldvalue#3}}%
  {\@gls@{#1}{#2}[#3]}%
}

\@Glsfieldorgls
\def\@Glsfieldorgls#1#2[#3]{%
  \glstrifhasfield{\mglsfield}{#2}%
  {\@glsdisp[#1]{#2}{%
    \expandafter\glsentencecase\expandafter{\glscurrentfieldvalue#3}}}%
  {\@Gls@{#1}{#2}[#3]}%
}

\mglsusefield
\mglsusefield[\langle options \rangle]{\langle label \rangle}[\langle insert \rangle]
Use the field given by \mglsfield.
\glstr@newmgl[\mglsfield]{mglsusefield}%
{\@glsfieldorgls}{\@glsfieldorgls}{\@glsfieldorgls}{\@glsfieldorgls}%

\Mglsusefield
\Mglsusefield[\langle options \rangle]{\langle label \rangle}[\langle insert \rangle]
As above but use initial cap for first element only.
\glstr@newmgl[\mglsfield]{Mglsusefield}%
{\@Glsfieldorgls}{\@glsfieldorgls}{\@Glsfieldorgls}{\@glsfieldorgls}%
\glsmfuaddmap{\mglsusefield}{\Mglsusefield}

\MGlsusefield
\MGlsusefield[\langle options \rangle]{\langle label \rangle}[\langle insert \rangle]
As above but use initial cap for all elements.
\glstr@newmgl[\mglsfield]{MGlsusefield}%
{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}%
\glsmfublocker{\MGlsusefield}

Use commands provided by glossaries-prefix if it has been loaded.

\mpglsWarning
\newcommand*\mpglsWarning{%
  \GlossariesExtraWarning{glossaries-prefix.sty is required for
  \string\mpgls\space family of commands}%
}

```

```

\@pglsorgls
\def\@pglsorgls#1#2[#3]{%
  \ifdef\@pgls@\@pgls@{#1}{#2}[#3]}\mpglsWarning\@gls@{#1}{#2}[#3]}%
}

\@pglsorglsp1
\def\@pglsorglsp1#1#2[#3]{%
  \ifdef\@pglsp1@\@pglsp1@{#1}{#2}[#3]}\mpglsWarning\@g1sp1@{#1}{#2}[#3]}%
}

\@PglSorgls
\def\@PglSorgls#1#2[#3]{%
  \ifdef\@PglS@\@PglS@{#1}{#2}[#3]}\mpglsWarning\@Gls@{#1}{#2}[#3]}%
}

\@pglsorglsp1
\def\@pglsorglsp1#1#2[#3]{%
  \ifdef\@pglsp1@\@pglsp1@{#1}{#2}[#3]}\mpglsWarning\@g1sp1@{#1}{#2}[#3]}%
}

\@PglSorglsp1
\def\@PglSorglsp1#1#2[#3]{%
  \ifdef\@PglSp1@\@PglSp1@{#1}{#2}[#3]}\mpglsWarning\@G1sp1@{#1}{#2}[#3]}%
}

\@PGLSorgls
\def\@PGLSorgls#1#2[#3]{%
  \ifdef\@PGLS@\@PGLS@{#1}{#2}[#3]}\mpglsWarning\@GLS@{#1}{#2}[#3]}%
}

\@PGLSorglsp1
\def\@PGLSorglsp1#1#2[#3]{%
  \ifdef\@PGLSp1@\@PGLSp1@{#1}{#2}[#3]}\mpglsWarning\@GLSp1@{#1}{#2}[#3]}%
}

```

`\mpgls`

`\mpgls[<options>]{<label>}[<insert>]`

Use `\pgls` for the first element and `\gls` for the remainder.

`\glsxtr@newmgls{mpgls}{\@pglsorgls}{\@gls@}{\@pglsorgls}{\@gls@}%`

`\mpglsp1`

`\mpglsp1[<options>]{<label>}[<insert>]`

Use `\pglsp1` for the first element and `\glsp1` for the remainder.

`\glsxtr@newmgls{mpglsp1}{\@pglsorglsp1}{\@g1sp1@}{\@pglsorglsp1}{\@g1sp1@}%`

<code>\mpglsmainpl</code>	<code>\mpglsmainpl[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Only use plural for main element and only use prefixing command for first element.</p> <pre>\glstr@newmgls{mpglsmainpl}{\@Pglorgls@}{\@gls@}{\@Pglorglsp1@}{\@glspl@}%</pre>
<code>\Mpgls</code>	<code>\Mpgls[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Use <code>\Pgl</code> for the first element and <code>\gls</code> for the remainder.</p> <pre>\glstr@newmgls{Mpgls}{\@Pglorgls@}{\@gls@}{\@Pglorgls@}{\@gls@}% \glsmfuaddmap{mpgls}{Mpgls}</pre>
<code>\Mpglsp1</code>	<code>\Mpglsp1[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Use <code>\Pglsp1</code> for the first element and <code>\glspl</code> for the remainder.</p> <pre>\glstr@newmgls{Mpglsp1}{\@Pglorglsp1@}{\@glspl@}{\@Pglorglsp1@}{\@glspl@}% \glsmfuaddmap{mpglsp1}{Mpglsp1}</pre>
<code>\Mpglsmainpl</code>	<code>\Mpglsmainpl[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Only use plural for main element and only use first letter uppercase prefixing command for first element.</p> <pre>\glstr@newmgls{Mpglsmainpl}{\@Pglorgls@}{\@gls@}{\@Pglorglsp1@}{\@glspl@}% \glsmfuaddmap{mpglsmainpl}{Mpglsmainpl}</pre>
<code>\MPGls</code>	<code>\MPGls[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Use <code>\Pgl</code> for the first element and <code>\Gls</code> for the remainder.</p> <pre>\glstr@newmgls{MPGls}{\@Pglorgls@}{\@Gls@}{\@Pglorgls@}{\@Gls@}% \glsmfublocker{MPGls}</pre>
<code>\MPG1sp1</code>	<code>\MPG1sp1[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>
	<p>Use <code>\Pglsp1</code> for the first element and <code>\G1sp1</code> for the remainder.</p> <pre>\glstr@newmgls{MPG1sp1}{\@Pglorglsp1@}{\@G1sp1@}{\@Pglorglsp1@}{\@G1sp1@}% \glsmfublocker{MPG1sp1}</pre>
<code>\MPGlsmainpl</code>	<code>\MPGlsmainpl[<i>\langle options \rangle</i>]{<i>\langle label \rangle</i>}[<i>\langle insert \rangle</i>]</code>

Only use plural for main element and first letter uppercase all elements.

```
\glxtr@newmgl{s}{MPGLsmainpl}{\@PGLsorgls@}{\@GLs@}{\@PGLsorglsp1@}{\@GLsp1@}%
\glsmfublocker{\MPGLsmainpl}
```

\MPGLS

```
\MPGLS[<options>]{<label>}[<insert>]
```

Use \PGLS for the first element and \GLS for the remainder.

```
\glxtr@newmgl{s}{MPGLS}{\@PGLSorgls@}{\@GLS@}{\@PGLSorgls@}{\@GLS@}%
\glsmfublocker{\MPGLS}
```

\MPGLSp1

```
\MPGLSp1[<options>]{<label>}[<insert>]
```

Use \PGLSp1 for the first element and \GLSp1 for the remainder.

```
\glxtr@newmgl{s}{MPGLSp1}{\@PGLSorglsp1@}{\@GLSp1@}{\@PGLSorglsp1@}{\@GLSp1@}%
\glsmfublocker{\MPGLSp1}
```

\MPGLSmainpl

```
\MPGLSmainpl[<options>]{<label>}[<insert>]
```

Only use plural for main element and uppercase all elements.

```
\glxtr@newmgl{s}{MPGLSmainpl}{\@PGLSorgls@}{\@GLS@}{\@PGLSorglsp1@}{\@GLSp1@}%
\glsmfublocker{\MPGLSmainpl}
```

Not currently implementing any other variations.

## 1.11 Multi-Lingual Support

Add the facility to load language modules, if they are installed, but none are provided with this package.

\glxtrcontinuedname Provide for use in \printunsrtable.

```
\providecommand{\glxtrcontinuedname}{continued}
```

\RequireGlossariesExtraLang

```
\newcommand*{\RequireGlossariesExtraLang}[1]{%
  \@ifundefined{ver@glossariesxtr-#1.ldf}{\input{glossariesxtr-#1.ldf}}{}%
}
```

\ProvidesGlossariesExtraLang

```
\newcommand*{\ProvidesGlossariesExtraLang}[1]{%
  \ProvidesFile{glossariesxtr-#1.ldf}%
}
```

Load any required language modules that are available. This doesn't generate any warning if none are found, since they're not essential. (The only command that really needs defining for the document is `\abbreviationsname`, which can simply be redefined. However, with `bib2gls` it might be useful to provide custom rules for a particular locale.)

`\glxtr@loaddialect` The dialect label should be stored in `\this@dialect` before using this command.

```
\newcommand{\glxtr@loaddialect}{%
  \IfTrackedLanguageFileExists{\this@dialect}%
  {glossariesxtr-}% prefix
  {.ldf}%
  {%
    \RequireGlossariesExtraLang{\CurrentTrackedTag}%
  }%
  }% not found
```

If `glossaries-extra-bib2gls` has been loaded, `\@glxtrdialecthook` will check for the associated script, otherwise it will do nothing.

```
\@glxtrdialecthook
}
```

```
\@ifpackageloaded{tracklang} {%
  \AnyTrackedLanguages
  {%
    \ForEachTrackedDialect{\this@dialect}{\glxtr@loaddialect}%
  }%
  {}%
} {}
```

The style needs to be set at the end to ensure that `\setglossarystyle` has been redefined and extra style commands have been defined. Load `glossaries-extra-stylemods` if required.

```
\@glxtr@redefstyles
```

and set the style:

```
\@glxtr@do@style
```

## 2 Predefined Abbreviation Styles (`glossaries-extra-abbrstyles.def`)

```
\ProvidesFile{glossaries-extra-abbrstyles.def}[2025/01/03 v1.54 (NLCT)]
```

This file contains the predefined abbreviation styles. Some helper commands first.

`\glxtrlongshortname`

```
\newcommand*{\glxtrlongshortname}{%
  \glxspabbrvfont{\the\glsshorttok}{\glscategorylabel}%
}
```

Provide convenient wrappers for common formats.

`\glxtrlongformat`

```
\glxtrlongformat{<label>}{<insert>}{<longfmtcs>}
```

```
\newcommand*{\glxtrlongformat}[3]{%
```

Don't add inner formatting if markwords attribute set as the inner formatting is implemented within `\glxtrword` and `\glxtrwordsep`.

```
\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
}{%
\ifglxtrinsertinside
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\else
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\fi
}%
}{%
\ifglxtrinsertinside
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\else
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\fi
}%
}%
}
```

`\glxtrlongplformat`

```
\glxtrlongplformat{<label>}{<insert>}{<longfmtcs>}
```

```
\newcommand*{\glxtrlongplformat}[3]{%
\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
}{%
\ifglxtrinsertinside
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\else
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\fi
}%
}{%
\ifglxtrinsertinside
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\else
  #3{\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\glxtrwordsep{<wordsep>}{<word>}{<wordsep>}{<word>}{<wordsep>}{<word>}%
\fi
}%
}
```



}%

```
\Glsxtrlongformat{<label>}{<insert>}{<longfmtcs>}
```

\Glsxtrlongformat

```
\newcommand*{\Glsxtrlongformat}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglsxtrininsertinside
      #3{\Glsaccesslong{#1}\glsxtrgenentrytextfmt{#2}}%
    \else
      #3{\Glsaccesslong{#1}}\glsxtrgenentrytextfmt{#2}%
    \fi
  }%
  {%
    \ifglsxtrininsertinside
      #3{\Glsaccessfmtlong{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      #3{\Glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{#1}}%
      \glsxtrgenentrytextfmt{#2}%
    \fi
  }%
}%
```

```
\Glsxtrlongplformat{<label>}{<insert>}{<longfmtcs>}
```

\Glsxtrlongplformat

```
\newcommand*{\Glsxtrlongplformat}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglsxtrininsertinside
      #3{\Glsaccesslongpl{#1}\glsxtrgenentrytextfmt{#2}}%
    \else
      #3{\Glsaccesslongpl{#1}}\glsxtrgenentrytextfmt{#2}%
    \fi
  }%
  {%
    \ifglsxtrininsertinside
      #3{\Glsaccessfmtlongpl{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      #3{\Glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{#1}}%
      \glsxtrgenentrytextfmt{#2}%
    \fi
  }%
}%
```

\GLSxtrlongformat

\GLSxtrlongformat{<label>}{<insert>}{<longfmtcs>}

```
\newcommand*{\GLSxtrlongformat}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglsxtrinsertinside
      #3{\GLSaccesslong{#1}\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \else
      #3{\GLSaccesslong{#1}\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    \ifglsxtrinsertinside
      #3{\GLSaccessfmlong{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      #3{\GLSaccessfmlong{}{\glsxtrgenentrytextfmt}{#1}}%
      \mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}%
    \fi
  }%
}%
```

\GLSxtrlongplformat

\GLSxtrlongplformat{<label>}{<insert>}{<longfmtcs>}

```
\newcommand*{\GLSxtrlongplformat}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglsxtrinsertinside
      #3{\GLSaccesslongpl{#1}\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \else
      #3{\GLSaccesslongpl{#1}\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    \ifglsxtrinsertinside
      #3{\GLSaccessfmlongpl{#2}{\glsxtrgenentrytextfmt}{#1}}%
    \else
      #3{\GLSaccessfmlongpl{}{\glsxtrgenentrytextfmt}{#1}}%
      \mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}%
    \fi
  }%
}%
```

\glsxtrlongformatgrp

\glsxtrlongformatgrp{<label>}{<insert>}{<longfmtcs>}

Add grouping around insert.

```
\newcommand*{\glxtrlongformatgrp}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglxtrinsertinside
      #3{\glsaccesslong{#1}{\glxtrgenentrytextfmt{#2}}}%
    \else
      #3{\glsaccesslong{#1}{\glxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\glsaccessfmlong{}{\glxtrgenentrytextfmt{#1}}}%
    \ifglxtrinsertinside
      {#3{\glxtrgenentrytextfmt{#2}}}%
    \else
      {\glxtrgenentrytextfmt{#2}}%
    \fi
  }%
}%
```

```
\glxtrlongformatplgrp{<label>}{<insert>}{<longfmtcs>}
```

\glxtrlongplformatgrp

Add grouping around insert.

```
\newcommand*{\glxtrlongplformatgrp}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglxtrinsertinside
      #3{\glsaccesslongpl{#1}{\glxtrgenentrytextfmt{#2}}}%
    \else
      #3{\glsaccesslongpl{#1}{\glxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\glsaccessfmlongpl{}{\glxtrgenentrytextfmt{#1}}}%
    \ifglxtrinsertinside
      {#3{\glxtrgenentrytextfmt{#2}}}%
    \else
      {\glxtrgenentrytextfmt{#2}}%
    \fi
  }%
}%
```

```
\Glsxtrlongformatgrp{<label>}{<insert>}{<longfmtcs>}
```

\Glsxtrlongformatgrp

Add grouping around insert.

```
\newcommand*{\Glsxtrlongformatgrp}[3]{%
```

```

\glsifattribute{#1}{markwords}{true}%
{%
  \ifglstrinsertinside
    #3{\Glsaccesslong{#1}{\glstrgenentrytextfmt{#2}}}%
  \else
    #3{\Glsaccesslong{#1}{\glstrgenentrytextfmt{#2}}}%
  \fi
}%
{%
  #3{\Glsaccessfmtlong{}}{\glstrgenentrytextfmt{#1}}%
  \ifglstrinsertinside
    {#3{\glstrgenentrytextfmt{#2}}}%
  \else
    {\glstrgenentrytextfmt{#2}}%
  \fi
}%
}%

```

```
\Glsxtrlongformatplgrp{<label>}{<insert>}{<longfmtcs>}
```

\Glsxtrlongplformatgrp

Add grouping around insert.

```

\newcommand*{\Glsxtrlongplformatgrp}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%
    \ifglstrinsertinside
      #3{\Glsaccesslongpl{#1}{\glstrgenentrytextfmt{#2}}}%
    \else
      #3{\Glsaccesslongpl{#1}{\glstrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\Glsaccessfmtlongpl{}}{\glstrgenentrytextfmt{#1}}%
    \ifglstrinsertinside
      {#3{\glstrgenentrytextfmt{#2}}}%
    \else
      {\glstrgenentrytextfmt{#2}}%
    \fi
  }%
}%

```

```
\GLSxtrlongformatgrp{<label>}{<insert>}{<longfmtcs>}
```

\GLSxtrlongformatgrp

Add grouping around insert.

```

\newcommand*{\GLSxtrlongformatgrp}[3]{%
  \glsifattribute{#1}{markwords}{true}%
  {%

```

```

\ifglxtrinsertinside
#3{\GLSaccesslong{#1}{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
\else
#3{\GLSaccesslong{#1}{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
\fi
}%
{%
#3{\GLSaccessfmtlong{}{\glxtrgenentrytextfmt{#1}}}%
\ifglxtrinsertinside
{\mfirstucMakeUppercase{#3{\glxtrgenentrytextfmt{#2}}}}%
\else
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}%
\fi
}%
}%

```

```
\GLSxtrlongformatplgrp{<label>}{<insert>}{<longfmtcs>}
```

\GLSxtrlongplformatgrp

Add grouping around insert.

```

\newcommand*{\GLSxtrlongplformatgrp}[3]{%
\glsifattribute{#1}{markwords}{true}%
{%
\ifglxtrinsertinside
#3{\GLSaccesslongpl{#1}{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
\else
#3{\GLSaccesslongpl{#1}{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
\fi
}%
{%
#3{\GLSaccessfmtlongpl{}{\glxtrgenentrytextfmt{#1}}}%
\ifglxtrinsertinside
{\mfirstucMakeUppercase{#3{\glxtrgenentrytextfmt{#2}}}}%
\else
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}%
\fi
}%
}%

```

```
\glsxtrshortformat{<label>}{<insert>}{<shortfmtcs>}
```

\glsxtrshortformat

```

\newcommand*{\glsxtrshortformat}[3]{%
\glsifattribute{#1}{markshortwords}{true}%
{%
\ifglxtrinsertinside
#3{\glsaccessshort{#1}\glxtrgenentrytextfmt{#2}}%

```

```

\else
  #3{\glsaccessshort{#1}}\glsxtrgenentrytextfmt{#2}%
\fi
}%
{%
\ifglsxtrinsertinside
  #3{\glsaccessfmtshort{#2}{\glsxtrgenentrytextfmt}{#1}}%
\else
  #3{\glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{#1}}%
\glsxtrgenentrytextfmt{#2}%
\fi
}%
}%
}%

```

\glsxtrshortplformat

```
\glsxtrshortplformat{<label>}{<insert>}{<shortfmtcs>}
```

```

\newcommand*{\glsxtrshortplformat}[3]{%
\glsifattribute{#1}{markshortwords}{true}%
{%
\ifglsxtrinsertinside
  #3{\glsaccessshortpl{#1}\glsxtrgenentrytextfmt{#2}}%
\else
  #3{\glsaccessshortpl{#1}}\glsxtrgenentrytextfmt{#2}%
\fi
}%
{%
\ifglsxtrinsertinside
  #3{\glsaccessfmtshortpl{#2}{\glsxtrgenentrytextfmt}{#1}}%
\else
  #3{\glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{#1}}%
\glsxtrgenentrytextfmt{#2}%
\fi
}%
}%

```

\Glsxtrshortformat

```
\Glsxtrshortformat{<label>}{<insert>}{<shortfmtcs>}
```

```

\newcommand*{\Glsxtrshortformat}[3]{%
\glsifattribute{#1}{markshortwords}{true}%
{%
\ifglsxtrinsertinside
  #3{\Glsaccessshort{#1}\glsxtrgenentrytextfmt{#2}}%
\else
  #3{\Glsaccessshort{#1}}\glsxtrgenentrytextfmt{#2}%

```

```

\fi
}%
{%
\ifglxtrinsertinside
#3{\Glsaccessfmtshort{#2}{\glxtrgenentrytextfmt}{#1}}%
\else
#3{\Glsaccessfmtshort{}{\glxtrgenentrytextfmt}{#1}}%
\glxtrgenentrytextfmt{#2}%
\fi
}%
}%

```

```
\Glsxtrshortplformat{<label>}{<insert>}{<shortfmtcs>}
```

\Glsxtrshortplformat

```

\newcommand*\Glsxtrshortplformat}[3]{%
\glsifattribute{#1}{markshortwords}{true}%
{%
\ifglxtrinsertinside
#3{\Glsaccessshortpl{#1}\glxtrgenentrytextfmt{#2}}%
\else
#3{\Glsaccessshortpl{#1}}\glxtrgenentrytextfmt{#2}%
\fi
}%
{%
\ifglxtrinsertinside
#3{\Glsaccessfmtshortpl{#2}{\glxtrgenentrytextfmt}{#1}}%
\else
#3{\Glsaccessfmtshortpl{}{\glxtrgenentrytextfmt}{#1}}%
\glxtrgenentrytextfmt{#2}%
\fi
}%
}%

```

```
\GLSxtrshortformat{<label>}{<insert>}{<shortfmtcs>}
```

\GLSxtrshortformat

```

\newcommand*\GLSxtrshortformat}[3]{%
\glsifattribute{#1}{markshortwords}{true}%
{%
\ifglxtrinsertinside
#3{\GLSaccessshort{#1}\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}%
\else
#3{\GLSaccessshort{#1}}\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}%
\fi
}%

```

```

{%
  \ifglstrinsertinside
    #3{\GLSaccessfmtshort{#2}{\glstrgenentrytextfmt}{#1}}%
  \else
    #3{\GLSaccessfmtshort}{\glstrgenentrytextfmt}{#1}}%
    \mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}%
  \fi
}%
}%

```

```
\GLSxtrshortplformat{<label>}{<insert>}{<shortfmtcs>}
```

\GLSxtrshortplformat

```

\newcommand*{\GLSxtrshortplformat}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglstrinsertinside
      #3{\GLSaccessshortpl{#1}\mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}}%
    \else
      #3{\GLSaccessshortpl{#1}\mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    \ifglstrinsertinside
      #3{\GLSaccessfmtshortpl{#2}{\glstrgenentrytextfmt}{#1}}%
    \else
      #3{\GLSaccessfmtshortpl}{\glstrgenentrytextfmt}{#1}}%
      \mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}%
    \fi
  }%
}%

```

```
\glsxtrshortformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\glsxtrshortformatgrp

Add grouping around insert.

```

\newcommand*{\glsxtrshortformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglstrinsertinside
      #3{\glsaccessshort{#1}{\glstrgenentrytextfmt{#2}}}%
    \else
      #3{\glsaccessshort{#1}{\glstrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\glsaccessfmtshort}{\glstrgenentrytextfmt}{#1}}%
  }%

```



```

\ifglxtrinsertinside
  #3{\glxtrgenentrytextfmt{#2}}}%
\else
  {\glxtrgenentrytextfmt{#2}}}%
\fi
}%
}%

```

```
\glxtrshortplformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\glxtrshortplformatgrp

Add grouping around insert.

```

\newcommand*{\glxtrshortplformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglxtrinsertinside
      #3{\glsaccessshortpl{#1}{\glxtrgenentrytextfmt{#2}}}%
    \else
      #3{\glsaccessshortpl{#1}}{\glxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\glsaccessfmtshortpl}{\glxtrgenentrytextfmt}{#1}}%
    \ifglxtrinsertinside
      {\glxtrgenentrytextfmt{#2}}}%
    \else
      {\glxtrgenentrytextfmt{#2}}}%
    \fi
  }%
}%

```

```
\Glsxtrshortformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\Glsxtrshortformatgrp

Add grouping around insert.

```

\newcommand*{\Glsxtrshortformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglxtrinsertinside
      #3{\Glsaccessshort{#1}{\glxtrgenentrytextfmt{#2}}}%
    \else
      #3{\Glsaccessshort{#1}}{\glxtrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\Glsaccessfmtshort}{\glxtrgenentrytextfmt}{#1}}%
    \ifglxtrinsertinside
      {\glxtrgenentrytextfmt{#2}}}%
  }%
}

```

```

\else
  {\glstrgenentrytextfmt{#2}}%
\fi
}%
}%

```

```
\Glsxtrshortplformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\Glsxtrshortplformatgrp

Add grouping around insert.

```

\newcommand*{\Glsxtrshortplformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglstrinsertinside
      #3{\Glsaccessshortpl{#1}{\glstrgenentrytextfmt{#2}}}%
    \else
      #3{\Glsaccessshortpl{#1}{\glstrgenentrytextfmt{#2}}}%
    \fi
  }%
  {%
    #3{\Glsaccessfmtshortpl}{\glstrgenentrytextfmt}{#1}%
    \ifglstrinsertinside
      {#3{\glstrgenentrytextfmt{#2}}}%
    \else
      {\glstrgenentrytextfmt{#2}}%
    \fi
  }%
}%

```

```
\GLSxtrshortformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\GLSxtrshortformatgrp

Add grouping around insert.

```

\newcommand*{\GLSxtrshortformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglstrinsertinside
      #3{\GLSaccessshort{#1}{\mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}}}%
    \else
      #3{\GLSaccessshort{#1}{\mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}}}%
    \fi
  }%
  {%
    #3{\GLSaccessfmtshort}{\glstrgenentrytextfmt}{#1}%
    \ifglstrinsertinside
      {\mfirstucMakeUppercase{#3{\glstrgenentrytextfmt{#2}}}}%
    \else
      {\mfirstucMakeUppercase{\glstrgenentrytextfmt{#2}}}%
  }%
}

```

```

    \fi
  }%
}%

```

```
\GLSxtrshortplformatgrp{<label>}{<insert>}{<shortfmtcs>}
```

\GLSxtrshortplformatgrp

Add grouping around insert.

```

\newcommand*{\GLSxtrshortplformatgrp}[3]{%
  \glsifattribute{#1}{markshortwords}{true}%
  {%
    \ifglsxtrinsertinside
      #3{\GLSaccessshortpl{#1}{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}}%
    \else
      #3{\GLSaccessshortpl{#1}{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}}%
    \fi
  }%
  {%
    #3{\GLSaccessfmtshortpl}{\glsxtrgenentrytextfmt}{#1}%
    \ifglsxtrinsertinside
      {\mfirstucMakeUppercase{#3{\glsxtrgenentrytextfmt{#2}}}}%
    \else
      {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
  }%
}%

```

```
\glsxtrlongshortformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\glsxtrlongshortformat

```

\newcommand*{\glsxtrlongshortformat}[4]{%
  \glsxtrlongformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrshortformat{#1}{#4}}%
}%

```

```
\glsxtrlongshortplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\glsxtrlongshortplformat

```

\newcommand*{\glsxtrlongshortplformat}[4]{%
  \glsxtrlongplformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrshortplformat{#1}{#4}}%
}%

```

`\Glsxtrlongshortformat`

```
\Glsxtrlongshortformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

```
\newcommand*{\Glsxtrlongshortformat}[4]{%
  \Glsxtrlongformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrshortformat{#1}{#4}}%
}%
```

`\Glsxtrlongshortplformat`

```
\Glsxtrlongshortplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

```
\newcommand*{\Glsxtrlongshortplformat}[4]{%
  \Glsxtrlongplformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrshortplformat{#1}{#4}}%
}%
```

`\GLSxtrlongshortformat`

```
\GLSxtrlongshortformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

```
\newcommand*{\GLSxtrlongshortformat}[4]{%
  \GLSxtrlongformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\GLSxtrshortformat{#1}{#4}}%
}%
```

`\GLSxtrlongshortplformat`

```
\GLSxtrlongshortplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

```
\newcommand*{\GLSxtrlongshortplformat}[4]{%
  \GLSxtrlongplformat{#1}{#2}{#3}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\GLSxtrshortplformat{#1}{#4}}%
}%
```

`\glsxtrshortlongformat`

```
\glsxtrshortlongformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

```

\newcommand*\glsxtrshortlongformat}[4]{%
  \glsxtrshortformat{#1}{#2}{#4}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrlongformat{#1}{#3}}%
}%

```

```

\glsxtrshortlongplformat{<label>}{<insert>}{<longfmtcs>}
  {<shortfmtcs>}

```

\glsxtrshortlongplformat

```

\newcommand*\glsxtrshortlongplformat}[4]{%
  \glsxtrshortplformat{#1}{#2}{#4}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrlongplformat{#1}{#3}}%
}%

```

```

\Glsxtrshortlongformat{<label>}{<insert>}{<longfmtcs>}
  {<shortfmtcs>}

```

\Glsxtrshortlongformat

```

\newcommand*\Glsxtrshortlongformat}[4]{%
  \Glsxtrshortformat{#1}{#2}{#4}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrlongformat{#1}{#3}}%
}%

```

```

\Glsxtrshortlongplformat{<label>}{<insert>}{<longfmtcs>}
  {<shortfmtcs>}

```

\Glsxtrshortlongplformat

```

\newcommand*\Glsxtrshortlongplformat}[4]{%
  \Glsxtrshortplformat{#1}{#2}{#4}%
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsxtrlongplformat{#1}{#3}}%
}%

```

```

\GLSxtrshortlongformat{<label>}{<insert>}{<longfmtcs>}
  {<shortfmtcs>}

```

\GLSxtrshortlongformat

```

\newcommand*\GLSxtrshortlongformat}[4]{%

```

```

\GLSxtrshortformat{#1}{#2}{#4}%
\glsxtrfullsep{#1}%
\glsxtrparen{\GLSxtrlongformat{#1}{#3}}%
}%

```

```

\GLSxtrshortlongplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}

```

\GLSxtrshortlongplformat

```

\newcommand*\GLSxtrshortlongplformat[4]{%
\GLSxtrshortplformat{#1}{#2}{#4}%
\glsxtrfullsep{#1}%
\glsxtrparen{\GLSxtrlongplformat{#1}{#3}}%
}%

```

```

\glsxtrfootnotelongformat{<label>}{<longfmtcs>}

```

\glsxtrfootnotelongformat

```

\newcommand*\glsxtrfootnotelongformat[2]{%
\glsxtrlongformat{#1}{#2}%
}%

```

```

\glsxtrfootnotelongplformat{<label>}{<longfmtcs>}

```

\glsxtrfootnotelongplformat

```

\newcommand*\glsxtrfootnotelongplformat[2]{%
\glsxtrlongplformat{#1}{#2}%
}%

```

```

\glsxtrpostfootnotelongformat{<label>}{<longfmtcs>}

```

\glsxtrpostfootnotelongformat

```

\newcommand*\glsxtrpostfootnotelongformat{%
\glsxtrfootnotelongformat
}%

```

```

\glsxtruserpostshortformat{<label>}{<shortfmtcs>}

```

\glsxtrpostusersshortformat

```

\newcommand*\glsxtrpostusersshortformat[2]{%
\glsxtrifallcaps

```

```

{\GLSxtrusersshortformat{#1}{#2}}%
{\glsxtrusersshortformat{#1}{#2}}%
}%

```

`\glsxtrusersshortformat`

```
\glsxtrusersshortformat{<label>}{<shortfmtcs>}
```

```

\newcommand*{\glsxtrusersshortformat}[2]{%
  \glsxtruserparen{\glsxtrshortformat{#1}{#2}}{#1}%
}%

```

`\glsxtrusersshorttplformat`

```
\glsxtrusersshorttplformat{<label>}{<shortfmtcs>}
```

```

\newcommand*{\glsxtrusersshorttplformat}[2]{%
  \glsxtruserparen{\glsxtrshorttplformat{#1}{#2}}{#1}%
}%

```

`\GLSxtrusersshortformat`

```
\GLSxtrusersshortformat{<label>}{<shortfmtcs>}
```

```

\newcommand*{\GLSxtrusersshortformat}[2]{%
  \GLSxtruserparen{\GLSxtrshortformat{#1}{#2}}{#1}%
}%

```

`\GLSxtrusersshorttplformat`

```
\GLSxtrusersshorttplformat{<label>}{<shortfmtcs>}
```

```

\newcommand*{\GLSxtrusersshorttplformat}[2]{%
  \GLSxtruserparen{\GLSxtrshorttplformat{#1}{#2}}{#1}%
}%

```

`\glsxtrpostuserlongformat`

```
\glsxtruserpostlongformat{<label>}{<longfmtcs>}
```

```

\newcommand*{\glsxtrpostuserlongformat}[2]{%
  \glsxtrifallcaps
  {\GLSxtruserlongformat{#1}{#2}}%
  {\glsxtruserlongformat{#1}{#2}}%
}%

```

`\glxtruserlongformat`

```
\glxtruserlongformat{<label>}{<longfmtcs>}
```

```
\newcommand*{\glxtruserlongformat}[2]{%  
  \glxtruserparen{\glxtrlongformat{#1}{#2}}{#1}%  
}%
```

`\GLSxtruserlongformat`

```
\GLSxtruserlongformat{<label>}{<longfmtcs>}
```

```
\newcommand*{\GLSxtruserlongformat}[2]{%  
  \GLSxtruserparen{\GLSxtrlongformat{#1}{#2}}{#1}%  
}%
```

`\glxtruserlongplformat`

```
\glxtruserlongplformat{<label>}{<longfmtcs>}
```

```
\newcommand*{\glxtruserlongplformat}[2]{%  
  \glxtruserparen{\glxtrlongplformat{#1}{#2}}{#1}%  
}%
```

`\GLSxtruserlongplformat`

```
\GLSxtruserlongplformat{<label>}{<longfmtcs>}
```

```
\newcommand*{\GLSxtruserlongplformat}[2]{%  
  \GLSxtruserparen{\GLSxtrlongplformat{#1}{#2}}{#1}%  
}%
```

`\glxtruserlongshortformat`

```
\glxtruserlongshortformat{<label>}{<insert>}{<longfmtcs>}{<shortfmtcs>}
```

```
\newcommand*{\glxtruserlongshortformat}[4]{%  
  \glxtrlongformat{#1}{#2}{#3}%  
  \glxtrusershortformat{#1}{#4}%  
}%
```

`\glxtruserlongshortplformat`

```
\glxtruserlongshortplformat{<label>}{<insert>}{<longfmtcs>}{<shortfmtcs>}
```



```

\newcommand*\glxtruserlongshortplformat}[4]{%
  \glxtrlongplformat{#1}{#2}{#3}%
  \glxtrusershortplformat{#1}{#4}%
}%

```

$\text{\Glsxtruserlongshortformat}\langle label \rangle\langle insert \rangle\langle longfmtcs \rangle$   
 $\text{\langle shortfmtcs \rangle}$

$\text{\Glsxtruserlongshortformat}$

```

\newcommand*\Glsxtruserlongshortformat}[4]{%
  \Glsxtrlongformat{#1}{#2}{#3}%
  \glxtrusershortformat{#1}{#4}%
}%

```

$\text{\Glsxtruserlongshortplformat}\langle label \rangle\langle insert \rangle\langle longfmtcs \rangle$   
 $\text{\langle shortfmtcs \rangle}$

$\text{\Glsxtruserlongshortplformat}$

```

\newcommand*\Glsxtruserlongshortplformat}[4]{%
  \Glsxtrlongplformat{#1}{#2}{#3}%
  \glxtrusershortplformat{#1}{#4}%
}%

```

$\text{\GLSxtruserlongshortformat}\langle label \rangle\langle insert \rangle\langle longfmtcs \rangle$   
 $\text{\langle shortfmtcs \rangle}$

$\text{\GLSxtruserlongshortformat}$

```

\newcommand*\GLSxtruserlongshortformat}[4]{%
  \GLSxtrlongformat{#1}{#2}{#3}%
  \GLSxtrusershortformat{#1}{#4}%
}%

```

$\text{\GLSxtruserlongshortplformat}\langle label \rangle\langle insert \rangle\langle longfmtcs \rangle$   
 $\text{\langle shortfmtcs \rangle}$

$\text{\GLSxtruserlongshortplformat}$

```

\newcommand*\GLSxtruserlongshortplformat}[4]{%
  \GLSxtrlongplformat{#1}{#2}{#3}%
  \GLSxtrusershortplformat{#1}{#4}%
}%

```

```
\glxtrusershortlongformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\glxtrusershortlongformat

```
\newcommand*{\glxtrusershortlongformat}[4]{%
  \glxtrshortformat{#1}{#2}{#3}%
  \glxtruserlongformat{#1}{#4}%
}%
```

```
\glxtrusershortlongplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\glxtrusershortlongplformat

```
\newcommand*{\glxtrusershortlongplformat}[4]{%
  \glxtrshortplformat{#1}{#2}{#3}%
  \glxtruserlongplformat{#1}{#4}%
}%
```

```
\Glsxtrusershortlongformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\Glsxtrusershortlongformat

```
\newcommand*{\Glsxtrusershortlongformat}[4]{%
  \Glsxtrshortformat{#1}{#2}{#3}%
  \glxtruserlongformat{#1}{#4}%
}%
```

```
\Glsxtrusershortlongplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\Glsxtrusershortlongplformat

```
\newcommand*{\Glsxtrusershortlongplformat}[4]{%
  \Glsxtrshortplformat{#1}{#2}{#3}%
  \glxtruserlongplformat{#1}{#4}%
}%
```

```
\GLSxtrusershortlongformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}
```

\GLSxtrusershortlongformat

```
\newcommand*{\GLSxtrusershortlongformat}[4]{%
```

```

\GLSxtrshortformat{#1}{#2}{#3}%
\GLSxtruserlongformat{#1}{#4}%
}%

```

```

\GLSxtrusershortlongplformat{<label>}{<insert>}{<longfmtcs>}
{<shortfmtcs>}

```

GLSxtrusershortlongplformat

```

\newcommand*{\GLSxtrusershortlongplformat}[4]{%
\GLSxtrshortplformat{#1}{#2}{#3}%
\GLSxtruserlongplformat{#1}{#4}%
}%

```

## 2.1 Predefined Styles (Default Font)

long-short

```

\newabbreviationstyle{long-short}%
{}%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongshortname},
sort={\the\glsshorttok},
first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
description={\the\glslongtok}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glsattribute{\the\glslabeltok}{regular}%
{}%
\glsattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
{}%

```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*\abbrvpluralsuffix{\glxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrrevert[1]{\glsxtrdefaultrevert{##1}}%
```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
}
```

Set this as the default style for general abbreviations:

```
\setabbreviationstyle{long-short}
```

`\glsxtrlongshortdescsort`

```
\newcommand*\glsxtrlongshortdescsort{%
  \expandonce\glsxtrorglong\space (\expandonce\glsxtrorgshort)%
}
```

`\glsxtrlongshortdescname`

```
\newcommand*\glsxtrlongshortdescname{%
  \glsxplongfont{\the\glslongtok}{\glscategorylabel}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}%
}
```

`long-short-desc` User supplies description. The long form is included in the name.

```
\newabbreviationstyle{long-short-desc}%  
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glstrlongshortdescname},  
  sort={\glstrlongshortdescsort},%  
  first={\glstrfirstxplongfont{\the\glslongtok}{\glscategorylabel}%  
    \protect\glstrfullsep{\the\glslabeltok}%  
    \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}},%  
  firstplural={\glstrfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%  
    \protect\glstrfullsep{\the\glslabeltok}%  
    \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%  
}
```

The text key should only have the short form.

```
  text={\glxpabrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  
  plural={\glxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%  
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glstrsetcomplexstyle{\the\glslabeltok}{3}%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glsssetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
}%  
{%  
  \GlsXtrUseAbbrStyleFmts{long-short}%  
}
```

`\glstrshortlongname`

```
\newcommand*{\glstrshortlongname}{%  
  \glxpabrvfont{\the\glsshorttok}{\glscategorylabel}%  
}
```

`short-long` Short form followed by long form in parenthesis on first use.

```
\newabbreviationstyle{short-long}%  
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrshortlongname},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \protect\glxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \protect\glxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%

  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*{\glxtrfullformat}[2]{%
  \glxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
  \glxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
```

```

\GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
}

```

`\glsxtrshortlongdescsort`

```
\newcommand*\glsxtrshortlongdescsort{\expandonce\glsxtrorgshort}
```

`\glsxtrshortlongdescname`

```

\newcommand*\glsxtrshortlongdescname{%
  \glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\glsxplongfont{\the\glslongtok}{\glscategorylabel}}%
}

```

`short-long-desc` User supplies description. The long form is included in the name.

```

\newabbreviationstyle{short-long-desc}%
{%

```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrshortlongdescname},
  sort={\glsxtrshortlongdescsort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glsattribute{\the\glslabeltok}{regular}{false}%
  }%
  {%
}

```

```

}%
{%
  \GlsXtrUseAbbrStyleFmts{short-long}%
}

```

`\glsfirstlongfootnotefont` Only used by the “footnote” styles.  
`\newcommand*\glsfirstlongfootnotefont}[1]{\glslongfootnotefont{#1}}%`

`\glslongfootnotefont` Only used by the “footnote” styles.  
`\newcommand*\glslongfootnotefont}[1]{\glslongdefaultfont{#1}}%`

```
\glsxtrabbrvfootnote{<label>}{<long>}
```

`\glsxtrabbrvfootnote`

Command used by footnote abbreviation styles. The default definition ignores the first argument. The second argument `<long>` includes the font changing command and may be the singular or plural form, depending on the command that was used (for example, `\gls` or `\glspl`).

```
\newcommand*\glsxtrabbrvfootnote}[2]{\footnote{#2}}
```

`\glsxtrpostabbrvfootnote` Used by post-footnote style to include formatting.  
`\newrobustcmd*\glsxtrpostabbrvfootnote}[2]{%`  
`\glsxtrabbrvfootnote{#1}%`  
`{#2\glsxtrpostfootnotelongformat{#1}{\glsfirstlongfootnotefont}}%`  
`}`

`\xpglsxtrpostabbrvfootnote` Perform all the appropriate expansions to ensure `\glslabel` and `\glsxtrassignlinktextfmt` are expanded as they may be lost by the time the footnote occurs.

```

\newcommand*\xpglsxtrpostabbrvfootnote}{%
  \expandafter\expandafter\expandafter
  \glsxtrpostabbrvfootnote
  \expandafter\expandafter\expandafter
  {\expandafter\glslabel\expandafter}\expandafter
  {\glsxtrassignlinktextfmt}%
}

```

`\glsxtrfootnotename`

```

\newcommand*\glsxtrfootnotename}{%
  \glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
}

```

`footnote` Short form followed by long form in footnote on first use.

```

\newabbreviationstyle{footnote}{%
  {%

```

Set accessibility attributes if enabled. (Add `firstshortaccess` since long form is hidden in a footnote on first use.) The inner formatting isn’t be applied to the footnote text because the `innertextformat` key value may have gone out of scope



by that the time the footnote text is processed. (Neither is the outer formatting applied.)

```
\glstrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glstrfootnotename},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%

  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glstrabbrvfootnote{\the\glslabeltok}%
    {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
  \protect\glstrabbrvfootnote{\the\glslabeltok}%
    {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%

  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glsssetAttribute{\the\glslabeltok}{nohyperfirst}{true}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetAttribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*\abbrvpluralsuffix{\glstrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%
```

The full format displays the short form followed by the long form as a footnote.

```
\renewcommand*\glstrfullformat[2]{%
  \glstrshortformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glstrabbrvfootnote{##1}%
  {\glstrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\glstrfullplformat[2]{%
  \glstrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glstrabbrvfootnote{##1}%
  {\glstrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%
```

```

\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrininlinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrininlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrininlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrininlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrininlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
}

```

short-footnote

```
\letabbreviationstyle{short-footnote}{footnote}
```

```

\glxtrfootnotedesname
    \newcommand*{\glxtrfootnotedesname}{%
        \glxtpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
        \protect\glxtrfullsep{\the\glslabeltok}%
        \protect\glxtrparen{\glxplongfont{\the\glslongtok}{\glscategorylabel}}%
    }

\glxtrfootnotedesort
    \newcommand*{\glxtrfootnotedesort}{\the\glsshorttok}

short-footnote-desc Like short-footnote but with user supplied description.
    \newabbreviationstyle{short-footnote-desc}{%
        {%
            Set accessibility attributes if enabled
            \glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
            Setup the default fields.
            \renewcommand*{\CustomAbbreviationFields}{%
                name={\glxtrfootnotedesname},
                sort={\glxtrfootnotedesort},
                first={\glxfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
                    \protect\glxtrabbrvfootnote{\the\glslabeltok}%
                    {\protect\glxfirstlongfootnotefont{\the\glslongtok}}},%
                firstplural={\glxfirstxpabbrvfont{\the\glsshortptok}{\glscategorylabel}%
                    \protect\glxtrabbrvfootnote{\the\glslabeltok}%
                    {\protect\glxfirstlongfootnotefont{\the\glslongpltok}}},%
                text={\glxtpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
                plural={\glxtpabbrvfont{\the\glsshortptok}{\glscategorylabel}}}%
            Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the
            regular attribute if it has been set.
            \renewcommand*{\GlsXtrPostNewAbbreviation}{%
                \glsssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
                \glshasattribute{\the\glslabeltok}{regular}%
                {%
                    \glsssetattribute{\the\glslabeltok}{regular}{false}%
                }%
            }%
            {%
                \GlsXtrUseAbbrStyleFmts{footnote}%
            }

footnote-desc Synonym.
    \letabbreviationstyle{footnote-desc}{short-footnote-desc}

postfootnote Similar to footnote but the footnote is placed afterwards, outside the link. This
avoids nested links and can also move the footnote marker after any following

```

punctuation mark. Pre v1.07 included `\footnote` in the first keys, which was incorrect as it caused duplicate footnotes.

```
\newabbreviationstyle{postfootnote}%
{%
```

Set accessibility attributes if enabled. (Add `firstshortaccess` since long form is hidden in a footnote on first use.)

```
\glxstrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxstrfootnotename},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%

  text={\glspabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glspabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Make this category insert a footnote after the link if this was the first use, and unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glxtrpostlink\glscategorylabel}{%
```

The footnote needs to be suppressed in the inline form. Previously this was done by redefining `glxtrsetupfulldefs` but that interferes with other styles. Instead, this now uses `\glxtrifwasglslike`

```
\glxtrifwasglslikeandfirstuse
{%
```

Ensure `\glslabel` and `\glxtrassignlinktextfmt` are expanded as they may be lost by the time the footnote occurs.

```
\glxtrdopostpunc{\expandafter\expandafter\expandafter
  \glxtrpostabbrvfootnote
  \expandafter\expandafter\expandafter
  {\expandafter\glslabel\expandafter}\expandafter
  {\glxtrassignlinktextfmt}}%
}{}%
}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
  \glissetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%

```

The full format displays the short form. The long form is deferred.

```

\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrinelinefullformat[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrinelinefullplformat[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrinelinefullformat[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrinelinefullplformat[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinelinefullformat[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinelinefullplformat[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvfont}%
}%
}

```

short-postfootnote

```
\letabbreviationstyle{short-postfootnote}{postfootnote}
```

short-postfootnote-desc Like short-postfootnote but with user supplied description.

```
\newabbreviationstyle{short-postfootnote-desc}{%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrfootnotedesname},  
  sort={\glxtrfootnotedesort},  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%  
  
  text={\glxppabbrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  plural={\glxppabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Make this category insert a footnote after the link if this was the first use, and unset the `regular` attribute if it has been set. Previously this was done by redefining `glxtrsetupfulldefs` but that interferes with other styles. Instead, this now uses `\glxtrifwasglslike`

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \csdef{glxtrpostlink\glscategorylabel}{%  
    \glxtrifwasglslikeandfirstuse  
  }%
```

Ensure `\glslabel` and `\glxtrassignlinktextfmt` are expanded as they may be lost by the time the footnote occurs.

```
    \glxtrdopostpunc{\expandafter\expandafter\expandafter  
      \glxtrpostabbrvfootnote  
      \expandafter\expandafter\expandafter  
      {\expandafter\glslabel\expandafter}\expandafter  
      {\glxtrassignlinktextfmt}}}%  
  }%  
  {}%  
}%  
\glshasattribute{\the\glslabeltok}{regular}%  
{%  
  \glissetattribute{\the\glslabeltok}{regular}{false}%  
}%  
{%  
}%  
\GlsXtrUseAbbrStyleFmts{postfootnote}%  
}
```

postfootnote-desc

```
\letabbreviationstyle{postfootnote-desc}{short-postfootnote-desc}
```

\glstrshortnolongname

```
\newcommand*{\glstrshortnolongname}{%  
  \glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%  
}
```

**short** Provide a style that only displays the short form on first use, but the short and long form can be displayed with the “full” commands that use the inline format. If the user supplies a description, the long form won’t be displayed in the predefined glossary styles, but the post description hook can be employed to automatically insert it.

```
\newabbreviationstyle{short}%  
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glstrshortnolongname},  
  sort={\the\glsshorttok},  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},  
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},  
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},  
  description={\the\glslongtok}}%  
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glissetattribute{\the\glslabeltok}{regular}{true}}%  
}%  
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*{\abbrvpluralsuffix}{\glstrabbrvpluralsuffix}%  
\renewcommand*{\glabbrvfont}[1]{\glabbrvdefaultfont{##1}}%  
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%  
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%  
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
```

The inline full form displays the short form followed by the long form in parentheses.

```
\renewcommand*{\glstrinlinefullformat}[2]{%  
  \glstrshortlongformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\glstrinlinefullplformat}[2]{%  
  \glstrshortlongplformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%
```

```

\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrshorttplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshorttplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshorttplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
}

```

Set this as the default style for acronyms:

```
\setabbreviationstyle[acronym]{short}
```

`short-nolong`

```
\letabbreviationstyle{short-nolong}{short}
```

`short-nolong-noreg` Like `short-nolong` but doesn't set the regular attribute.

```

\newabbreviationstyle{short-nolong-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{short-nolong}%
}

```



Unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
}%
{}%
}%
{}%
\GlsXtrUseAbbrStyleFmts{short-nolong}%
}
```

`\glsxtrshortdescname`

```
\newcommand*\glsxtrshortdescname{%
  \glxspabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\glxplongfont{\the\glslongtok}{\glscategorylabel}}%
}
```

`short-desc` The user must supply the description in this style. The long form is added to the name. The short style (possibly with the post-description hooks set) might be a better option.

```
\newabbreviationstyle{short-desc}%
{}%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrshortdescname},
  sort={\the\glsshorttok},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  firstplural={\glsfirstxpabbrvfont{\the\glsshortptok}{\glscategorylabel}},
  text={\glxspabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  plural={\glxspabbrvfont{\the\glsshortptok}{\glscategorylabel}}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glissetattribute{\the\glslabeltok}{regular}{true}}%
}%
{}%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*\abbrvpluralsuffix{\glsxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
```

The inline full form displays the short format followed by the long form in parentheses.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvfont}%
}%
}

```

short-nolong-desc

```
\letabbreviationstyle{short-nolong-desc}{short-desc}
```

`short-nolong-desc-noreg` Like `short-nolong-desc` but doesn't set the regular attribute.

```
\newabbreviationstyle{short-nolong-desc-noreg}%  
{%  
  \GlsXtrUseAbbrStyleSetup{short-nolong-desc}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glssetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
  {}%  
}%  
}%  
{%  
  \GlsXtrUseAbbrStyleFmts{short-nolong-desc}%  
}
```

`nolong-short` Similar to `short-nolong` but the full form shows the long form followed by the short form in parentheses.

```
\newabbreviationstyle{nolong-short}%  
{%  
  \GlsXtrUseAbbrStyleSetup{short-nolong}%  
}%  
{%  
  \GlsXtrUseAbbrStyleFmts{short-nolong}%
```

The inline full form displays the long form followed by the short form in parentheses.

```
\renewcommand*{\glsxtrinlinefullformat}[2]{%  
  \glsxtrlongshortformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\glsxtrinlinefullplformat}[2]{%  
  \glsxtrlongshortplformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\Glsxtrinlinefullformat}[2]{%  
  \Glsxtrlongshortformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%  
  \Glsxtrlongshortplformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\GLSxtrinlinefullformat}[2]{%  
  \GLSxtrlongshortformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%  
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%  
  \GLSxtrlongshortplformat{##1}{##2}%  
  {\glsfirstlongfont}{\glsfirstabbrvfont}%  
}%
```

```

\GLSxtrlongshorttplformat{##1}{##2}%
{\glsfirstlongfont}{\glsfirstabbrvfont}%
}%
}

```

`nolong-short-noreg` Like `nolong-short` but doesn't set the regular attribute.

```

\newabbreviationstyle{nolong-short-noreg}%
{%
\GlsXtrUseAbbrStyleSetup{nolong-short}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{nolong-short}%
}

```

`\glsxtrlongnoshortdesname`

```

\newcommand*{\glsxtrlongnoshortdesname}{%
\glsxplongfont{\the\glslongtok}{\glscategorylabel}%
}

```

`long-desc` Provide a style that only displays the long form, but the long and short form can be displayed with the “full” commands that use the inline format. The predefined glossary styles won't show the short form. The user must supply a description for this style. The accessibility attributes don't need setting here.

```

\newabbreviationstyle{long-desc}%
{%
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongnoshortdesname},
sort={\the\glslongtok},
first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
plural={\glsxplongfont{\the\glslongpltok}{\glscategorylabel}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

```

In case the user wants to mix and match font styles, these are redefined here.

```

\renewcommand*{\abbrvpluralsuffix}{\glsxtrabbrvpluralsuffix}%
\renewcommand*{\glsabbrvfont[1]}{\glsabbrvdefaultfont{##1}}%

```

```

\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glsxtrlongformat{##1}{##2}{\glslongfont}}%
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glslongfont}}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glslongfont}}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glslongfont}}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glslongfont}}%
}%
\renewcommand*\GLSxtrsubsequentplfmt}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glslongfont}}%
}%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glsxtrinilinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%
\renewcommand*\glsxtrinilinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%
\renewcommand*\Glsxtrinilinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%
\renewcommand*\Glsxtrinilinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%
\renewcommand*\GLSxtrinilinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%
\renewcommand*\GLSxtrinilinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongfont}{\glsfirstabbrvfont}}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the `regular` attribute is set by this style.

```

\renewcommand*\glstrfullformat}[2]{%
  \glstrlongformat{##1}{##2}{\glshortfont}%
}%
\renewcommand*\glstrfullplformat}[2]{%
  \glstrlongplformat{##1}{##2}{\glshortfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glshortfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glshortfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glshortfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glshortfont}%
}%
}

```

`long-noshort-desc` Provide a synonym that matches similar styles.

```
\letabbreviationstyle{long-noshort-desc}{long-desc}
```

`long-noshort-desc-noreg` Like `long-noshort-desc` but doesn't set the `regular` attribute.

```

\newabbreviationstyle{long-noshort-desc-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
}

```

Unset the `regular` attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glshasattribute{\the\glshorttok}{regular}%
  {%
    \glissetattribute{\the\glshorttok}{regular}{false}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-noshort-desc}%
}

```

`\glstrlongnoshortname`

```

\newcommand*\glstrlongnoshortname}{%
  \glxpabbrvfont{\the\glshorttok}{\glscategorylabel}%
}

```

`long` It doesn't really make a great deal of sense to have a long-only style that doesn't have a description (unless no glossary is required), but the best course of action here is to use the short form as the name and the long form as the description.

```
\newabbreviationstyle{long}%
{%
Set accessibility attributes if enabled.
\glstrAccSuppAbbrSetNameShortAttrs\glscategorylabel
Setup the default fields.
\renewcommand*{\CustomAbbreviationFields}{%
name={\glstrlongnoshortname},
sort={\the\glsshorttok},
first={\glstrlongfont{\the\glslongtok}{\glscategorylabel}},
firstplural={\glstrlongfont{\the\glslongpltok}{\glscategorylabel}},
text={\glstrlongfont{\the\glslongtok}{\glscategorylabel}},
plural={\glstrlongfont{\the\glslongpltok}{\glscategorylabel}},%
description={\the\glslongtok}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\GlsXtrUseAbbrStyleFmts{long-desc}%
}
```

`long-noshort` Provide a synonym that matches similar styles.

```
\letabbreviationstyle{long-noshort}{long}
```

`long-noshort-noreg` Like `long-noshort` but doesn't set the regular attribute.

```
\newabbreviationstyle{long-noshort-noreg}%
{%
\GlsXtrUseAbbrStyleSetup{long-noshort}%
Unset the regular attribute if it has been set.
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{long-noshort}%
}
```

## 2.2 Predefined Styles (Small Capitals)

These styles use `\textsc` for the short form.

`\glxtrscfont` Maintained for backward-compatibility.

```
\newcommand*\glxtrscfont[1]{\textsc{#1}}
```

`\glxabbrvscfont` Added for consistent naming.

```
\newcommand*\glxabbrvscfont{\glxtrscfont}
```

`\glxtrfirstscfont` Maintained for backward-compatibility.

```
\newcommand*\glxtrfirstscfont[1]{\glxabbrvscfont{#1}}
```

`\glsfirstabbrvscfont` Added for consistent naming.

```
\newcommand*\glsfirstabbrvscfont{\glxtrfirstscfont}
```

and for the default short form suffix:

`\glxtrscsuffix` `\protect` needs to come inside `\glxtrscsuffix` to avoid interfering with all caps.

```
\newcommand*\glxtrscsuffix{\protect\glstextup{\glxtrabbrvpluralsuffix}}
```

`\glxtrscinvert` Cancel smallcaps.

```
\newcommand*\glxtrscinvert[1]{\glstextup{#1}}%
```

v1.49: the following now use commands like `\glsfirstinnerfmtabbrvfont` instead of `\glsfirstabbrvscfont` etc. This makes it easier to apply the inner formatting. The scoping added in v1.48 with `\glslinkwrcontent` should prevent formatting leakage in the event of nested commands. The only problem will be if commands like `\glstentryfirst` are used, but those aren't designed for consistent formatting. It will also make it easier to locally redefine `\glsfirstinnerfmtabbrvfont` to strip the formatting if those commands are used (rather than having to define all the possible abbreviation style formatting commands). Since these new commands are robust they don't need protecting.

`long-short-sc`

```
\newabbreviationstyle{long-short-sc}%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%  
  name={\glxtrlongshortname},  
  sort={\the\glsshorttok},  
  first={\glstxplongfont{\the\glslongtok}{\glscategorylabel}%  
    \protect\glxtrfullsep{\the\glslabeltok}}%  
    \protect\glxtrparen{\glstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%  
  firstplural={\glstxplongfont{\the\glslongpltok}{\glscategorylabel}%  
    \protect\glxtrfullsep{\the\glslabeltok}}%  
    \protect\glxtrparen{\glstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%  
  text={\glstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
```



```

plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
\glxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%

```

Use smallcaps and adjust the plural suffix to revert to upright.

```

\renewcommand*\abbrvpluralsuffix}{\glxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glxtrrevert[1]{\glxtrscinvert{##1}}%

```

Use the default long fonts.

```

\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glxtrfullformat}[2]{%
\glxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
\glxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
\Glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
\Glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
\GLSxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
\GLSxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
}

```

long-short-sc-desc

```
\newabbreviationstyle{long-short-sc-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrlongshortdescname},
  sort={\glstrlongshortdescsort},%
  first={\glstrfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
  \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  firstplural={\glstrfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
  \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
  text={\glstrxpabrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glstrxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glstrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  }%
  {}%
}%
```

As long-short-sc style:

```
\GlsXtrUseAbbrStyleFmts{long-short-sc}%
}
```

short-sc-long Now the short (long) version

```
\newabbreviationstyle{short-sc-long}%
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrshortlongname},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glstrfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
  \protect\glstrparen{\glstrfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glstrfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%
```

```

\protect\glstrfullsep{\the\glslabeltok}%
\protect\glstrparen{\glstrfirstlongfont{\the\glslongpltok}{\glscategorylabel}}{%
text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}{%
plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
\glstrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{

```

Use smallcaps and adjust the plural suffix to revert to upright.

```

\renewcommand*\abbrvpluralsuffix{\glstrscsuffix}%
\renewcommand*\glabbrvfont[1]{\glabbrvscfont{##1}}%
\renewcommand*\glstrfirstabbrvfont[1]{\glstrfirstabbrvscfont{##1}}%
\renewcommand*\glstrfirstlongfont[1]{\glstrfirstlongdefaultfont{##1}}%
\renewcommand*\glstrlongfont[1]{\glstrlongdefaultfont{##1}}%
\renewcommand*\glstrrevert[1]{\glstrscinvert{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glstrfullformat[2]{%
\glstrshortlongformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
\renewcommand*\glstrfullplformat[2]{%
\glstrshortlongplformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
\renewcommand*\GlsXtrfullformat[2]{%
\GlsXtrshortlongformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
\renewcommand*\GlsXtrfullplformat[2]{%
\GlsXtrshortlongplformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
\GLSxtrshortlongformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
\GLSxtrshortlongplformat{##1}{##2}%
{\glstrfirstlongdefaultfont}{\glstrfirstabbrvscfont}%
}%
}

```

short-sc-long-desc As before but user provides description

```
\newabbreviationstyle{short-sc-long-desc}%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrshortlongdescname},  
  sort={\glxtrshortlongdescsort},  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}%  
  \protect\glxtrfullsep{\the\glslabeltok}%  
  \protect\glxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%  
  \protect\glxtrfullsep{\the\glslabeltok}%  
  \protect\glxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%  
  text={\glxppabbrvfont{\the\glsshorttok}{\glscategorylabel}}%,  
  plural={\glxppabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%  
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glxtrsetcomplexstyle{\the\glslabeltok}{3}%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glissetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
  {}%  
}%  
}%  
{%
```

As short-sc-long style:

```
\GlsXtrUseAbbrStyleFmts{short-sc-long}%  
}
```

short-sc

```
\newabbreviationstyle{short-sc}%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrshortnolongname},  
  sort={\the\glsshorttok},  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},  
  text={\glxppabbrvfont{\the\glsshorttok}{\glscategorylabel}},  
  plural={\glxppabbrvfont{\the\glsshortpltok}{\glscategorylabel}},  
}
```

```

description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

```

Use smallcaps and adjust the plural suffix to revert to upright.

```

\renewcommand*\abbrvpluralsuffix{\glsxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrrevert[1]{\glsxtrscinvert{##1}}%

```

The inline full form displays the short form followed by the long form in parentheses.

```

\renewcommand*\glsxtrinelinefullformat}[2]{%
\glsxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\glsxtrinelinefullplformat}[2]{%
\glsxtrshortlongplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\Glsxtrinelinefullformat}[2]{%
\Glsxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\Glsxtrinelinefullplformat}[2]{%
\Glsxtrshortlongplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\GLSxtrinelinefullformat}[2]{%
\GLSxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\GLSxtrinelinefullplformat}[2]{%
\GLSxtrshortlongplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
\glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
\glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%

```

```

    \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
  }%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
}

```

short-sc-nolong

```
\letabbreviationstyle{short-sc-nolong}{short-sc}
```

short-sc-desc

```
\newabbreviationstyle{short-sc-desc}{%
  {%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields){%
  name={\glsxtrshortdescname},
  sort={\the\glsshorttok},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
```

Use smallcaps and adjust the plural suffix to revert to upright.

```

\renewcommand*\abbrvpluralsuffix){\glsxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrrevert[1]{\glsxtrscinvert{##1}}%

```

The inline full form displays the short format followed by the long form in parentheses.

```

\renewcommand*\glsxtrininlinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%

```

```

\glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
}

```

short-sc-nolong-desc

```
\letabbreviationstyle{short-sc-nolong-desc}{short-sc-desc}
```

nolong-short-sc

```

\newabbreviationstyle{nolong-short-sc}%
{%
  \GlsXtrUseAbbrStyleSetup{short-sc-nolong}%
}%

```

```
{%
\GlsXtrUseAbbrStyleFmts{short-sc-nolong}%
```

The inline full form displays the long form followed by the short form in parentheses.

```
\renewcommand*\glstrinlinefullformat}[2]{%
\glstrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glstrinlinefullplformat}[2]{%
\glstrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
\Glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
\Glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
\GLSxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
\GLSxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
}
```

`long-noshort-sc` The smallcaps font will only be used if the short form is explicitly invoked through commands like `\glstrshort`. No accessibility attributes needed here.

```
\newabbreviationstyle{long-noshort-sc}%
{%
\renewcommand*\CustomAbbreviationFields{%
name={\glstrlongnoshortname},
sort={\the\glsshorttok},
first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
plural={\glsxplongfont{\the\glslongpltok}{\glscategorylabel}},%
description={\the\glslongtok}%
}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
\glsssetAttribute{\the\glslabeltok}{regular}{true}}%
}%
}
```

Use smallcaps and adjust the plural suffix to revert to upright.



```

\renewcommand*\abbrevpluralsuffix{\glxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glxtrrevert[1]{\glxtrscinvert{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glxtrsubsequentfmt[2]{%
  \glxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\glxtrsubsequentplfmt[2]{%
  \glxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentfmt[2]{%
  \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentplfmt[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentfmt[2]{%
  \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentplfmt[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glxtrininlinefullformat[2]{%
  \glxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glxtrininlinefullplformat[2]{%
  \glxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrininlinefullformat[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrininlinefullplformat[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrininlinefullformat[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrininlinefullplformat[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
}

```

```

    {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
  }%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

long-sc Backward compatibility:

```

\@glsxtr@deprecated@abbrstyle{long-sc}{long-noshort-sc}

```

long-noshort-sc-desc The smallcaps font will only be used if the short form is explicitly invoked through commands like `\glsxtrshort`.

```

\newabbreviationstyle{long-noshort-sc-desc}{%
  {%
    \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
  }%
  {%

```

Use smallcaps and adjust the plural suffix to revert to upright.

```

\renewcommand*\abbrvpluralsuffix}{\glsxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrrevert[1]{\glsxtrscinvert{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%

```

```

\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentplfmt}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glsxtrinelinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glsxtrinelinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinelinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinelinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinelinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrinelinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvscfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the `regular` attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%

```

```

}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

long-desc-sc Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{long-desc-sc}{long-noshort-sc-desc}
```

short-sc-footnote

```
\newabbreviationstyle{short-sc-footnote}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields}{%
  name={\glsxtrfootnotename},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
    \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
    {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
    \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
    {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%

```

Use smallcaps and adjust the plural suffix to revert to upright.

```
\renewcommand*\abbrvpluralsuffix{\glsxtrscsuffix}%

```

```

\renewcommand*\glsabbrvfont [1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont [1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\glsfirstlongfont [1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont [1]{\glslongfootnotefont{##1}}%
\renewcommand*\glsxtrrevert [1]{\glsxtrsc revert{##1}}%

```

The full format displays the short form followed by the long form as a footnote.

```

\renewcommand*\glsxtrfullformat [2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\glsxtrfullplformat [2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\Glsxtrfullformat [2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\Glsxtrfullplformat [2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullformat [2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullplformat [2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrininlinefullformat [2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glsxtrininlinefullplformat [2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrininlinefullformat [2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%

```

```

\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
}

```

footnote-sc Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{footnote-sc}{short-sc-footnote}
```

short-sc-footnote-desc Like short-sc-footnote but with user supplied description.

```
\newabbreviationstyle{short-sc-footnote-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields){%
  name={\glsxtrfootnotedesname},
  sort={\glsxtrfootnotedesort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
  {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
  \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
  {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation){%
  \glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
  \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  }%
  }%
  {%
  \GlsXtrUseAbbrStyleFmts{short-sc-footnote}%
  }

```

short-sc-postfootnote

```
\newabbreviationstyle{short-sc-postfootnote}%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrfootnotename},  
  sort={\the\glsshorttok},  
  description={\the\glslongtok},%  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%  
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Make this category insert a footnote after the link if this was the first use, and unset the regular attribute if it has been set. The footnote needs to be suppressed in the inline form. Previously this was done by redefining `glxtrsetupfuldefs` but that interferes with other styles. Instead, this now uses `glxtrifwasglslike`

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \csdef{glxtrpostlink\glscategorylabel}{%  
    \glxtrifwasglslikeandfirstuse  
    {%  
      \glxtrdopostpunc{\xpglxtrpostabbrvfootnote}%  
    }%  
  }%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glissetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
  }%  
}%  
{%
```

Use smallcaps and adjust the plural suffix to revert to upright.

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrscsuffix}%  
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%  
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%  
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%  
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%  
\renewcommand*\glxtrrevert[1]{\glxtrscinvert{##1}}%
```

The full format displays the short form. The long form is deferred.

```
\renewcommand*{\glxtrfullformat}[2]{%  
  \glxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%  
}%  
\renewcommand*{\glxtrfullplformat}[2]{%
```

```

    \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
    \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
    \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvscfont}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrininlinefullformat}[2]{%
    \glsxtrshortlongformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%
    \glsxtrshortlongplformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrininlinefullformat}[2]{%
    \Glsxtrshortlongformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\Glsxtrininlinefullplformat}[2]{%
    \Glsxtrshortlongplformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrininlinefullformat}[2]{%
    \GLSxtrshortlongformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
\renewcommand*\GLSxtrininlinefullplformat}[2]{%
    \GLSxtrshortlongplformat{##1}{##2}%
    {\glsfirstlongfootnotefont}{\glsfirstabbrvscfont}%
}%
}

```

postfootnote-sc Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{postfootnote-sc}{short-sc-postfootnote}
```

short-sc-postfootnote-desc Like short-sc-footnote but with user supplied description.

```
\newabbreviationstyle{short-sc-postfootnote-desc}%
%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```



Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrfootnotedesname},
  sort={\glxtrfootnotedesort},
  first={\glxfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  firstplural={\glxfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Make this category insert a footnote after the link if this was the first use, and unset the regular attribute if it has been set. The footnote needs to be suppressed in the inline form. Previously this was done by redefining `glxtrsetupfuldefs` but that interferes with other styles. Instead, this now uses `glxtrifwasglslike`

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glxtrpostlink\glscategorylabel}{%
    \glxtrifwasglslikeandfirstuse
    {%
      \glxtrdopostpunc{\xp\glxtrpostabbrvfootnote}%
    }%
  }%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
\GlsXtrUseAbbrStyleFmts{short-sc-postfootnote}%
}
```

## 2.3 Predefined Styles (Fake Small Capitals)

These styles require the `resize` package, which must be loaded by the user. These styles all use:

`\glxtrsmfont` Maintained for backward compatibility.

```
\newcommand*{\glxtrsmfont}[1]{\textsmaller{#1}}
```

`\glsabbrvsmfont` Added for consistent naming.

```
\newcommand*{\glsabbrvsmfont}{\glxtrsmfont}
```

`\glxtrfirstsmfont` Maintained for backward compatibility.

```
\newcommand*{\glxtrfirstsmfont}[1]{\glsabbrvsmfont{#1}}
```

`\glsfirstabbrvsmfont` Added for consistent naming.

```
\newcommand*{\glsfirstabbrvsmfont}{\glxtrfirstsmfont}
```

and for the default short form suffix:

```
\glxtrsmsuffix
  \newcommand*\glxtrabbrvpluralsuffix
```

```
\glxtrsmrevert
  \newcommand*\glxtrsmrevert[1]{\textlarger{#1}}
```

```
long-short-sm
  \newabbreviationstyle{long-short-sm}%
  {%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glxtrlongshortname},
  sort={\the\glsshorttok},
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \protect\glxtrparen{\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \protect\glxtrparen{\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
  description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  }%
}%
{%
```

```
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glxtrsmsuffix}%
\renewcommand*\glxtrrevert[1]{\glxtrsmrevert{##1}}%
```

Use the default long fonts.

```
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*\glxtrfullformat[2]{%
  \glxtrlongshortformat{##1}{##2}}%
```

```

        {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
    }%
\renewcommand*{\glsxtrfullplformat}[2]{%
    \glsxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
    \Glsxtrlongshortformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
    \Glsxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
    \GLSxtrlongshortformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
    \GLSxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
}
}

```

long-short-sm-desc

```

\newabbreviationstyle{long-short-sm-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongshortdescname},
    sort={\glsxtrlongshortdescsort},%
    first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
        \protect\glsxtrfullsep{\the\glslabeltok}}%
        \protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
    firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
        \protect\glsxtrfullsep{\the\glslabeltok}}%
        \protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
    text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
    plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
        \glsattribute{\the\glslabeltok}{regular}{false}%
    }
}

```

```

    }%
    {}%
  }%
}%
{%

```

As long-short-sm style:

```

\GlsXtrUseAbbrStyleFmts{long-short-sm}%
}

```

short-sm-long Now the short (long) version

```

\newabbreviationstyle{short-sm-long}%
{%

```

Set accessibility attributes if enabled.

```

\glstrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrshortlongname},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}%
    \protect\glstrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}%
    \protect\glstrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glstrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%

```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glstrsmsuffix}%
\renewcommand*\glstrrevert[1]{\glstrsmrevert{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glstrfullformat[2]{%

```

```

\glxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
  \glxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
}

```

short-sm-long-desc As before but user provides description

```

\newabbreviationstyle{short-sm-long-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields{%
  name={\glxtrshortlongdescname},
  sort={\glxtrshortlongdescsort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
  \protect\glxtrfullsep{\the\glslabeltok}%
  \protect\glxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
  \protect\glxtrfullsep{\the\glslabeltok}%
  \protect\glxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%

```

```

        \glssetattribute{\the\glslabeltok}{regular}{false}%
      }%
    {}%
  }%
}%
{%
```

As short-sm-long style:

```

  \GlsXtrUseAbbrStyleFmts{short-sm-long}%
}

```

**short-sm**

```

\newabbreviationstyle{short-sm}%
{%
```

Set accessibility attributes if enabled.

```

  \glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrshortnolongname},
  sort={\the\glsshorttok},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
  description={\the\glslongtok}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtrsmrevert{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
```

The inline full form displays the short form followed by the long form in parentheses.

```

\renewcommand*\glsxtrinilinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrinilinefullplformat}[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinilinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
}

```

```

        {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
    }%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
    \Glsxtrshortlongplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
    \GLSxtrshortlongformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
    \GLSxtrshortlongplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the `regular` attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
    \glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
    \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
}

```

`short-sm-nolong`

```
\letabbreviationstyle{short-sm-nolong}{short-sm}
```

`short-sm-desc`

```
\newabbreviationstyle{short-sm-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields}{%
    name={\glsxtrshortdescname},
```

```

    sort={\the\glsshorttok},
    first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
    firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
    text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
    plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtrsmrevert{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
```

The inline full form displays the short format followed by the long form in parentheses.

```

\renewcommand*\glsxtrinlinefullformat[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\glsxtrinlinefullplformat[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\Glsxtrinlinefullformat[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\Glsxtrinlinefullplformat[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\GLSxtrinlinefullformat[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\GLSxtrinlinefullplformat[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}}%
}%
```

The first use full form only displays the short form, but it typically won't be used as the `regular` attribute is set by this style.

```

\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}}%
```



```

}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
}

```

short-sm-nolong-desc

```
\letabbreviationstyle{short-sm-nolong-desc}{short-sm-desc}
```

nolong-short-sm

```

\newabbreviationstyle{nolong-short-sm}%
{%
  \GlsXtrUseAbbrStyleSetup{short-sm-nolong}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-sm-nolong}%
}

```

The inline full form displays the long form followed by the short form in parentheses.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
}

```

```

        {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
    }%
}

```

`long-noshort-sm` The smallcaps font will only be used if the short form is explicitly invoked through commands like `\glsxtrshort`.

```

\newabbreviationstyle{long-noshort-sm}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongnoshortname},
    sort={\the\glsshorttok},
    first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
    firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
    text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
    plural={\glsxplongfont{\the\glslongpltok}{\glscategorylabel}},%
    description={\the\glslongtok}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtrsmrevert{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glsxtrsubsequentfmt}[2]{%
    \glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
    \glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
    \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
    \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
    \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentplfmt}[2]{%

```

```

    \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
  }%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

`long-sm` Backward compatibility:

```
\@glxtr@deprecated@abbrstyle{long-sm}{long-noshort-sm}
```

`long-noshort-sm-desc` The smaller font will only be used if the short form is explicitly invoked through commands like `\glxtrshort`.

```
\newabbreviationstyle{long-noshort-sm-desc}%  
{%  
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%  
}%  
{%
```

```
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%  
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%  
\renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%  
\renewcommand*\glxtrrevert[1]{\glsxtrsmrevert{##1}}%  
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%  
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
```

The format for subsequent use (not used when the regular attribute is set).

```
\renewcommand*\glxtrsubsequentfmt[2]{%  
  \glxtrlongformat{##1}{##2}{\glslongdefaultfont}%  
}%  
\renewcommand*\glxtrsubsequentplfmt[2]{%  
  \glxtrlongplformat{##1}{##2}{\glslongdefaultfont}%  
}%  
\renewcommand*\Glsxtrsubsequentfmt[2]{%  
  \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%  
}%  
\renewcommand*\Glsxtrsubsequentplfmt[2]{%  
  \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%  
}%  
\renewcommand*\GLSxtrsubsequentfmt[2]{%  
  \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%  
}%  
\renewcommand*\GLSxtrsubsequentplfmt[2]{%  
  \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%  
}%
```

The inline full form displays the long format followed by the short form in parentheses.

```
\renewcommand*\glxtrinlinefullformat[2]{%  
  \glxtrlongshortformat{##1}{##2}%  
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%  
}%  
\renewcommand*\glxtrinlinefullplformat[2]{%  
  \glxtrlongshortplformat{##1}{##2}%  
  {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%  
}%  
\renewcommand*\Glsxtrinlinefullformat[2]{%  
  \Glsxtrlongshortformat{##1}{##2}%
```

```

        {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
    }%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
    \Glsxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
    \GLSxtrlongshortformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
    \GLSxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvsmfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
    \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
    \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
    \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
    \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \GLSxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \GLSxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

long-desc-sm Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{long-desc-sm}{long-noshort-sm-desc}
```

short-sm-footnote

```
\newabbreviationstyle{short-sm-footnote}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrfootnotename},
    sort={\the\glsshorttok},

```

```

description={\the\glslongtok},%
first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%

\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrmsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtrsmrevert{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%

```

The full format displays the short form followed by the long form as a footnote.

```

\renewcommand*\glsxtrfullformat[2]{%
\glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
\protect\glsxtrabbrvfootnote{##1}%
{\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
\glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
\protect\glsxtrabbrvfootnote{##1}%
{\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
\Glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
\protect\glsxtrabbrvfootnote{##1}%
{\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
\Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
\protect\glsxtrabbrvfootnote{##1}%
{\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}}%
}%

```

```

\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
}

```

footnote-sm Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{footnote-sm}{short-sm-footnote}
```

short-sm-footnote-desc Like short-footnote but with user supplied description.

```
\newabbreviationstyle{short-sm-footnote-desc}%
%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrfootnotedesname},
```

```

sort={\glxtrfootnotedesort},
first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
\protect\glxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
\protect\glxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
text={\glsexpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glsexpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{\%
\GlsXtrUseAbbrStyleFmts{short-sm-footnote}%
}

```

short-sm-postfootnote

```

\newabbreviationstyle{short-sm-postfootnote}%
{%

```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrfootnotename},
sort={\the\glsshorttok},
description={\the\glslongtok},%
first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
text={\glsexpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glsexpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Make this category insert a footnote after the link if this was the first use, and unset the regular attribute if it has been set. The footnote needs to be suppressed in the inline form. Previously this was done by redefining `glxtrsetupfulldefs` but that interferes with other styles. Instead, this now uses `\glxtrifwasglslike`

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
\glxtrifwasglslikeandfirstuse
{%
\glxtrdopostpunc{\xpglxtrpostabbrvfootnote}%

```



```

    }%
    {}%
  }%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
  \renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
  \renewcommand*\glsxtrrevert[1]{\glsxtrsmrevert{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
  \renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%

```

The full format displays the short form. The long form is deferred.

```

\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvsmfont}%
}%

```

The first use full form and the inline full form use the short (long) style.

```

\renewcommand*\glsxtrinlinefullformat[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\glsxtrinlinefullplformat[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*\Glsxtrinlinefullformat[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%

```

```

}%
\renewcommand*{\GlsXtrinlinefullplformat}[2]{%
  \GlsXtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\GlsXtrinlinefullformat}[2]{%
  \GlsXtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
\renewcommand*{\GlsXtrinlinefullplformat}[2]{%
  \GlsXtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvsmfont}%
}%
}

```

postfootnote-sm Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{postfootnote-sm}{short-sm-postfootnote}
```

short-sm-postfootnote-desc Like short-sm-postfootnote but with user supplied description.

```
\newabbreviationstyle{short-sm-postfootnote-desc}{%
  {%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrfootnotedesname},
  sort={\glsxtrfootnotedescsort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Make this category insert a footnote after the link if this was the first use, and unset the regular attribute if it has been set. The footnote needs to be suppressed in the inline form. Previously this was done by redefining `glsxtrsetupfuldefs` but that interferes with other styles. Instead, this now uses `\glsxtrifwasglslike`

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glsxtrpostlink\glscategorylabel}{%
    \glsxtrifwasglslikeandfirstuse
  }%

```

Ensure `\glslabel` is expanded as it may be lost by the time the footnote occurs.

```

  \glsxtrdopostpunc{\xpglsxtrpostabbrvfootnote}%
}%
{}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{}%
\glssetattribute{\the\glslabeltok}{regular}{false}%

```

```

    }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-sm-postfootnote}%
}

```

## 2.4 Predefined Styles (Emphasized)

These styles use `\emph` for the short form.

```

\glsabbrvemfont
  \newcommand*\glsabbrvemfont[1]{\emph{#1}}%

```

```

\glsfirstabbrvemfont
  \newcommand*\glsfirstabbrvemfont[1]{\glsabbrvemfont{#1}}%

```

The default short form suffix:

```

\glsxtremsuffix
  \newcommand*\glsxtremsuffix{\glsxtrabbrvpluralsuffix}

```

```

\glsfirstlongemfont Only used by the “long-em” styles.
  \newcommand*\glsfirstlongemfont[1]{\glslongemfont{#1}}%

```

```

\glslongemfont Only used by the “long-em” styles.
  \newcommand*\glslongemfont[1]{\emph{#1}}%

```

```

\glsxtremrevert
  \newcommand*\glsxtremrevert[1]{\textup{#1}}%

```

`long-short-em` The long form is just set in the default long font.

```

  \newabbreviationstyle{long-short-em}%
  {%

```

Set accessibility attributes if enabled.

```

  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```

  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrlongshortname},
    sort={\the\glsshorttok},
    first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
      \protect\glsxtrfullsep{\the\glslabeltok}}%
    \protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
    firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
      \protect\glsxtrfullsep{\the\glslabeltok}}%
    \protect\glsxtrparen{\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
    text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  }%

```

```

plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
\glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glsattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%

```

```

\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtremsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtremrevert{##1}}%

```

Use the default long fonts.

```

\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glsxtrfullformat[2]{%
\glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
\glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
\Glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
\Glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
\GLSxtrlongshortformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
\GLSxtrlongshortplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
}

```

long-short-em-desc

```
\newabbreviationstyle{long-short-em-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrlongshortdescname},
  sort={\glxtrlongshortdescsort},%
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glsfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glsfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
  text={\glxpabrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glstrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
```

As long-short-em style:

```
\GlsXtrUseAbbrStyleFmts{long-short-em}%
}
```

long-em-short-em

```
\newabbreviationstyle{long-em-short-em}%
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields. `\glslongemfont` is used in the description since `\glstdesc` doesn't set the style.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrlongshortname},
  sort={\the\glsshorttok},
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glsfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glsfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
  text={\glslongemfont{\the\glslongtok}{\glscategorylabel}},%
  plural={\glslongemfont{\the\glslongpltok}{\glscategorylabel}}%
}%
```

```

\protect\glxtrfullsep{\the\glslabeltok}%
\protect\glxtrparen{\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%

text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
description={\protect\glslongemfont{\the\glslongtok}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation){%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
\glxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%

\renewcommand*\abbrvpluralsuffix{\glxtremsuffix}%
\renewcommand*\glxtrrevert[1]{\glxtremrevert{##1}}%
\renewcommand*\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongemfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongemfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glxtrfullformat}[2]{%
\glxtrlongshortformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
\glxtrlongshortplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
\Glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
\Glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
\GLSxtrlongshortformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
\GLSxtrlongshortplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%

```

```

    }%
}

```

long-em-short-em-desc

```

\newabbreviationstyle{long-em-short-em-desc}%
{

```

Set accessibility attributes if enabled.

```

\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrlongshortdescname},
  sort={\glstrlongshortdescsort},%
  first={\glstrfirstxplongfont{\the\glslongtok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}},%
  firstplural={\glstrfirstxplongfont{\the\glslongpltok}{\glscategorylabel}%
    \protect\glstrfullsep{\the\glslabeltok}}%
    \protect\glstrparen{\glstrfirstxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
  text={\glstrxpabrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glstrxpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glstrsetcomplexstyle{\the\glslabeltok}{3}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}
\GlsXtrUseAbbrStyleFmts{long-em-short-em}%
}

```

short-em-long Now the short (long) version

```

\newabbreviationstyle{short-em-long}%
{

```

Set accessibility attributes if enabled.

```

\glstrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrshortlongname},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\glstrfirstxpabrvfont{\the\glsshorttok}{\glscategorylabel}}%
}

```

```

\protect\glxtrfullsep{\the\glslabeltok}%
\protect\glxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
\protect\glxtrfullsep{\the\glslabeltok}%
\protect\glxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
text={\glsexpabbrvfont{\the\glsshorttok}{\glscategorylabel}}},%
plural={\glsexpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%

```

Mostly as short-long style:

```

\renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%
\renewcommand*{\glxtrrevert}[1]{\glxtremrevert{##1}}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*{\glxtrfullformat}[2]{%
\glxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glxtrshortlongplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\Glsxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\Glsxtrshortlongplformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
\GLSxtrshortlongformat{##1}{##2}%
{\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
\GLSxtrshortlongplformat{##1}{##2}%

```



```

        {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
    }%
}

```

short-em-long-desc As before but user provides description

```

\newabbreviationstyle{short-em-long-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrshortlongdescname},
  sort={\glsxtrshortlongdescsort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%

```

```

}%
{%
\GlsXtrUseAbbrStyleFmts{short-em-long}%
}

```

short-em-long-em

```

\newabbreviationstyle{short-em-long-em}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields. `\glslongemfont` is used in the description since `\glsdesc` doesn't set the style.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrshortlongname},
  sort={\the\glsshorttok},

```

```

description={\protect\glslongemfont{\the\glslongtok}},%
first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\protect\glsxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\protect\glsxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%

text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
\glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%

\renewcommand*{\abbrvpluralsuffix}{\glsxtremsuffix}%
\renewcommand*{\glsxtrrevert}[1]{\glsxtremrevert{##1}}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongemfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongemfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*{\glsxtrfullformat}[2]{%
\glsxtrshortlongformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsxtrshortlongplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\Glsxtrshortlongformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\Glsxtrshortlongplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
\GLSxtrshortlongformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}}%

```

```

}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
}

```

short-em-long-em-desc

```

\newabbreviationstyle{short-em-long-em-desc}%
{%
Set accessibility attributes if enabled.
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
Setup the default fields.
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortlongdescname},%
    sort={\glsxtrshortlongdescsort},%
    first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}%
      \protect\glsxtrfullsep{\the\glslabeltok}}%
    \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}}},%
    firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}%
      \protect\glsxtrfullsep{\the\glslabeltok}}%
    \protect\glsxtrparen{\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}}},%
    text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
    plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
  }%
Unset the regular attribute if it has been set.
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
    \glsxtrhasattribute{\the\glslabeltok}{regular}%
    {%
      \glsxtrsetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
{\%
  \GlsXtrUseAbbrStyleFmts{short-em-long-em}%
}

```

short-em

```

\newabbreviationstyle{short-em}%
{%
Set accessibility attributes if enabled.
  \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
Setup the default fields.
  \renewcommand*{\CustomAbbreviationFields}{%

```

```

name={\glxtrshortnolongname},
sort={\the\glsshorttok},
first={\glxfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
firstplural={\glxfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
description={\the\glsfonttok}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

\renewcommand*\abbrvpluralsuffix{\glxtremsuffix}%
\renewcommand*\glxtrrevert[1]{\glxtremrevert{##1}}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%

```

The inline full form displays the short form followed by the long form in parentheses.

```

\renewcommand*\glxtrininlinefullformat}[2]{%
  \glxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*\glxtrininlinefullplformat}[2]{%
  \glxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*\Glsxtrininlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*\Glsxtrininlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*\GLSxtrininlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%
\renewcommand*\GLSxtrininlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glxtrfullformat}[2]{%
  \glxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}}%
}%

```

```

\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
}

```

short-em-nolong

```
\letabbreviationstyle{short-em-nolong}{short-em}
```

short-em-desc

```

\newabbreviationstyle{short-em-desc}{%
  {%

```

Set accessibility attributes if enabled. The default name includes the long form but `\glsxtrshortdescname` could be modified to omit the long form, so include the `nameshortaccess` attribute.

```
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields){%
  name={\glsxtrshortdescname},
  sort={\the\glsshorttok},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

```

```

\renewcommand*\abbrvpluralsuffix){\glsxtremsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtremrevert{##1}}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%

```

The inline full form displays the short format followed by the long form in parentheses.

```

\renewcommand*\glxtrinlinefullformat}[2]{%
  \glxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrinlinefullplformat}[2]{%
  \glxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%

```

The first use full form only displays the short form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glxtrfullformat}[2]{%
  \glxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
  \glxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
}

```

short-em-nolong-desc

```
\letabbreviationstyle{short-em-nolong-desc}{short-em-desc}
```

nolong-short-em

```
\newabbreviationstyle{nolong-short-em}%
{%
  \GlsXtrUseAbbrStyleSetup{short-em-nolong}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-em-nolong}%
```

The inline full form displays the long form followed by the short form in parentheses.

```
\renewcommand*{\glsxtrinlinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
}
```

long-noshort-em The short form is explicitly invoked through commands like `\glsxtrshort`.

```
\newabbreviationstyle{long-noshort-em}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrlongnoshortname},
  sort={\the\glsshorttok},
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
  text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
```

```

    plural={\glxplongfont{\the\glslongpltok}{\glscategorylabel}},%
    description={\the\glslongtok}%
  }%
  \renewcommand*\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
  }%
  {%

  \renewcommand*\abbrvpluralsuffix{\glxtremsuffix}%
  \renewcommand*\glsxtrrevert[1]{\glxtremrevert{##1}}%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

  \renewcommand*\glsxtrs subsequentfmt}[2]{%
    \glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
  }%
  \renewcommand*\glsxtrs subsequentplfmt}[2]{%
    \glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
  }%
  \renewcommand*\Glsxtrs subsequentfmt}[2]{%
    \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
  }%
  \renewcommand*\Glsxtrs subsequentplfmt}[2]{%
    \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
  }%
  \renewcommand*\GLSxtrs subsequentfmt}[2]{%
    \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%
  }%
  \renewcommand*\GLSxtrs subsequentplfmt}[2]{%
    \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
  }%

```

The inline full form displays the long format followed by the short form in parentheses.

```

  \renewcommand*\glsxtrin linefullformat}[2]{%
    \glsxtrlongshortformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
  }%
  \renewcommand*\glsxtrin linefullplformat}[2]{%
    \glsxtrlongshortplformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
  }%
  \renewcommand*\Glsxtrin linefullformat}[2]{%
    \Glsxtrlongshortformat{##1}{##2}%
    {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
  }%
  \renewcommand*\Glsxtrin linefullplformat}[2]{%
    \Glsxtrlongshortplformat{##1}{##2}%
  }%

```



```

    {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*{\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

`long-em` Backward compatibility:

```
\@glsxtr@deprecated@abbrstyle{long-em}{long-noshort-em}
```

`long-em-noshort-em` The short form is explicitly invoked through commands like `\glsxtrshort`.

```
\newabbreviationstyle{long-em-noshort-em}%
%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrlongnoshortname},
  sort={\the\glsshorttok},
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
  text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
  plural={\glsxplongfont{\the\glslongpltok}{\glscategorylabel}},%
}

```

```

description={\protect\glslongemfont{\the\glslongtok}}%
}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
\glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%

```

```

\renewcommand*\abbrvpluralsuffix){\glsxtremsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtremrevert{##1}}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongemfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongemfont{##1}}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glsxtrs subsequentfmt}[2]{%
\glsxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\glsxtrs subsequentplfmt}[2]{%
\glsxtrlongplformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\Glsxtrs subsequentfmt}[2]{%
\Glsxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\Glsxtrs subsequentplfmt}[2]{%
\Glsxtrlongplformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\GLSxtrs subsequentfmt}[2]{%
\GLSxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\GLSxtrs subsequentplfmt}[2]{%
\GLSxtrlongplformat{##1}{##2}{\glslongemfont}%
}%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glsxtrin linefullformat}[2]{%
\glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glsxtrin linefullplformat}[2]{%
\glsxtrlongshortplformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrin linefullformat}[2]{%
\Glsxtrlongshortformat{##1}{##2}%
{\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrin linefullplformat}[2]{%
\Glsxtrlongshortplformat{##1}{##2}%

```

```

    {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
}

```

`long-em-noshort-em-noreg` Like `long-em-noshort-em` but doesn't set the regular attribute.

```

\newabbreviationstyle{long-em-noshort-em-noreg}%
{%

```

Set accessibility attributes if enabled.

```

  \glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel

```

Setup the default fields.

```

  \GlsXtrUseAbbrStyleSetup{long-em-noshort-em}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%

```

```

}%
{%
  \GlsXtrUseAbbrStyleFmts{long-em-noshort-em}%
}

```

`long-noshort-em-desc` The emphasized font will only be used if the short form is explicitly invoked through commands like `\glxtrshort`.

```

\newabbreviationstyle{long-noshort-em-desc}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%
  \renewcommand*\glxtrrevert[1]{\glxtremrevert{##1}}%
  \renewcommand*\glsabrvfont[1]{\glsabrvemfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
}

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glxtrsubsequentfmt[2]{%
  \glxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\glxtrsubsequentplfmt[2]{%
  \glxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentfmt[2]{%
  \Glsxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\Glsxtrsubsequentplfmt[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentfmt[2]{%
  \GLSxtrlongformat{##1}{##2}{\glslongdefaultfont}%
}%
\renewcommand*\GLSxtrsubsequentplfmt[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glslongdefaultfont}%
}%

```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glxtrinilinefullformat[2]{%
  \glxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrinilinefullplformat[2]{%
  \glxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%

```

```

\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongdefaultfont}{\glsfirstabbrvemfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the regular attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongdefaultfont}%
}%
}

```

long-desc-em Backward compatibility:

```

\@glsxtr@deprecated@abbrstyle{long-desc-em}{long-noshort-em-desc}

```

long-em-noshort-em-desc The short form is explicitly invoked through commands like `\glsxtrshort`. The long form is emphasized. No accessibility attributes need to be set.

```

\newabbreviationstyle{long-em-noshort-em-desc}%
{%
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrlongnoshortdescname},
    sort={\the\glslongtok},
    first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},
  }
}

```

```

    firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},
    text={\glsxplongfont{\the\glslongtok}{\glscategorylabel}},
    plural={\glsxplongfont{\the\glslongpltok}{\glscategorylabel}}%
}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
```

```

\renewcommand*\abbrvpluralsuffix}{\glsxtremsuffix}%
\renewcommand*\glsxtrrevert[1]{\glsxtremrevert{##1}}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongemfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongemfont{##1}}%
```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glsxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glslongemfont}%
}%
\renewcommand*\GLSxtrsubsequentplfmt}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glslongemfont}%
}%
```

The inline full form displays the long format followed by the short form in parentheses.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
```

```

\Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongemfont}{\glsfirstabbrvemfont}%
}%

```

The first use full form only displays the long form, but it typically won't be used as the `regular` attribute is set by this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongemfont}%
}%
}

```

`long-em-noshort-em-desc-noreg` Like `long-em-noshort-em-desc` but doesn't set the `regular` attribute.

```

\newabbreviationstyle{long-em-noshort-em-desc-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{long-em-noshort-em-desc}%

```

Unset the `regular` attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glschasattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-em-noshort-em-desc}%
}

```

short-em-footnote

```
\newabbreviationstyle{short-em-footnote}%  
{%
```

Set accessibility attributes if enabled.

```
\glxstrAccSuppAbbrSetNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxstrfootnotename},  
  sort={\the\glsshorttok},  
  description={\the\glslongtok},%  
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}}%  
  \protect\glxtrabbrvfootnote{\the\glslabeltok}%  
    {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%  
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%  
  \protect\glxtrabbrvfootnote{\the\glslabeltok}%  
    {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%  
  text={\glxppabbrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  plural={\glxppabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glsssetattribute{\the\glslabeltok}{nohyperfirst}{true}%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glsssetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
}%  
{%
```

```
\renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%  
\renewcommand*{\glxtrrevert}[1]{\glxtremrevert{##1}}%  
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%  
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%  
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongfootnotefont{##1}}%  
\renewcommand*{\glslongfont}[1]{\glslongfootnotefont{##1}}%
```

The full format displays the short form followed by the long form as a footnote.

```
\renewcommand*{\glxtrfullformat}[2]{%  
  \glxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%  
  \protect\glxtrabbrvfootnote{##1}%  
    {\glxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%  
}%  
\renewcommand*{\glxtrfullplformat}[2]{%  
  \glxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%  
  \protect\glxtrabbrvfootnote{##1}%  
    {\glxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
```



```

}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongformat{##1}{\glsfirstlongfootnotefont}}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsxtrfootnotelongplformat{##1}{\glsfirstlongfootnotefont}}%
}%

```

The first use inline full form uses the short (long) style.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
}

```

footnote-em Backward compatibility:

```
\@glxtr@deprecated@abbrstyle{footnote-em}{short-em-footnote}
```

short-em-footnote-desc Like short-em-footnote but with user supplied description.

```
\newabbreviationstyle{short-em-footnote-desc}{%  
  {%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrfootnotedesname},  
  sort={\glxtrfootnotedesort},  
  first={\glxtrfirstpabrvfont{\the\glsshorttok}{\glscategorylabel}}%  
  \protect\glxtrabbrvfootnote{\the\glslabeltok}}%  
  {\protect\glxtrfirstlongfootnotefont{\the\glslongtok}}},%  
  firstplural={\glxtrfirstpabrvfont{\the\glsshortpltok}{\glscategorylabel}}%  
  \protect\glxtrabbrvfootnote{\the\glslabeltok}}%  
  {\protect\glxtrfirstlongfootnotefont{\the\glslongpltok}}},%  
  text={\glxtrpabrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  plural={\glxtrpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
```

Switch off hyperlinks on first use to prevent nested hyperlinks, and unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glsssetattribute{\the\glslabeltok}{nohyperfirst}{true}%  
  \glshasattribute{\the\glslabeltok}{regular}}%  
  {%  
    \glsssetattribute{\the\glslabeltok}{regular}{false}}%  
  }%  
  {}%  
}%  
}%  
{%  
  \GlsXtrUseAbbrStyleFmts{short-em-footnote}}%  
}
```

short-em-postfootnote

```
\newabbreviationstyle{short-em-postfootnote}{%  
  {%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNameNoLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrfootnotename},  
  sort={\the\glsshorttok},  
  description={\the\glslongtok},%  
  first={\glxtrfirstpabrvfont{\the\glsshorttok}{\glscategorylabel}},%  
  firstplural={\glxtrfirstpabrvfont{\the\glsshortpltok}{\glscategorylabel}}},%
```

```

text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%

```

Make this category insert a footnote after the link if this was the first use, and unset the `regular` attribute if it has been set. Previously this was done by redefining `glxtrsetupfulldefs` but that interferes with other styles. Instead, this now uses `\glxtrifwasglslike`

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
\glxtrifwasglslikeandfirstuse
}%

```

Ensure `\glslabel` is expanded as it may be lost by the time the footnote occurs.

```

\glxtrdopostpunc{\xpglxtrpostabbrvfootnote}%
}%
{}%
}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{}%

```

```

\renewcommand*\abbrvpluralsuffix{\glxtremsuffix}%
\renewcommand*\glxtrrevert[1]{\glxtremrevert{##1}}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%

```

The full format displays the short form. The long form is deferred.

```

\renewcommand*\glxtrfullformat}[2]{%
\glxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
\glxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
\Glsxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
\Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
\GLSxtrshortformat{##1}{##2}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
\GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvemfont}%
}%

```

```
}%
```

The inline full form uses the short (long) style.

```
\renewcommand*\glxtrinlinefullformat}[2]{%
  \glxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\glxtrinlinefullplformat}[2]{%
  \glxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortlongformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshortlongplformat{##1}{##2}%
  {\glsfirstlongfootnotefont}{\glsfirstabbrvemfont}%
}%
}
```

postfootnote-em Backward compatibility:

```
\@glxtr@deprecated@abbrstyle{postfootnote-em}{short-em-postfootnote}
```

short-em-postfootnote-desc Like short-em-postfootnote but with user supplied description.

```
\newabbreviationstyle{short-em-postfootnote-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glxtrfootnotedescname},
  sort={\glxtrfootnotedescsort},
  first={\glsfirstxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  firstplural={\glsfirstxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
  text={\glxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}}%
}
```

Make this category insert a footnote after the link if this was the first use, and unset the `regular` attribute if it has been set. Previously this was done by

redefining `glsxtrsetupfulldefs` but that interferes with other styles. Instead, this now uses `\glsxtrifwasglslike`

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasglslikeandfirstuse
{%
\glsxtrdopostpunc{\xpglsxtrpostabbrvfootnote}%
}%
{}}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{short-em-postfootnote}%
}

```

## 2.5 Predefined Styles (User Parentheses Hook)

These styles allow the user to adjust the parenthetical forms. These styles all test for the existence of the field given by:

`\glsxtruserfield` Default is the `useri` field.

```
\newcommand*{\glsxtruserfield}{useri}
```

`\glsxtruserparens` Separator used inside parenthetical content.

```
\newcommand*{\glsxtruserparens}{, }
```

`\glsxtruserfieldfmt` Used to format the value of the field given by `\glsxtruserfield`.

```
\newcommand*{\glsxtruserfieldfmt}[1]{#1}
```

`\glsxtruserparen` The format of the parenthetical information. The first argument is the long/short form. The second argument is the entry's label. If `\glscurrentfieldvalue` has been defined, then we have at least glossaries v4.23, which makes it easier for the user to adjust this.

```

\ifdef\glscurrentfieldvalue
{
\newcommand*{\glsxtruserparen}[2]{%
\glsxtrfullsep{#2}%
\glsxtrparen
{#1\ifglsattribute{\glsxtruserfield}{#2}%
{\expandafter\glsxtrgenentrytextfmt\expandafter{\glsxtruserparens}%
\glsxtruserfieldfmt{\expandafter\glsxtrgenentrytextfmt\expandafter{\glscurrentfieldvalue}}}%
}{}}%
}

```

```

    }%
  }
}
{
  \newcommand*\glsxtruserparen}[2]{%
    \glsxtrfullsep{#2}%
    \glsxtrparen
    {#1\ifglshasfield{\glsxtruserfield}{#2}%
      {\expandafter\glsxtrgenentrytextfmt\expandafter{\glsxtruserparenssep}%
        \glsxtruserfieldfmt{\expandafter\glsxtrgenentrytextfmt\expandafter{\@glo@thisvalue}}}%
      }{}%
    }%
  }
}

```

`\GLSxtruserparen` As above but converts the user supplied information to all-caps. The first argument should be provided in all-caps if required.

```

\ifdef\glscurrentfieldvalue
{
  \newcommand*\GLSxtruserparen}[2]{%
    \glsxtrfullsep{#2}%
    \glsxtrparen
    {#1\ifglshasfield{\glsxtruserfield}{#2}%
      {\expandafter\glsxtrgenentrytextfmt\expandafter{\glsxtruserparenssep}%
        \glsxtruserfieldfmt{\expandafter\mfirstucMakeUppercase\expandafter{\expandafter
          \glsxtrgenentrytextfmt\expandafter{\glscurrentfieldvalue}}}%
        }{}%
      }%
    }
  }
}
{
  \newcommand*\GLSxtruserparen}[2]{%
    \glsxtrfullsep{#2}%
    \glsxtrparen
    {#1\ifglshasfield{\glsxtruserfield}{#2}%
      {\expandafter\glsxtrgenentrytextfmt\expandafter{\glsxtruserparenssep}%
        \glsxtruserfieldfmt{\expandafter\mfirstucMakeUppercase\expandafter{\expandafter
          \glsxtrgenentrytextfmt\expandafter{\@glo@thisvalue}}}%
        }{}%
      }%
    }
  }
}
}

```

Font used for short form:

```

\glsabbrvuserfont
  \newcommand*\glsabbrvuserfont}[1]{\glsabbrvdefaultfont{#1}}

```

Font used for short form on first use:

`\glsfirstabbrvuserfont`

```
\newcommand*\glsfirstabbrvuserfont[1]{\glsabbrvuserfont{#1}}
```

Font used for long form:

`\glslonguserfont`

```
\newcommand*\glslonguserfont[1]{\glslongdefaultfont{#1}}
```

Font used for long form on first use:

`\glsfirstlonguserfont`

```
\newcommand*\glsfirstlonguserfont[1]{\glslonguserfont{#1}}
```

The default short form suffix:

`\glsxtrusersuffix`

```
\newcommand*\glsxtrusersuffix{\glsxtrabbrvpluralsuffix}
```

Description encapsulator.

`\glsuserdescription` The first argument is the description. The second argument is the label.

```
\newcommand*\glsuserdescription[2]{\glslonguserfont{#1}}
```

`long-short-user`

```
\newabbreviationstyle{long-short-user}{%
  {%
    Set accessibility attributes if enabled.
    \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  Setup the default fields.
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrlongshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlonguserfont{\the\glslongtok}%
      \protect\glsxtruserparen{\protect\glsfirstabbrvuserfont{\the\glsshorttok}}%
      {\the\glslabeltok}},%
    firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}%
      \protect\glsxtruserparen
      {\protect\glsfirstabbrvuserfont{\the\glsshortpltok}}{\the\glslabeltok}},%
    text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvuserfont{\the\glsshortpltok}},%
    description={\protect\glsuserdescription{\the\glslongtok}%
      {\the\glslabeltok}}}%
  }%
  Unset the regular attribute if it has been set.
  \renewcommand*\GlsXtrPostNewAbbreviation{%
    \glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
    \glsxtrsetcomplexstyle{\the\glslabeltok}{2}%
    \glshasattribute{\the\glslabeltok}{regular}%
  }%
```

```

        \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
  {}%
}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```

\renewcommand*\abbrvpluralsuffix{\glsxtrusersuffix}%
\renewcommand*\glsabbrvfont}[1]{\glsabbrvuserfont{##1}}%
\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslonguserfont{##1}}%
```

The first use full form and the inline full form are the same for this style.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtruserlongshortformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtruserlongshortplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtruserlongshortformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtruserlongshortplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtruserlongshortformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtruserlongshortplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}%
}%
}
```

**long-postshort-user** Like long-short-user but defers the parenthetical matter to after the link.

```

\newabbreviationstyle{long-postshort-user}%
{%
```

Set accessibility attributes if enabled.

```

  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrlongshortname},
```



```

sort={\the\glsshorttok},
first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%

text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
plural={\protect\glsabbrvuserfont{\the\glsshortpltok}},%
description={\protect\glsuserdescription{\the\glslongtok}%
{\the\glslabeltok}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
\cdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtrpostusersshortformat{\glslabel}{\glsfirstabbrvuserfont}%
}%
}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%

```

In case the user wants to mix and match font styles, these are redefined here.

```

\renewcommand*{\abbrvpluralsuffix}{\glsxtrusersuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvuserfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslonguserfont{##1}}%

```

First use full form:

```

\renewcommand*{\glsxtrfullformat}[2]{%
\glsxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\Glsxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\Glsxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
\GLSxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
\GLSxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%

```

```
}%
}
```

Small-caps is awkward, so support for that is added.

```
\glsabbrvscuserfont
\newcommand*\glsabbrvscuserfont{\glsabbrvscfont}%
```

```
\glsfirstabbrvscuserfont
\newcommand*\glsfirstabbrvscuserfont{\glsabbrvscuserfont}%
```

The default short form suffix:

```
\glsxtrscusersuffix
\newcommand*\glsxtrscusersuffix{\glsxtrscsuffix}
```

```
\glsxtrscuserrevert
\newcommand*\glsxtrscuserrevert{\glsxtrscerevert}
```

```
\glsxtrlongshortscusername The default name format for this style.
\newcommand*\glsxtrlongshortscusername{%
  \protect\glsabbrvscuserfont{\the\glsshorttok}%
}
```

```
long-postshort-sc-user Like long-postshort-sc-user but uses smallcaps.
\newabbreviationstyle{long-postshort-sc-user}%
%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrlongshortscusername},
  sort={\the\glsshorttok},
  first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
  firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
  text={\protect\glsabbrvscuserfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvscuserfont{\the\glsshortpltok}},%
  description={\protect\glsuserdescription{\the\glslongtok}%
    {\the\glslabeltok}}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glsxclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \csdef{glsxtrpostlink\glscategorylabel}{%
    \glsxtrifwasfirstuse
    {%
      \glsxtrpostusershortformat{\glslabel}{\glsfirstabbrvscuserfont}%
    }%
  }%
}
```

```

\glshasattribute{\the\glslabeltok}{regular}%
{%
  \glissetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%

```

In case the user wants to mix and match font styles, these are redefined here.

```

\renewcommand*\abbrvpluralsuffix{\glstrscusersuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscuserfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscuserfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*\glslongfont[1]{\glslonguserfont{##1}}%
\renewcommand*\glsxtrrevert[1]{\glstrscuserrevert{##1}}%

```

First use full form:

```

\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlonguserfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlonguserfont}%
}%

```

In-line format is the same as the first use format.

```

}
```

`glsxtrlongshortuserdescname`

```

\newcommand*\glsxtrlongshortuserdescname{%
  \protect\glslonguserfont{\the\glslongtok}%
  \protect\glsxtruserparen
  {\protect\glsabbrvuserfont{\the\glsshorttok}}{\the\glslabeltok}%
}

```

`long-postshort-user-desc` Like `long-postshort-user` but the user supplies the description.

```

\newabbreviationstyle{long-postshort-user-desc}%
{%

```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrlongshortuserdesname},
  sort={\the\glslongtok},
  first={\protect\glstrfirstlonguserfont{\the\glslongtok}},%
  firstplural={\protect\glstrfirstlonguserfont{\the\glslongpltok}},%

  text={\protect\glstrabbrvuserfont{\the\glsshorttok}},%
  plural={\protect\glstrabbrvuserfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glstrpostlink\glscategorylabel}{%
    \glstrifwasfirstuse
    {%
      \glstrpostusersshortformat{\glslabel}{\glstrfirstabbrvuserfont}%
    }%
  }%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-postshort-user}%
}
```

glstrlongshortscuserdesname

```
\newcommand*{\glstrlongshortscuserdesname}{%
  \protect\glslonguserfont{\the\glslongtok}%
  \protect\glstruserparen
  {\protect\glstrabbrvscuserfont{\the\glsshorttok}}{\the\glslabeltok}%
}
```

long-postshort-sc-user-desc Like long-postshort-sc-user but the user supplies the description.

```
\newabbreviationstyle{long-postshort-sc-user-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glstrlongshortscuserdesname},
  sort={\the\glslongtok},
  first={\protect\glstrfirstlonguserfont{\the\glslongtok}},%
```

```

firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
text={\protect\glsabbrvscuserfont{\the\glsshorttok}},%
plural={\protect\glsabbrvscuserfont{\the\glsshortpltok}}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtrpostusershortformat{\glslabel}{\glsfirstabbrvscuserfont}%
}%
{}}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%
}%
\GlsXtrUseAbbrStyleFmts{long-postshort-sc-user}%
}

```

`short-postlong-user` Like `short-long-user` but defers the parenthetical matter to after the link.

```

\newabbreviationstyle{short-postlong-user}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrshortlongname},
sort={\the\glsshorttok},
first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%

text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
plural={\protect\glsabbrvuserfont{\the\glsshortpltok}},%
description={\protect\glsuserdescription{\the\glslongtok}%
{\the\glslabeltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtrpostuserlongformat{\glslabel}{\glsfirstlonguserfont}%
}%
{}}%
}%
\glsattribute{\the\glslabeltok}{regular}%

```

```

    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%

```

In case the user wants to mix and match font styles, these are redefined here.

```

\renewcommand*\abbrvpluralsuffix{\glsxtrusersuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvuserfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*\glslongfont[1]{\glslonguserfont{##1}}%

```

First use full form:

```

\renewcommand*\glsxtrfullformat[2]{%
  \glsxtrshortformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsxtrshortplformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \Glsxtrshortformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \Glsxtrshortplformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\GLSxtrfullformat[2]{%
  \GLSxtrshortformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%
\renewcommand*\GLSxtrfullplformat[2]{%
  \GLSxtrshortplformat{##1}{##2}{\glsfirstabbrvuserfont}%
}%

```

In-line format should be the same.

```

}

```

`\glsxtrshortlonguserdesname`

```

\newcommand*\glsxtrshortlonguserdesname{%
  \protect\glsabbrvuserfont{\the\glsshorttok}%
  \protect\glsxtruserparen
  {\protect\glslonguserfont{\the\glslongtok}}%
  {\the\glslabeltok}%
}

```

`short-postlong-user-desc` Like `short-postlong-user` but leaves the user to specify the description.

```

\newabbreviationstyle{short-postlong-user-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrshortlonguserdescname},
  sort={\the\glsshorttok},
  first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
  firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%

  text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvuserfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glxtrpostlink\glscategorylabel}{%
    \glxtrifwasfirstuse
    {%
      \glxtrpostuserlongformat{\glslabel}{\glsfirstlonguserfont}%
    }%
  }%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-postlong-user}%
}

```

long-short-user-desc

```

\newabbreviationstyle{long-short-user-desc}%
{%

```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrlongshortuserdescname},
  sort={\glxtrlongshortdescsort},%

  first={\protect\glsfirstlonguserfont{\the\glslongtok}%
    \protect\glxtruserparen{\protect\glsfirstabbrvuserfont{\the\glsshorttok}}%
    {\the\glslabeltok}},%
  firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}%
    \protect\glxtruserparen
    {\protect\glsfirstabbrvuserfont{\the\glsshortpltok}}{\the\glslabeltok}},%
  text={\protect\glsabbrvfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvfont{\the\glsshortpltok}}%
}%

```

Unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glxtrsetcomplexstyle{\the\glslabeltok}{2}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
}%
{}%
}%
{}%
\GlsXtrUseAbbrStyleFmts{long-short-user}%
}
```

short-long-user

```
\newabbreviationstyle{short-long-user}%
{}%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

`\glslonguserfont` is used in the description since `\glsdesc` doesn't set the style. (Now in `\glsuserdescription`.)

```
\renewcommand*\CustomAbbreviationFields}{%
  name={\glxtrshortlongname},
  sort={\the\glsshorttok},
  description={\protect\glsuserdescription{\the\glslongtok}%
    {\the\glslabeltok}},%
  first={\protect\glsfirstabbrvuserfont{\the\glsshorttok}%
    \protect\glxtruserparen{\protect\glsfirstlonguserfont{\the\glslongtok}}%
    {\the\glslabeltok}},%
  firstplural={\protect\glsfirstabbrvuserfont{\the\glsshortpltok}%
    \protect\glxtruserparen{\protect\glsfirstlonguserfont{\the\glslongpltok}}%
    {\the\glslabeltok}},%

  text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvuserfont{\the\glsshortpltok}}}%
}
```

Unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \glxtrsetcomplexstyle{\the\glslabeltok}{2}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{}%
```



In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*\abbrevpluralsuffix{\glxtrusersuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvuserfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*\glslongfont[1]{\glslonguserfont{##1}}%
```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrusershortlongformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrusershortlongplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrusershortlongformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrusershortlongplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrusershortlongformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrusershortlongplformat{##1}{##2}%
  {\glsfirstlonguserfont}{\glsfirstabbrvuserfont}}%
}%
}
```

short-long-user-desc

```
\newabbreviationstyle{short-long-user-desc}%
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrshortlonguserdescname},
  sort={\glsxtrshortlongdescsort},%

  first={\protect\glsfirstabbrvuserfont{\the\glsshorttok}}%
  \protect\glsxtruserparen{\protect\glsfirstlonguserfont{\the\glslongtok}}%
  {\the\glslabeltok}},%
  firstplural={\protect\glsfirstabbrvuserfont{\the\glsshortpltok}}%
  \protect\glsxtruserparen{\protect\glsfirstlonguserfont{\the\glslongpltok}}%
```

```

    {\the\glslabeltok}},%
    text={\protect\glsabbrvfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsxtrsetcomplexstyle{\the\glslabeltok}{2}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glsattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-long-user}%
}

```

## 2.6 Predefined Styles (Hyphen)

These styles are designed to work with the `markwords` attribute. They check if the inserted material (provided by the final optional argument of commands like `\gls`) starts with a hyphen. If it does, the insert is added to the parenthetical material. Note that commands like `\glsxtrlong` set `\glsinsert` to empty with the entire link-text stored in `\glscustomtext`.

`\glsxtrifhyphenstart` Checks if the argument starts with a hyphen. The argument may be `\glsinsert` so check for that and expand.

```

\newrobustcmd*{\glsxtrifhyphenstart}[3]{%
  \ifx\glsinsert#1\relax
    \expandafter\@glsxtrifhyphenstart#1\relax\relax
    \@endglsxtrifhyphenstart{#2}{#3}%
  \else
    \@glsxtrifhyphenstart#1\relax\relax\@end@glsxtrifhyphenstart{#2}{#3}%
  \fi
}

```

`\@glsxtrifhyphenstart`

```

\def\@glsxtrifhyphenstart#1#2\@endglsxtrifhyphenstart#3#4{%
  \ifx-#1\relax#3\else #4\fi
}

```

```
\glsxtrlonghyphenshort{<label>}{<long>}{<short>}{<insert>}
```

`\glsxtrlonghyphenshort`

The `<long>` and `<short>` arguments may be the plural form. The `<long>` argument may also be the first letter uppercase form. This unfortunately doesn't

fit in with the new `\glxtrshortformat` etc commands, but is retained for backward-compatibility. This means that the inserted part has to have a separate encapsulation for the inner format. The `<long>` and `<short>` arguments will need to include the inner format.

```
\newcommand*{\glxtrlonghyphenshort}[4]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

If `<insert>` starts with a hyphen, redefine `\glxtrwordsep` to a hyphen. The inserted material is also inserted into the parenthetical part. (The inserted material is grouped as a precautionary measure.) No change is made to `\glxtrwordsep` if `<insert>` doesn't start with a hyphen.

```
\glxtrifhyphenstart{#4}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
\glsfirstlonghyphenfont{#2\ifglxtrininsertinside
  {\glxtrgenentrytextfmt{#4}}\fi}%
\ifglxtrininsertinside\else{\glxtrgenentrytextfmt{#4}}\fi
\glxtrfullsep{#1}%
\glxtrparen{\glsfirstabbrvhyphenfont{#3\ifglxtrininsertinside
  {\glxtrgenentrytextfmt{#4}}\fi}%
\ifglxtrininsertinside\else{\glxtrgenentrytextfmt{#4}}\fi}%
}%
}
```

`\GLSxtrlonghyphenshort` As above but convert the insert to uppercase. The long and short should already have the case-change applied.

```
\newcommand*{\GLSxtrlonghyphenshort}[4]{%
  {%
    \glxtrifhyphenstart{#4}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \glsfirstlonghyphenfont{#2\ifglxtrininsertinside
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#4}}}\fi}%
    \ifglxtrininsertinside\else
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#4}}}%
    \fi
    \glxtrfullsep{#1}%
    \glxtrparen{\glsfirstabbrvhyphenfont{#3\ifglxtrininsertinside
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#4}}}\fi}%
    \ifglxtrininsertinside\else
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#4}}}%
    \fi}%
  }%
}
```

```
\glxtrshorthyphennolong{<label>}{<short>}{<insert>}
```

`\glxtrshorthyphennolong`

The `<short>` argument may be the plural form and may also be the first letter uppercase form.

As `\glxtrlonghyphenshort` but where only the short form should be shown.

```
\newcommand*\glxtrshorthyphenlong}[3]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

If *(insert)* starts with a hyphen, redefine `\glxtrwordsep` to a hyphen.

```
\glxtrifhyphenstart{#3}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
```

```
\glsfirstabbrvhyphenfont{#2\ifglxtrininsertinside
```

```
{\glxtrgenentrytextfmt{#3}}\fi)%
```

```
\ifglxtrininsertinside\else{\glxtrgenentrytextfmt{#3}}\fi
```

```
}%
```

```
}
```

`\GLSxtrshorthyphenlong` As above but all-caps.

```
\newcommand*\GLSxtrshorthyphenlong}[3]{%
```

```
{%
```

```
\glxtrifhyphenstart{#3}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
```

```
\glsfirstabbrvhyphenfont{#2\ifglxtrininsertinside
```

```
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#3}}}\fi)%
```

```
\ifglxtrininsertinside\else
```

```
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#3}}}%
```

```
\fi
```

```
}%
```

```
}
```

`\glsabbrvhyphenfont`

```
\newcommand*\glsabbrvhyphenfont{\glsabbrvdefaultfont}%
```

`\glsfirstabbrvhyphenfont`

```
\newcommand*\glsfirstabbrvhyphenfont{\glsabbrvhyphenfont}%
```

`\glslonghyphenfont`

```
\newcommand*\glslonghyphenfont{\glslongdefaultfont}%
```

`\glsfirstlonghyphenfont`

```
\newcommand*\glsfirstlonghyphenfont{\glslonghyphenfont}%
```

The default short form suffix:

`\glxtrhyphensuffix`

```
\newcommand*\glxtrhyphensuffix{\glxtrabbrvpluralsuffix}
```

`\glxtrlonghyphensort`

```
\newcommand*\glxtrlonghyphensort{\expandonce\glxtrorgshort}
```

`long-hyphen-short-hyphen` Designed for use with the `markwords` attribute.

```
\newabbreviationstyle{long-hyphen-short-hyphen}%
```

```
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrlongshortname},
  sort={\glsxtrlonghyphensort},
  first={\protect\glsfirstlonghyphenfont{\the\glslongtok}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \protect\glsxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}}},%
  firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \protect\glsxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}}},%
  text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}},%
  description={\protect\glslonghyphenfont{\the\glslongtok}}}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsxclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtrhyphensuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvhyphenfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvhyphenfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonghyphenfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslonghyphenfont{##1}}%
```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*{\glsxtrfullformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslong{##1}%
    }%
    {%
      \glsaccessfmtlong{}{\glsxtrgenentrytextfont{##1}}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshort{##1}%
    }%
  }%
```

```

    }%
    {%
    \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
  \glsifattribute{##1}{markwords}{true}%
  {%
  \glsaccesslongpl{##1}%
  }%
  {%
  \glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
  }%
  }%
  {%
  \glsifattribute{##1}{markshortwords}{true}%
  {%
  \glsaccessshortpl{##1}%
  }%
  {%
  \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
  }%
  }%
  {##2}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
  \glsifattribute{##1}{markwords}{true}%
  {%
  \Glsaccesslong{##1}%
  }%
  {%
  \Glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
  }%
  }%
  {%
  \glsifattribute{##1}{markshortwords}{true}%
  {%
  \glsaccessshort{##1}%
  }%
  {%
  \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
  }%
  }%
  {##2}%
}

```

```

}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \Glsaccesslongpl{##1}%
    }%
    {%
      \Glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslong{##1}%
    }%
    {%
      \GLSaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshort{##1}%
    }%
    {%
      \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
  \GLSxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%

```

```

        \GLSaccesslongpl{##1}%
    }%
    {%
        \GLSaccessfmlongpl{}{\glstrgenentrytextfmt}{##1}%
    }%
}%
{%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
        \GLSaccessshortpl{##1}%
    }%
    {%
        \GLSaccessfmlshortpl{}{\glstrgenentrytextfmt}{##1}%
    }%
}%
{##2}%
}%

```

Subsequent form also needs checking for a hyphen in case the short form has spaces.

```

\renewcommand*{\glstrsubsequentfmt}[2]{%
    \glstrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
    }%
        \glsaccessshort{##1}%
    }%
    {%
        \glsaccessfmlshort{}{\glstrgenentrytextfmt}{##1}%
    }%
}%
{##2}%
}%
\renewcommand*{\glstrsubsequentplfmt}[2]{%
    \glstrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
    }%
        \glsaccessshortpl{##1}%
    }%
    {%
        \glsaccessfmlshortpl{}{\glstrgenentrytextfmt}{##1}%
    }%
}%
{##2}%
}%
\renewcommand*{\Glsstrsubsequentfmt}[2]{%
    \glstrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
    }%

```



```

    {%
      \Glsaccessshort{##1}%
    }%
    {%
      \Glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennolong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshortpl{##1}%
    }%
    {%
      \Glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentfmt}[2]{%
  \GLSxtrshorthyphennolong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshort{##1}%
    }%
    {%
      \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentplfmt}[2]{%
  \GLSxtrshorthyphennolong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshortpl{##1}%
    }%
    {%
      \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
}

```

`long-hyphen-short-hyphen-desc` Like `long-hyphen-short-hyphen` but the description must be supplied by the user.

```
\newabbreviationstyle{long-hyphen-short-hyphen-desc}%  
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%  
  name={\glxtrlongshortdescname},  
  sort={\glxtrlongshortdescsort},  
  first={\protect\glxtrfirstlonghyphenfont{\the\glslongtok}%  
    \protect\glxtrfullsep{\the\glslabeltok}%  
    \protect\glxtrparen{\protect\glxtrfirstabbrhyphenfont{\the\glsshorttok}}},%  
  firstplural={\protect\glxtrfirstlonghyphenfont{\the\glslongpltok}%  
    \protect\glxtrfullsep{\the\glslabeltok}%  
    \protect\glxtrparen{\protect\glxtrfirstabbrhyphenfont{\the\glsshortpltok}}},%  
  text={\protect\glxtrabbrhyphenfont{\the\glsshorttok}},%  
  plural={\protect\glxtrabbrhyphenfont{\the\glsshortpltok}}%  
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%  
  \glxtrsetcomplexstyle{\the\glslabeltok}{3}%  
  \glshasattribute{\the\glslabeltok}{regular}%  
  {%  
    \glissetattribute{\the\glslabeltok}{regular}{false}%  
  }%  
  {}%  
}%  
}%  
{%  
  \GlsXtrUseAbbrStyleFmts{long-hyphen-short-hyphen}%  
}
```

```
\glxtrlonghyphennoshort{<label>}{<long>}{<insert>}
```

`\glxtrlonghyphennoshort`

As with `\glxtrlonghyphenshort` this doesn't fit in with the new `\glxtrshortformat` so the inserted part has to have a separate encapsulation for the inner format. The `<long>` argument will need to include the inner format.

```
\newcommand*{\glxtrlonghyphennoshort}[3]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

If `<insert>` starts with a hyphen, redefine `\glxtrwordsep` to a hyphen. The inserted material is also inserted into the parenthetical part. (The inserted material is grouped as a precautionary measure.) No change is made to `\glxtrwordsep` if `<insert>` doesn't start with a hyphen.

```

\glxtrifhyphenstart{#3}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
\glfirstlonghyphenfont{#2\ifglxtrinsertinside
{\glxtrgenentrytextfmt{#3}}\fi}%
\ifglxtrinsertinside\else{\glxtrgenentrytextfmt{#3}}\fi
}%
}

```

`\GLSxtrlonghyphennoshort` As above but convert insert to all-caps.

```

\newcommand*\GLSxtrlonghyphennoshort}[3]{%
{%
\glxtrifhyphenstart{#3}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
\glfirstlonghyphenfont{#2\ifglxtrinsertinside
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#3}}}\fi}%
\ifglxtrinsertinside\else
{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#3}}}%
\fi
}%
}

```

`\glxtrlonghyphennoshortdescsort`

```

\newcommand*\glxtrlonghyphennoshortdescsort{\expandonce\glxtrorlong}

```

`\longhyphen-noshort-desc-noreg`

This version doesn't show the short form (except explicitly with `\glxtrshort`). Since `\glxtrshort` doesn't support the hyphen switch, the short form just uses the default short-form font command. This style won't work with the regular as the regular form isn't flexible enough. No accessibility attributes need to be set.

```

\newabbreviationstyle{long-hyphen-noshort-desc-noreg}%
{%
\renewcommand*\CustomAbbreviationFields{%
name={\glxtrlongnoshortdescname},
sort={\glxtrlonghyphennoshortdescsort},
first={\protect\glfirstlonghyphenfont{\the\glslongtok}},%
firstplural={\protect\glfirstlonghyphenfont{\the\glslongpltok}},%
text={\protect\glslonghyphenfont{\the\glslongtok}},%
plural={\protect\glslonghyphenfont{\the\glslongpltok}}%
}%
}

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}

```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*\abbrvpluralsuffix{\glxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlonghyphenfont{##1}}%
\renewcommand*\glslongfont[1]{\glslonghyphenfont{##1}}%
```

The inline full form displays the long format followed by the short form in parentheses (as long-hyphen-short-hyphen).

```
\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslong{##1}%
    }%
    {%
      \glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshort{##1}%
    }%
    {%
      \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslongpl{##1}%
    }%
    {%
      \glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
```

```

}%
{##2}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsxtrlonghyphenshort{##1}%
{%
\glsifattribute{##1}{markwords}{true}%
{%
\Glsaccesslong{##1}%
}%
{%
\Glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{%
\glsifattribute{##1}{markshortwords}{true}%
{%
\glsaccessshort{##1}%
}%
{%
\glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{##2}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsxtrlonghyphenshort{##1}%
{%
\glsifattribute{##1}{markwords}{true}%
{%
\Glsaccesslongpl{##1}%
}%
{%
\Glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{%
\glsifattribute{##1}{markshortwords}{true}%
{%
\glsaccessshortpl{##1}%
}%
{%
\glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{##2}%
}%
\renewcommand*{\GLSxtrinlinefullformat}[2]{%
\GLSxtrlonghyphenshort{##1}%
{%

```

```

\glsifattribute{##1}{markwords}{true}%
{%
  \GLSaccesslong{##1}%
}%
{%
  \GLSaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{%
  \glsifattribute{##1}{markshortwords}{true}%
  {%
    \GLSaccessshort{##1}%
  }%
  {%
    \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
  }%
}%
{##2}%
}%
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlonghyphenshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslongpl{##1}%
    }%
    {%
      \GLSaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshortpl{##1}%
    }%
    {%
      \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%

```

The first use full form only displays the long form.

```

\renewcommand*{\glsxtrfullformat}[2]{%
  \glsxtrlonghyphennoshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslong{##1}%
    }%
  }%

```

```

    {%
      \glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsxtrlonghyphennoshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslongpl{##1}%
    }%
    {%
      \glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsxtrlonghyphennoshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \Glsaccesslong{##1}%
    }%
    {%
      \Glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsxtrlonghyphennoshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \Glsaccesslongpl{##1}%
    }%
    {%
      \Glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrlonghyphennoshort{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%

```

```

        \GLSaccesslong{##1}%
    }%
    {%
        \GLSaccessfmtlong{}{\glstrgenentrytextfmt}{##1}%
    }%
}%
{##2}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \GLSxtrlonghyphennoshort{##1}%
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \GLSaccesslongpl{##1}%
        }%
        {%
            \GLSaccessfmtlongpl{}{\glstrgenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%

```

The format for subsequent use (not used when the regular attribute is set).

```

\renewcommand*\glstrsubsequentfmt}[2]{%
    \glstrlonghyphennoshort{##1}%
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \glsaccesslong{##1}%
        }%
        {%
            \glSaccessfmtlong{}{\glstrgenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%
\renewcommand*\glstrsubsequentplfmt}[2]{%
    \glstrlonghyphennoshort{##1}%
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \glsaccesslongpl{##1}%
        }%
        {%
            \glSaccessfmtlongpl{}{\glstrgenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%

```



```

\glxtrlonghyphennoshort{##1}%
{%
  \glrifattribute{##1}{markwords}{true}%
  {%
    \Glsaccesslong{##1}%
  }%
  {%
    \Glsaccessfmtlong{}{\glxtrgenentrytextfmt}{##1}%
  }%
}%
{##2}%
}%
\renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
  \glxtrlonghyphennoshort{##1}%
  {%
    \glrifattribute{##1}{markwords}{true}%
    {%
      \Glsaccesslongpl{##1}%
    }%
    {%
      \Glsaccessfmtlongpl{}{\glxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentfmt}[2]{%
  \GLSxtrlonghyphennoshort{##1}%
  {%
    \glrifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslong{##1}%
    }%
    {%
      \GLSaccessfmtlong{}{\glxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentplfmt}[2]{%
  \GLSxtrlonghyphennoshort{##1}%
  {%
    \glrifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslongpl{##1}%
    }%
    {%
      \GLSaccessfmtlongpl{}{\glxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}

```

```
    }%
  }
```

`\glxtrlonghyphennoshortsort`

```
\newcommand*\glxtrlonghyphennoshortsort{\expandonce\glxtrorgshort}
```

`long-hyphen-noshort-noreg` It doesn't really make a great deal of sense to have a long-only style that doesn't have a description (unless no glossary is required), but the best course of action here is to use the short form as the name and the long form as the description.

```
\newabbreviationstyle{long-hyphen-noshort-noreg}%
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*\CustomAbbreviationFields{%
  name={\glxtrlongnoshortname},
  sort={\glxtrlonghyphennoshortsort},
  first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
  firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
  text={\protect\glslonghyphenfont{\the\glslongtok}},%
  plural={\protect\glslonghyphenfont{\the\glslongpltok}},%
  description={\the\glslongtok}%
}%
```

Unset the regular attribute if it has been set.

```
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
```

```
}%
{%
```

```
\GlsXtrUseAbbrStyleFmts{long-hyphen-noshort-desc-noreg}%
```

```
}
```

```
\glxtrlonghyphen{<long>}{<label>}{<insert>}
```

`\glxtrlonghyphen`

Used by `long-hyphen-postshort-hyphen`. The *<insert>* is check to determine if it starts with a hyphen but isn't used here as it's moved to the post-link hook.

The *<long>* argument will need to include the inner format.

```
\newcommand*\glxtrlonghyphen[3]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

```

\glxtrifhyphenstart{#3}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
\glsfirstlonghyphenfont{#1}%
}%
}

```

```
\glxtrposthyphenshort{<label>}{<insert>}
```

`\glxtrposthyphenshort`

Used in the post-link hook for the long-hyphen-postshort-hyphen style. Much like `\glxtrlonghyphenshort` but omits the *<long>* part. This always uses the singular short form.

```

\newcommand*{\glxtrposthyphenshort}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \ifglxtrininsertinside
      {\glsfirstlonghyphenfont{\glxtrgenentrytextfmt{#2}}}%
    \else
      {\glxtrgenentrytextfmt{#2}}%
    \fi
    \glxtrfullsep{#1}%
    \glxtrparen
    {%
      \glxtrshortformat{#1}{#2}{\glsfirstabbrvhyphenfont}%
    }%
  }%
}

```

`\GLSxtrposthyphenshort` As above but all caps.

```

\newcommand*{\GLSxtrposthyphenshort}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \ifglxtrininsertinside
      {\glsfirstlonghyphenfont{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
    \else
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}%
    \fi
    \glxtrfullsep{#1}%
    \glxtrparen
    {%
      \GLSxtrshortformat{#1}{#2}{\glsfirstabbrvhyphenfont}%
    }%
  }%
}

```

`\glxtrposthyphenshortpl` As above but plural.

```

\newcommand*{\glxtrposthyphenshortpl}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \ifglxtrininsertinside

```

```

        {\glsfirstlonghyphenfont{\glsxtrgenentrytextfmt{#2}}}%
    \else
        {\glsxtrgenentrytextfmt{#2}}%
    \fi
    \glsxtrfullsep{#1}%
    \glsxtrparen
    {%
        \glsxtrshortplformat{#1}{#2}{\glsfirstabbrvhyphenfont}%
    }%
}%
}

```

`\GLSxtrposthyphenshortpl` As above but all caps.

```

\newcommand*{\GLSxtrposthyphenshortpl}[2]{%
    {%
        \glsxtrifhyphenstart{#2}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
        \ifglsxtrinertinside
            {\glsfirstlonghyphenfont{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}}%
        \else
            {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
        \fi
        \glsxtrfullsep{#1}%
        \glsxtrparen
        {%
            \GLSxtrshortplformat{#1}{#2}{\glsfirstabbrvhyphenfont}%
        }%
    }%
}

```

`\xpGLSxtrposthyphenshort` Expand placeholders and check for all caps.

```

\newcommand*{\xpGLSxtrposthyphenshort}{%
    \glsxtrifallcaps
    {%
        \expandafter\GLSxtrposthyphenshort\expandafter\glslabel
        \expandafter{\glsinsert}%
    }%
    {%
        \expandafter\glsxtrposthyphenshort\expandafter\glslabel
        \expandafter{\glsinsert}%
    }%
}

```

```
\glsxtrposthyphensubsequent{<label>}{<insert>}
```

`\glsxtrposthyphensubsequent`

Format in the post-link hook for subsequent use. The label is ignored by default. This just does the insert part with appropriate formatting.

```

\newcommand*{\glsxtrposthyphensubsequent}[2]{%
    \ifglsxtrinertinside

```

```

        \glsabbrvfont{\glsxtrgenentrytextfmt{#2}}}%
    \else
        {\glsxtrgenentrytextfmt{#2}}}%
    \fi
}

```

`\GLSxtrposthyphensubsequent` As above but all caps.

```

\newcommand*\GLSxtrposthyphensubsequent[2]{%
  \ifglsxtrinsetinside
    \glsabbrvfont{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
  \else
    {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
  \fi
}

```

`\xpglsxtrposthyphensubsequent` Expand placeholders and check for all caps.

```

\newcommand*\xpglsxtrposthyphensubsequent{%
  \glsxtrifallcaps
  {%
    \expandafter\GLSxtrposthyphensubsequent\expandafter\glslabel
      \expandafter{\glsinsert}%
  }%
  {%
    \expandafter\glsxtrposthyphensubsequent\expandafter\glslabel
      \expandafter{\glsinsert}%
  }%
}

```

```
\glsxtrshorthyphennoinsert{<label>}{<short>}{<insert>}
```

`\glsxtrshorthyphennoinsert`

As with `\glsxtrshorthyphennoinsert` but doesn't actually show the insert.

```
\newcommand*\glsxtrshorthyphennoinsert[3]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

If `<insert>` starts with a hyphen, redefine `\glsxtrwordsep` to a hyphen.

```
\glsxtrifhyphenstart{#3}{\let\glsxtrwordsep\glsxtrwordsephyphen}{%
```

```
\glsfirstabbrvhyphenfont{#2}}%
```

```
}%
```

```
}
```

`\long-hyphen-postshort-hyphen` Like `\long-hyphen-short-hyphen` but shifts the insert and parenthetical material to the post-link hook.

```
\newabbreviationstyle{long-hyphen-postshort-hyphen}%
```

```
{%
```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrlongshortname},
  sort={\glxtrlonghyphensort},
  first={\protect\glxfirstlonghyphenfont{\the\glslongtok}},%
  firstplural={\protect\glxfirstlonghyphenfont{\the\glslongpltok}},%
  text={\protect\glxabbrvhyphenfont{\the\glsshorttok}},%
  plural={\protect\glxabbrvhyphenfont{\the\glsshortpltok}},%
  description={\protect\glxlonghyphenfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \csdef{glxtrpostlink\glscategorylabel}{%
    \glxtrifwasfirstuse
    {%
      \xpglxtrposthyphenshort
    }%
    {%
```

Put the insertion into the post-link:

```
      \xpglxtrposthyphensubsequent
    }%
  },
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*{\glxabbrvfont}[1]{\glxabbrvhyphenfont{##1}}%
\renewcommand*{\glxfirstabbrvfont}[1]{\glxfirstabbrvhyphenfont{##1}}%
\renewcommand*{\glxfirstlongfont}[1]{\glxfirstlonghyphenfont{##1}}%
\renewcommand*{\glxlongfont}[1]{\glxlonghyphenfont{##1}}%
```

Subsequent use needs to omit the insertion but it needs to perform the space-hyphen substitution:

```
\renewcommand*{\glxtrsubsequentfmt}[2]{%
  \glxtrshorthyphennoinsert{##1}%
  {%
    \glxifattribute{##1}{markshortwords}{true}%
    {%
      \glxaccessshort{##1}%
    }%
    {%
      \glxaccessfmtshort{\glxtrgenentrytextfmt}{##1}%
    }%
  }%
}
```

```

    {##2}%
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshort{##1}%
    }%
    {%
      \Glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshortpl{##1}%
    }%
    {%
      \Glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshort{##1}%
    }%
    {%
      \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}

```

```

    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshortpl{##1}%
    }%
    {%
      \GLSaccessfmtshortpl}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%

```

First use full form:

```

\renewcommand*{\glsxtrfullformat}[2]{%
  \glsxtrlonghyphen
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslong{##1}%
    }%
    {%
      \glsaccessfmtlong}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##1}{##2}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsxtrlonghyphen
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslongpl{##1}%
    }%
    {%
      \glsaccessfmtlongpl}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##1}{##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \glsxtrlonghyphen
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%

```



```

        \Glsaccesslong{##1}%
    }%
    {%
        \Glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
}%
{##1}{##2}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
    \glsxtrlonghyphen
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \Glsaccesslongpl{##1}%
        }%
        {%
            \Glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }%
    {##1}{##2}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \glsxtrlonghyphen
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \GLSaccesslong{##1}%
        }%
        {%
            \GLSaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }%
    {##1}{##2}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \glsxtrlonghyphen
    {%
        \glsifattribute{##1}{markwords}{true}%
        {%
            \GLSaccesslongpl{##1}%
        }%
        {%
            \GLSaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }%
    {##1}{##2}%
}%

```

In-line format.

```
\renewcommand*\glsxtrinlinefullformat}[2]{%
```

```

    \glxtrlongformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
\renewcommand*{\glxtrinlinelinefullplformat}[2]{%
    \glxtrlongplformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
\renewcommand*{\Glsxtrinlinelinefullformat}[2]{%
    \Glsxtrlongformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
\renewcommand*{\Glsxtrinlinelinefullplformat}[2]{%
    \Glsxtrlongplformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
\renewcommand*{\GLSxtrinlinelinefullformat}[2]{%
    \GLSxtrlongformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
\renewcommand*{\GLSxtrinlinelinefullplformat}[2]{%
    \GLSxtrlongplformatgrp{##1}{##2}{\glsfirstlonghyphenfont}%
}%
}

```

hyphen-postshort-hyphen-desc Like long-hyphen-postshort-hyphen but the description must be supplied by the user.

```

\newabbreviationstyle{long-hyphen-postshort-hyphen-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongshortdescname},
    sort={\glxtrlongshortdescsort},%
    first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
    text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
        \glxtrifwasfirstuse
        {%
            \xpglxtrposthyphenshort
        }%
        {%

```

Put the insertion into the post-link:

```

            \xpglxtrposthyphensubsequent
        }%
    }%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
        \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%

```

```

    }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-hyphen-postshort-hyphen}%
}

```

```
\glsxtrshorthyphenlong{<label>}{<short>}{<long>}{<insert>}
```

`\glsxtrshorthyphenlong`

The *<long>* and *<short>* arguments may be the plural form. The *<long>* argument may also be the first letter uppercase form.

As with `\glsxtrlonghyphenshort` this doesn't fit in with the new `\glsxtrshortformat` so the inserted part has to have a separate encapsulation for the inner format. The *<long>* argument will need to include the inner format.

```
\newcommand*{\glsxtrshorthyphenlong}[4]{%
```

Grouping is needed to localise the redefinitions.

```
{%
```

If *<insert>* starts with a hyphen, redefine `\glsxtrwordsep` to a hyphen. The inserted material is also inserted into the parenthetical part. (The inserted material is grouped as a precautionary measure.)

```

  \glsxtrifhyphenstart{#4}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
  \glsfirstabbrvhyphenfont{#2\ifglsxtrininsertinside
    {\glsxtrgenentrytextfmt{#4}}\fi}%
  \ifglsxtrininsertinside\else{\glsxtrgenentrytextfmt{#4}}\fi
  \glsxtrfullsep{#1}%
  \glsxtrparen{\glsfirstlonghyphenfont{#3%
    \ifglsxtrininsertinside{\glsxtrgenentrytextfmt{#4}}\fi}%
    \ifglsxtrininsertinside\else{\glsxtrgenentrytextfmt{#4}}\fi}%
  }%
}

```

`\GLSxtrshorthyphenlong` As above but convert insert to all-caps. The long and short form arguments should be provided as all-caps.

```

\newcommand*{\GLSxtrshorthyphenlong}[4]{%
  {%
    \glsxtrifhyphenstart{#4}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
    \glsfirstabbrvhyphenfont{#2\ifglsxtrininsertinside
      {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#4}}}\fi}%
    \ifglsxtrininsertinside\else
      {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#4}}}%
    \fi
    \glsxtrfullsep{#1}%
    \glsxtrparen{\glsfirstlonghyphenfont{#3%
      \ifglsxtrininsertinside{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#4}}}\fi}%
      \ifglsxtrininsertinside\else

```

```

        {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#4}}}%
        \fi}%
    }%
}

```

`\glxtrshorthyphenlongsort`

```
\newcommand*{\glxtrshorthyphenlongsort}{\expandonce\glxtrorgshort}
```

`short-hyphen-long-hyphen` Designed for use with the `markwords` attribute.

```
\newabbreviationstyle{short-hyphen-long-hyphen}%
{%
```

Set accessibility attributes if enabled.

```
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrshortlongname},
sort={\glxtrshorthyphenlongsort},
first={\protect\glxtrfirstabbrvhyphenfont{\the\glsshorttok}}%
\protect\glxtrfullsep{\the\glslabeltok}}%
\protect\glxtrparen{\protect\glxtrfirstlonghyphenfont{\the\glslongtok}}},%
firstplural={\protect\glxtrfirstabbrvhyphenfont{\the\glsshortpltok}}%
\protect\glxtrfullsep{\the\glslabeltok}}%
\protect\glxtrparen{\protect\glxtrfirstlonghyphenfont{\the\glslongpltok}}},%
text={\protect\glxtrabbrvhyphenfont{\the\glsshorttok}},%
plural={\protect\glxtrabbrvhyphenfont{\the\glsshortpltok}},%
description={\protect\glxtrlonghyphenfont{\the\glslongtok}}}%

```

Unset the regular attribute if it has been set.

```
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}}%
\glxtrsetcomplexstyle{\the\glslabeltok}{3}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}}%
}%
{}%
}%

```

```
{%
```

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrhyphensuffix}%
\renewcommand*{\glxtrabbrvfont}[1]{\glxtrabbrvhyphenfont{##1}}%
\renewcommand*{\glxtrfirstabbrvfont}[1]{\glxtrfirstabbrvhyphenfont{##1}}%
\renewcommand*{\glxtrfirstlongfont}[1]{\glxtrfirstlonghyphenfont{##1}}%
\renewcommand*{\glxtrlongfont}[1]{\glxtrlonghyphenfont{##1}}%

```

The first use full form and the inline full form are the same for this style.

```
\renewcommand*{\glxtrfullformat}[2]{%
\glxtrshorthyphenlong{##1}}%
{%
```

```

\glsifattribute{##1}{markshortwords}{true}%
{%
  \glsaccessshort{##1}%
}%
{%
  \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{%
  \glsifattribute{##1}{markwords}{true}%
  {%
    \glsaccesslong{##1}%
  }%
  {%
    \glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
  }%
}%
{##2}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{marklongwords}{true}%
    {%
      \glsaccesslongpl{##1}%
    }%
    {%
      \glsaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshort{##1}%
    }%
    {%
      \Glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%

```

```

    }%
  }%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \glsaccesslong{##1}%
    }%
    {%
      \glsaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshortpl{##1}%
    }%
    {%
      \Glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshort{##1}%
    }%
    {%
      \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslong{##1}%
    }%
  }%
  {##2}%
}%

```

```

    }%
    {%
      \GLSaccessfmtlong{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
  \GLSxtrshorthyphenlong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshortpl{##1}%
    }%
    {%
      \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {%
    \glsifattribute{##1}{markwords}{true}%
    {%
      \GLSaccesslongpl{##1}%
    }%
    {%
      \GLSaccessfmtlongpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%

```

Subsequent form also needs checking for a hyphen in case the short form has spaces.

```

\renewcommand*{\glsxtrsubsequentfmt}[2]{%
  \glsxtrshorthyphennolong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshort{##1}%
    }%
    {%
      \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*{\glsxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennolong{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%

```

```

        \glsaccessshortpl{##1}%
    }%
    {%
        \glsaccessfmtshortpl{}{\glsxrigenentrytextfmt}{##1}%
    }%
}%
{##2}%
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
    \glsxtrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \Glsaccessshort{##1}%
        }%
        {%
            \Glsaccessfmtshort{}{\glsxrigenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
    \glsxtrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \Glsaccessshortpl{##1}%
        }%
        {%
            \Glsaccessfmtshortpl{}{\glsxrigenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
    \GLSxtrshorthyphennolong{##1}%
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \GLSaccessshort{##1}%
        }%
        {%
            \GLSaccessfmtshort{}{\glsxrigenentrytextfmt}{##1}%
        }%
    }%
    {##2}%
}%
\renewcommand*\GLSxtrsubsequentplfmt}[2]{%
    \GLSxtrshorthyphennolong{##1}%
    {%

```



```

\glsifattribute{##1}{markshortwords}{true}%
{%
  \GLSaccessshortpl{##1}%
}%
{%
  \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
}%
}%
{##2}%
}%
}

```

short-hyphen-long-hyphen-desc Like short-hyphen-long-hyphen but the description must be supplied by the user.

```

\newabbreviationstyle{short-hyphen-long-hyphen-desc}%
{%

```

Set accessibility attributes if enabled.

```

\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrshortlongdescname},
  sort={\glsxtrshortlongdescsort},
  first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}}%
  \protect\glsxtrfullsep{\the\glslabeltok}}%
  \protect\glsxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongtok}}},%
  firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}}%
  \protect\glsxtrfullsep{\the\glslabeltok}}%
  \protect\glsxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongpltok}}},%
  text={\protect\glsabbrvhyphenfont{\the\glsshorttok}}},%
  plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}}%
}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsxtrsetcomplexstyle{\the\glslabeltok}{3}%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glsattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-hyphen-long-hyphen}%
}

```

```

\glsxtrshorthyphen{<short>}{<label>}{<insert>}

```

\glsxtrshorthyphen

Used by `short-hyphen-postlong-hyphen`. The *insert* is checked to determine if it starts with a hyphen but isn't used here as it's moved to the post-link hook.

```
\newcommand*\glsxtrshorthyphen}[3]{%
```

Grouping is needed to localise the redefinitions.

```
{%
  \glsxtrifhyphenstart{#3}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
  \glsfirstabbrvhyphenfont{#1}%
}%
}
```

```
\glsxtrposthyphenlong{<label>}{<insert>}
```

`\glsxtrposthyphenlong`

Used in the post-link hook for the `short-hyphen-postlong-hyphen` style. Much like `\glsxtrshorthyphenlong` but omits the *short* part. This always uses the singular long form.

```
\newcommand*\glsxtrposthyphenlong}[2]{%
  {%
    \glsxtrifhyphenstart{#2}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
    \ifglsxtrininsertinside
      {\glsfirstabbrvhyphenfont{\glsxtrgenentrytextfmt{#2}}}%
    \else
      {\glsxtrgenentrytextfmt{#2}}%
    \fi
    \glsxtrfullsep{#1}%
    \glsxtrparen
      {\glsxtrlongformatgrp{#1}{#2}{\glsfirstlonghyphenfont}}%
  }%
}
```

`\GLSxtrposthyphenlong` As above but all-caps.

```
\newcommand*\GLSxtrposthyphenlong}[2]{%
  {%
    \glsxtrifhyphenstart{#2}{\let\glsxtrwordsep\glsxtrwordsephyphen}{}%
    \ifglsxtrininsertinside
      {\glsfirstabbrvhyphenfont{\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}}%
    \else
      {\mfirstucMakeUppercase{\glsxtrgenentrytextfmt{#2}}}%
    \fi
    \glsxtrfullsep{#1}%
    \GLSxtrparen
      {\GLSxtrlongformatgrp{#1}{#2}{\glsfirstlonghyphenfont}}%
  }%
}
```

Plural versions in case they are required.

`\glsxtrposthyphenlongpl`

```

\newcommand*{\glxtrposthyphenlongpl}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \ifglxtrininsertinside
      {\glsfirstabbrvhyphenfont{\glxtrgenentrytextfmt{#2}}}%
    \else
      {\glxtrgenentrytextfmt{#2}}%
    \fi
    \glxtrfullsep{#1}%
    \glxtrparen
      {\glxtrlongplformatgrp{#1}{#2}{\glsfirstlonghyphenfont}}%
  }%
}

```

`\GLSxtrposthyphenlongpl` As above but all-caps.

```

\newcommand*{\GLSxtrposthyphenlongpl}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\let\glxtrwordsep\glxtrwordsephyphen}{}%
    \ifglxtrininsertinside
      {\glsfirstabbrvhyphenfont{\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}}%
    \else
      {\mfirstucMakeUppercase{\glxtrgenentrytextfmt{#2}}}%
    \fi
    \glxtrfullsep{#1}%
    \glxtrparen
      {\GLSxtrlongplformatgrp{#1}{#2}{\glsfirstlonghyphenfont}}%
  }%
}

```

`\xpglxtrposthyphenlong` Expand placeholders and check for all caps.

```

\newcommand*{\xpglxtrposthyphenlong}{%
  \glxtrifallcaps
  {%
    \expandafter\GLSxtrposthyphenlong\expandafter\glslabel
      \expandafter{\glsininsert}%
  }%
  {%
    \expandafter\glxtrposthyphenlong\expandafter\glslabel
      \expandafter{\glsininsert}%
  }%
}

```

`\short-hyphen-postlong-hyphen` Like `\short-hyphen-long-hyphen` but shifts the insert and parenthetical material to the post-link hook.

```

\newabbreviationstyle{short-hyphen-postlong-hyphen}%
{%

```

Set accessibility attributes if enabled.

```

\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel

```

Setup the default fields.

```
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrshortlongname},
  sort={\glxtrshorthyphenlongsort},
  first={\protect\glxfirstabbrvhyphenfont{\the\glsshorttok}},%
  firstplural={\protect\glxfirstabbrvhyphenfont{\the\glsshortpltok}},%
  text={\protect\glxabbrvhyphenfont{\the\glsshorttok}},%
  plural={\protect\glxabbrvhyphenfont{\the\glsshortpltok}},%
  description={\protect\glxlonghyphenfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \csdef{glxtrpostlink\glscategorylabel}{%
    \glxtrifwasfirstuse
    {%
      \xpglxtrposthyphenlong
    }%
    {%
```

Put the insertion into the post-link:

```
      \xpglxtrposthyphensubsequent
    }%
  },
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
```

In case the user wants to mix and match font styles, these are redefined here.

```
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*{\glxabbrvfont}[1]{\glxabbrvhyphenfont{##1}}%
\renewcommand*{\glxfirstabbrvfont}[1]{\glxfirstabbrvhyphenfont{##1}}%
\renewcommand*{\glxfirstlongfont}[1]{\glxfirstlonghyphenfont{##1}}%
\renewcommand*{\glxlongfont}[1]{\glxlonghyphenfont{##1}}%
```

Subsequent use needs to omit the insertion but it needs to perform the space-hyphen substitution:

```
\renewcommand*{\glxtrsubsequentfmt}[2]{%
  \glxtrshorthyphennoinsert{##1}%
  {%
    \glxifattribute{##1}{markshortwords}{true}%
    {%
      \glxaccessshort{##1}%
    }%
    {%
      \glxaccessfmtshort{\glxtrgenentrytextfmt}{##1}%
    }%
  }%
}
```

```

    {##2}%
}%
\renewcommand*\glstrsubsequentplfmt}[2]{%
  \glstrshorthyphennoinsert{##1}%
  {%
    \glrifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glstrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\Glsrsubsequentfmt}[2]{%
  \glstrshorthyphennoinsert{##1}%
  {%
    \glrifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshort{##1}%
    }%
    {%
      \Glsaccessfmtshort{}{\glstrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\Glsrsubsequentplfmt}[2]{%
  \glstrshorthyphennoinsert{##1}%
  {%
    \glrifattribute{##1}{markshortwords}{true}%
    {%
      \Glsaccessshortpl{##1}%
    }%
    {%
      \Glsaccessfmtshortpl{}{\glstrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%
\renewcommand*\GLSxtrsubsequentfmt}[2]{%
  \glstrshorthyphennoinsert{##1}%
  {%
    \glrifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshort{##1}%
    }%
    {%
      \GLSaccessfmtshort{}{\glstrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}

```

```

    }%
  }%
  {##2}%
}%
\renewcommand*{\GLSxtrsubsequentplfmt}[2]{%
  \glsxtrshorthyphennoinsert{##1}%
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \GLSaccessshortpl{##1}%
    }%
    {%
      \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##2}%
}%

```

First use full form:

```

\renewcommand*{\glsxtrfullformat}[2]{%
  \glsxtrshorthyphen
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshort{##1}%
    }%
    {%
      \glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##1}{##2}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsxtrshorthyphen
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%
      \glsaccessshortpl{##1}%
    }%
    {%
      \glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
    }%
  }%
  {##1}{##2}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \glsxtrshorthyphen
  {%
    \glsifattribute{##1}{markshortwords}{true}%
    {%

```

```

        \Glsaccessshort{##1}%
    }%
    {%
        \Glsaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
    }%
}%
{##1}{##2}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
    \glsxtrshorthyphen
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \Glsaccessshortpl{##1}%
        }%
        {%
            \Glsaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }{##1}{##2}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
    \glsxtrshorthyphen
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \GLSaccessshort{##1}%
        }%
        {%
            \GLSaccessfmtshort{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }{##1}{##2}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
    \glsxtrshorthyphen
    {%
        \glsifattribute{##1}{markshortwords}{true}%
        {%
            \GLSaccessshortpl{##1}%
        }%
        {%
            \GLSaccessfmtshortpl{}{\glsxtrgenentrytextfmt}{##1}%
        }%
    }{##1}{##2}%
}%

```

In-line format. Commands like `\glsxtrfull` set `\glsinsert` to empty. The entire link-text (provided by the following commands) is stored in `\glscustomtext`. Note that unless the insert is saved, it won't appear in the post-link hook.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrshortformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrshorttplformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrshortformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrshorttplformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
\renewcommand*\GLSxtrinlinefullformat}[2]{%
  \GLSxtrshortformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
\renewcommand*\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrshorttplformatgrp{##1}{##2}{\glsfirstabbrvhyphenfont}%
}%
}

```

hyphen-postlong-hyphen-desc Like short-hyphen-postlong-hyphen but the description must be supplied by the user.

```

\newabbreviationstyle{short-hyphen-postlong-hyphen-desc}%
{%

```

Set accessibility attributes if enabled.

```

  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrshortlongdescname},
  sort={\glsxtrshortlongdescsort},%
  first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}},%
  firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}},%
  text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}%
}%

```

```

\renewcommand*\GlsXtrPostNewAbbreviation{%
  \csdef{glsxtrpostlink\glscategorylabel}{%
    \glsxtrifwasfirstuse
    {%
      \xpLgsxtrposthyphenlong
    }%
  }%
}

```

Put the insertion into the post-link:

```

  \xpLgsxtrposthyphensubsequent
}%
\glsattribute{\the\glslabeltok}{regular}%
{%

```



```

        \glsssetattribute{\the\glslabeltok}{regular}{false}%
      }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-hyphen-postlong-hyphen}%
}

```

## 2.7 Predefined Styles (No Short on First Use)

These styles show only the long form on first use and only the short form on subsequent use.

```

\glsabbrvonlyfont
  \newcommand*\glsabbrvonlyfont{\glsabbrvdefaultfont}%

\glsfirstabbrvonlyfont
  \newcommand*\glsfirstabbrvonlyfont{\glsabbrvonlyfont}%

\glslongonlyfont
  \newcommand*\glslongonlyfont{\glslongdefaultfont}%

\glsfirstlongonlyfont
  \newcommand*\glsfirstlongonlyfont{\glslongonlyfont}%

```

The default short form suffix:

```

\glsxtronlysuffix
  \newcommand*\glsxtronlysuffix{\glsxtrabbrvpluralsuffix}

\glsxtronlyname The default name format for this style.
  \newcommand*\glsxtronlyname{%
    \protect\glsabbrvonlyfont{\the\glsshorttok}%
  }

long-only-short-only
  \newabbreviationstyle{long-only-short-only}%
  {%

```

Set accessibility attributes if enabled.

```
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
```

Setup the default fields.

```

\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtronlyname},
  sort={\the\glsshorttok},
  first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},%
  firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},%
  text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
  plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}},%
  description={\protect\glslongonlyfont{\the\glslongtok}}}%

```

Unset the regular attribute if it has been set.

```

\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
}%
{}%
}%
{}%

\renewcommand*\abbrvpluralsuffix{\glsxtronlysuffix}%
\renewcommand*\glsabbrvfont}[1]{\glsabbrvonlyfont{##1}}%
\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvonlyfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongonlyfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongonlyfont{##1}}%

```

The first use full form doesn't show the short form.

```

\renewcommand*\glsxtrfullformat}[2]{%
  \glsxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%

```

The inline full form does show the short form.

```

\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%

```

```

}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%
\renewcommand*{\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvonlyfont}%
}%
}
}

\glsxtronlydescsort
\newcommand*{\glsxtronlydescsort}{\the\glslongtok}

\glsxtronlydescname
\newcommand*{\glsxtronlydescname}{%
  \protect\glslongfont{\the\glslongtok}%
}

long-only-short-only-desc
\newabbreviationstyle{long-only-short-only-desc}%
{%
Set accessibility attributes if enabled.
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
Setup the default fields.
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtronlydescname},
    sort={\glsxtronlydescsort},%
    first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},%
    firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},%
    text={\glsxpabbrvfont{\the\glsshorttok}{\glscategorylabel}},%
    plural={\glsxpabbrvfont{\the\glsshortpltok}{\glscategorylabel}}%
  }%
Unset the regular attribute if it has been set.
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-only-short-only}%
}

```

}

Small-caps is awkward, so support for that is added.

`\glsabbrvsconlyfont`

`\newcommand*{\glsabbrvsconlyfont}{\glsabbrvsfont}`%

`\glsfirstabbrvsconlyfont`

`\newcommand*{\glsfirstabbrvsconlyfont}{\glsabbrvsconlyfont}`%

The default short form suffix:

`\glsxtrsconlysuffix`

`\newcommand*{\glsxtrsconlysuffix}{\glsxtrscsuffix}`

`\glsxtrsconlyrevert`

`\newcommand*{\glsxtrsconlyrevert}{\glsxtrscerevert}`

`\glsxtrsconlyname` The default name format for this style.

`\newcommand*{\glsxtrsconlyname}{%`  
`\protect\glsabbrvsconlyfont{\the\glsshorttok}}%`  
`}`

`long-only-short-sc-only`

`\newabbreviationstyle{long-only-short-sc-only}`  
`{%`

Set accessibility attributes if enabled.

`\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel`

Setup the default fields.

`\renewcommand*{\CustomAbbreviationFields}{%`  
`name={\glsxtrsconlyname},`  
`sort={\the\glsshorttok},`  
`first={\glsfirstxplongfont{\the\glslongtok}{\glscategorylabel}},%`  
`firstplural={\glsfirstxplongfont{\the\glslongpltok}{\glscategorylabel}},%`  
`text={\protect\glsabbrvsconlyfont{\the\glsshorttok}},%`  
`plural={\protect\glsabbrvsconlyfont{\the\glsshortpltok}},%`  
`description={\protect\glslongonlyfont{\the\glslongtok}}}`%

Unset the regular attribute if it has been set.

`\renewcommand*{\GlsXtrPostNewAbbreviation}{%`  
`\glsexclapplyinnerfmtfield{\the\glslabeltok}{desc}%`  
`\glshasattribute{\the\glslabeltok}{regular}%`  
`{%`  
`\glssetattribute{\the\glslabeltok}{regular}{false}%`  
`}%`  
`{}`  
`}%`

`}%`

`{%`

```

\renewcommand*{\abbrvpluralsuffix}{\glxtrsconlysuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvsconlyfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvsconlyfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongonlyfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongonlyfont{##1}}%
\renewcommand*{\glxtrrevert}[1]{\glxtrsconlyrevert{##1}}%

```

The first use full form doesn't show the short form.

```

\renewcommand*{\glxtrfullformat}[2]{%
  \glxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
  \glxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \Glsxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \Glsxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*{\GLSxtrfullformat}[2]{%
  \GLSxtrlongformat{##1}{##2}{\glsfirstlongonlyfont}%
}%
\renewcommand*{\GLSxtrfullplformat}[2]{%
  \GLSxtrlongplformat{##1}{##2}{\glsfirstlongonlyfont}%
}%

```

The inline full form does show the short form.

```

\renewcommand*{\glxtrinlinefullformat}[2]{%
  \glxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
  \glxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \Glsxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \Glsxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%
\renewcommand*{\GLSxtrinlinefullformat}[2]{%
  \GLSxtrlongshortformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%
\renewcommand*{\GLSxtrinlinefullplformat}[2]{%
  \GLSxtrlongshortplformat{##1}{##2}%
  {\glsfirstlongonlyfont}{\glsfirstabbrvsconlyfont}%
}%

```

```

    }%
  }
\glstrsconlydescsort
\newcommand*\glstrsconlydescsort{\glstronlydescsort}

\glstrsconlydescname
\newcommand*\glstrsconlydescname{\glstronlydescname}

long-only-short-sc-only-desc
\newabbreviationstyle{long-only-short-sc-only-desc}%
{%
Set accessibility attributes if enabled.
\glstrAccSuppAbbrSetTextShortAttrs\glscategorylabel
Setup the default fields.
\renewcommand*\CustomAbbreviationFields{%
  name={\glstrsconlydescname},
  sort={\glstrsconlydescsort},%
  first={\glstrfirstxplongfont{\the\glstrlongtok}{\glscategorylabel}},%
  firstplural={\glstrfirstxplongfont{\the\glstrlongpltok}{\glscategorylabel}},%
  text={\glstrxpabbrvfont{\the\glstrshorttok}{\glscategorylabel}},%
  plural={\glstrxpabbrvfont{\the\glstrshortpltok}{\glscategorylabel}}%
}%
Unset the regular attribute if it has been set.
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glshasattribute{\the\glstrlabeltok}{regular}%
  {%
    \glstrsetattribute{\the\glstrlabeltok}{regular}{false}%
  }%
  }%
}%
\GlsXtrUseAbbrStyleFmts{long-only-short-sc-only}%
}

```

### 3 Commands Specific to bib2gls (glossaries-extra-bib2gls.sty)

This package provides additional support for `bib2gls` and is automatically loaded by the `record` option.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossaries-extra-bib2gls-2021-11-22.sty}
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossaries-extra-bib2gls}[2025/01/03 v1.54 (NLCT)]
```

Provide convenient shortcut commands for predefined glossary types.

```
\printunsrtacronyms
```

```
\ifglsacronym
\providecommand*\printunsrtacronyms[1][1]{%
\printunsrtglossary[type=\acronymtype,#1]}%
\fi
```

```
\printunsrtindex
```

```
\ifglossaryexists{index}
{
\providecommand*\printunsrtindex[1][1]{%
\printunsrtglossary[type=index,#1]}%
}{}
```

```
\printunsrtsymbols
```

```
\ifglossaryexists{symbols}
{
\providecommand*\printunsrtsymbols[1][1]{%
\printunsrtglossary[type=symbols,#1]}%
}{}
```

```
\printunsrtnumbers
```

```
\ifglossaryexists{numbers}
{
\providecommand*\printunsrtnumbers[1][1]{%
\printunsrtglossary[type=numbers,#1]}%
}{}
```

```
\printunsrtabbreviations
```

```
\ifglossaryexists{abbreviations}
{
\providecommand*\printunsrtabbreviations[1][1]{%
\printunsrtglossary[type=abbreviations,#1]}%
}{}
```

```
\glsdisplaynumberlist Allow \glsdisplaynumberlist and make it robust.
```

```
\renewcommand*\glsdisplaynumberlist[1]{%
\glsdoifexists{#1}%
{%
\let\bibglsdelimN\glsnumlistsep
\let\bibglslastDelimN\glsnumlistlastsep
\glsxtrusefield{#1}{location}%
}%
}%
}
\robustify\glsdisplaynumberlist
```

```

\glsentrynumberlist
    \renewcommand*{\glsentrynumberlist}[1]{\glsxtrusefield{#1}{location}}

\IfTeXParserLib This is defined by the TEX parser library to behave like \@firstoftwo. May be
used to provide different code in fields that may be interpreted.
    \providecommand{\IfTeXParserLib}[2]{#2}

    The next command is similar but is specifically for bib2gls and won't in
    general be recognised by the TEX parser library if used by other applications
    (such as the converter tools provided with bib2gls).

\IfNotBibGls This is defined by the bib2gls interpreter to behave like \@secondoftwo.
    \providecommand{\IfNotBibGls}[2]{#1}

    These are some convenient macros for use with custom rules.

\glshex
    \newcommand*{\glshex}{\string\u}

\glsapturedgroup
    \newcommand*{\glsapturedgroup}{\string\$}

\glshashchar Expands to a literal hash character (similar to \glsbackslash)
    \ifdef\glshashchar
    {}
    {\edef\glshashchar{\expandafter@gobble\string\#}}

XtrResourceInitEscSequences Protect commands that shouldn't expand in resource options as they have a
special meaning in the context of those options. This command may be added
to the definition of \glsxtrresourceinit.
    \newcommand*{\GlsXtrResourceInitEscSequences}{%
    \def\u{\string\u}%
    \def\.\{\string\.\}%
    \def\{\{\string\}\}%
    \def\/{\string\/}%
    \def|{\string|}%
    \def&{\string&}%
    \def+{\string+}%
    \def<{\string<}%
    \def>{\string>}%
    \def*{\string*}%
    \def$\{\string\$}%
    \def~{\string~}%
    \def\~{\string~}%
    \def\({\string\}%
    \def\)}{\string\)}%
    \def\[{\string\[%
    \def\] {\string\]}%
    \def\"{\string\"}%

```



```

\def\-\{\string\-%
\def\?{\string?}%
\def\#{\string\#}%
\def\:{\string\:%
\def\cs##1{\glsbackslash##1}%
\def\CS{\string\CS}%
\def\NULL{\string\NULL\space}%
\def\IN{\string\IN\space}%
\def\NIN{\string\NIN\space}%
\def\PREFIXOF{\string\PREFIXOF\space}%
\def\NOTPREFIXOF{\string\NOTPREFIXOF\space}%
\def\SUFFIXOF{\string\SUFFIXOF\space}%
\def\NOTSUFFIXOF{\string\NOTSUFFIXOF\space}%
\def\LC{\string\LC}%
\def\UC{\string\UC}%
\def\FIRSTLC{\string\FIRSTLC}%
\def\FIRSTUC{\string\FIRSTUC}%
\def\TITLE{\string\TITLE}%
\def\MGP{\string\MGP}%
\def\LEN{\string\LEN}%
\def\TRIM{\string\TRIM}%
\def\INTERPRET{\string\INTERPRET}%
\def\LABELIFY{\string\LABELIFY}%
\def\LABELIFYLIST{\string\LABELIFYLIST}%
\def\CAT{\string\CAT}%
}

```

`\glsXtrIfHasNonZeroChildCount` For use with bib2gls's save-child-count resource option.

```

\newcommand*{\GlsXtrIfHasNonZeroChildCount}{%
  \ifstar\s@GlsXtrIfHasNonZeroChildCount\@GlsXtrIfHasNonZeroChildCount
}

```

`\GlsXtrIfHasNonZeroChildCount`

```

\newcommand*{\@GlsXtrIfHasNonZeroChildCount}[3]{%
  \@GlsXtrIfFieldNonZero{childcount}{#1}{#2}{#3}%
}

```

`\s@GlsXtrIfHasNonZeroChildCount`

```

\newcommand*{\s@GlsXtrIfHasNonZeroChildCount}[3]{%
  \s@GlsXtrIfFieldNonZero{childcount}{#1}{#2}{#3}%
}

```

`\glsxtrprovidecommand` For use in @preamble, this behaves like `\providecommand` in the document but like `\renewcommand` in bib2gls.

```

\newcommand*{\glsxtrprovidecommand}{\providecommand}

```

`\glsrenewcommand` Like `\renewcommand` but only generates a warning rather than an error if the command isn't defined.

```

\newcommand*{\glsrenewcommand}{\@star@or@long\glsxtr@renewcommand}

```

`\glsxtr@renewcommand`

```
\newcommand*{\glsxtr@renewcommand}[1]{%
\begingroup \escapechar\m@ne\xdef\@gtempa{\string#1}\endgroup
\expandafter\@ifundefined\@gtempa
  {%
    \GlossariesExtraWarning{can't redefine \noexpand#1(not already defined)}%
  }%
  \relax
  \relax
  \let\@ifdefinable\@rc@ifdefinable
  \new@command#1%
}
```

`\glsxtr@wrglossarylocation{<wr-loc>}{<page>}`

`\glsxtr@wrglossarylocation`

For use with `indexcounter` and `bib2gls`. This just expands to `<wr-loc>` to allow `\glsnoidxdisplayloc` to obtain the hyperlink target. The page number obtained when `bib2gls` parses the aux file.

```
\newcommand*{\glsxtr@wrglossarylocation}[2]{#1}
```

`\GlsXtrIndexCounterLink{<text>}{<label>}`

`\GlsXtrIndexCounterLink`

For use with `indexcounter` and `bib2gls`.

```
\ifdef\hyperref
{%
  \newcommand*{\GlsXtrIndexCounterLink}[2]{%
    \glsxtrifhasfield{indexcounter}{#2}%
    {\hyperref[wrglossary.\glscurrentfieldvalue]{#1}}%
    {#1}%
  }
}
{
  \newcommand*{\GlsXtrIndexCounterLink}[2]{#1}
}
```

`\GlsXtrDualField`

`\GlsXtrDualField`

The internal field used to store the dual label. The `dual-field` defaults to `dual` if no value is supplied so that's used as the default.

```
\newcommand*{\GlsXtrDualField}{dual}
```

`\GlsXtrDualBackLink{<text>}{<label>}`

`\GlsXtrDualBackLink`

Adds a hyperlink to the dual entry.

```
\newcommand*{\GlsXtrDualBackLink}[2]{%
  \glstrifhasfield{\GlsXtrDualField}{#2}%
  {\glshyperlink[#1]{\glscurrentfieldvalue}}%
  {#1}%
}
```

`\GlsXtrBibTeXEntryAliases` Convenient shortcut for use with entry-type-aliases to alias standard BIB<sub>T</sub><sub>E</sub><sub>X</sub> entry types to @bibtexentry.

```
\newcommand*{\GlsXtrBibTeXEntryAliases}{%
  article=bibtexentry,
  book=bibtexentry,
  booklet=bibtexentry,
  conference=bibtexentry,
  inbook=bibtexentry,
  incollection=bibtexentry,
  inproceedings=bibtexentry,
  manual=bibtexentry,
  mastersthesis=bibtexentry,
  misc=bibtexentry,
  phdthesis=bibtexentry,
  proceedings=bibtexentry,
  techreport=bibtexentry,
  unpublished=bibtexentry
}
```

`\GlsXtrProvideBibTeXFields` Convenient shortcut to define the standard BIB<sub>T</sub><sub>E</sub><sub>X</sub> fields.

```
\newcommand*{\GlsXtrProvideBibTeXFields}{%
  \glsaddstoragekey{address}{\glstrbibaddress}%
  \glsaddstoragekey{author}{\glstrbibauthor}%
  \glsaddstoragekey{booktitle}{\glstrbibbooktitle}%
  \glsaddstoragekey{chapter}{\glstrbibchapter}%
  \glsaddstoragekey{edition}{\glstrbibedition}%
  \glsaddstoragekey{howpublished}{\glstrbibhowpublished}%
  \glsaddstoragekey{institution}{\glstrbibinstitution}%
  \glsaddstoragekey{journal}{\glstrbibjournal}%
  \glsaddstoragekey{month}{\glstrbibmonth}%
  \glsaddstoragekey{note}{\glstrbibnote}%
  \glsaddstoragekey{number}{\glstrbibnumber}%
  \glsaddstoragekey{organization}{\glstrbiborganization}%
  \glsaddstoragekey{pages}{\glstrbibpages}%
  \glsaddstoragekey{publisher}{\glstrbibpublisher}%
  \glsaddstoragekey{school}{\glstrbibschooll}%
  \glsaddstoragekey{series}{\glstrbibseries}%
  \glsaddstoragekey{title}{\glstrbibtitle}%
  \glsaddstoragekey{bibtex-type}{\glstrbibtype}%
  \glsaddstoragekey{volume}{\glstrbibvolume}%
}
```

Multiple supplementary references are only supported with bib2gls.

`\glxtrmultisupplocation` This is like `\glxtrsupphypernumber` but the second argument is the external file name (which isn't obtained from the `externallocation` attribute). The third argument is the formatting (encap) control sequence *name*. This is ignored by default, but is set by `bib2gls` to the original encap in case it's required.

```
\newcommand*\glxtrmultisupplocation}[3]{%
  {%
    \def\glxtrsupplocationurl{#2}%
    \glshypernumber{#1}%
  }%
}
```

```
\glxtrdisplaysupploc{<prefix>}{<counter>}{<format>}{<src>}
{<location>}
```

`\glxtrdisplaysupploc`

This is like `\glsnoidxdisplayloc` but is used for supplementary locations and so requires an extra argument.

```
\newcommand*\glxtrdisplaysupploc[5]{%
  \setentrycounter[#1]{#2}%
  \glxtrmultisupplocation{#5}{#4}{#3}%
}
```

`\glxtr@setlocationanchor`

```
\ExplSyntaxOn
\cs_new:Npn \glxtr@setlocationanchor #1 #2
{
  \group_begin:
  \glswrglossdisableanchorcmds
  \exp_args:NNNe
  \group_end:
  \tl_set:Nn #1 { \text_purify:n { #2 } }
}
\ExplSyntaxOff
```

`\glxtrdisplaylocnameref` `\glxtrdisplaylocnameref{<prefix>}{<counter>}{<format>}{<location>}{<name>}{<href>}{<hcounter>}{<external file>}` Used with the `[nameref]record` package option. The `<href>` argument was obtained from `\@currentHref` and the `<hcounter>` argument was obtained from `\theHentrycounter`, which is more reliable. If `hyperref` hasn't been loaded, this just behaves like `\glsnoidxdisplayloc`.

```
\ifundef\hyperlink
{
  \newcommand*\glxtrdisplaylocnameref}[8]{%
    \glsnoidxdisplayloc{#1}{#2}{#3}{#4}%
  }
}
{
```

Default action uses `<hcounter>`. Equations and pages typically don't have a title, so check the counter name (otherwise the title may be the section or

chapter title, which can be confusing). As from v1.42, this now checks if the control sequence `\glstr<counter>locfmt` is defined. The prefix argument is redundant.

```
\newcommand*\glstrdisplaylocnameref}[8]{%
  \def\glstrrecentanchor{#6}%
  \glstr@setlocationanchor\glstrlocationanchor{#2.#7}%
```

Initialise `\glstractualanchor`:

```
\let\glstractualanchor\glstrlocationanchor
\glstrsetactualanchor{#2}%
\ifcsdef{glstr#2locfmt}%
  {\glstrnamerefink{#3}{\csuse{glstr#2locfmt}{#4}{#5}}{\glstractualanchor}{#8}}%
  {%
    \ifstrempy{#5}%
    {%
```

No title, so just use the location as the link text.

```
  \glstrnamerefink{#3}{#4}{\glstractualanchor}{#8}%
  }%
  {%
    \ifstrequal{#2}{page}%
    {\glstrnamerefink{#3}{#4}{\glstractualanchor}{#8}}%
    {\glstrtitlednamerefink{#3}{#4}{#5}{#8}}%
  }%
}%
}
```

`\glstractualanchor` Does nothing by default. May be redefined to override the default.

```
\newcommand{\glstrsetactualanchor}[1]{}
```

```
\glstrtitlednamerefink{<format>}{<location>}{<title>}
  {<file>}
```

`\glstrtitlednamerefink`

```
\newcommand{\glstrtitlednamerefink}[4]{%
  \glstrnamerefink{#1}{#2}{\glstrrecentanchor}{#4}%
}
```

```
\glxtreuationlocfmt{<location>}{<title>}
```

`\glxtreuationlocfmt`

```
\newcommand*\glxtreuationlocfmt}[2]{(#1)}
```

```
\glstrwrglossarylocfmt{<location>}{<title>}
```

`\glstrwrglossarylocfmt`

```

\newcommand*\glxtrwrglossarylocfmt}[2]{%
  {\@@glxtrwrglosscountermark{#1}%
  \let\glxtr@wrglossarylocation\@secondoftwo
  #1}%
}

```

```

\glxtrnamerefink{<format>}{<title>}{<href>}{<external
file>}

```

`\glxtrnamerefink`

```

\newcommand*\glxtrnamerefink}[4]{%

```

Locally change `\glshypernumber` to `\@firstofone` to remove the normal location hyperlink.

```

\begingroup
\let\glshypernumber\@firstofone

```

If the `<external file>` argument is empty, an internal link is used, otherwise an external one is needed.

```

\ifstrempy{#4}%
{\glxtrfmtinternalnameref{#3}{#1}{#2}}%
{\glxtrfmtexternalnameref{#3}{#1}{#2}{#4}}%
\endgroup
}

```

```

\glxtrnameloclink{<prefix>}{<counter>}{<format>}
{<location>}{<text>}{<external
file>}

```

`\glxtrnameloclink`

Like `\@gls@numberlink`, this creates a hyperlink to the target obtained from the prefix, counter and location but uses `<text>` as the hyperlink text. As with regular indexing, this will fail if the target name can't be formed by prefixing the location value.

```

\newcommand*\glxtrnameloclink}[6]{%
\begingroup
\setentrycounter[#1]{#2}%
\def\glxtr@locationhypertext{#5}%
\let\glshypernumber\@firstofone
\def\@glsnumberformat{#3}%
\def\glxtrsupplocationurl{#6}%
\toks@={}%
\@glxtr@bibgls@removespaces#4 \@nil
\endgroup
}

```

`\@glxtr@bibgls@removespaces`

```

\def\@glxtr@bibgls@removespaces#1 #2\@nil{%

```

```

\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\%

\edef\@glo@tmp{\the\toks@}%
\ifx\@glo@tmp\empty
\else
\protected@edef\@glo@tmp{\glsentrycounter\@glo@counterprefix\the\toks@}%
\ifdefvoid\glsxtrsupplocationurl
{%
\expandafter\glsxtrfmtinternalnameref\expandafter{\@glo@tmp}%
{\@glsnumberformat}{\glsxtr@locationhypertext}%
}%
{%
\expandafter\glsxtrfmtexternalnameref\expandafter{\@glo@tmp}%
{\@glsnumberformat}{\glsxtr@locationhypertext}{\glsxtrsupplocationurl}%
}%
\fi
\else
\@gls@ReturnAfterFi{%
\@glsxtr@bibgls@removespaces#2\@nil
}%
\fi
}

```

`\glsxtrfmtinternalnameref`

```
\glsxtrfmtinternalnameloc{<target>}{<format>}{<title>}
```

```

\newcommand*{\glsxtrfmtinternalnameref}[3]{%
\csuse{#2}{\glsdohyperlink{#1}{#3}}%
}

```

`\glsxtrfmtexternalnameref`

```
\glsxtrfmtexternalnameloc{<target>}{<format>}{<title>}
{<file>}
```

```

\newcommand*{\glsxtrfmtexternalnameref}[4]{%
\csuse{#2}{\hyperref{#4}{#1}{#3}}%
}

```

`\glsxtrSetWidest`

```
\glsxtrSetWidest{<type>}{<level>}{<text>}
```

As from bib2gls v1.8, this is used by the `set-widest` resource option for the `alttree` and the styles provided by the `glossary-longextra` package.

```
\newcommand*{\glsxtrSetWidest}[3]{%
```

Check which style options have been provided. (The style packages may not have been loaded.)

```

\ifdef\glsupdatewidest
{%
  \ifdef\glslongextraUpdateWidest
  {%

```

Relevant style packages all loaded. If the  $\langle type \rangle$  has been given, append to glossary preamble.

```

  \ifstrempy{#1}
  {%
    \glsupdatewidest[#2]{#3}%
    \ifnum#2=0\relax
      \glslongextraUpdateWidest{#3}%
    \else
      \glslongextraUpdateWidestChild{#2}{#3}%
    \fi
  }%
  {%
    \apptoglossarypreamble[#1]{\glsupdatewidest[#2]{#3}}%
    \ifnum#2=0\relax
      \apptoglossarypreamble[#1]{\glslongextraUpdateWidest{#3}}%
    \else
      \apptoglossarypreamble[#1]{\glslongextraUpdateWidestChild{#2}{#3}}%
    \fi
  }%
}%
{%

```

Only altree.

```

  \ifstrempy{#1}
  {%
    \glsupdatewidest[#2]{#3}%
  }%
  {%
    \apptoglossarypreamble[#1]{\glsupdatewidest[#2]{#3}}%
  }%
}%
{%

```

$\backslash\text{glsupdatewidest}$  hasn't been defined. This could just mean that the `glossaries-extra-stylemods` package hasn't been loaded.

```

\ifdef\glssetwidest
{%
  \ifdef\glslongextraUpdateWidest
  {%

```

Relevant `glossary-tree` and `glossary-longextra` have been loaded. If the  $\langle type \rangle$  has been given, append to glossary preamble.

```

  \ifstrempy{#1}
  {%
    \glssetwidest[#2]{#3}%

```



```

\ifnum#2=0\relax
  \glslongextraUpdateWidest{#3}%
\else
  \glslongextraUpdateWidestChild{#2}{#3}%
\fi
}%
{%
\apptoglossarypreamble[#1]{\glssetwidest[#2]{#3}}%
\ifnum#2=0\relax
  \apptoglossarypreamble[#1]{\glslongextraUpdateWidest{#3}}%
\else
  \apptoglossarypreamble[#1]{\glslongextraUpdateWidestChild{#2}{#3}}%
\fi
}%
}%
{%

```

Only alttree.

```

\ifstrempy{#1}
{%
  \glssetwidest[#2]{#3}%
}%
{%
  \apptoglossarypreamble[#1]{\glssetwidest[#2]{#3}}%
}%
}%
}%
{%
\ifdef\glslongextraUpdateWidest
{%

```

glossary-longextra has been loaded.

```

\ifstrempy{#1}
{%
  \ifnum#2=0\relax
    \glslongextraUpdateWidest{#3}%
  \else
    \glslongextraUpdateWidestChild{#2}{#3}%
  \fi
}%
{%
  \ifnum#2=0\relax
    \apptoglossarypreamble[#1]{\glslongextraUpdateWidest{#3}}%
  \else
    \apptoglossarypreamble[#1]{\glslongextraUpdateWidestChild{#2}{#3}}%
  \fi
}%
}%

```

Neither glossary-tree nor glossary-longextra have been loaded. Do nothing.

```
{}%
```

```

    }%
  }%
}

```

```
\glsxtrSetWidestFallback{<max depth>}{<list>}
```

`\glsxtrSetWidestFallback`

Used when `bib2gls` can't determine the widest name. The `<list>` argument is a comma-separated list of glossary labels. The `<max depth>` refers to the maximum hierarchical depth. This will either be 0 (only top-level entries) or 2 (up to two child-levels).

```

\newcommand*{\glsxtrSetWidestFallback}[2]{%
  \ifnum#1=0\relax
  \ifdef\glsFindWidestTopLevelName
  {%
    \glsFindWidestTopLevelName[#2]%
  }%
  {%
    \GlossariesExtraWarning{You need stylemods={tree} to
      provide a fallback for set-widest}%
  }%
\else
  \ifdef\glsFindWidestLevelTwo
  {%
    \glsFindWidestLevelTwo[#2]%
    \ifdef\glslongextraUpdateWidestChild
    {%
      \glslongextraUpdateWidestChild{#1}{\csuse{@glswidestnamei}}%
      \glslongextraUpdateWidestChild{#1}{\csuse{@glswidestnameii}}%
    }%
    {}%
  }%
  {%
    \GlossariesExtraWarning{You need stylemods={tree} to
      provide a fallback for set-widest}%
  }%
\fi
}

```

`\@glsxtr@labelprefixes` List of label prefixes.

```
\newcommand*{\@glsxtr@labelprefixes}{}
```

`\glsxtrclearlabelprefixes` List of label prefixes.

```

\newcommand*{\glsxtrclearlabelprefixes}{%
  \renewcommand*{\@glsxtr@labelprefixes}{}%
}

```

`\glxtraddlabelprefix` Add prefix to the list. These should be added in the order of precedence with the last one as a fallback. This doesn't check against duplicates as it may be useful to replicate a prefix at the end as the fallback.

```
\newcommand*\glxtraddlabelprefix[1]{%
  \ifstrempy{#1}%
  {\glxtraddlabelprefix{\empty}}%
  {%
    \ifdefempty\@glxtr@labelprefixes
    {\def\@glxtr@labelprefixes{#1}}%
    {\appto\@glxtr@labelprefixes{,#1}}%
  }%
}
```

`\glxtrprependlabelprefix` Inserts at the start of the list.

```
\newcommand*\glxtrprependlabelprefix[1]{%
  \ifstrempy{#1}%
  {\glxtrprependlabelprefix{\empty}}%
  {%
    \ifdefempty\@glxtr@labelprefixes
    {\def\@glxtr@labelprefixes{#1}}%
    {\preto\@glxtr@labelprefixes{#1,}}%
  }%
}
```

`\glxtrifinlabelprefixlist{<prefix>}{<true>}{<false>}`

`\glxtrifinlabelprefixlist`

Test if the given prefix is in the list.

```
\newcommand*\glxtrifinlabelprefixlist[3]{%
  \ifstrempy{#1}%
  {\glxtrifinlabelprefixlist{\empty}{#2}{#3}}%
  {%
    \DTLifinlist{#1}{\@glxtr@labelprefixes}{#2}{#3}%
  }%
}
```

`\@glxtr@prefixlabellist` This is provided for the benefit of `bib2gls`. It's possible that the user may add more prefixes after the start of the document, but that can lead to inconsistencies. The final element of the list (the fallback) is the only prefix of interest for `bib2gls`.

```
\AtBeginDocument{%
  \protected@write\@auxout{}\string\providecommand{\string\@glxtr@prefixlabellist}[1]{}%
  \protected@write\@auxout{}\string\@glxtr@prefixlabellist{\@glxtr@labelprefixes}%
}
```

Before v1.49, the last label was used as a fallback, but this doesn't make sense when the first matching label is used when entries are defined. The selection should be deferred to `bib2gls`, which means passing the list of label choices to `bib2gls`.

`\@glxtr@dglsmismatch` No match found so record all possibilities. Requires `bib2gls v3.0+`. This will add the final insert argument but won't be able to apply any case-changing etc.

```
\def\@glxtr@dglsmismatch#1#2[#3]{%
\begingroup
```

This is a cut-down version of `\@glxtr@record`. Use the fallback label in the event any hooks have to reference `\glslabel`. This is mainly to prevent an undefined control sequence error. It can't be relied on as the actual label.

```
\let\glslabel\@gls@thislabel
\let\@glsnumberformat\@glxtr@defaultnumberformat
\def\@glxtr@thevalue{}%
\def\@glxtr@theHvalue{\@glxtr@thevalue}%
\let\@glxtr@org@theHvalue\@glxtr@theHvalue
\let\@gls@counter\glscounter
\if@glxtr@equations
\@glxtr@use@equation@counter
\fi
\@gls@setdefault@glslink@opts
\@glxtr@glslink@prekeys
\setkeys{glslink}{#1}%
\glxtr@do@autoadd{glslink}%
```

Can't increment associated counter.

```
\ifKV@glslink@noindex
\GlossariesExtraWarning{Can't obtain a match for prefix
candidates: \@glxtr@prefixedlist. Check the label spelling or rerun}%
\else
\ifdefempty{\@glxtr@thevalue}%
{%
\ifx\@glxtr@org@theHvalue\@glxtr@theHvalue
\else
\let\theHglsentrycounter\@glxtr@theHvalue
\fi
}%
{%
\let\theHglsentrycounter\@glxtr@thevalue
\let\theHglsentrycounter\@glxtr@theHvalue
}%
\glxtr@saveentrycounter
\@glxtr@dorecord\@glxtr@prefixedlist
\glxtr@select@entry\glxtr@do@select@nameref@record
```

Issue warning.

```
\GlossariesExtraWarning{Can't obtain a match for prefix
candidates: \@glxtr@prefixedlist. Check the label spelling, use bib2gls v3.0+ to
select entry and rerun LaTeX}%
\fi
\@glxtr@deflefttag#3%
\endgroup
}
```

`\glxtr@select@entry` Instruction to `bib2gls` to select the first found label in the list.

```
\newcommand*\glxtr@select@entry}[5]{}

```

`\glxtr@select@entry@nameref` Instruction to `bib2gls` to select the first found label in the list as though it has a record.

```
\newcommand*\glxtr@select@entry@nameref}[8]{}

```

`\glxtr@do@select@nameref@record` Instruction to `bib2gls` to select the first found label in the list as though it has a record.

```
\newcommand*\glxtr@do@select@nameref@record}[5]{%
  \gls@ifnotmeasuring
  {%
    \protected@write\auxout{}\string\glxtr@select@entry@nameref
      {#1}{#2}{#3}{#4}{#5}%
    {\csuse{@currentlabelname}}{\csuse{@currentHref}}%
    {\theHglSentrycounter}}%
  }%
}

```

`\glxtr@do@select@nameref@record` Determine whether the first or last label should be used as the fallback in the event that there's no match on any prefixes.

```
\newif\ifGlsXtrPrefixLabelFallbackLast
\GlsXtrPrefixLabelFallbackLasttrue

```

`\@glxtr@get@prefixedlabel` Iterate through all the prefixes and find the first prefix and label combination that exists. If none found, this could mean that it's the first L<sup>A</sup>T<sub>E</sub>X run.

```
\newcommand*\@glxtr@get@prefixedlabel}[1]{%

```

Grouping is used in case of a nested for loop.

```
\begingroup

```

Initialise to the unprefixed label in the event that the list is empty.

```
\protected@edef\@gls@thislabel{#1}%

```

Save the first label.

```
\let\@glxtr@prefixedfirstlabel\@gls@thislabel
\def\@glxtr@set@prefixedfirstlabel{%
  \let\@glxtr@prefixedfirstlabel\@gls@thislabel
  \let\@glxtr@set@prefixedfirstlabel\relax
}%

```

List of labels in the event that no combination is found.

```
\let\@glxtr@prefixedlist\@empty

```

Iterate over all labels.

```
\count@=0\relax
\@for\@glxtr@prefix:=\@glxtr@labelprefixes\do
{%
  \advance\count@ by 1\relax
  \protected@edef\@gls@thislabel{\@glxtr@prefix#1}%
  \@glxtr@set@prefixedfirstlabel
}

```

Check if this label exists.

```
\ifglstryexists{\@gls@thislabel}%  
{%  
  \endfortrue
```

Found a label that exists. Clear the list.

```
\let\@glsxtr@prefixedlist\@empty  
}%  
{%
```

Append or prepend to list.

```
\ifdefempty\@glsxtr@prefixedlist  
{\let\@glsxtr@prefixedlist\@gls@thislabel}%  
{%  
  \ifGlsXtrPrefixLabelFallbackLast  
    \epreto\@glsxtr@prefixedlist{\expandonce\@gls@thislabel,}%  
  \else  
    \eappto\@glsxtr@prefixedlist{,\expandonce\@gls@thislabel}%  
  \fi  
}%  
}%  
}%  
\if@endfor
```

Loop ended prematurely, which means label was found.

```
\else  
  \ifnum\count@>1\relax  
    \ifGlsXtrPrefixLabelFallbackLast  
      \else
```

Fallback on first label.

```
\let\@gls@thislabel\@glsxtr@prefixedfirstlabel  
\fi  
\else
```

Only one prefix so assume that one.

```
\let\@glsxtr@prefixedlist\@empty  
\fi  
\fi  
  
\edef\@glo@tmp{\endgroup  
\noexpand\def\noexpand\@glsxtr@prefixedlist{\expandonce\@glsxtr@prefixedlist}%  
\noexpand\def\noexpand\@gls@thislabel{\expandonce\@gls@thislabel}}\@glo@tmp  
}
```

`\@@dgls@` Used by all the `\dgl`s-like commands to find the first match.

```
\newcommand*{\@@dgls@}[3]{%  
  \@glsxtr@get@prefixedlabel{#2}%  
  \ifx\@glsxtr@prefixedlist\@empty  
    \let\@dgls@@next#3%  
  \else  
    \let\@dgls@@next\@glsxtr@dglsnomatch
```

```

\fi
\new@ifnextchar[{\@dgls@next{#1}{\@gls@thislabel}}%
  {\@dgls@next{#1}{\@gls@thislabel}[]}%
}

```

`\dgls` Like `\gls` but tries the prefixes. (Can't use `\pgls` as that's provided by `glossaries-prefix`.) Since this command is designed for `bib2gls`'s dual entry system, the “d” stands for “dual”.

```
\newrobustcmd*{\dgls}{\@gls@hyp@opt\dgls}
```

`\@dgls`

```
\newcommand*{\@dgls}[2][\@@dgls@{#1}{#2}{\@gls@}]
```

`\dglsp1`

```
\newrobustcmd*{\dglsp1}{\@gls@hyp@opt\dglsp1}
```

`\@dglsp1`

```
\newcommand*{\@dglsp1}[2][\@@dgls@{#1}{#2}{\@glspl@}]
```

`\dGls`

```
\newrobustcmd*{\dGls}{\@gls@hyp@opt\dGls}
\glsmfuaddmap{\dgls}{\dGls}
```

`\@dGls`

```
\newcommand*{\@dGls}[2][\@@dgls@{#1}{#2}{\@Gls@}]
```

`\dGlspl`

```
\newrobustcmd*{\dGlspl}{\@gls@hyp@opt\dGlspl}
\glsmfuaddmap{\dglsp1}{\dGlspl}
```

`\@dGlspl`

```
\newcommand*{\@dGlspl}[2][\@@dgls@{#1}{#2}{\@Glspl@}]
```

`\dGLS`

```
\newrobustcmd*{\dGLS}{\@gls@hyp@opt\dGLS}
\glsmfublocker{\dGLS}
```

`\@dGLS`

```
\newcommand*{\@dGLS}[2][\@@dgls@{#1}{#2}{\@GLS@}]
```

`\dGLSp1`

```
\newrobustcmd*{\dGLSp1}{\@gls@hyp@opt\dGLSp1}
\glsmfublocker{\dGLSp1}
```

`\@dGLSp1`

```
\newcommand*{\@dGLSp1}[2][\@@dgls@{#1}{#2}{\@GLSp1@}]
```

`\dglslink` Like `\glslink` but tries the prefixes.  
`\newrobustcmd*{\dglslink}{\@gls@hyp@opt\dglslink}`

`\@dglslink`  
`\newcommand*{\@dglslink}[3] []{%`  
`\@glsxtr@get@prefixedlabel{#2}%`  
`\glslink[#1]{\@gls@thislabel}{#3}%`  
`}`

`\dGlslink` Sentence-case version to provide a mapping.  
`\newrobustcmd*{\dGlslink}{\@gls@hyp@opt\dGlslink}`  
`\glsmfuaddmap{\dglslink}{\dGlslink}`

`\@dGlslink`  
`\newcommand*{\@dGlslink}[3] []{%`  
`\dglslink[#1]{#2}{\glsentencecase{#3}}%`  
`}`

`\dglsdisp` Like `\glsdisp` but tries the prefixes.  
`\newrobustcmd*{\dglsdisp}{\@gls@hyp@opt\dglsdisp}`

`\@dglsdisp` Like `\glsdisp` but tries the prefixes.  
`\newcommand*{\@dglsdisp}[3] []{%`  
`\@glsxtr@get@prefixedlabel{#2}%`  
`\glsdisp[#1]{\@gls@thislabel}{#3}%`  
`}`

`\dGlsdisp` Sentence-case version to provide a mapping.  
`\newrobustcmd*{\dGlsdisp}{\@gls@hyp@opt\dGlsdisp}`  
`\glsmfuaddmap{\dglsdisp}{\dGlsdisp}`

`\@dGlsdisp`  
`\newcommand*{\@dGlsdisp}[3] []{%`  
`\dglsdisp[#1]{#2}{\glsentencecase{#3}}%`  
`}`

Similar to the above but searches for a match with the given field set.

`\@glsxtr@get@prefixedlabel@field` The second argument is the field's internal label.  
`\newcommand*{\@glsxtr@get@prefixedlabel@field}[2]{%`  
`\protected@edef\dglsfieldcurrentfieldlabel{#2}%`  
`\let\dglsfielddactualfieldlabel\dglsfieldcurrentfieldlabel`

Grouping is used in case of a nested for loop.

`\begingroup`

Initialise to the unprefix label in the event that the list is empty.

`\protected@edef\@gls@thislabel{#1}%`



Save the first label.

```
\let\@glsxtr@prefixedfirstlabel\@gls@thislabel
\def\@glsxtr@set@prefixedfirstlabel{%
  \let\@glsxtr@prefixedfirstlabel\@gls@thislabel
  \let\@glsxtr@set@prefixedfirstlabel\relax
}%
```

Initialise fallback label.

```
\let\@gls@fallbacklabel\relax
```

List of labels in the event that no combination is found.

```
\let\@glsxtr@prefixedlist\@empty
```

Iterate over all labels.

```
\count@=0\relax
\@for\@glsxtr@prefix:=\@glsxtr@labelprefixes\do
{%
  \advance\count@ by 1\relax
  \protected@edef\@gls@thislabel{\@glsxtr@prefix#1}%
  \@glsxtr@set@prefixedfirstlabel
```

Check if this label exists.

```
\ifglsentryexists{\@gls@thislabel}%
{%
```

Found a label that exists. Has the field been set?

```
\ifcsvoid{glo@\glsdetoklabel{\@gls@thislabel}#2}%
{%
```

Field hasn't been set. Has a fallback been set yet?

```
\ifx\@gls@fallbacklabel\relax
\ifcsvoid
{glo@\glsdetoklabel{\@gls@thislabel}\dglsfieldfallbackfieldlabel}%
{%
  \GlossariesExtraInfo{Found entry '@gls@thislabel' that
    matches prefix '@glsxtr@prefix' but field '#2' not set
    and fallback field '\dglsfieldfallbackfieldlabel' not set}%
}%
{%
  \let\@gls@fallbacklabel\@gls@thislabel
  \GlossariesExtraInfo{Found entry '@gls@thislabel' that
    matches prefix '@glsxtr@prefix' but field '#2' not set.
    Fallback field '\dglsfieldfallbackfieldlabel' is set
    so setting fallback entry to '@gls@fallbacklabel' with
    field '\dglsfieldfallbackfieldlabel'}%
}%
\else
\GlossariesExtraInfo{Found entry '@gls@thislabel' that
  matches prefix '@glsxtr@prefix' but field '#2' not set.
  Fallback entry: '@gls@fallbacklabel'}%
\fi
```

Add to list. (A new entry with the desired field may have been added, so allow it to be selected.)

```

\ifdefempty\@glxtr@prefixedlist
{\let\@glxtr@prefixedlist\@gls@thislabel}%
}%
\ifGlsXtrPrefixLabelFallbackLast
\epreto\@glxtr@prefixedlist{\expandonce\@gls@thislabel,}%
\else
\eappto\@glxtr@prefixedlist{\, \expandonce\@gls@thislabel}%
\fi
}%
}%
}%
\@endfortrue

```

The field has been set. Clear the list.

```

\let\@glxtr@prefixedlist\@empty
}%
}%
}%

```

Append or prepend to list.

```

\ifdefempty\@glxtr@prefixedlist
{\let\@glxtr@prefixedlist\@gls@thislabel}%
}%
\ifGlsXtrPrefixLabelFallbackLast
\epreto\@glxtr@prefixedlist{\expandonce\@gls@thislabel,}%
\else
\eappto\@glxtr@prefixedlist{\, \expandonce\@gls@thislabel}%
\fi
}%
}%
}%
\if@endfor

```

Loop ended prematurely, which means label was found.

```
\else
```

Label not found. Was the fallback field found?

```

\ifx\@gls@fallbacklabel\relax
\GlossariesExtraWarning{No fallback found for '#1'}%

```

No field fallback found.

```

\ifnum\count@>1\relax
\ifGlsXtrPrefixLabelFallbackLast
\else

```

Fallback on first label.

```

\let\@gls@thislabel\@glxtr@prefixedfirstlabel
\fi
\else

```

Only one prefix so assume that one.

```
\let\@glsxtr@prefixedlist\@empty
\fi
\else
```

Fallback field was found. Use the fallback entry.

```
\let\@gls@thislabel\@gls@fallbacklabel
\let\dglsfieldactualfieldlabel\dglsfieldfallbackfieldlabel
```

Clear prefix candidate list.

```
\let\@glsxtr@prefixedlist\@empty
\fi
\fi

\edef\@glo@tmp{\endgroup
\noexpand\def\noexpand\@glsxtr@prefixedlist{\expandonce\@glsxtr@prefixedlist}%
\noexpand\def\noexpand\@gls@thislabel{\expandonce\@gls@thislabel}%
\noexpand\def\noexpand\dglsfieldactualfieldlabel
{\expandonce\dglsfieldactualfieldlabel}%
}%
\@glo@tmp
}
```

```
\@@dgls@@field{<options>}{<label>}{<field>}{<cs>}
```

\@@dgls@@field

```
\newcommand*\@@dgls@@field[4]{%
\@glsxtr@get@prefixedlabel@field{#2}{#3}%
\ifx\@glsxtr@prefixedlist\@empty
\let\@dgls@@next#4%
\else
\let\@dgls@@next\@glsxtr@dglsnomatch
\fi
\new@ifnextchar[{\@dgls@@next{#1}{\@gls@thislabel}}%
{\@dgls@@next{#1}{\@gls@thislabel}[]}%
}
```

\dglsfieldcurrentfieldlabel Set by the \dglsfield commands to the current field label. This is the field requested in the argument of \dglsfield.

```
\newcommand*\dglsfieldcurrentfieldlabel{}
```

\dglsfieldfallbackfieldlabel The field to use if the required field isn't set.

```
\newcommand*\dglsfieldfallbackfieldlabel{text}
```

\dglsfieldactualfieldlabel This is the field that's actually used.

```
\newcommand*\dglsfieldactualfieldlabel{\dglsfieldcurrentfieldlabel}
```

```
\dglsfield[<options>]{<label>}{<field>}[<insert>]
```

\dglsfield

```

\newrobustcmd*{\dglSfield}{\@gls@hyp@opt\dglSfield}

\@dglSfield
\newcommand*{\@dglSfield}[3][\%
\@@dglS@@field{#1}{#2}{#3}{\@dglS@field}}

\@dglS@field
\def\@dglS@field#1#2[#3]{%
\@gls@field@link{#1}{#2}{\glsxtrusefield{#2}{\dglSfieldactualfieldlabel}#3}%
}

\dGlsfield[\langle options \rangle]{\langle label \rangle}{\langle field \rangle}[\langle insert \rangle]

\dGlsfield
\newrobustcmd*{\dGlsfield}{\@gls@hyp@opt\dGlsfield}
\glsmfuaddmap{\dglSfield}{\dGlsfield}

\@dGlsfield
\newcommand*{\@dGlsfield}[3][\%
\@@dglS@@field{#1}{#2}{#3}{\@dGls@field}%
}

\@dGls@field
\def\@dGls@field#1#2[#3]{%
\@gls@field@link{#1}{#2}{\Glsxtrusefield{#2}{\dglSfieldactualfieldlabel}#3}%
}

\dGLSfield[\langle options \rangle]{\langle label \rangle}{\langle field \rangle}[\langle insert \rangle]

\dGLSfield
\newrobustcmd*{\dGLSfield}{\@gls@hyp@opt\dGLSfield}
\glsmfublocker{\dGLSfield}

\@dGLSfield
\newcommand*{\@dGLSfield}[3][\%
\@@dglS@@field{#1}{#2}{#3}{\@dGLS@field}%
}

\@dGLS@field
\def\@dGLS@field#1#2[#3]{%
\@gls@field@link{#1}{#2}{\GLSxtrusefield{#2}{\dglSfieldactualfieldlabel}#3}%
}

\d@inner@glSfield{\langle default options \rangle}{\langle field \rangle}\langle modifier \rangle
[\langle options \rangle]{\langle label \rangle}[\langle insert \rangle]

\d@inner@glSfield

```

```

\newrobustcmd*\d@inner@glsfield}[2]{%
  \ifstrempy{#1}
  {\def\d@inner@glsfield@opts{}}%
  {\def\d@inner@glsfield@opts{#1,}}%
  \def\dglsfieldcurrentfieldlabel{#2}%
  \@gls@hyp@opt\d@inner@glsfield
}

```

\d@inner@glsfield

```

\newcommand*\d@inner@glsfield}[2][{}]{%
  \expandafter\@dgls@field\expandafter
  {\d@inner@glsfield@opts#1}{#2}{\dglsfieldcurrentfieldlabel}{\@dgls@field}}

```

\d@inner@Glsfield

```

\newrobustcmd*\d@inner@Glsfield}[2]{%
  \ifstrempy{#1}
  {\def\d@inner@glsfield@opts{}}%
  {\def\d@inner@glsfield@opts{#1,}}%
  \def\dglsfieldcurrentfieldlabel{#2}%
  \@gls@hyp@opt\d@inner@Glsfield
}

```

\d@inner@Glsfield

```

\newcommand*\d@inner@Glsfield}[2][{}]{%
  \expandafter\@dgls@field\expandafter
  {\d@inner@glsfield@opts#1}{#2}{\dglsfieldcurrentfieldlabel}{\@dGls@field}}

```

\d@inner@GLSfield

```

\newrobustcmd*\d@inner@GLSfield}[2]{%
  \ifstrempy{#1}
  {\def\d@inner@glsfield@opts{}}%
  {\def\d@inner@glsfield@opts{#1,}}%
  \def\dglsfieldcurrentfieldlabel{#2}%
  \@gls@hyp@opt\d@inner@GLSfield
}

```

\d@inner@GLSfield

```

\newcommand*\d@inner@GLSfield}[2][{}]{%
  \expandafter\@dgls@field\expandafter
  {\d@inner@glsfield@opts#1}{#2}{\dglsfieldcurrentfieldlabel}{\@dGLS@field}}

```

`\newdglsglsfield[<options>]{<field>}{<cs>}`

\newdglsglsfield

```

\newrobustcmd*\newdglsglsfield}[3][{}]{%
  \newrobustcmd*{#3}{\d@inner@glsfield{#1}{#2}}%
}

```

`\newdglfieldlike`

```
\newdglfieldlike[options]{field}{cs}{Cs}{CS}
```

```
\newrobustcmd*{\newdglfieldlike}[5][]{%
  \newrobustcmd*{#3}{\d@inner@dglfield{#1}{#2}}%
  \newrobustcmd*{#4}{\d@inner@Glsfield{#1}{#2}}%
  \newrobustcmd*{#5}{\d@inner@GLSfield{#1}{#2}}%
  \glsmfuaddmap{#3}{#4}%
  \glsmfublocker{#5}%
}
```

Multi (compound/combined) entry commands used by bib2gls.

`\glxtrmultientryadjustedname`

```
\glxtrmultientryadjustedname{list1}{name}{list2}
{label}
```

This command is used by bib2gls when it adjusts the name field of an entry that's been identified as a main entry in the multi-entry set *label*.

The final argument *label* is the multi-entry label from which the set was obtained. The first argument *list1* is the list of other labels that come before the main label. The third argument *list2* is the remaining list of other labels. The *name* argument is the previous name before adjustment.

```
\newrobustcmd*{\glxtrmultientryadjustedname}[4]{%
  \bgroup
  \let\@glxtrmultientryadjustednamesep\glxtrmultientryadjustednamesep
  \let\@glxtrmultientryadjustednamepresep\glxtrmultientryadjustednamepresep
  \let\@glxtrmultientryadjustednamepostsep\glxtrmultientryadjustednamepostsep
  \let\@glxtrmultientryadjustednameother\glxtrmultientryadjustednameother
  \let\@glxtrmultientryadjustednamefmt\glxtrmultientryadjustednamefmt
  \let\@glxtrmultientryadjustednamefirstother\glxtrmultientryadjustednameother
  \let\@glxtrmultientryadjustednamefirstfmt\glxtrmultientryadjustednamefmt
  \@glxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
  \egroup
}
```

`\glxtrmultientryadjustedname` First letter upper case

```
\newrobustcmd*{\Glsxtrmultientryadjustedname}[4]{%
  \bgroup
  \let\@glxtrmultientryadjustednamesep\glxtrmultientryadjustednamesep
  \let\@glxtrmultientryadjustednamepresep\glxtrmultientryadjustednamepresep
  \let\@glxtrmultientryadjustednamepostsep\glxtrmultientryadjustednamepostsep
  \let\@glxtrmultientryadjustednameother\glxtrmultientryadjustednameother
  \let\@glxtrmultientryadjustednamefmt\glxtrmultientryadjustednamefmt
  \let\@glxtrmultientryadjustednamefirstother\Glsxtrmultientryadjustednameother
  \let\@glxtrmultientryadjustednamefirstfmt\Glsxtrmultientryadjustednamefmt
  \@glxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
  \egroup
}
```

```

\glsmfuaddmap{\glsxtrmultientryadjustedname}{\Glsxtrmultientryadjustedname}

\GlsXtrmultientryadjustedname Title case
\newrobustcmd*{\GlsXtrmultientryadjustedname}[4]{%
  \bgroup
  \let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
  \let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
  \let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
  \let\@glsxtrmultientryadjustednameother\GlsXtrmultientryadjustednameother
  \let\@glsxtrmultientryadjustednamefmt\GlsXtrmultientryadjustednamefmt
  \let\@glsxtrmultientryadjustednamefirstother\GlsXtrmultientryadjustednameother
  \let\@glsxtrmultientryadjustednamefirstfmt\GlsXtrmultientryadjustednamefirstfmt
  \@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
  \egroup
}
\glsmfublocker{\GlsXtrmultientryadjustedname}

\GLSxtrmultientryadjustedname All caps.
\newrobustcmd*{\GLSxtrmultientryadjustedname}[4]{%
  \bgroup
  \let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
  \let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
  \let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
  \let\@glsxtrmultientryadjustednameother\GLSxtrmultientryadjustednameother
  \let\@glsxtrmultientryadjustednamefmt\GLSxtrmultientryadjustednamefmt
  \let\@glsxtrmultientryadjustednamefirstother\GLSxtrmultientryadjustednameother
  \let\@glsxtrmultientryadjustednamefirstfmt\GLSxtrmultientryadjustednamefirstfmt
  \@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
  \egroup
}
\glsmfublocker{\GLSxtrmultientryadjustedname}

\glsxtrmultientryadjustedname
\newcommand*{\@glsxtrmultientryadjustedname}[4]{%
  \letcs\mglscurrentmainlabel{\@gls@combined@#4@main}%
  \letcs\mglscurrentmainlist{\@gls@combined@#4@list}%
  \letcs\mglscurrentmainoptions{\@gls@combined@#4@options}%
  \ifblank{#1}%
  {%
    \@glsxtrmultientryadjustednamefirstfmt{#2}%
  }%
  {%
    \def\@mgls@previouslabel{}%
    \let\@gls@xtradjustedother\@glsxtrmultientryadjustednamefirstother
    \for\mglscurrentlabel:=#1\do{%
      \ifx\@mgls@previouslabel\empty
      \else
        \@glsxtrmultientryadjustednamesep{\@mgls@previouslabel}{\mglscurrentlabel}%
      \fi
    }
  }
}

```

```

        \@gls@xtradjustedother{\mglscurrentlabel}%
        \let\@mgl@previouslabel\mglscurrentlabel
        \let\@gls@xtradjustedother\@glsxtrmultientryadjustednameother
    }%
    \@glsxtrmultientryadjustednamepresep{\@mgl@previouslabel}{\mglscurrentmainlabel}%
    \@glsxtrmultientryadjustednamefmt{#2}%
} %
\ifblank{#3}%
{}%
{%
    \let\@mgl@previouslabel\mglscurrentmainlabel
    \let\@gls@xtrmultientryadjustednamesep\@glsxtrmultientryadjustednamepostsep
    \@for\mglscurrentlabel:=#3\do{%
        \@gls@xtrmultientryadjustednamesep{\@mgl@previouslabel}{\mglscurrentlabel}%
        \@glsxtrmultientryadjustednameother{\mglscurrentlabel}%
        \let\@mgl@previouslabel\mglscurrentlabel
        \let\@gls@xtrmultientryadjustednamesep\@glsxtrmultientryadjustednamesep
    }%
} %
}
}

```

`\glsxtrmultientryadjustednamesep`

```
\newcommand*\glsxtrmultientryadjustednamesep{\glscombinedfirstsepfirst}
```

`\glsxtrmultientryadjustednamepresep` Separator before main name.

```
\newcommand*\glsxtrmultientryadjustednamepresep{\glsxtrmultientryadjustednamesep}
```

`\glsxtrmultientryadjustednamepostsep` Separator after main name.

```
\newcommand*\glsxtrmultientryadjustednamepostsep{\glsxtrmultientryadjustednamesep}
```

`\glsxtrmultientryadjustednamefmt`

```
\newcommand*\glsxtrmultientryadjustednamefmt[1]{#1}
```

`\glsxtrmultientryadjustednameother`

```
\newcommand*\glsxtrmultientryadjustednameother[1]{\glsentryname{#1}}
```

`\Glsxtrmultientryadjustednamefmt`

```
\newcommand*\Glsxtrmultientryadjustednamefmt[1]{\glsentencecase{#1}}
```

`\Glsxtrmultientryadjustednameother`

```
\newcommand*\Glsxtrmultientryadjustednameother[1]{\Glsentryname{#1}}
```

`\GlsXtrmultientryadjustednameother`

```
\newcommand*\GlsXtrmultientryadjustednameother[1]{%
    \glsentrytitlecase{#1}{name}}
```

`\ifglscapitalisewords`

```
\ifdef\glscapitalisewords
{%

```



```

\newcommand*\GlsXtrmultientryadjustednamefmt}[1]{\glscapitalisewords{#1}}
}
{
\newcommand*\GlsXtrmultientryadjustednamefmt}[1]{\capitalisewords{#1}}
}

```

multientryadjustednameother

```

\newcommand*\GlsXtrmultientryadjustednameother}[1]{%
\glsuppercase{\glsentryname{#1}}}

```

trmultientryadjustednamefmt

```

\newcommand*\GlsXtrmultientryadjustednamefmt}[1]{\glsuppercase{#1}}

```

Provide missing Greek letters for use in maths mode. These commands are recognised by `bib2gls` and will be mapped to the Mathematical Greek Italic letters. This ensures that the Greek letters that have the same shape as Latin letters are kept with the other mathematical Greek letters for sorting purposes. The  $\LaTeX$  version of these commands (provided here) use an upright font for capitals and italic for lower case to provide a better match with the other Greek symbols provided by the kernel.

```

\Alpha
\providecommand*\Alpha{\mathrm{A}}

\Beta
\providecommand*\Beta{\mathrm{B}}

\Epsilon
\providecommand*\Epsilon{\mathrm{E}}

\Zeta
\providecommand*\Zeta{\mathrm{Z}}

\Eta
\providecommand*\Eta{\mathrm{H}}

\Iota
\providecommand*\Iota{\mathrm{I}}

\Kappa
\providecommand*\Kappa{\mathrm{K}}

\Mu
\providecommand*\Mu{\mathrm{M}}

\Nu
\providecommand*\Nu{\mathrm{N}}

```

```
\Omicron
\providecommand*\Omicron{\mathrm{O}}
```

```
\Rho
\providecommand*\Rho{\mathrm{P}}
```

```
\Tau
\providecommand*\Tau{\mathrm{T}}
```

```
\Chi
\providecommand*\Chi{\mathrm{X}}
```

```
\Digamma
\providecommand*\Digamma{\mathrm{F}}
```

```
\omicron
\providecommand*\omicron{\mathit{o}}
```

Provide corresponding upright characters if `upgreek` has been loaded. (The upper case characters are the same as above.)

```
\@ifpackageloaded{upgreek}%
{
```

```
\Upalpha
\providecommand*\Upalpha{\mathrm{A}}
```

```
\Upbeta
\providecommand*\Upbeta{\mathrm{B}}
```

```
\Upepsilon
\providecommand*\Upepsilon{\mathrm{E}}
```

```
\Upzeta
\providecommand*\Upzeta{\mathrm{Z}}
```

```
\Upeta
\providecommand*\Upeta{\mathrm{H}}
```

```
\Upiota
\providecommand*\Upiota{\mathrm{I}}
```

```
\Upkappa
\providecommand*\Upkappa{\mathrm{K}}
```

```
\Upmu
\providecommand*\Upmu{\mathrm{M}}
```

```

\Upnu
\providecommand*\Upnu{\mathrm{N}}

\Upomicron
\providecommand*\Upomicron{\mathrm{O}}

\Uprho
\providecommand*\Uprho{\mathrm{P}}

\Uptau
\providecommand*\Uptau{\mathrm{T}}

\Upchi
\providecommand*\Upchi{\mathrm{X}}

\upomicron
\providecommand*\upomicron{\mathrm{o}}

}%
{}% upgreek.sty not loaded

```

This package provides some basic rules, but it's not intended for complete coverage of all locales. The CLDR should provide the appropriate locale-sensitive rules. These macros are primarily to help construct custom rules to include, for example, Greek maths symbols mixed with Latin. For the full rule syntax, see the Java API for [RuleBaseCollator](#)

If you want to provide a rule-block for a particular locale to allow for customization within that locale, create a file called `glossariesxtr-tag.ldf` (where *tag* identifies the locale) and add similar commands. See the description of `\IfTrackedLanguageFileExists` in the `tracklang` manual for the allowed forms of *tag*. The simplest is to just use the root language label or ISO code. The file will then be automatically loaded by `glossaries-extra` if the document has support for that language.

When combining these blocks of rules, remember to separate them with the appropriate character. For example:

```

%sort-rule={\glsxtrcontrolrules
% ;\glsxtrspacerules
% ;\glsxtrnonprintablerules
% ;\glsxtrcombiningdiacriticrules
% ;\glsxtrhyphenrules
% <\glsxtrgeneralpuncrules
% <\glsxtrdigitrules
% <\glsxtrfractionrules
% <\glsxtrGeneralLatinIVrules
% <\glsxtrMathItalicGreekIrules
%}
%
```

`\glxtrIgnorableRules` A shortcut command for common ignorable characters.

```
\newcommand{\glxtrIgnorableRules}{%
  \glxtrcontrolrules
  \string;\glxtrspacerules
  \string;\glxtrnonprintablerules
}
```

`\glxtrGeneralInitRules` A shortcut command for common initial rules for ignorables, diacritics, punctuation and digits.

```
\newcommand{\glxtrGeneralInitRules}{%
  \glxtrIgnorableRules
  \string;\glxtrcombiningdiacriticrules
  \string;\glxtrhyphenrules
  \string<\glxtrgeneralpuncrules
  \string<\glxtrdigitrules
  \string<\glxtrfractionrules
}
```

`\glxtrcontrolrules` These are control characters that are usually placed at the start of a rule in the ‘ignored characters’ section. These control characters are unlikely to appear in any entry fields but are provided for completeness. (They may appear with the marker commands provided with `--datatool-sort-markers` which emulates the marker commands provided by `datatool-base` for use in the sort hook, in which case those particular control codes shouldn’t be ignored.) `\string` is used for punctuation characters in case they’ve been made active.

```
\newcommand*{\glxtrcontrolrules}{%
  \string'\glshex 200B\string'\string=\glshex 200C\string=\glshex 200D
  \string=\glshex 200E\string=\glshex 200F\string=\glshex 0000\string=\glshex 0001
  \string=\glshex 0002\string=\glshex 0003\string=\glshex 0004\string=\glshex 0005
  \string=\glshex 0006\string=\glshex 0007\string=\glshex 0008
  \string=\string'\glshex 0009\string'\string=\string'\glshex 000B\string'
  \string=\glshex 000E\string=\glshex 000F\string=\string'\glshex
  0010\string'\string=\glshex 0011
  \string=\glshex 0012\string=\glshex 0013\string=\glshex 0014\string=\glshex 0015
  \string=\glshex 0016\string=\glshex 0017\string=\glshex 0018\string=\glshex 0019
  \string=\glshex 001A\string=\glshex 001B\string=\glshex 001C\string=\glshex 001D
  \string=\glshex 001E\string=\glshex 001F\string=\glshex 007F\string=\glshex 0080
  \string=\glshex 0081\string=\glshex 0082\string=\glshex 0083\string=\glshex 0084
  \string=\glshex 0085\string=\glshex 0086\string=\glshex 0087\string=\glshex 0088
  \string=\glshex 0089\string=\glshex 008A\string=\glshex 008B\string=\glshex 008C
  \string=\glshex 008D\string=\glshex 008E\string=\glshex 008F\string=\glshex 0090
  \string=\glshex 0091\string=\glshex 0092\string=\glshex 0093\string=\glshex 0094
  \string=\glshex 0095\string=\glshex 0096\string=\glshex 0097\string=\glshex 0098
  \string=\glshex 0099\string=\glshex 009A\string=\glshex 009B\string=\glshex 009C
  \string=\glshex 009D\string=\glshex 009E\string=\glshex 009F
}
```

`\glxtrcontrolIrules` Subset of control rules. Doesn’t include 0, 1C, 1D, 1E, 1F, and 7F.

```

\newcommand*{\glxtrcontrolIrules}{%
  \string'\glshex 200B\string'\string=\glshex 200C\string=\glshex 200D
  \string=\glshex 200E\string=\glshex 200F\string=\glshex 0001
  \string=\glshex 0002\string=\glshex 0003\string=\glshex 0004\string=\glshex 0005
  \string=\glshex 0006\string=\glshex 0007\string=\glshex 0008
  \string=\string'\glshex 0009\string'\string=\string'\glshex 000B\string'
  \string=\glshex 000E\string=\glshex 000F\string=\string'\glshex
0010\string'\string=\glshex 0011
  \string=\glshex 0012\string=\glshex 0013\string=\glshex 0014\string=\glshex 0015
  \string=\glshex 0016\string=\glshex 0017\string=\glshex 0018\string=\glshex 0019
  \string=\glshex 001A\string=\glshex 001B\string=\glshex 0080
  \string=\glshex 0081\string=\glshex 0082\string=\glshex 0083\string=\glshex 0084
  \string=\glshex 0085\string=\glshex 0086\string=\glshex 0087\string=\glshex 0088
  \string=\glshex 0089\string=\glshex 008A\string=\glshex 008B\string=\glshex 008C
  \string=\glshex 008D\string=\glshex 008E\string=\glshex 008F\string=\glshex 0090
  \string=\glshex 0091\string=\glshex 0092\string=\glshex 0093\string=\glshex 0094
  \string=\glshex 0095\string=\glshex 0096\string=\glshex 0097\string=\glshex 0098
  \string=\glshex 0099\string=\glshex 009A\string=\glshex 009B\string=\glshex 009C
  \string=\glshex 009D\string=\glshex 009E\string=\glshex 009F
}

```

`\glxtrcontrolIIrules` Subset of ordered control rules (information separators). Doesn't include 7F.

```

\newcommand*{\glxtrcontrolIIrules}{%
  \glshex 001C\string<\glshex 001D
  \string<\glshex 001E\string<\glshex 001F
}

```

`\glxtrspacerules` These are space characters.

```

\newcommand*{\glxtrspacerules}{%
  \string' \string'\string;
  \string'\glshex 00A0\string'\string;
  \string'\glshex 2000\string'\string;
  \string'\glshex 2001\string'\string;
  \string'\glshex 2002\string'\string;
  \string'\glshex 2003\string'\string;
  \string'\glshex 2004\string'\string;
  \string'\glshex 2005\string'\string;
  \string'\glshex 2006\string'\string;
  \string'\glshex 2007\string'\string;
  \string'\glshex 2008\string'\string;
  \string'\glshex 2009\string'\string;
  \string'\glshex 200A\string'\string;
  \string'\glshex 3000\string'
}

```

`\glxtrnonprintablerules` These are non-printable characters (BOM, tabs, line feed and carriage return).

```

\newcommand*{\glxtrnonprintablerules}{%
  \string'\glshex FEFF\string'\string;
  \string'\glshex 000A\string'\string;
}

```

```

\string'\glshex 0009\string'\string;
\string'\glshex 000C\string'\string;
\string'\glshex 000B\string'
}

```

`\glxtrcombingdiacriticrules` Combining diacritic marks. This is split into multiple macros.

```

\newcommand*\glxtrcombingdiacriticrules{%
\glxtrcombingdiacriticIrules\string;
\glxtrcombingdiacriticIIrules\string;
\glxtrcombingdiacriticIIIrules\string;
\glxtrcombingdiacriticIVrules
}

```

`\glxtrcombingdiacriticIrules` First set of combining diacritic marks.

```

\newcommand*\glxtrcombingdiacriticIrules{%
\glshex 0301\string;% combining acute
\glshex 0300\string;% combining grave
\glshex 0306\string;% combining breve
\glshex 0302\string;% combining circumflex
\glshex 030C\string;% combining caron
\glshex 030A\string;% combining ring
\glshex 030D\string;% combining vertical line above
\glshex 0308\string;% combining diaeresis
\glshex 030B\string;% combining double acute
\glshex 0303\string;% combining tilde
\glshex 0307\string;% combining dot above
\glshex 0304% combining macron
}

```

`\glxtrcombingdiacriticIIrules` Second set of combining diacritic marks.

```

\newcommand*\glxtrcombingdiacriticIIrules{%
\glshex 0337\string;% combining short solidus overlay
\glshex 0327\string;% combining cedilla
\glshex 0328\string;% combining ogonek
\glshex 0323\string;% combining dot below
\glshex 0332\string;% combining low line
\glshex 0305\string;% combining overline
\glshex 0309\string;% combining hook above
\glshex 030E\string;% combining double vertical line above
\glshex 030F\string;% combining double grave accent
\glshex 0310\string;% combining candrabindu
\glshex 0311\string;% combining inverted breve
\glshex 0312\string;% combining turned comma above
\glshex 0313\string;% combining comma above
\glshex 0314\string;% combining reversed comma above
\glshex 0315\string;% combining comma above right
\glshex 0316\string;% combining grave accent below
\glshex 0317% combining acute accent below
}

```

trcombingdiacriticIIIrules Third set of combining diacritic marks.

```
\newcommand*{\glxtrcombingdiacriticIIIrules}{%
\glshex 0318\string;% combining left tack below
\glshex 0319\string;% combining right tack below
\glshex 031A\string;% combining left angle above
\glshex 031B\string;% combining horn
\glshex 031C\string;% combining left half ring below
\glshex 031D\string;% combining up tack below
\glshex 031E\string;% combining down tack below
\glshex 031F\string;% combining plus sign below
\glshex 0320\string;% combining minus sign below
\glshex 0321\string;% combining palatalized hook below
\glshex 0322\string;% combining retroflex hook below
\glshex 0324\string;% combining diaeresis below
\glshex 0325\string;% combining ring below
\glshex 0326\string;% combining comma below
\glshex 0329\string;% combining vertical line below
\glshex 032A\string;% combining bridge below
\glshex 032B\string;% combining inverted double arch below
\glshex 032C\string;% combining caron below
\glshex 032D\string;% combining circumflex accent below
\glshex 032E\string;% combining breve below
\glshex 032F\string;% combining inverted breve below
\glshex 0330\string;% combining tilde below
\glshex 0331\string;% combining macron below
\glshex 0333\string;% combining double low line
\glshex 0334\string;% combining tilde overlay
\glshex 0335\string;% combining short stroke overlay
\glshex 0336\string;% combining long stroke overlay
\glshex 0338\string;% combining long solidus overlay
\glshex 0339\string;% combining combining right half ring below
\glshex 033A\string;% combining inverted bridge below
\glshex 033B\string;% combining square below
\glshex 033C\string;% combining seagull below
\glshex 033D\string;% combining x above
\glshex 033E\string;% combining vertical tilde
\glshex 033F\string;% combining double overline
\glshex 0342\string;% combining Greek perispomeni
\glshex 0344\string;% combining Greek dialytika tonos
\glshex 0345\string;% combining Greek ypogegrammeni
\glshex 0360\string;% combining double tilde
\glshex 0361\string;% combining double inverted breve
\glshex 0483\string;% combining Cyrillic titlo
\glshex 0484\string;% combining Cyrillic palatalization
\glshex 0485\string;% combining Cyrillic dasia pneumata
\glshex 0486% combining Cyrillic psili pneumata
}
```

trcombingdiacriticIVrules Fourth set of combining diacritic marks.

```

\newcommand*{\glxtrcombingdiacriticIVrules}{%
\glshex 20D0\string;% combining left harpoon above
\glshex 20D1\string;% combining right harpoon above
\glshex 20D2\string;% combining long vertical line overlay
\glshex 20D3\string;% combining short vertical line overlay
\glshex 20D4\string;% combining anticlockwise arrow above
\glshex 20D5\string;% combining clockwise arrow above
\glshex 20D6\string;% combining left arrow above
\glshex 20D7\string;% combining right arrow above
\glshex 20D8\string;% combining ring overlay
\glshex 20D9\string;% combining clockwise ring overlay
\glshex 20DA\string;% combining anticlockwise ring overlay
\glshex 20DB\string;% combining three dots above
\glshex 20DC\string;% combining four dots above
\glshex 20DD\string;% combining enclosing circle
\glshex 20DE\string;% combining enclosing square
\glshex 20DF\string;% combining enclosing diamond
\glshex 20E0\string;% combining enclosing circle backslash
\glshex 20E1% combining left right arrow above
}

```

`\glxtrhyphenrules` Hyphens.

```

\newcommand*{\glxtrhyphenrules}{%
\string'\string-\string'\string;% ASCII hyphen
\glshex 00AD\string;% soft hyphen
\glshex 2010\string;% hyphen
\glshex 2011\string;% non-breaking hyphen
\glshex 2012\string;% figure dash
\glshex 2013\string;% en dash
\glshex 2014\string;% em dash
\glshex 2015\string;% horizontal bar
\glshex 2212\string=\glshex 207B\string=\glshex 208B% minus sign
}

```

`\glxtrgeneralpuncrules` General punctuation.

```

\newcommand*{\glxtrgeneralpuncrules}{%
\glxtrgeneralpuncIrules
\string<\glxtrcurrencyrules
\string<\glxtrgeneralpuncIIrules
}

```

`\glxtrgeneralpuncIrules` First set of general punctuation.

```

\newcommand*{\glxtrgeneralpuncIrules}{%
\glxtrgeneralpuncmarksrules
\string<\glxtrgeneralpuncaccentsrules
\string<\glxtrgeneralpuncquoterules
\string<\glxtrgeneralpuncbracketrules
\string<\glxtrgeneralpuncsignrules
}

```



\glxstrgeneralpuncmarksrules Punctuation marks subset.

```
\newcommand*{\glxstrgeneralpuncmarksrules}{%
  \string'\glshex 005F\string'% underscore
  \string<\glshex 00AF% macron
  \string<\string'\glshex 002C\string'% comma
  \string<\string'\glshex 003B\string'% semi-colon
  \string<\string'\glshex 003A\string'% colon
  \string<\string'\glshex 0021\string'% exclamation mark
  \string<\glshex 00A1% inverted exclamation mark
  \string<\string'\glshex 003F\string'% question mark
  \string<\glshex 00BF% inverted question mark
  \string<\string'\glshex 002F\string'% solidus
  \string<\string'\glshex 002E\string'% full stop
}
```

\sxtgeneralpuncaccentsrules Punctuation marks subset: accent characters.

```
\newcommand*{\glxstrgeneralpuncaccentsrules}{%
  \glshex 00B4% acute accent
  \string<\string'\glshex 0060\string'% grave accent
  \string<\string'\glshex 005E\string'% circumflex accent
  \string<\glshex 00A8% diaeresis
  \string<\string'\glshex 007E\string'% tilde
  \string<\glshex 00B7% middle dot
  \string<\glshex 00B8% cedilla
}
```

\glxstrgeneralpuncquoterules Punctuation marks subset: quotes.

```
\newcommand*{\glxstrgeneralpuncquoterules}{%
  \string'\glshex 0027\string'% straight apostrophe
  \string<\string'\glshex 0022\string'% straight double quote
  \string<\glshex 00AB% left guillemet
  \string<\glshex 00BB% right guillemet
}
```

\sxtgeneralpuncbracketrules Punctuation marks subset: brackets.

```
\newcommand*{\glxstrgeneralpuncbracketrules}{%
  \string'\glshex 0028\string'% left parenthesis
  \string=\glshex 207D\string=\glshex 208D% super/subscript left parenthesis
  \string<\string'\glshex 0029\string'% right parenthesis
  \string=\glshex 207E\string=\glshex 208E% super/subscript right parenthesis
  \string<\string'\glshex 005B\string'% left square bracket
  \string<\string'\glshex 005D\string'% right square bracket
  \string<\string'\glshex 007B\string'% left curly bracket
  \string<\string'\glshex 007D\string'% right curly bracket
}
```

\glxstrgeneralpuncsignrules Punctuation marks subset: signs.

```
\newcommand*{\glxstrgeneralpuncsignrules}{%
  \glshex 00A7% section sign
}
```

```

\string<\glshex 00B6% pilcrow sign
\string<\glshex 00A9% copyright sign
\string<\glshex 00AE% registered sign
\string<\string'\glshex 0040\string'% at sign
}

```

`\glxtrcurrencyrules` General punctuation.

```

\newcommand*{\glxtrcurrencyrules}{%
\glshex 00A4% currency sign
\string<\glshex 0E3F% Thai currency symbol baht
\string<\glshex 00A2% cent sign
\string<\glshex 20A1% colon sign
\string<\glshex 20A2% cruzeiro sign
\string<\string'\glshex 0024\string'% dollar sign
\string<\glshex 20AB% dong sign
\string<\glshex 20AC% euro sign
\string<\glshex 20A3% French franc sign
\string<\glshex 20A4% lira sign
\string<\glshex 20A5% mill sign
\string<\glshex 20A6% naira sign
\string<\glshex 20A7% peseta sign
\string<\glshex 00A3% pound sign
\string<\glshex 20A8% rupee sign
\string<\glshex 20AA% new sheqel sign
\string<\glshex 20A9% won sign
\string<\glshex 00A5% yen sign
}

```

`\glxtrgeneralpuncIIrules` Second set of general punctuation.

```

\newcommand*{\glxtrgeneralpuncIIrules}{%
\string'\glshex 002A\string'% asterisk
\string<\string'\glshex 005C\string'% backslash
\string<\string'\glshex 0026\string'% ampersand
\string<\string'\glshex 0023\string'% hash sign
\string<\string'\glshex 0025\string'% percent sign
\string<\string'\glshex 002B\string'% plus sign
\string=\glshex 207A\string=\glshex 208A% super/subscript plus sign
\string<\glshex 00B1% plus-minus sign
\string<\glshex 00F7% division sign
\string<\glshex 00D7% multiplication sign
\string<\string'\glshex 003C\string'% less-than sign
\string<\string'\glshex 003D\string'% equals sign
\string<\string'\glshex 003E\string'% greater-than sign
\string<\glshex 00AC% not sign
\string<\string'\glshex 007C\string'% vertical bar (pipe)
\string<\glshex 00A6% broken bar
\string<\glshex 00B0% degree sign
\string<\glshex 00B5% micron sign
}

```

`\glxtrGeneralLatinIrules` Basic Latin alphabet.

```
\newcommand*{\glxtrGeneralLatinIrules}{%
  \glxtrLatinA
  \string<b,B%
  \string<c,C%
  \string<d,D%
  \string<\glxtrLatinE
  \string<f,F%
  \string<g,G%
  \string<\glxtrLatinH
  \string<\glxtrLatinI
  \string<j,J%
  \string<\glxtrLatinK
  \string<\glxtrLatinL
  \string<\glxtrLatinM
  \string<\glxtrLatinN
  \string<\glxtrLatinO
  \string<\glxtrLatinP
  \string<q,Q%
  \string<r,R%
  \string<\glxtrLatinS
  \string<\glxtrLatinT
  \string<u,U%
  \string<v,V%
  \string<w,W%
  \string<\glxtrLatinX
  \string<y,Y%
  \string<z,Z
}
```

`\glxtrGeneralLatinIIrules` General Latin alphabet (eth between D and E, ß treated as SS).

```
\newcommand*{\glxtrGeneralLatinIIrules}{%
  \glxtrLatinA
  \string<b,B%
  \string<c,C%
  \string<d,D%
  \string<\glxtrLatinEth
  \string<\glxtrLatinE
  \string<f,F%
  \string<g,G%
  \string<\glxtrLatinH
  \string<\glxtrLatinI
  \string<j,J%
  \string<\glxtrLatinK
  \string<\glxtrLatinL
  \string<\glxtrLatinM
  \string<\glxtrLatinN
  \string<\glxtrLatinO
  \string<\glxtrLatinP
  \string<q,Q%
```

```

\string<r,R%
\string<\glxtrLatinS
\string& SS \string, \glxtrLatinEszettSs
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

`\glxtrGeneralLatinIIIrules` General Latin alphabet (eth between D and E, ß treated as SZ).

```

\newcommand*{\glxtrGeneralLatinIIIrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SZ, \glxtrLatinEszettSs
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

`\glxtrGeneralLatinIVrules` General Latin alphabet (Æ treated as AE and Œ treated as OE, Þ treated as TH, ß treated as SS, eth between D and E).

```

\newcommand*{\glxtrGeneralLatinIVrules}{%
\glxtrLatinA
\string& AE , \glxtrLatinAELigature
\string<b,B%

```

```

\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string& OE , \glxtrLatinOELigature
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

`\glxtrGeneralLatinVrules` General Latin alphabet (eth between D and E, ß treated as SS, P treated as TH).

```

\newcommand*{\glxtrGeneralLatinVrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO

```

```

\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

`\glxtrGeneralLatinVirules` General Latin alphabet (eth between D and E, ß treated as SZ, P treated as TH).

```

\newcommand*{\glxtrGeneralLatinVirules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SZ , \glxtrLatinEszettSz
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

`\glxtrGeneralLatinVIIrules` General Latin alphabet ( $\mathring{A}$  between A and B, eth between D and E, insular G as G,  $\mathring{E}$  between O and P, long S equivalent to S,  $\mathring{P}$  between T and U and wynn as W).

```

\newcommand*{\glxtrGeneralLatinVIIrules}{%
  \glxtrLatinA
  \string<\glxtrLatinAELigature
  \string<b,B%
  \string<c,C%
  \string<d,D%
  \string<\glxtrLatinEth
  \string<\glxtrLatinE
  \string<f,F%
  \string<\glxtrLatinInsularG
  \string<\glxtrLatinH
  \string<\glxtrLatinI
  \string<j,J%
  \string<\glxtrLatinK
  \string<\glxtrLatinL
  \string<\glxtrLatinM
  \string<\glxtrLatinN
  \string<\glxtrLatinO
  \string<\glxtrLatinOELigature
  \string<\glxtrLatinP
  \string<q,Q%
  \string<r,R%
  \string<\glshex 017F=\glxtrLatinS % s and long s
  \string<\glxtrLatinT
  \string<\glxtrLatinThorn
  \string<u,U%
  \string<v,V%
  \string< w\string=\glshex 01BF, W\string=\glshex 01F7
  \string<\glxtrLatinX
  \string<y,Y%
  \string<z,Z%
}

```

`\glxtrGeneralLatinVIIIrules` General Latin alphabet ( $\mathring{A}$  treated as AE and  $\mathring{E}$  treated as OE,  $\mathring{P}$  treated as TH,  $\mathring{B}$  treated as SS, eth treated as D,  $\mathring{O}$  treated as O,  $\mathring{L}$  treated as L).

```

\newcommand*{\glxtrGeneralLatinVIIIrules}{%
  \glxtrLatinA
  \string& AE , \glxtrLatinAELigature
  \string<b,B%
  \string<c,C%
  \string<\glshex 00F0\string;d,\glshex 00D0\string;D% D and eth
  \string<\glxtrLatinE
  \string<f,F%
  \string<g,G%
  \string<\glxtrLatinH
  \string<\glxtrLatinI

```

```

\string<j,J%
\string<\glxtrLatinK
\string<\glshex 0142\string=\glxtrLatinL\string=\glshex 0141% L and \L
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glshex 00F8\string=\glxtrLatinO\string=\glshex 00D8% O and \O
\string& OE , \glxtrLatinOELigature
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}

```

Fragments.

`\glxtrGeneralLatinAtoMrules` Basic Latin alphabet A–M.

```

\newcommand*{\glxtrGeneralLatinAtoMrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
}

```

`\glxtrGeneralLatinNtoZrules` Basic Latin alphabet N–Z.

```

\newcommand*{\glxtrGeneralLatinNtoZrules}{%
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
}

```



```

\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z
}

```

`\glxtrGeneralLatinAtoGrules` Basic Latin alphabet A–G.

```

\newcommand*{\glxtrGeneralLatinAtoGrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
}

```

`\glxtrGeneralLatinHtoMrules` Basic Latin alphabet H–M.

```

\newcommand*{\glxtrGeneralLatinHtoMrules}{%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
}

```

`\glxtrGeneralLatinNtoSrules` Basic Latin alphabet N–S.

```

\newcommand*{\glxtrGeneralLatinNtoSrules}{%
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
}

```

`\glxtrGeneralLatinTtoZrules` Basic Latin alphabet T–Z.

```

\newcommand*{\glxtrGeneralLatinTtoZrules}{%
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z
}

```

```

\glxtrLatinA
  \newcommand*{\glxtrLatinA}{%
    a\string=\glshex 00AA\string=\glshex 2090,A
  }

\glxtrLatinE
  \newcommand*{\glxtrLatinE}{%
    e\string=\glshex 2091,E
  }

\glxtrLatinH
  \newcommand*{\glxtrLatinH}{%
    h\string=\glshex 2095,H
  }

\glxtrLatinI
  \newcommand*{\glxtrLatinI}{%
    i\string=\glshex 2071,I
  }

\glxtrLatinK
  \newcommand*{\glxtrLatinK}{%
    k\string=\glshex 2096,K
  }

\glxtrLatinL
  \newcommand*{\glxtrLatinL}{%
    l\string=\glshex 2097,L
  }

\glxtrLatinM
  \newcommand*{\glxtrLatinM}{%
    m\string=\glshex 2098,M
  }

\glxtrLatinN
  \newcommand*{\glxtrLatinN}{%
    n\string=\glshex 207F\string=\glshex 2099,N
  }

\glxtrLatinO
  \newcommand*{\glxtrLatinO}{%
    o\string=\glshex 00BA\string=\glshex 2092,O
  }

\glxtrLatinP
  \newcommand*{\glxtrLatinP}{%
    p\string=\glshex 209A,P
  }

```

```

\glxtrLatinS
  \newcommand*\glxtrLatinS}{%
    s\string=\glshex 209B,S
  }

\glxtrLatinT
  \newcommand*\glxtrLatinT}{%
    t\string=\glshex 209C,T
  }

\glxtrLatinX
  \newcommand*\glxtrLatinX}{%
    x\string=\glshex 2093,X
  }

\glxtrLatinSchwa Latin schwa (lower case, subscript and upper case).
  \newcommand*\glxtrLatinSchwa}{%
    \glshex 0259\string=\glshex 2094,\glshex 018F
  }

\glxtrLatinEszettSs SS=ss
  \newcommand*\glxtrLatinEszettSs}{%
    \glshex 00DF% eszett
    \string=\glshex 017Fs % "long S"s
  }

\glxtrLatinEszettSz SS=sz
  \newcommand*\glxtrLatinEszettSz}{%
    \glshex 00DF% eszett
    \string= \glshex 017Fz % "long S"z
  }

\glxtrLatinEth
  \newcommand*\glxtrLatinEth}{%
    \glshex 00F0,\glshex 00D0% eth
  }

\glxtrLatinThorn
  \newcommand*\glxtrLatinThorn}{%
    \glshex 00FE,\glshex 00DE% thorn
  }

\glxtrLatinAELigature
  \newcommand*\glxtrLatinAELigature}{%
    \glshex 00E6,\glshex 00C6% AE-ligature
  }

```

```

\glxtrLatinOELigature
    \newcommand*\glxtrLatinOELigature}{%
    \glshex 0153,\glshex 0152% OE-ligature
    }

\glxtrLatinAA
    \newcommand*\glxtrLatinAA}{%
    \glshex 00E5=a\glshex 030A,% \aa
    \glshex 00C5=A\glshex 030A% \AA
    }

\glxtrLatinWynn
    \newcommand*\glxtrLatinWynn}{%
    \glshex 01BF,\glshex 01F7% wynn
    }

\glxtrLatinInsularG
    \newcommand*\glxtrLatinInsularG}{%
    \glshex 1D79,\glshex A77D% insular G
    \string; g, G
    }

\glxtrLatinOslash
    \newcommand*\glxtrLatinOslash}{%
    \glshex 00F8,\glshex 00D8% \o, \O
    }

\glxtrLatinLslash
    \newcommand*\glxtrLatinLslash}{%
    \glshex 0142,\glshex 0141% \l, \L
    }

\glxtrMathUpGreekIrules Includes digamma between epsilon and zeta.
    \newcommand*\glxtrMathUpGreekIrules}{%
    \glxtrUpAlpha
    \string<\glxtrUpBeta
    \string<\glxtrUpGamma
    \string<\glxtrUpDelta
    \string<\glxtrUpEpsilon
    \string<\glxtrUpDigamma
    \string<\glxtrUpZeta
    \string<\glxtrUpEta
    \string<\glxtrUpTheta
    \string<\glxtrUpIota
    \string<\glxtrUpKappa
    \string<\glxtrUpLambda
    \string<\glxtrUpMu
    \string<\glxtrUpNu
    \string<\glxtrUpXi

```

```

\string<\glxtrUpOmicron
\string<\glxtrUpPi
\string<\glxtrUpRho
\string<\glxtrUpSigma
\string<\glxtrUpTau
\string<\glxtrUpUpsilon
\string<\glxtrUpPhi
\string<\glxtrUpChi
\string<\glxtrUpPsi
\string<\glxtrUpOmega
}

```

`\glxtrMathUpGreekIIrules` Doesn't include digamma.

```

\newcommand*{\glxtrMathUpGreekIIrules}{%
\glxtrUpAlpha
\string<\glxtrUpBeta
\string<\glxtrUpGamma
\string<\glxtrUpDelta
\string<\glxtrUpEpsilon
\string<\glxtrUpZeta
\string<\glxtrUpEta
\string<\glxtrUpTheta
\string<\glxtrUpIota
\string<\glxtrUpKappa
\string<\glxtrUpLambda
\string<\glxtrUpMu
\string<\glxtrUpNu
\string<\glxtrUpXi
\string<\glxtrUpOmicron
\string<\glxtrUpPi
\string<\glxtrUpRho
\string<\glxtrUpSigma
\string<\glxtrUpTau
\string<\glxtrUpUpsilon
\string<\glxtrUpPhi
\string<\glxtrUpChi
\string<\glxtrUpPsi
\string<\glxtrUpOmega
}

```

`\glxtrMathItalicGreekIrules` Includes (upright) digamma between epsilon and zeta (there isn't an italic digamma), so don't mix with `\glxtrMathUpGreekIrules` or there may be unexpected results.

```

\newcommand*{\glxtrMathItalicGreekIrules}{%
\glxtrMathItalicAlpha
\string<\glxtrMathItalicBeta
\string<\glxtrMathItalicGamma
\string<\glxtrMathItalicDelta
\string<\glxtrMathItalicEpsilon

```

```

\string<\glxtrUpDigamma
\string<\glxtrMathItalicZeta
\string<\glxtrMathItalicEta
\string<\glxtrMathItalicTheta
\string<\glxtrMathItalicIota
\string<\glxtrMathItalicKappa
\string<\glxtrMathItalicLambda
\string<\glxtrMathItalicMu
\string<\glxtrMathItalicNu
\string<\glxtrMathItalicXi
\string<\glxtrMathItalicOmicron
\string<\glxtrMathItalicPi
\string<\glxtrMathItalicRho
\string<\glxtrMathItalicSigma
\string<\glxtrMathItalicTau
\string<\glxtrMathItalicUpsilon
\string<\glxtrMathItalicPhi
\string<\glxtrMathItalicChi
\string<\glxtrMathItalicPsi
\string<\glxtrMathItalicOmega
}

```

`\glxtrMathItalicGreekIIrules` Doesn't include digamma.

```

\newcommand*{\glxtrMathItalicGreekIIrules}{%
\glxtrMathItalicAlpha
\string<\glxtrMathItalicBeta
\string<\glxtrMathItalicGamma
\string<\glxtrMathItalicDelta
\string<\glxtrMathItalicEpsilon
\string<\glxtrMathItalicZeta
\string<\glxtrMathItalicEta
\string<\glxtrMathItalicTheta
\string<\glxtrMathItalicIota
\string<\glxtrMathItalicKappa
\string<\glxtrMathItalicLambda
\string<\glxtrMathItalicMu
\string<\glxtrMathItalicNu
\string<\glxtrMathItalicXi
\string<\glxtrMathItalicOmicron
\string<\glxtrMathItalicPi
\string<\glxtrMathItalicRho
\string<\glxtrMathItalicSigma
\string<\glxtrMathItalicTau
\string<\glxtrMathItalicUpsilon
\string<\glxtrMathItalicPhi
\string<\glxtrMathItalicChi
\string<\glxtrMathItalicPsi
\string<\glxtrMathItalicOmega
}

```

`\rMathItalicUpperGreekIrules` Upper case only (includes upright digamma).

```
\newcommand*{\glxtrMathItalicUpperGreekIrules}{%
\glshex 1D6E2% upper case alpha (maths italic)
\string<\glshex 1D6E3% upper case beta (maths italic)
\string<\glshex 1D6E4% upper case gamma (maths italic)
\string<\glshex 1D6E5% upper case delta (maths italic)
\string<\glshex 1D6E6% upper case epsilon (maths italic)
\string<\glshex 03DC% upper case digamma
\string<\glshex 1D6E7% upper case zeta (maths italic)
\string<\glshex 1D6E8% upper case eta (maths italic)
\string<\glshex 1D6E9% upper case theta (maths italic)
\string=\glshex 1D6F3% upper case theta variant (maths italic)
\string<\glshex 1D6EA% upper case iota (maths italic)
\string<\glshex 1D6EB% upper case kappa (maths italic)
\string<\glshex 1D6EC% upper case lambda (maths italic)
\string<\glshex 1D6ED% upper case mu (maths italic)
\string<\glshex 1D6EE% upper case nu (maths italic)
\string<\glshex 1D6EF% upper case xi (maths italic)
\string<\glshex 1D6F0% upper case omicron (maths italic)
\string<\glshex 1D6F1% upper case pi (maths italic)
\string<\glshex 1D6F2% upper case rho (maths italic)
\string<\glshex 1D6F4% upper case sigma (maths italic)
\string<\glshex 1D6F5% upper case tau (maths italic)
\string<\glshex 1D6F6% upper case upsilon (maths italic)
\string<\glshex 1D6F7% upper case phi (maths italic)
\string<\glshex 1D6F8% upper case chi (maths italic)
\string<\glshex 1D6F9% upper case psi (maths italic)
\string<\glshex 1D6FA% upper case omega (maths italic)
}
```

`\rMathItalicUpperGreekIIrules` Upper case only (doesn't include upright digamma).

```
\newcommand*{\glxtrMathItalicUpperGreekIIrules}{%
\glshex 1D6E2% upper case alpha (maths italic)
\string<\glshex 1D6E3% upper case beta (maths italic)
\string<\glshex 1D6E4% upper case gamma (maths italic)
\string<\glshex 1D6E5% upper case delta (maths italic)
\string<\glshex 1D6E6% upper case epsilon (maths italic)
\string<\glshex 1D6E7% upper case zeta (maths italic)
\string<\glshex 1D6E8% upper case eta (maths italic)
\string<\glshex 1D6E9% upper case theta (maths italic)
\string=\glshex 1D6F3% upper case theta variant (maths italic)
\string<\glshex 1D6EA% upper case iota (maths italic)
\string<\glshex 1D6EB% upper case kappa (maths italic)
\string<\glshex 1D6EC% upper case lambda (maths italic)
\string<\glshex 1D6ED% upper case mu (maths italic)
\string<\glshex 1D6EE% upper case nu (maths italic)
\string<\glshex 1D6EF% upper case xi (maths italic)
\string<\glshex 1D6F0% upper case omicron (maths italic)
\string<\glshex 1D6F1% upper case pi (maths italic)
\string<\glshex 1D6F2% upper case rho (maths italic)
}
```

```

\string<\glshex 1D6F4% upper case sigma (maths italic)
\string<\glshex 1D6F5% upper case tau (maths italic)
\string<\glshex 1D6F6% upper case upsilon (maths italic)
\string<\glshex 1D6F7% upper case phi (maths italic)
\string<\glshex 1D6F8% upper case chi (maths italic)
\string<\glshex 1D6F9% upper case psi (maths italic)
\string<\glshex 1D6FA% upper case omega (maths italic)
}

```

`\rMathItalicLowerGreekIrules` Lower case only (includes upright digamma).

```

\newcommand*{\glxtrMathItalicLowerGreekIrules}{%
\glshex 1D6FC% lower case alpha (maths italic)
\string<\glshex 1D6FD% lower case beta (maths italic)
\string<\glshex 1D6FE% lower case gamma (maths italic)
\string<\glshex 1D6FF% lower case delta (maths italic)
\string<\glshex 1D700% lower case epsilon (maths italic)
\string=\glshex 1D716% lower case epsilon variant (maths italic)
\string<\glshex 03DD% lower case digamma
\string<\glshex 1D701% lower case zeta (maths italic)
\string<\glshex 1D702% lower case eta (maths italic)
\string<\glshex 1D703% lower case theta (maths italic)
\string=\glshex 1D717% lower case theta variant (maths italic)
\string<\glshex 1D704% lower case iota (maths italic)
\string<\glshex 1D705% lower case kappa (maths italic)
\string=\glshex 1D718% lower case kappa variant (maths italic)
\string<\glshex 1D706% lower case lambda (maths italic)
\string<\glshex 1D707% lower case mu (maths italic)
\string<\glshex 1D708% lower case nu (maths italic)
\string<\glshex 1D709% lower case xi (maths italic)
\string<\glshex 1D70A% lower case omicron (maths italic)
\string<\glshex 1D70B% lower case pi (maths italic)
\string=\glshex 1D71B% lower case pi variant (maths italic)
\string<\glshex 1D70C% lower case rho (maths italic)
\string=\glshex 1D71A% lower case rho variant (maths italic)
\string<\glshex 1D70D% lower case final sigma (maths italic)
\string=\glshex 1D70E% lower case sigma (maths italic)
\string<\glshex 1D70F% lower case tau (maths italic)
\string<\glshex 1D710% lower case upsilon (maths italic)
\string<\glshex 1D711% lower case phi (maths italic)
\string=\glshex 1D719% lower case phi variant (maths italic)
\string<\glshex 1D712% lower case chi (maths italic)
\string<\glshex 1D713% lower case psi (maths italic)
\string<\glshex 1D714% lower case omega (maths italic)
}

```

`\rMathItalicLowerGreekIIrules` Lower case only (doesn't includes upright digamma).

```

\newcommand*{\glxtrMathItalicLowerGreekIIrules}{%
\glshex 1D6FC% lower case alpha (maths italic)
\string<\glshex 1D6FD% lower case beta (maths italic)
\string<\glshex 1D6FE% lower case gamma (maths italic)

```



```

\string<\glshex 1D6FF% lower case delta (maths italic)
\string<\glshex 1D700% lower case epsilon (maths italic)
\string=\glshex 1D716% lower case epsilon variant (maths italic)
\string<\glshex 1D701% lower case zeta (maths italic)
\string<\glshex 1D702% lower case eta (maths italic)
\string<\glshex 1D703% lower case theta (maths italic)
\string=\glshex 1D717% lower case theta variant (maths italic)
\string<\glshex 1D704% lower case iota (maths italic)
\string<\glshex 1D705% lower case kappa (maths italic)
\string=\glshex 1D718% lower case kappa variant (maths italic)
\string<\glshex 1D706% lower case lambda (maths italic)
\string<\glshex 1D707% lower case mu (maths italic)
\string<\glshex 1D708% lower case nu (maths italic)
\string<\glshex 1D709% lower case xi (maths italic)
\string<\glshex 1D70A% lower case omicron (maths italic)
\string<\glshex 1D70B% lower case pi (maths italic)
\string=\glshex 1D71B% lower case pi variant (maths italic)
\string<\glshex 1D70C% lower case rho (maths italic)
\string=\glshex 1D71A% lower case rho variant (maths italic)
\string<\glshex 1D70D% lower case final sigma (maths italic)
\string=\glshex 1D70E% lower case sigma (maths italic)
\string<\glshex 1D70F% lower case tau (maths italic)
\string<\glshex 1D710% lower case upsilon (maths italic)
\string<\glshex 1D711% lower case phi (maths italic)
\string=\glshex 1D719% lower case phi variant (maths italic)
\string<\glshex 1D712% lower case chi (maths italic)
\string<\glshex 1D713% lower case psi (maths italic)
\string<\glshex 1D714% lower case omega (maths italic)
}

```

`\glxtrMathGreekIrules` Includes both upright and italic with digamma between epsilon and zeta.

```

\newcommand*{\glxtrMathGreekIrules}{%
\glxtrMathItalicAlpha
\string;\glxtrUpAlpha
\string<\glxtrMathItalicBeta
\string;\glxtrUpBeta
\string<\glxtrMathItalicGamma
\string;\glxtrUpGamma
\string<\glxtrMathItalicDelta
\string;\glxtrUpDelta
\string<\glxtrMathItalicEpsilon
\string;\glxtrUpEpsilon
\string<\glxtrUpDigamma
\string<\glxtrMathItalicZeta
\string;\glxtrUpZeta
\string<\glxtrMathItalicEta
\string;\glxtrUpEta
\string<\glxtrMathItalicTheta
\string;\glxtrUpTheta
\string<\glxtrMathItalicIota

```

```

\string;\glxtrUpIota
\string<\glxtrMathItalicKappa
\string;\glxtrUpKappa
\string<\glxtrMathItalicLambda
\string;\glxtrUpLambda
\string<\glxtrMathItalicMu
\string;\glxtrUpMu
\string<\glxtrMathItalicNu
\string;\glxtrUpNu
\string<\glxtrMathItalicXi
\string;\glxtrUpXi
\string<\glxtrMathItalicOmicron
\string;\glxtrUpOmicron
\string<\glxtrMathItalicPi
\string;\glxtrUpPi
\string<\glxtrMathItalicRho
\string;\glxtrUpRho
\string<\glxtrMathItalicSigma
\string;\glxtrUpSigma
\string<\glxtrMathItalicTau
\string;\glxtrUpTau
\string<\glxtrMathItalicUpsilon
\string;\glxtrUpUpsilon
\string<\glxtrMathItalicPhi
\string;\glxtrUpPhi
\string<\glxtrMathItalicChi
\string;\glxtrUpChi
\string<\glxtrMathItalicPsi
\string;\glxtrUpPsi
\string<\glxtrMathItalicOmega
\string;\glxtrUpOmega
}

```

`\glxtrMathGreekIIrules` Includes both upright and italic (digamma not included).

```

\newcommand*{\glxtrMathGreekIIrules}{%
\glxtrMathItalicAlpha
\string;\glxtrUpAlpha
\string<\glxtrMathItalicBeta
\string;\glxtrUpBeta
\string<\glxtrMathItalicGamma
\string;\glxtrUpGamma
\string<\glxtrMathItalicDelta
\string;\glxtrUpDelta
\string<\glxtrMathItalicEpsilon
\string;\glxtrUpEpsilon
\string<\glxtrMathItalicZeta
\string;\glxtrUpZeta
\string<\glxtrMathItalicEta
\string;\glxtrUpEta
\string<\glxtrMathItalicTheta

```

```

\string;\glxtrUpTheta
\string<\glxtrMathItalicIota
\string;\glxtrUpIota
\string<\glxtrMathItalicKappa
\string;\glxtrUpKappa
\string<\glxtrMathItalicLambda
\string;\glxtrUpLambda
\string<\glxtrMathItalicMu
\string;\glxtrUpMu
\string<\glxtrMathItalicNu
\string;\glxtrUpNu
\string<\glxtrMathItalicXi
\string;\glxtrUpXi
\string<\glxtrMathItalicOmicron
\string;\glxtrUpOmicron
\string<\glxtrMathItalicPi
\string;\glxtrUpPi
\string<\glxtrMathItalicRho
\string;\glxtrUpRho
\string<\glxtrMathItalicSigma
\string;\glxtrUpSigma
\string<\glxtrMathItalicTau
\string;\glxtrUpTau
\string<\glxtrMathItalicUpsilon
\string;\glxtrUpUpsilon
\string<\glxtrMathItalicPhi
\string;\glxtrUpPhi
\string<\glxtrMathItalicChi
\string;\glxtrUpChi
\string<\glxtrMathItalicPsi
\string;\glxtrUpPsi
\string<\glxtrMathItalicOmega
\string;\glxtrUpOmega
}

```

`\glxtrUpAlpha`

```

\newcommand*{\glxtrUpAlpha}{%
\glshex 03B1,% lower case alpha
\glshex 0391% upper case alpha
}

```

`\glxtrUpBeta`

```

\newcommand*{\glxtrUpBeta}{%
\glshex 03B2,% lower case beta
\glshex 0392% upper case beta
}

```

`\glxtrUpGamma`

```

\newcommand*{\glxtrUpGamma}{%

```

```

        \glshex 03B3,% lower case gamma
        \glshex 0393% upper case gamma
    }

\glxtrUpDelta
    \newcommand*\glxtrUpDelta{%
        \glshex 03B4,% lower case delta
        \glshex 0394% upper case delta
    }

\glxtrUpEpsilon
    \newcommand*\glxtrUpEpsilon{%
        \glshex 03B5% lower case epsilon
        \string=\glshex 03F5,% lower case epsilon variant
        \glshex 0395% upper case epsilon
    }

\glxtrUpDigamma
    \newcommand*\glxtrUpDigamma{%
        \glshex 03DD,% lower case digamma
        \glshex 03DC% upper case digamma
    }

\glxtrUpZeta
    \newcommand*\glxtrUpZeta{%
        \glshex 03B6,% lower case zeta
        \glshex 0396% upper case zeta
    }

\glxtrUpEta
    \newcommand*\glxtrUpEta{%
        \glshex 03B7,% lower case eta
        \glshex 0397% upper case eta
    }

\glxtrUpTheta
    \newcommand*\glxtrUpTheta{%
        \glshex 03B8% lower case theta
        \string=\glshex 03D1,% lower case theta variant
        \glshex 0398% upper case theta
    }

\glxtrUpIota
    \newcommand*\glxtrUpIota{%
        \glshex 03B9,% lower case iota
        \glshex 0399% upper case iota
    }

```

```

\glsxtrUpKappa
\newcommand*\glsxtrUpKappa}{%
\glshex 03BA,% lower case kappa
\string=\glshex 03F0,% lower case kappa variant
\glshex 039A,% upper case kappa
}

\glsxtrUpLambda
\newcommand*\glsxtrUpLambda}{%
\glshex 03BB,% lower lambda
\glshex 039B,% upper case lambda
}

\glsxtrUpMu
\newcommand*\glsxtrUpMu}{%
\glshex 03BC,% lower case mu
\glshex 039C,% upper case mu
}

\glsxtrUpNu
\newcommand*\glsxtrUpNu}{%
\glshex 03BD,% lower case nu
\glshex 039D,% upper case nu
}

\glsxtrUpXi
\newcommand*\glsxtrUpXi}{%
\glshex 03BE,% lower case xi
\glshex 039E,% upper case xi
}

\glsxtrUpOmicron
\newcommand*\glsxtrUpOmicron}{%
\glshex 03BF,% lower case omicron
\glshex 039F,% upper case omicron
}

\glsxtrUpPi
\newcommand*\glsxtrUpPi}{%
\glshex 03C0,% lower case pi
\string=\glshex 03D6,% lower case pi variant
\glshex 03A0,% upper case pi
}

\glsxtrUpRho
\newcommand*\glsxtrUpRho}{%
\glshex 03C1,% lower case rho
\string=\glshex 03F1,% lower case rho variant
\glshex 03A1,% upper case rho
}

```

```

\glxtrUpSigma
\newcommand*\glxtrUpSigma{%
  \glshex 03C2,% lower case sigma
  \string=\glshex 03C3,% lower case sigma
  \glshex 03A3% upper case sigma
}

\glxtrUpTau
\newcommand*\glxtrUpTau{%
  \glshex 03C4,% lower case tau
  \glshex 03A4% upper case tau
}

\glxtrUpUpsilon
\newcommand*\glxtrUpUpsilon{%
  \glshex 03C5,% lower case upsilon
  \glshex 03A5% upper case upsilon
}

\glxtrUpPhi
\newcommand*\glxtrUpPhi{%
  \glshex 03C6,% lower case phi
  \string=\glshex 03D5,% lower case phi variant
  \glshex 03A6% upper case phi
}

\glxtrUpChi
\newcommand*\glxtrUpChi{%
  \glshex 03C7,% lower case chi
  \glshex 03A7% upper case chi
}

\glxtrUpPsi
\newcommand*\glxtrUpPsi{%
  \glshex 03C8,% lower case psi
  \glshex 03A8% upper case psi
}

\glxtrUpOmega
\newcommand*\glxtrUpOmega{%
  \glshex 03C9,% lower case omega
  \glshex 03A9% upper case omega
}

\glxtrMathItalicAlpha
\newcommand*\glxtrMathItalicAlpha{%
  \glshex 1D6FC,% lower case alpha (maths italic)
  \glshex 1D6E2% upper case alpha (maths italic)
}

```

```

\glsxtrMathItalicBeta
    \newcommand*\glsxtrMathItalicBeta}{%
        \glshex 1D6FD,% lower case beta (maths italic)
        \glshex 1D6E3% upper case beta (maths italic)
    }

\glsxtrMathItalicGamma
    \newcommand*\glsxtrMathItalicGamma}{%
        \glshex 1D6FE,% lower case gamma (maths italic)
        \glshex 1D6E4% upper case gamma (maths italic)
    }

\glsxtrMathItalicDelta
    \newcommand*\glsxtrMathItalicDelta}{%
        \glshex 1D6FF,% lower case delta (maths italic)
        \glshex 1D6E5% upper case delta (maths italic)
    }

\glsxtrMathItalicEpsilon
    \newcommand*\glsxtrMathItalicEpsilon}{%
        \glshex 1D700% lower case epsilon (maths italic)
        \string=\glshex 1D716,% lower case epsilon variant (maths italic)
        \glshex 1D6E6% upper case epsilon (maths italic)
    }

\glsxtrMathItalicZeta
    \newcommand*\glsxtrMathItalicZeta}{%
        \glshex 1D701,% lower case zeta (maths italic)
        \glshex 1D6E7% upper case zeta (maths italic)
    }

\glsxtrMathItalicEta
    \newcommand*\glsxtrMathItalicEta}{%
        \glshex 1D702,% lower case eta (maths italic)
        \glshex 1D6E8% upper case eta (maths italic)
    }

\glsxtrMathItalicTheta
    \newcommand*\glsxtrMathItalicTheta}{%
        \glshex 1D703% lower case theta (maths italic)
        \string=\glshex 1D717,% lower case theta variant (maths italic)
        \glshex 1D6E9% upper case theta (maths italic)
        \string=\glshex 1D6F3% upper case theta variant (maths italic)
    }

\glsxtrMathItalicIota
    \newcommand*\glsxtrMathItalicIota}{%
        \glshex 1D704,% lower case iota (maths italic)
        \glshex 1D6EA% upper case iota (maths italic)
    }

```

```

\glsxtrMathItalicKappa
    \newcommand*{\glsxtrMathItalicKappa}{%
        \glshex 1D705% lower case kappa (maths italic)
        \string=\glshex 1D718,% lower case kappa variant (maths italic)
        \glshex 1D6EB% upper case kappa (maths italic)
    }

\glsxtrMathItalicLambda
    \newcommand*{\glsxtrMathItalicLambda}{%
        \glshex 1D706,% lower case lambda (maths italic)
        \glshex 1D6EC% upper case lambda (maths italic)
    }

\glsxtrMathItalicMu
    \newcommand*{\glsxtrMathItalicMu}{%
        \glshex 1D707,% lower case mu (maths italic)
        \glshex 1D6ED% upper case mu (maths italic)
    }

\glsxtrMathItalicNu
    \newcommand*{\glsxtrMathItalicNu}{%
        \glshex 1D708,% lower case nu (maths italic)
        \glshex 1D6EE% upper case nu (maths italic)
    }

\glsxtrMathItalicXi
    \newcommand*{\glsxtrMathItalicXi}{%
        \glshex 1D709,% lower case xi (maths italic)
        \glshex 1D6EF% upper case xi (maths italic)
    }

\glsxtrMathItalicOmicron
    \newcommand*{\glsxtrMathItalicOmicron}{%
        \glshex 1D70A,% lower case omicron (maths italic)
        \glshex 1D6F0% upper case omicron (maths italic)
    }

\glsxtrMathItalicPi
    \newcommand*{\glsxtrMathItalicPi}{%
        \glshex 1D70B% lower case pi (maths italic)
        \string=\glshex 1D71B,% lower case pi variant (maths italic)
        \glshex 1D6F1% upper case pi (maths italic)
    }

\glsxtrMathItalicRho
    \newcommand*{\glsxtrMathItalicRho}{%
        \glshex 1D70C% lower case rho (maths italic)
        \string=\glshex 1D71A,% lower case rho variant (maths italic)
        \glshex 1D6F2% upper case rho (maths italic)
    }

```



```

\glxtrMathItalicSigma
    \newcommand*\glxtrMathItalicSigma{%
        \glshex 1D70D% lower case final sigma (maths italic)
        \string=\glshex 1D70E,% lower case sigma (maths italic)
        \glshex 1D6F4% upper case sigma (maths italic)
    }

\glxtrMathItalicTau
    \newcommand*\glxtrMathItalicTau{%
        \glshex 1D70F,% lower case tau (maths italic)
        \glshex 1D6F5% upper case tau (maths italic)
    }

\glxtrMathItalicUpsilon
    \newcommand*\glxtrMathItalicUpsilon{%
        \glshex 1D710,% lower case upsilon (maths italic)
        \glshex 1D6F6% upper case upsilon (maths italic)
    }

\glxtrMathItalicPhi
    \newcommand*\glxtrMathItalicPhi{%
        \glshex 1D711% lower case phi (maths italic)
        \string=\glshex 1D719,% lower case phi variant (maths italic)
        \glshex 1D6F7% upper case phi (maths italic)
    }

\glxtrMathItalicChi
    \newcommand*\glxtrMathItalicChi{%
        \glshex 1D712,% lower case chi (maths italic)
        \glshex 1D6F8% upper case chi (maths italic)
    }

\glxtrMathItalicPsi
    \newcommand*\glxtrMathItalicPsi{%
        \glshex 1D713,% lower case psi (maths italic)
        \glshex 1D6F9% upper case psi (maths italic)
    }

\glxtrMathItalicOmega
    \newcommand*\glxtrMathItalicOmega{%
        \glshex 1D714,% lower case omega (maths italic)
        \glshex 1D6FA% upper case omega (maths italic)
    }

\glxtrMathItalicPartial
    \newcommand*\glxtrMathItalicPartial{%
        \glshex 1D715% partial differential (maths italic)
    }

```

`\glxtrMathItalicNabla`

```
\newcommand*{\glxtrMathItalicNabla}{%  
  \glshex 1D6FB% nabla (maths italic)  
}
```

`\glxtrdigitrules` Digits from the Basic Latin set and subscript and superscript digit rules.

```
\newcommand*{\glxtrdigitrules}{%  
  0\string=\glshex 2080\string=\glshex 2070  
  \string<1\string=\glshex 2081\string=\glshex 00B9  
  \string<2\string=\glshex 2082\string=\glshex 00B2  
  \string<3\string=\glshex 2083\string=\glshex 00B3  
  \string<4\string=\glshex 2084\string=\glshex 2074  
  \string<5\string=\glshex 2085\string=\glshex 2075  
  \string<6\string=\glshex 2086\string=\glshex 2076  
  \string<7\string=\glshex 2087\string=\glshex 2077  
  \string<8\string=\glshex 2088\string=\glshex 2078  
  \string<9\string=\glshex 2089\string=\glshex 2079  
}
```

`\glxtrBasicDigitrules` Digits from the Basic Latin set.

```
\newcommand*{\glxtrBasicDigitrules}{%  
  0\string<1\string<2\string<3\string<4%  
  \string<5\string<6\string<7\string<8\string<9%  
}
```

`\glxtrSubScriptDigitrules` Subscript digits.

```
\newcommand*{\glxtrSubScriptDigitrules}{%  
  \glshex 2080% subscript 0  
  \string<\glshex 2081% subscript 1  
  \string<\glshex 2082% subscript 2  
  \string<\glshex 2083% subscript 3  
  \string<\glshex 2084% subscript 4  
  \string<\glshex 2085% subscript 5  
  \string<\glshex 2086% subscript 6  
  \string<\glshex 2087% subscript 7  
  \string<\glshex 2088% subscript 8  
  \string<\glshex 2089% subscript 9  
}
```

`\glxtrSuperScriptDigitrules` Superscript digits.

```
\newcommand*{\glxtrSuperScriptDigitrules}{%  
  \glshex 2070% superscript 0  
  \string<\glshex 00B9% superscript 1  
  \string<\glshex 00B2% superscript 2  
  \string<\glshex 00B3% superscript 3  
  \string<\glshex 2074% superscript 4  
  \string<\glshex 2075% superscript 5  
  \string<\glshex 2076% superscript 6  
  \string<\glshex 2077% superscript 7
```

```

\string<\glshex 2078% superscript 8
\string<\glshex 2079% superscript 9
}

```

`\glxtrfractionrules` Vulgar fractions.

```

\newcommand*{\glxtrfractionrules}{%
\glshex 215F% fraction numerator one (1/)
\string<\glshex 2189% zero thirds (0/3 = 0)
\string<\glshex 2152% one tenth (1/10 = 0.1)
\string<\glshex 2151% one ninth (1/9 ~ 0.111)
\string<\glshex 215B% one eighth (1/8 = 0.125)
\string<\glshex 2150% one seventh (1/7 ~ 0.143)
\string<\glshex 2159% one sixth (1/6 ~ 0.167)
\string<\glshex 2155% one fifth (1/5 = 0.2)
\string<\glshex 00BC% one quarter (1/4 = 0.25)
\string<\glshex 2153% one third (1/3 ~ 0.333)
\string<\glshex 215C% three eighths (3/8 = 0.375)
\string<\glshex 2156% two fifths (2/5 = 0.4)
\string<\glshex 00BD% one half (1/2 = 0.5)
\string<\glshex 2157% three fifths (3/5 = 0.6)
\string<\glshex 215D% five eighths (5/8 = 0.625)
\string<\glshex 2154% two thirds (2/3 ~ 0.667)
\string<\glshex 00BE% three quarters (3/4 = 0.75)
\string<\glshex 2158% four fifths (4/5 = 0.8)
\string<\glshex 215A% five sixths (5/6 ~ 0.833)
\string<\glshex 215E% seven eighths (7/8 = 0.875)
}

```

`\@glxtrdialecthook` Check for scripts associated with the document dialects.

```

\renewcommand{\@glxtrdialecthook}{%
\ifundef\CurrentTrackedScript
{%
\TrackLangIfHasDefaultScript{\CurrentTrackedLanguage}%
}%
\edef\CurrentTrackedScript{%
\TrackLangGetDefaultScript\CurrentTrackedLanguage}%
}%
}%
}%
\ifdef\CurrentTrackedScript
{%
\let\gls@orgTrackLangRequireDialectPrefix\TrackLangRequireDialectPrefix
\def\TrackLangRequireDialectPrefix{glossariesxtr-}%
\let\CurrentTrackedTag\CurrentTrackedScript
\IfFileExists{\TrackLangRequireDialectPrefix\CurrentTrackedTag.ldf}
{\RequireGlossariesExtraLang{\CurrentTrackedTag}}%
}%
\let\TrackLangRequireDialectPrefix\gls@orgTrackLangRequireDialectPrefix
}%

```

```

    {}%
  }

```

If `\glsxtr@loaddialect` has been defined, then `glossaries-extra-bib2gls` has been loaded after `glossaries-extra`. (For example, through `\glossariesextrasetup`.) Not recommended, but if this has been done try to find the associated language resources.

```

\ifdef\glsxtr@loaddialect
{%
  \ifpackageloaded{tracklang}
  {%
    \AnyTrackedLanguages
    {%
      \ForEachTrackedDialect{\this@dialect}{\glsxtr@loaddialect}%
    }%
  }%
}
{}
}
{}

```

## 4 Style Adjustments (`glossaries-extra-stylemods.sty`)

This package adjusts the predefined styles so that they include the post description hook. Also, some other minor adjustments may be made to make existing styles more flexible.

### 4.1 Package Initialisation

First identify package:

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossaries-extra-stylemods-2021-11-22.sty}
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossaries-extra-stylemods}[2025/01/03 v1.54 (NLCT)]
```

Provide package options to automatically load required predefined styles. The simplest method is to just test for the existence of the file `glossary-<option>.sty`. Packages can't be loaded whilst the options are being processed, so save the list in `\@glsxtr@loadstyles`.

```
\@glsxtr@loadstyles
```

```
\newcommand*{\@glsxtr@loadstyles}{}
```

`all` Provide all known styles.

```
\DeclareOption{all}{%
```

```

\appto\@glsxtr@loadstyles{%
  \RequirePackage{glossary-inline}%
  \RequirePackage{glossary-list}%
  \RequirePackage{glossary-tree}%
  \RequirePackage{glossary-mcols}%
  \RequirePackage{glossary-long}%
  \RequirePackage{glossary-longragged}%
  \RequirePackage{glossary-longbooktabs}%
  \RequirePackage{glossary-super}%
  \RequirePackage{glossary-superragged}%
  \RequirePackage{glossary-bookindex}%
  \RequirePackage{glossary-longextra}%
  \RequirePackage{glossary-topic}%
  \RequirePackage{glossary-table}%
}
}
\DeclareOption*{%
  \IfFileExists{glossary-\CurrentOption.sty}
  {\eappto\@glsxtr@loadstyles{%
    \noexpand\RequirePackage{glossary-\CurrentOption}}%
  }%
  {%
    \PackageError{glossaries-extra-styles}%
    {Unknown option ‘\CurrentOption’}{}%
  }%
}

```

Process the package options:

```
\ProcessOptions
```

Load the required packages:

```
\@glsxtr@loadstyles
```

Adjust the styles so that they all have the post description hook. Also, instead of having a hard-coded `\space` before the location, use:

```
\glsxtrprelocation
```

This uses `\providecommand` as the same command is also provided by `glossary-bookindex`.

```
\providecommand*{\glsxtrprelocation}{\space}
```

In case we have an old version of `glossaries`:

```
\renewglossarystyle
```

```

\providecommand{\renewglossarystyle}[2]{%
  \ifcsundef{@glsstyle@#1}%
  {%
    \PackageError{glossaries-extra}{Glossary style ‘#1’ isn’t already defined}{}%
  }%
  {%
    \csdef{@glsstyle@#1}{#2}%
  }%
}

```

## 4.2 List-Like Styles

The list-like styles mostly already use the post description hook. Only the `listdotted` style need modifying to add this.

```
\ifdef{\@glsstyle@listdotted}
{%
  \renewglossarystyle{listdotted}{%
    \setglossarystyle{list}%
    \renewcommand*{\glossentry}[2]{%
      \item[]\makebox[\glslistdottedwidth][l]{%
        \glentryitem{##1}%
        \glstarget{##1}{\glossentryname{##1}}%
        \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}%
        \glossentrydesc{##1}\glspostdescription}%
      \renewcommand*{\subglossentry}[3]{%
        \item[]\makebox[\glslistdottedwidth][l]{%
          \glssubentryitem{##2}%
          \glstarget{##2}{\glossentryname{##2}}%
          \unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}%
          \glossentrydesc{##2}\glspostdescription}%
        }
      }
    }
  }
}
```

Assume the style isn't required if it hasn't already been defined.

```
}
```

The `sublistdotted` style doesn't display the description for top-level entries. Sub-level entries use the `listdottedstyle`.

The other list styles would be easier to adapt if the space before the number list wasn't hard coded.

```
\ifdef{\@glsstyle@list}
{%
```

`\glslistprelocation` Space before number list for top-level entries.

```
\newcommand{\glslistprelocation}{\glsxtrprelocation}
```

`\glslistchildprelocation` Space before number list for child entries.

```
\newcommand{\glslistchildprelocation}{\glslistprelocation}
```

`\glslistchildpostlocation` Full stop after number list.

```
\newcommand{\glslistchildpostlocation}{.}
```

`\glslistdesc`

```
\newcommand{\glslistdesc}[1]{\glossentrydesc{##1}\glspostdescription}
```

`\glslistgroupskip`

```
\newcommand{\glslistgroupskip}{\nobreak\indexspace\nobreak}
```

```

\glslistitem
    \newcommand{\glslistitem}[1]{%
      \item[\glsentryitem{#1}%
        \glstarget{#1}{\glossentryname{#1}}}%
    }

```

`\glslistinit` This command was only added to glossary-list v4.48 so provide it if it hasn't been defined:

```

\providecommand{\glslistinit}{%
  \ifdef\GetTitleStringDisableCommands
  {%
    \GetTitleStringSetup{expand}%
    \GetTitleStringDisableCommands{%
      \let\glsentryitem@gobble
      \let\glstarget@secondoftwo
      \let\glossentryname\glslistexpandedname
      \let\glslistgroupheaderfmt@firstofone
      \let\glsgetgrouptitle@firstofone

```

Technically this has an optional argument but it's not used in the list styles.

```

      \let\glsnavhypertarget@secondoftwo
      \let\glsnavigation\relax
    }%
  }%
  {}%
}

```

`\glslistexpandedname` This command was only added to glossary-list v4.48 so provide it if it hasn't been defined. The original definition uses `\glsunexpandedfieldvalue` which was added to glossaries v4.48 (so if `\glslistexpandedname` hasn't been defined then neither will `\glsunexpandedfieldvalue`).

```

\providecommand{\glslistexpandedname}[1]{%
  \ifcsname glo@glstetoklabel{#1}@name\endcsname
  \expandafter\expandonce\csname glo@glstetoklabel{#1}@name\expandafter\endcsname
  \fi
}

```

Redefine list to use these commands.

```

\renewglossarystyle{list}{%
  \renewenvironment{theglossary}{%
    {\glslistinit\begin{description}}{\end{description}}%
  \renewcommand*\glossaryheader{}%
  \renewcommand*\glsgroupheading}[1]{}%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the list styles.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand*\glossentry}[2]{%
  \glslistitem{##1}\glslistdesc{##1}\glslistprelocation ##2}%

```

```

\renewcommand*\subglossentry}[3]{%
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\space
  \glslistdesc{##2}%
  \glslistchildprelocation ##3\glslistchildpostlocation}%
\renewcommand*\glsgroupskip{\ifglsnogroupskip\else\glslistgroupskip\fi}%
}
}
{}

```

Similarly for altlist. Since it requires list, the new commands should have been defined above.

```

\ifdef{\@glsstyle@altlist}
{%

```

`\glsaltlistitem`

```

\newcommand\glsaltlistitem[1]{%
  \glslistitem{#1}%
  \mbox{}\par\nobreak\@afterheading
}

\renewglossarystyle{altlist}{%
  \setglossarystyle{list}%
  \renewcommand*\glossentry}[2]{%
    \glsaltlistitem{##1}%
    \glslistdesc{##1}\glslistprelocation ##2}%
  \renewcommand\subglossentry}[3]{%
    \par
    \glssubentryitem{##2}%
    \glstarget{##2}{\strut}\glslistdesc{##2}%
    \glslistchildprelocation ##3}%
}
}
{}

```

Redefine listgroup so that it discourages a break after group headings.

```

\ifdef{\@glsstyle@listgroup}
{%

```

`\glslistgroupheaderitem`

```

\newcommand\glslistgroupheaderitem[2]{\item[##2]}

```

`\glslistgroupafterheader`

```

\newcommand\glslistgroupafterheader{%
  \mbox{}\par\nobreak\@afterheading
}

\renewglossarystyle{listgroup}{%
  \setglossarystyle{list}%
  \renewcommand*\glsgroupheading}[1]{%

```



```

        \glslistgroupheaderitem{##1}{\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}}%
        \glslistgroupafterheader
    }%
}
}
{}

```

Similarly for listhypergroup.

```

\ifdef{\@glsstyle@listhypergroup}
{%
  \renewglossarystyle{listhypergroup}{%
    \setglossarystyle{list}%
    \renewcommand*\glossaryheader{%
      \glslistnavigationitem{\glsnavigation}}%
    \renewcommand*\glsgroupheading}[1]{%
      \glslistgroupheaderitem{##1}{\glslistgroupheaderfmt
        {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}}%
      \glslistgroupafterheader
    }%
  }
}
}
{}

```

Similarly for altlistgroup.

```

\ifdef{\@glsstyle@altlistgroup}
{%
  \renewglossarystyle{altlistgroup}{%
    \setglossarystyle{altlist}%
    \renewcommand*\glsgroupheading}[1]{%
      \glslistgroupheaderitem{##1}%
      {\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}}%
      \glslistgroupafterheader
    }%
  }
}
}
{}

```

Similarly for altlisthypergroup.

```

\ifdef{\@glsstyle@altlisthypergroup}
{%
  \renewglossarystyle{altlisthypergroup}{%
    \setglossarystyle{altlist}%
    \renewcommand*\glossaryheader{%
      \glslistnavigationitem{\glsnavigation}}%
    \renewcommand*\glsgroupheading}[1]{%
      \glslistgroupheaderitem{##1}{\glslistgroupheaderfmt
        {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}}%
      \glslistgroupafterheader
    }%
  }
}
}

```

```
{}
```

### 4.3 Longtable Styles

The three and four column styles require adjustment to add the post-description hook. The two column styles need the hard-coded `\space` changed to `\glstrprelocation`.

```
\ifcsdef{@glsstyle@long}
{%
  \renewglossarystyle{long}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{lp{\glsdescwidth}}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
  }
```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the long styles.

```
\renewcommand*{\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \glssentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription
  \glstrprelocation ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
  \glstrprelocation ##3\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{ & \tabularnewline}%
\fi
}
}
```

Three column style:

```
\ifcsdef{@glsstyle@long3col}
{%
  \renewglossarystyle{long3col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{lp{\glsdescwidth}p{\glspagerlistwidth}}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
  }
```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the long styles.

```

\renewcommand*\glssubgroupheading}[4]{%
\renewcommand{\glossentry}[2]{%
  \glstryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
  ##3\tabularnewline
}%

```

Conditional needs to be outside of `\glsgroupskip` otherwise it can cause “Incomplete `\iftrue`” errors.

```

\ifglsgroupskip
  \renewcommand*\glsgroupskip}{%
\else
  \renewcommand*\glsgroupskip}{& \tabularnewline}%
\fi
}
}
{}

```

Four column style:

```

\ifcsdef{@glsstyle@long4col}
{%
  \renewglossarystyle{long4col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{llll}}%
      {\end{longtable}}%
    \renewcommand*\glossaryheader}{%
    \renewcommand*\glsgroupheading}[1]{%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the long styles.

```

\renewcommand*\glssubgroupheading}[4]{%
\renewcommand{\glossentry}[2]{%
  \glstryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription &
  \glossentrysymbol{##1} &
  ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
  \glossentrysymbol{##2} & ##3\tabularnewline
}%

```

```

\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else
\renewcommand*\glsgroupskip}{& & \tabularnewline}%
\fi
}
}
{}

```

The styles in `glossary-longbooktabs` are all based on the styles in `glossary-long`, so no adjustments are needed for that package.

## 4.4 Long Ragged Styles

The three and four column styles require adjustment for the post-description hook, but not the two column styles. However, the two-column styles need to have `\space` replaced with `\glxtrprelocation`.

```

\ifcsdef{@glstyle@longragged}
{%
\renewglossarystyle{longragged}{%
\renewenvironment{theglossary}%
{\begin{longtable}{l>{\raggedright}p{\glstdescwidth}}}%
{\end{longtable}}%
\renewcommand*\glossaryheader}{}%
\renewcommand*\glsgroupheading}[1]{}%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the longragged styles.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
\glstarget{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1}\glspostdescription\glxtrprelocation ##2%
\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2}%
\glspostdescription\glxtrprelocation ##3%
\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else
\renewcommand*\glsgroupskip}{ & \tabularnewline}%
\fi
}
}
{}

```

Three and four column styles don't use `\glstrprelocation` since the number list is in its own column.

```
\ifcsdef{@glsstyle@longragged3col}
{%
  \renewglossarystyle{longragged3col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}%
        >{\raggedright}p{\glspagelistwidth}}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
  }
```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the longragged styles.

```
\renewcommand*{\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
  ##3\tabularnewline
}%

\ifglsgroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{& &\tabularnewline}%
\fi
}
}
}
```

Four column style:

```
\ifcsdef{@glsstyle@altlongragged4col}
{%
  \renewglossarystyle{altlongragged4col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}1%
        >{\raggedright}p{\glspagelistwidth}}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
  }
```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the longragged styles.

```
\renewcommand*{\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
```

```

        \glossentrydesc{##1}\glspostdescription & \glossentrysymbol{##1} &
        ##2\tabularnewline
    }%
\renewcommand{\subglossentry}[3]{%
    &
    \glssubentryitem{##2}%
    \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
    \glossentrysymbol{##2} & ##3\tabularnewline
}%

\ifglsnogroupskip
    \renewcommand*\glsgroupskip}{}%
\else
    \renewcommand*\glsgroupskip}{& & \tabularnewline}%
\fi
}
}
{}

```

## 4.5 Supertabular Styles

The three and four column styles require adjustment to add the post-description hook. The two column styles need the hard-coded `\space` changed to `\glxtrprelocation`.

```

\ifcsdef{@glstyle@super}
{
    \renewglossarystyle{super}{%
        \renewenvironment{theglossary}%
            {\tablehead{}}\tabletail{}}%
        \begin{supertabular}{lp{\glstdescwidth}}%
            {\end{supertabular}}%
        \renewcommand*\glossaryheader}{}%
        \renewcommand*\glsgroupheading}[1]{}%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the super styles.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
    \glssubentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
    \glossentrydesc{##1}\glspostdescription
    \glxtrprelocation ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    &
    \glssubentryitem{##2}%
    \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
    \glxtrprelocation ##3\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*\glsgroupskip}{}%

```

```

        \else
        \renewcommand*{\glsgroupskip}{& \tabularnewline}%
        \fi
    }
}
{}

```

Three column style:

```

\ifcsdef{@glsstyle@super3col}
{%
  \renewglossarystyle{super3col}{%
    \renewenvironment{theglossary}%
      {\tablehead{}}\tabletail{}}%
    \begin{supertabular}[lp{\glsdescwidth}p{\glspagelistwidth}]{}%
      {\end{supertabular}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the super styles.

```

  \renewcommand*{\gls subgroupheading}[4]{}%
  \renewcommand{\glossentry}[2]{%
    \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
    \glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
  }%
  \renewcommand{\subglossentry}[3]{%
    &
    \gls subentryitem{##2}%
    \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
    ##3\tabularnewline
  }%

  \ifglsnogroupskip
  \renewcommand*{\gls groupskip}{}%
  \else
  \renewcommand*{\gls groupskip}{ & \tabularnewline}%
  \fi
}
}
{}

```

Four column styles:

```

\ifcsdef{@glsstyle@super4col}
{%
  \renewglossarystyle{super4col}{%
    \renewenvironment{theglossary}%
      {\tablehead{}}\tabletail{}}%
    \begin{supertabular}{l111l}{}%
      \end{supertabular}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\gls groupheading}[1]{}%

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the super styles.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \glentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription &
  \glossentrysymbol{##1} & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
  \glossentrysymbol{##2} & ##3\tabularnewline
}%

\ifglsnogroupskip
  \renewcommand*\glsgroupskip}{}%
\else
  \renewcommand*\glsgroupskip}{& & \tabularnewline}%
\fi
}
}
{}

```

## 4.6 Super Ragged Styles

The three and four column styles require adjustment for the post-description hook, but not the two column styles. However, the two-column styles need to have `\space` replaced with `\glxtrprelocation`.

```

\ifcsdef{@glstyle@superragged}
{%
  \renewglossarystyle{superragged}{%
    \renewenvironment{theglossary}%
      {\tablehead}{\tabletail}{%
        \begin{supertabular}{1>{\raggedright}p{\glstdescwidth}}%
        {\end{supertabular}}%
      }%
    \renewcommand*\glossaryheader}{}%
    \renewcommand*\glsgroupheading}[1]{}%
  }%
}

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the super styles.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \glentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription\glxtrprelocation ##2%
  \tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &

```



```

        \glssubentryitem{##2}%
        \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
        \glstrprelocation ##3%
        \tabularnewline
    }%
    \ifglsgroupskip
        \renewcommand*\glsgroupskip{}{}%
    \else
        \renewcommand*\glsgroupskip{& \tabularnewline}%
    \fi
}
}
{}

```

Three column style:

```

\ifcsdef{@glsstyle@superragged3col}
{%
    \renewglossarystyle{superragged3col}{%
        \renewenvironment{theglossary}%
            {\tablehead{}}\tabletail{}}%
        \begin{supertabular}[1>{\raggedright}p{\glsdescwidth}%
            >{\raggedright}p{\glspagelistwidth}]}%
        \end{supertabular}}%
    \renewcommand*\glossaryheader{}{}%
    \renewcommand*\glsgroupheading}[1]{}%
}

```

Sub-groups are only supported with `\printunsrtglossary`. This does nothing as the sub-entries don't have the name displayed for the super styles.

```

\renewcommand*\gls subgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
    \glssubentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
    \glossentrydesc{##1}\glspostdescription &
    ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    &
    \glssubentryitem{##2}%
    \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
    ##3\tabularnewline
}%

\ifglsgroupskip
    \renewcommand*\glsgroupskip{}{}%
\else
    \renewcommand*\glsgroupskip{& &\tabularnewline}%
\fi
}
}
{}

```

Four columns:

```

\ifcsdef{@glsstyle@altsuperragged4col}
{%
  \renewglossarystyle{altsuperragged4col}{%
    \renewenvironment{theglossary}%
      {\tablehead{}}\tabletail{}}%
      \begin{supertabular}[1>{\raggedright}p{\glsdescwidth}1%
        >{\raggedright}p{\glspagelistwidth}}}%
      {\end{supertabular}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription &
      \glossentrysymbol{##1} & ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
      \glossentrysymbol{##2} & ##3\tabularnewline
    }%

    \ifglsnogroupskip
      \renewcommand*{\glsgroupskip}{}%
    \else
      \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
    \fi
  }
}
{}

```

## 4.7 Inline Style

The inline style is dealt with slightly differently. The `\glspostdescription` hook is actually in `\glspostinline`, which is called at the end of the glossary. The original definition of `\glspostinline` also includes a space, which is unnecessary. Here, instead of redefining the inline style, just redefine `\glspostinline` and `\glsinlinedescformat`.

```

\ifdef{@glsstyle@inline}
{%
  \renewcommand*{\glspostinline}{.\spacefactor\sfcode{\.}}

```

Just use `\glsxtrpostdescription` instead of `\glspostdescription`.

```

  \renewcommand*{\glsinlinedescformat}[3]{%
    \space#1\glsxtrpostdescription}
  \renewcommand*{\glsinlinesubdescformat}[3]{%
    #1\glsxtrpostdescription}

```

The default settings don't show the location lists, so there's no adjustment for `\glsxtrprelocation`.

```

}

```

```
{}
```

## 4.8 Tree Styles

Redefine both `\glstreenamefmt` and `\glstreegroupheaderfmt` in terms of `\glstreedefaultnamefmt` to make it easier to change both at the same time or only change one without affecting the other.

```
\ifdef\glstreenamefmt  
{
```

```
\glstreedefaultnamefmt
```

```
\newcommand{\glstreedefaultnamefmt}[1]{\textbf{#1}}
```

```
\glstreenamefmt
```

```
\renewcommand{\glstreenamefmt}[1]{\glstreedefaultnamefmt{#1}}
```

```
\glstreegroupheaderfmt This command was only introduced to glossary-tree v4.22, so it may not be  
defined.
```

```
\def\glstreegroupheaderfmt#1{\glstreedefaultnamefmt{#1}}
```

```
\glstreenavigationfmt This command was only introduced to glossary-tree v4.22, so it may not be  
defined.
```

```
\def\glstreenavigationfmt#1{\glstreedefaultnamefmt{#1}}
```

```
\glstreePreHeader Takes the label as the first argument and title as the second argument so this  
can be modified to add a bookmark.
```

```
\newcommand{\glstreePreHeader}[2]{}
```

```
\glstreeSubPreHeader{<previous group level>}{<level>}  
{<parent label>}{<group label>}{<title>}
```

```
\glstreeSubPreHeader
```

```
\newcommand{\glstreeSubPreHeader}[5]{}
```

```
}
```

```
{}
```

The index style is redefined so that the space before the number list isn't hard coded.

```
\ifdef{\@glsstyle@index}  
{
```

```
\glstreeprelocation The space before the number list for top-level entries. This is shared by the  
other tree styles.
```

```
\newcommand*\glstreeprelocation{\glxtrprelocation}
```

`\glstreechildprelocation` The space before the number list for child entries. This is shared by the other tree styles.

```
\newcommand*\glstreechildprelocation{\glstreeprelocation}
```

Don't prohibit a page break at the start of a new group if there's no header.

`\glstreegroupskip`

```
\newcommand{\glstreegroupskip}{\indexspace}
```

`\glstreegroupheaderskip` This doesn't include `\@afterheading` as it can cause interference with some styles.

```
\newcommand{\glstreegroupheaderskip}{\nopagebreak\glstreegroupskip\nobreak}
```

Modify the index style.

```
\renewglossarystyle{index}{%
  \renewenvironment{theglossary}%
    {\setlength{\parindent}{0pt}%
     \setlength{\parskip}{0pt plus 0.3pt}%
     \let\item\glstreeitem
     \let\subitem\glstreesubitem
     \let\subsubitem\glstreesubsubitem
    }%
  {\par}%
  \renewcommand*\glossaryheader{}%
  \renewcommand*\glsgroupheading}[1]{}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand*\glossentry}[2]{}%
  \item\glssentryitem{##1}%
  \glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
  \glstreesymbol{##1}%
  \glstreeDescLoc{##1}{##2}%
}%
\renewcommand{\subglossentry}[3]{}%
  \ifcase##1\relax
  \item
  \or
  \subitem
  \glssubentryitem{##2}%
  \else
  \subsubitem
  \fi
  \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
  \glstreechildsymbol{##2}%
  \glstreeChildDescLoc{##2}{##3}%
}%
\renewcommand*\glsgroupskip}{\ifglsnogroupskip\else\glstreegroupskip\fi}%
}
}
```

```
{}
```

The `indexgroup` style is redefined to discourage a page break after the heading.

```
\ifdef{\@glsstyle@indexgroup}
{%
```

Provide formatting command for sub-headings to make it easier to adjust.

```
\glsindexsubgroupitem{<previous group level>}{<level>}
{<parent label>}{<group label>}{<title>}
```

`\glsindexsubgroupitem`

```
\newcommand*\glsindexsubgroupitem}[5]{%
\ifcase#2\relax
```

This case shouldn't occur as `\glsgroupheading` will be used instead, but include for completeness.

```
\item \glstreegroupheaderfmt{#5}%
\glstreegroupheaderskip
\or
\smallskip
\subitem \glstreegroupheaderfmt{#5}%
\smallskip
\else
\smallskip
\subsubitem \glstreegroupheaderfmt{#5}%
\smallskip
\fi
}
```

```
\renewglossarystyle{indexgroup}{%
\setglossarystyle{index}%
```

Group heading.

```
\renewcommand*\glsgroupheading}[1]{%
\glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
\glstreePreHeader{##1}{\glsxtr@grptitle}%
\item\glstreegroupheaderfmt{\glsxtr@grptitle}%
\glstreegroupheaderskip\@afterheading
}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading}[4]{%
\glsxtrgetgrouptitle{##4}{\glsxtr@grptitle}%
\glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
\glsindexsubgroupitem{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
\@afterheading
}%
}
```

```

}
{}
Similarly for indexhypergroup.
\ifdef{\@glsstyle@indexhypergroup}
{%
  \renewglossarystyle{indexhypergroup}{%
    \setglossarystyle{index}%
    \renewcommand*{\glossaryheader}{%
      \item\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip\@afterheading}%

```

Group heading.

```

\renewcommand*{\glsgroupheading}[1]{%
  \glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
  \glstreePreHeader{##1}{\glsxtr@grptitle}%
  \item\glstreegroupheaderfmt
    {\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
  \glstreegroupheaderskip\@afterheading}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*{\glssubgroupheading}[4]{%
  \glsxtrgetgrouptitle{##4}{\glsxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \glsindexsubgroupitem{##1}{##2}{##3}{##4}%
  {\glsnavhypertarget{##4}{\glsxtr@grptitle}}%
  \@afterheading
}%
}%
}
{}

```

Adjust tree style to remove hard coded space before number list.

```

\ifdef{\@glsstyle@tree}
{%

```

The original `alttree` style doesn't use `\glstreepredesc` but since v1.42 the modified style (below) has switched to using `\glstreeDescLoc` so provide an alternative that can be used with `alttree`.

```
\glsxtrtreepredesc
```

```
\newcommand{\glsxtrtreepredesc}{\glstreepredesc}
```

```
\glsxtrtreechildpredesc
```

```
\newcommand{\glsxtrtreechildpredesc}{\glstreechildpredesc}
```

Provide a command for use with the tree styles that displays the pre-description separator, the description and post-description hook.

```
\glstreedesc
```

```

\newcommand{\glstreedesc}[1]{%
  \glsxtrtreepredesc\glossentrydesc{##1}\glspostdescription
}

```

```
\glstreeDescLoc{<label>}{<location>}
```

`\glstreeDescLoc`

This checks for the description and symbol. If both are missing, a different separator may be required. For example, a comma and space if there's no description or symbol but just a space if either of those fields are present.

```
\newcommand{\glstreeDescLoc}[2]{%
  \ifglshasdesc{#1}%
  {\glstreedesc{#1}\glstreeprelocation}%
  {\ifglshassymbol{#1}{\glstreeprelocation}{\glstreeNoDescSymbolPreLocation}}%
  #2%
}
```

```
\glstreeNoDescSymbolPreLocation
```

`\glstreeNoDescSymbolPreLocation`

```
\newcommand{\glstreeNoDescSymbolPreLocation}{\space}
```

Similarly for the symbol.

`\glstreesymbol`

```
\newcommand{\glstreesymbol}[1]{%
  \ifglshassymbol{#1}{\space(\glossentrysymbol{#1})}{-}%
  }%
```

And for the child entries:

`\glstreechilddesc`

```
\newcommand{\glstreechilddesc}[1]{%
  \glxtrtreechildpredesc\glossentrydesc{#1}\glspostdescription
}%
```

`\glstreeChildDescLoc`

```
\newcommand{\glstreeChildDescLoc}[2]{%
  \ifglshasdesc{#1}%
  {\glstreechilddesc{#1}\glstreechildprelocation}%
  {\ifglshassymbol{#1}{\glstreechildprelocation}%
   {\glstreeNoDescSymbolPreLocation}}%
  }%
  #2%
}%
```

`\glstreechildsymbol` This just behaves in the same way as the top-level.

```
\newcommand{\glstreechildsymbol}[1]{%
  \glstreesymbol{#1}%
}%
```

Redefine tree style.

```
\renewglossarystyle{tree}{%
  \renewenvironment{theglossary}%
    {\setlength{\parindent}{0pt}%
     \setlength{\parskip}{0pt plus 0.3pt}}%
    {}%
  \renewcommand*{\glossaryheader}{}%
```

Group heading.

```
\renewcommand*{\glsgroupheading}[1]{}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*{\gls subgroupheading}[4]{}%
```

Top level entry.

```
\renewcommand{\glossentry}[2]{%
  \hangindent0pt\relax
  \parindent0pt\relax
  \glsentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
  \glstreesymbol{##1}%
  \glstreeDescLoc{##1}{##2}\par
}%
```

Sub entries.

```
\renewcommand{\subglossentry}[3]{%
  \hangindent##1\glstreeindent\relax
  \parindent##1\glstreeindent\relax
  \ifnum##1=1\relax
    \gls subentryitem{##2}%
  \fi
  \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
  \glstreechildsymbol{##2}%
  \glstreeChildDescLoc{##2}{##3}\par
}%
\renewcommand*{\gls groupskip}{\ifglsnogroupskip\else\glstreegroupskip\fi}%
}
{}%
```

The `treegroup` style is redefined to discourage a page break after the heading.

```
\ifdef{\@glsstyle@treegroup}
{}%
```

Provide formatting command for sub-headings to make it easier to adjust.

```
\glstreesubgroupitem{<previous group level>}{<level>}
{<parent label>}{<group label>}{<title>}
```

`\glstreesubgroupitem`



```

\newcommand*\glstreesubgroupitem}[5]{%
  \par\smallskip\noindent\hspace{#2\glstreeindent}%
  \glstreegroupheaderfmt{#5}\smallskip\par
}

```

Redefine treegroup style.

```

\renewglossarystyle{treegroup}{%
  \setglossarystyle{tree}%
}

```

Group heading.

```

\renewcommand\glsgroupheading}[1]{%
  \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
  \glstreePreHeader{##1}{\glxtr@grptitle}%
  \par\noindent\glstreegroupheaderfmt{\glxtr@grptitle}%
  \glstreegroupheaderskip\@afterheading}%
}

```

Sub-groups are only supported with \printunsrtglossary.

```

\renewcommand*\glssubgroupheading}[4]{%
  \glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
  \glstreesubgroupitem{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
}%
}
{}

```

Similarly for treehypergroup

```

\ifdef{\@glsstyle@treehypergroup}
{%
  \renewglossarystyle{treehypergroup}{%
    \setglossarystyle{tree}%
    \renewcommand*\glossaryheader}{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip\@afterheading}%
}
}

```

Group heading.

```

\renewcommand*\glsgroupheading}[1]{%
  \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
  \glstreePreHeader{##1}{\glxtr@grptitle}%
  \par\noindent
  \glstreegroupheaderfmt
    {\glsnavhypertarget{##1}{\glxtr@grptitle}}%
  \glstreegroupheaderskip\@afterheading}%
}

```

Sub-groups are only supported with \printunsrtglossary.

```

\renewcommand*\glssubgroupheading}[4]{%
  \glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
  \glstreesubgroupitem{##1}{##2}{##3}{##4}%
    {\glsnavhypertarget{##4}{\glxtr@grptitle}}%
}%
}

```

```
}
{}
```

Adjust `treenoname` style to remove hard coded space before number list.

```
\ifdef{\@glsstyle@treenoname}
{%
```

Provide a command for use with the `treenoname` styles that displays the pre-description separator, the description and post-description hook.

```
\glstreenonamedesc
\newcommand{\glstreenonamedesc}[1]{%
\glstreepredesc\glossentrydesc{#1}\glspostdescription
}%
```

Similarly for the symbol.

```
\glstreenonamesymbol
\newcommand{\glstreenonamesymbol}[1]{%
\ifglshassymbol{#1}{\space\glossentrysymbol{#1}}{}}%
}%
```

```
\glstreenonameDescLoc
\newcommand{\glstreenonameDescLoc}[2]{%
\glstreenonamedesc{#1}\glstreeprelocation#2%
}
```

`\glstreenonamechilddesc` The child entry doesn't have the pre-description separator as the name isn't displayed.

```
\newcommand{\glstreenonamechilddesc}[1]{%
\glossentrydesc{#1}\glspostdescription
}%
```

```
\glstreenonameChildDescLoc
\newcommand{\glstreenonameChildDescLoc}[2]{%
\glstreenonamechilddesc{#1}\glstreechildprelocation#2%
}
```

Redefine `treenoname` style

```
\renewglossarystyle{treenoname}{%
\renewenvironment{theglossary}%
{\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}}%
}%
\renewcommand*\glossaryheader{}}%
```

Group heading.

```
\renewcommand*\glsgroupheading[1]{}
```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading}[4]{}%
\renewcommand{\glossentry}[2]{%
  \hangindentOpt\relax
  \parindentOpt\relax
  \glstryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
  \glstreenonamesymbol{##1}%

  \glstreenonameDescLoc{##1}{##2}\par
}%
\renewcommand{\subglossentry}[3]{%
  \hangindent##1\glstreeindent\relax
  \parindent##1\glstreeindent\relax
  \ifnum##1=1\relax
    \glssubentryitem{##2}%
  \fi
  \glstarget{##2}{\strut}%
  \glstreenonameChildDescLoc{##2}{##3}\par
}%
\renewcommand*\glsgroupskip{\ifglsgnogroupskip\else\glstreegroupskip\fi}%
}
}
{}

```

The `treenonamegroup` style is redefined to discourage a page break after the heading. There are no sub-groups as sub-entries don't have the name shown.

```

\ifdef{\@glstyle@treenonamegroup}
{%
  \renewglossarystyle{treenonamegroup}{%
    \setglossarystyle{treenoname}%
    \renewcommand{\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%
      \glstreePreHeader{##1}{\glstr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glstr@grptitle}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}
{}

```

Similarly for `treenonamehypergroup`

```

\ifdef{\@glstyle@treenonamehypergroup}
{%
  \renewglossarystyle{treenonamehypergroup}{%
    \setglossarystyle{treenoname}%
    \renewcommand*\glossaryheader{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip\@afterheading}%
    \renewcommand*\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%

```

```

\glstreePreHeader{##1}{\glxtr@grptitle}%
\par\noindent
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
\glstreegroupheaderskip\@afterheading}%
}
}
{}

```

The `almtree` style is redefined to make it easier to made minor adjustments.

```

\ifdef{\@glsstyle@almtree}
{%

```

Only redefine this style if it's already been defined.

```

\glsalmtreepredesc

```

```

\newcommand{\glsalmtreepredesc}{}

```

```

\glsalmtreechildpredesc

```

```

\newcommand{\glsalmtreechildpredesc}{\glsalmtreepredesc}

```

```

\glxtralmtreeSymbolDescLocation{<label>}{<location
list>}

```

```

\glxtralmtreeSymbolDescLocation

```

Layout the symbol, description and location for top-level entries.

```

\newcommand{\glxtralmtreeSymbolDescLocation}[2]{%
{%
\let\par\glxtrAltTreePar

\let\glxtrtreepredesc\glsalmtreepredesc
\let\glxtrtreechildpredesc\glsalmtreechildpredesc
\ifglshassymbol{#1}{(\glossentrysymbol{#1})\space}{}%

\glstreeDescLoc{#1}{#2}\par
}%
}

```

`\glxtrAltTreeIndent` Paragraph indent for subsequent paragraphs in multi-paragraph descriptions.

```

\newlength\glxtrAltTreeIndent

```

`\glxtrAltTreePar` Multi-paragraph descriptions need to keep the hanging indent.

```

\newcommand{\glxtrAltTreePar}{%
\@par
\glxtrAltTreeSetHangIndent
\setlength{\parindent}{\dimexpr\hangindent+\glxtrAltTreeIndent}%
}

```

```

\glxtralttreeSubSymbolDescLocation{<level>}{<label>}
{<location
list}}

```

`\alttreeSubSymbolDescLocation`

Layout the symbol, description and location for sub-entries. Defaults to the same as the top-level.

```

\newcommand{\glxtralttreeSubSymbolDescLocation}[3]{%
  \glxtralttreeSymbolDescLocation{#2}{#3}%
}

```

`\glxtrtreetopindent` The original style has to keep computing the width of the name at each entry. This register allows the style to compute it once for the top-level at the start of the glossary.

```

\newlength\glxtrtreetopindent

```

`\glxtralttreeInit` User-level initialisation for the alttree style.

```

\newcommand*{\glxtralttreeInit}{%
  \glsmeasurewidth{\glxtrtreetopindent}{\glstreenamfmt{\glsgetwidestname\space}}%
  \glxtrAltTreeIndent=\parindent
}

```

`\gglsetwidest` The original `\glssetwidest` only uses `\def`. This uses `\gdef`.

```

\newcommand*{\gglsetwidest}[2][0]{%
  \csgdef{@glswidestname\romannumeral#1}{#2}%
}

```

`\eglssetwidest` The original `\glssetwidest` only uses `\def`. This uses `\protected@csedef`.

```

\newcommand*{\eglssetwidest}[2][0]{%
  \protected@csedef{@glswidestname\romannumeral#1}{#2}%
}

```

`\xglssetwidest` Like the above but uses `\protected@csxdef`.

```

\newcommand*{\xglssetwidest}[2][0]{%
  \protected@csxdef{@glswidestname\romannumeral#1}{#2}%
}

```

`\glsupdatewidest` Only sets if new value is wider than old value.

```

\newcommand*{\glsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\csdef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \glsmeasurewidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \glsmeasurewidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
      \csdef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}

```

`\gglupdatewidest` As above but global definition.

```
\newcommand*\gglupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\csgdef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \glsmeasurewidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \glsmeasurewidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
    \csgdef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
```

`\eglsupdatewidest` As `\glsupdatewidest` but expands value.

```
\newcommand*\eglsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\protected@csedef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \glsmeasurewidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \glsmeasurewidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
    \protected@csedef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
```

`\xglsupdatewidest` As above but global.

```
\newcommand*\xglsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\protected@csxdef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \glsmeasurewidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \glsmeasurewidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
    \protected@csxdef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
```

`\glsgetwidestname` Provide a user-level macro to obtain the widest top-level name.

```
\newcommand*\glsgetwidestname{\@glswidestname}
```

`\glsgetwidestsubname` Provide a user-level macro to obtain the widest sub-entry name.

```
\newcommand*\glsgetwidestsubname}[1]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {@glswidestname}%
  {\csuse{@glswidestname\romannumeral#1}}%
}
```

`\glsFindWidestTopLevelName` CamelCase is easier for long command names. Provide a CamelCase synonym of `\glsfindwidesttoplevelname`.

```
\let\glsFindWidestTopLevelName\glsfindwidesttoplevelname
```

`\glsFindWidestUsedTopLevelName` Like `\glsfindwidesttoplevelname` but has an additional check that the entry has been used. Only useful if the glossaries occur at the end of the document, in which case this command should go at the start of the glossary. Alternatively, place at the end of the document and save for the next run.

```
\newrobustcmd*{\glsFindWidestUsedTopLevelName}[1][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forallglsentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \ifglshasparent{\@glo@label}%
        {}%
        {%
          \glsmeasurewidth{\dimen@}%
          {\glstreenamfmt{\glsentryname{\@glo@label}}}%
          \ifdim\dimen@>\gls@tmplen
            \gls@tmplen=\dimen@
            \eglssetwidest{\glsentryname{\@glo@label}}%
          \fi
        }%
      }%
    }%
  }%
}
```

`\glsFindWidestUsedAnyName` Like the above but doesn't check the parent key. Useful if all levels should have the same width for the name.

```
\newrobustcmd*{\glsFindWidestUsedAnyName}[1][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forallglsentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \glsmeasurewidth{\dimen@}%
        {\glstreenamfmt{\glsentryname{\@glo@label}}}%
        \ifdim\dimen@>\gls@tmplen
          \gls@tmplen=\dimen@
          \eglssetwidest{\glsentryname{\@glo@label}}%
        }%
      }%
    }%
  }%
}
```

```

        \fi
      }%
    }%
  }%
}

```

`\glsFindWidestAnyName` Like the above but doesn't check if the entry has been used.

```

\newrobustcmd*{\glsFindWidestAnyName}[1][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglseentries[\@gls@type]{\@glo@label}%
    {%
      \glsmeasurewidth{\dimen@}%
      {\glstreenamefmt{\glseentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \glssetwidest{\glseentryname{\@glo@label}}%
      \fi
    }%
  }%
}

```

`\glsFindWidestUsedLevelTwo` This is like `\glsFindWidestUsedTopLevelName` but also sets the first two sub-levels as well. Any entry that has a great-grandparent is ignored.

```

\newrobustcmd*{\glsFindWidestUsedLevelTwo}[1][\@glo@types]{%
  \dimen@=0pt\relax
  \dimen@i=0pt\relax
  \dimen@ii=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglseentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \ifglshasparent{\@glo@label}%
        {%
          \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@label}@parent}}%
          \ifglshasparent{\@glo@parent}%
          {%
            \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@parent}@parent}}%
            \ifglshasparent{\@glo@parent}%
            {}%
          }%
        }%
      }%
      \glsmeasurewidth{\gls@tmplen}%
      {\glstreenamefmt{\glseentryname{\@glo@label}}}%
      \ifdim\gls@tmplen>\dimen@ii

```



```

        \dimen@ii=\gls@tmplen
        \eglssetwidest[2]{\glsentryname{\@glo@label}}%
    \fi
    }%
} %
{ %
    \glsmeasurewidth{\gls@tmplen}%
    {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@i
        \dimen@i=\gls@tmplen
        \eglssetwidest[1]{\glsentryname{\@glo@label}}%
    \fi
    }%
} %
{ %
    \glsmeasurewidth{\gls@tmplen}%
    {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@
        \dimen@=\gls@tmplen
        \eglssetwidest{\glsentryname{\@glo@label}}%
    \fi
    }%
} %
{ %
} %
} %
}

```

`\glsFindWidestLevelTwo` This is like `\glsFindWidestUsedLevelTwo` but doesn't check if the entry has been used.

```

\newrobustcmd*{\glsFindWidestLevelTwo}[1][\@glo@types]{%
    \dimen@=0pt\relax
    \dimen@i=0pt\relax
    \dimen@ii=0pt\relax
    \forallglossaries[#1]{\@gls@type}%
    { %
        \forglsentries[\@gls@type]{\@glo@label}%
        { %
            \ifglshasparent{\@glo@label}%
            { %
                \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@label}@parent}}%
                \ifglshasparent{\@glo@parent}%
                { %
                    \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@parent}@parent}}%
                    \ifglshasparent{\@glo@parent}%
                    { %
                        { %
                            \glsmeasurewidth{\gls@tmplen}%
                            {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
                        } %
                    } %
                } %
            } %
        } %
    } %
}

```

```

        \ifdim\gls@tmplen>\dimen@ii
        \dimen@ii=\gls@tmplen
        \eglssetwidest[2]{\glsentryname{\@glo@label}}%
    \fi
    }%
}%
{%
    \glsmeasurewidth{\gls@tmplen}%
    {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@i
    \dimen@i=\gls@tmplen
    \eglssetwidest[1]{\glsentryname{\@glo@label}}%
    \fi
}%
}%
{%
    \glsmeasurewidth{\gls@tmplen}%
    {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@
    \dimen@=\gls@tmplen
    \eglssetwidest{\glsentryname{\@glo@label}}%
    \fi
}%
}%
}%
}

```

**FindWidestUsedAnyNameSymbol** Like the `\glsFindWidestUsedAnyName` but also measures the symbol. The length of the widest symbol is stored in the second argument should be a length register.

```

\newrobustcmd*{\glsFindWidestUsedAnyNameSymbol}[2][\@glo@types]{%
    \dimen@=0pt\relax
    \gls@tmplen=0pt\relax
    #2=0pt\relax
    \forallglossaries[#1]{\@gls@type}%
    {%
        \forglsentries[\@gls@type]{\@glo@label}%
        {%
            \ifglsused{\@glo@label}%
            {%
                \glsmeasurewidth{\dimen@}%
                {\glsstreenamefmt{\glsentryname{\@glo@label}}}%
                \ifdim\dimen@>\gls@tmplen
                \gls@tmplen=\dimen@
                \eglssetwidest{\glsentryname{\@glo@label}}%
                \fi
                \glsmeasurewidth{\dimen@}%
                {\glsentrysymbol{\@glo@label}}%
                \ifdim\dimen@>#2\relax
                #2=\dimen@
            }%
        }%
    }%
}

```

```

        \fi
      }%
    }%
  }%
}

```

`\glsFindWidestAnyNameSymbol` Like the above but doesn't check if the entry has been used.

```

\newrobustcmd*{\glsFindWidestAnyNameSymbol}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglentries[\@gls@type]{\@glo@label}%
    {%
      \glsmeasurewidth{\dimen@}%
      {\glstreenamefmt{\glsentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \glssetwidest{\glsentryname{\@glo@label}}%
      \fi
      \glsmeasurewidth{\dimen@}%
      {\glsentrysymbol{\@glo@label}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
    }%
  }%
}

```

`\glsUsedAnyNameSymbolLocation` Like the `\glsFindWidestUsedAnyNameSymbol` but also measures the location list. This requires `\glsentrynumberlist`. The length of the widest symbol is stored in the second argument should be a length register. The length of the widest location list is stored in the third argument, which should also be a length register.

```

\newrobustcmd*{\glsFindWidestUsedAnyNameSymbolLocation}[3][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  #3=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \glsmeasurewidth{\dimen@}%
        {\glstreenamefmt{\glsentryname{\@glo@label}}}%
      }%
    }%
  }%
}

```

```

\ifdim\dimen@>\gls@tmplen
  \gls@tmplen=\dimen@
  \eglssetwidest{\glsentryname{\@glo@label}}%
\fi
\glsmeasurewidth{\dimen@}%
{\glsentrysymbol{\@glo@label}}%
\ifdim\dimen@>#2\relax
  #2=\dimen@
\fi
\glsmeasurewidth{\dimen@}%
{\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
\ifdim\dimen@>#3\relax
  #3=\dimen@
\fi
}%
}%
}%
}%
}

```

`\widestAnyNameSymbolLocation` Like the `\glsFindWidestUsedAnyNameSymbol` but doesn't check if the entry has been used.

```

\newrobustcmd*{\glsFindWidestAnyNameSymbolLocation}[3][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  #3=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forallglsentries[\@gls@type]{\@glo@label}%
    {%
      \glsmeasurewidth{\dimen@}%
      {\glstreenamefmt{\glsentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \eglssetwidest{\glsentryname{\@glo@label}}%
      \fi
      \glsmeasurewidth{\dimen@}%
      {\glsentrysymbol{\@glo@label}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
      \glsmeasurewidth{\dimen@}%
      {\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
      \ifdim\dimen@>#3\relax
        #3=\dimen@
      \fi
    }%
  }%
}

```

`\newRobustUsedAnyNameLocation` Like the `\glsFindWidestUsedAnyNameSymbolLocation` but doesn't measure the symbol. The length of the widest location list is stored in the second argument, which should be a length register.

```

\newrobustcmd*{\glsFindWidestUsedAnyNameLocation}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \glsmeasurewidth{\dimen@}%
        {\glstreenamfmt{\glsentryname{\@glo@label}}}%
        \ifdim\dimen@>\gls@tmplen
          \gls@tmplen=\dimen@
          \eglssetwidest{\glsentryname{\@glo@label}}%
        \fi
        \glsmeasurewidth{\dimen@}%
        {\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
        \ifdim\dimen@>#2\relax
          #2=\dimen@
        \fi
      }%
    }%
  }%
}

```

`\glsFindWidestAnyNameLocation` Like the `\glsFindWidestAnyNameLocation` but doesn't check the first use flag.

```

\newrobustcmd*{\glsFindWidestAnyNameLocation}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%
      \glsmeasurewidth{\dimen@}%
      {\glstreenamfmt{\glsentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \eglssetwidest{\glsentryname{\@glo@label}}%
      \fi
      \glsmeasurewidth{\dimen@}%
      {\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
    }%
  }%
}

```

```

        \fi
      }%
    }%
  }

```

`\glxtrComputeTreeIndent` Compute the value of `\glstreeindent`. Argument is the entry label. (Ignored in default definition, but this command may be redefined to take the particular entry into account.) Note that the sub-levels modify `\glstreeindent`.

```

\newcommand*\glxtrComputeTreeIndent[1]{%
  \glstreeindent=\glxtrtreetopindent\relax
}

```

```

\glxtrComputeTreeSubIndent{<level>}{<label>}{<register>}

```

`\glxtrComputeTreeSubIndent`

Compute the indent for the sub-entries. The first argument is the level, the second argument is the entry label and the third argument is the length register used to store the computed indent.

```

\newcommand*\glxtrComputeTreeSubIndent[3]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {%
    \glsmasurewidth{#3}{\glstreenamefmt{@glswidestname\space}}%
  }%
  {%
    \glsmasurewidth{#3}{\glstreenamefmt{%
      \csname @glswidestname\romannumeral#1\endcsname\space}}%
  }%
}

```

`\glxtrAltTreeSetHangIndent` Set `\hangindent` for top-level entries:

```

\newcommand*\glxtrAltTreeSetHangIndent{\hangindent\glstreeindent}

```

`\glxtrAltTreeSetSubHangIndent` Set `\hangindent` for sub-entries:

```

\newcommand*\glxtrAltTreeSetSubHangIndent[1]{\hangindent\glstreeindent}

```

Redefine `almtree`:

```

\renewglossarystyle{almtree}{%
  \renewenvironment{theglossary}%
  {%
    \glxtralmtreeInit
    \def\@gls@prevlevel{-1}%
    \mbox{}\par}%
  {\par}%
  \renewcommand*\glossaryheader{}%
  \renewcommand*\glsgroupheading[1]{}%
}

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\gls subgroupheading[4]{}%
\renewcommand\glossentry[2]{%

```

```

\ifnum\@gls@prevlevel=0\relax
\else
  \glstrComputeTreeIndent{##1}%
\fi
\parindent\glstreeindent
\glstrAltTreeSetHangIndent
\makebox[Opt][r]{%
  \glstreenamebox{\glstreeindent}%
  {%
    \glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
  }%
}
\glstrAltTreeSymbolDescLocation{##1}{##2}%
\def\@gls@prevlevel{0}%
}
\renewcommand{\subglossentry}[3]{%
  \ifnum##1=1\relax
    \glssubentryitem{##2}%
  \fi
  \ifnum\@gls@prevlevel=##1\relax
  \else
    \glstrComputeTreeSubIndent{##1}{##2}{\gls@tmplen}%
    \ifnum\@gls@prevlevel<##1\relax
      \setlength\glstreeindent\gls@tmplen
      \addtolength\glstreeindent\parindent
      \parindent\glstreeindent
    \else
      \ifnum\@gls@prevlevel=0\relax
        \glstrComputeTreeIndent{##2}%
      \else
        \glstrComputeTreeSubIndent{\@gls@prevlevel}{##2}{\glstreeindent}%
      \fi
      \addtolength\parindent{-\glstreeindent}%
      \setlength\glstreeindent\parindent
    \fi
  \fi
  \glstrAltTreeSetSubHangIndent{##1}%
  \makebox[Opt][r]{\glstreenamebox{\gls@tmplen}{%
    \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}}}%
  \glstrAltTreeSubSymbolDescLocation{##1}{##2}{##3}%
  \def\@gls@prevlevel{##1}%
}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\glstreegroupskip\fi}%
}
}%
{
}

```

Redefine `almtreegroup` so that it discourages a break after group headings.

```
\ifdef{\@glsstyle@almtreegroup}
{
```

```
\glsalmtreegroupheader{<previous group level>}{<group
level>}{<parent label>}{<group label>}{<title>}{<width>}
```

`\glsalmtreegroupitem`

```
\newcommand*\glsalmtreegroupheader}[6]{%
\par\smallskip
\makebox[0pt][r]{\glstreenamebox{#6}%
{\glstreegroupheaderfmt{#5}}}%
\smallskip\par
}
```

```
\renewglossarystyle{almtreegroup}{%
\setglossarystyle{almtree}%
\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstrgetgrouptitle{##1}{\glstr@grptitle}%
\glstreePreHeader{##1}{\glstr@grptitle}%
\glstreegroupheaderfmt{\glstr@grptitle}%
```

Can't use `\@afterheading` here as it messes with the first item of the group.

```
\glstreegroupheaderskip
}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading}[4]{%
\glstrgetgrouptitle{##4}{\glstr@grptitle}%
\glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glstr@grptitle}%
```

This is similar to `\subglossentry`

```
\ifnum\@gls@prevlevel=##2\relax
\else
\ifcsundef{\@glswidestname\romannumeral##2}%
{%
\glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}%
}%
{%
\glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
\csname @glswidestname\romannumeral##2\endcsname\space}}%
}%
\ifnum\@gls@prevlevel<##2\relax
\setlength\glstreeindent\gls@tmplen
\addtolength\glstreeindent\parindent
\parindent\glstreeindent
```



```

\else
\ifnum\@gls@prevlevel=0\relax
\glxtrComputeTreeIndent{##2}%
\else
\ifcsundef{@glswidestname\romannumeral##2}%
{%
\glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
}%
{%
\glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
\csname @glswidestname\romannumeral##2\endcsname\space}}%
}%
\fi
\addtolength\parindent{-\glstreeindent}%
\setlength\glstreeindent\parindent
\fi
\fi
\glxtrAltTreeSetSubHangIndent{##2}%
\glsalttreesubgroupheader{##1}{##2}{##3}{##4}{\glxtr@grptitle}{\gls@tmplen}%
\def\@gls@prevlevel{##2}%
\par
}%
}%
}%
{%
}

```

Similarly for `alttreehypergroup`.

```

\ifdef{\@glsstyle@alttreehypergroup}
{%
\renewglossarystyle{alttreehypergroup}{%
\setglossarystyle{alttree}%
\renewcommand*\glossaryheader}{%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreenavigationfmt{\glsnavigation}%

```

Can't use `\@afterheading` here as it messes with the first item of the group.

```

\glstreegroupheaderskip
}%
\renewcommand*\glsgroupheading}[1]{%
\glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
\glstreePreHeader{##1}{\glxtr@grptitle}%
\par
\def\@gls@prevlevel{-1}%
\hangindent0pt\relax
\parindent0pt\relax
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%

```

Can't use \@afterheading here as it messes with the first item of the group.

```
\glstreegroupheaderskip
}%
```

Sub-groups are only supported with \printunsrtglossary.

```
\renewcommand*\glssubgroupheading}[4]{%
\glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
\glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
```

This is similar to \subglossentry

```
\ifnum\@gls@prevlevel=##2\relax
\else
\ifcsundef{@glswidestname\romannumeral##2}%
{%
\glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}%
}%
{%
\glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
\csname @glswidestname\romannumeral##2\endcsname\space}}%
}%
\ifnum\@gls@prevlevel<##2\relax
\setlength\glstreeindent\gls@tmplen
\addtolength\glstreeindent\parindent
\parindent\glstreeindent
\else
\ifnum\@gls@prevlevel=0\relax
\glxtrComputeTreeIndent{##2}%
\else
\ifcsundef{@glswidestname\romannumeral##2}%
{%
\glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
}%
{%
\glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
\csname @glswidestname\romannumeral##2\endcsname\space}}%
}%
\fi
\addtolength\parindent{-\glstreeindent}%
\setlength\glstreeindent\parindent
\fi
\fi
\glxtrAltTreeSetSubHangIndent{##2}%
\glsalttreesubgroupheader{##1}{##2}{##3}{##4}%
{\glsnavhypertarget{##4}{\glxtr@grptitle}}{\gls@tmplen}%
\def\@gls@prevlevel{##2}%
\par
}%
}
}%
{%
}
```

## 4.9 Multicolumn Styles

Adjust `mcolindexgroup` to discourage page breaks after the group headings.

```
\ifdef{\@glsstyle@mcolindexgroup}
{%
  \renewglossarystyle{mcolindexgroup}{%
    \setglossarystyle{mcolindex}%
```

Group heading as `indexgroup`.

```
\renewcommand*\glsgroupheading}[1]{%
  \glsxrgetgrouptitle{##1}{\glsxtr@grptitle}%
  \glstreePreHeader{##1}{\glsxtr@grptitle}%
  \item\glstreegroupheaderfmt{\glsxtr@grptitle}%
  \glstreegroupheaderskip\@afterheading
}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading}[4]{%
  \glsxrgetgrouptitle{##4}{\glsxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \glsindexsubgroupitem{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \@afterheading
}%
}
}%
{%
```

Similarly for `mcolindexhypergroup`.

```
\ifdef{\@glsstyle@mcolindexhypergroup}
{%
  \renewglossarystyle{mcolindexhypergroup}{%
    \setglossarystyle{mcolindex}%
    \renewcommand*\glossaryheader}{%
      \item\glstreenavigationfmt{\glsnavigation}%

      \glstreegroupheaderskip\@afterheading
    }%
  }%
```

Group heading.

```
\renewcommand*\glsgroupheading}[1]{%
  \glsxrgetgrouptitle{##1}{\glsxtr@grptitle}%
  \glstreePreHeader{##1}{\glsxtr@grptitle}%
  \item\glstreegroupheaderfmt
    {\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
  \glstreegroupheaderskip\@afterheading
}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading}[4]{%
  \glsxrgetgrouptitle{##4}{\glsxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \glsindexsubgroupitem{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \@afterheading
}%
}
}%
{%
```

```

        \glsindexsubgroupitem{##1}{##2}{##3}{##4}%
        {\glsnavhypertarget{##4}{\glsxtr@grptitle}}%
        \@afterheading
    }%
}
}%
{
}

```

Similarly for mcolindexspannav.

```

\ifdef{\@glsstyle@mcolindexspannav}
{
  \renewglossarystyle{mcolindexspannav}{%
    \setglossarystyle{index}%
    \renewenvironment{theglossary}%
    {
      \begin{multicols}{\glscols}[\noindent\glstreenavigationfmt{\glsnavigation}]%
      \setlength{\parindent}{0pt}%
      \setlength{\parskip}{0pt plus 0.3pt}%
      \let\item\glstreeitem%
    }{\end{multicols}}%
  }
}

```

Group heading.

```

\renewcommand*\glsgroupheading}[1]{%
  \glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
  \glstreePreHeader{##1}{\glsxtr@grptitle}%
  \item\glstreegroupheaderfmt
    {\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
  \glstreegroupheaderskip\@afterheading
}%

```

Sub-groups are only supported with \printunsrtglossary.

```

\renewcommand*\glssubgroupheading}[4]{%
  \glsxtrgetgrouptitle{##4}{\glsxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
  \glsindexsubgroupitem{##1}{##2}{##3}{##4}%
  {\glsnavhypertarget{##4}{\glsxtr@grptitle}}%
  \@afterheading
}%
}
}%
{
}

```

Similarly for mcoltreegroup.

```

\ifdef{\@glsstyle@mcoltreegroup}
{
  \renewglossarystyle{mcoltreegroup}{%
    \setglossarystyle{mcoltree}%
  }
}

```

Group heading.

```

\renewcommand*\glsgroupheading}[1]{%

```

```

\glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
\glstreePreHeader{##1}{\glxtr@grptitle}%
\par\noindent\glstreegroupheaderfmt{\glxtr@grptitle}%
\glstreegroupheaderskip\@afterheading
}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading}[4]{%
\glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
\glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
\glstreesubgroupitem{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
}%
}
}%
{%
}

```

Similarly for `mcoltreehypergroup`.

```

\ifdef{\@glsstyle@mcoltreehypergroup}
{%
\renewglossarystyle{mcoltreehypergroup}{%
\setglossarystyle{mcoltree}%
\renewcommand*\glossaryheader}{%
\par\noindent\glstreenavigationfmt{\glsnavigation}%
\glstreegroupheaderskip
}%
}

```

Group heading.

```

\renewcommand*\glsgroupheading}[1]{%
\glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
\glstreePreHeader{##1}{\glxtr@grptitle}%
\par\noindent
\glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
\glstreegroupheaderskip\@afterheading
}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading}[4]{%
\glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
\glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
\glstreesubgroupitem{##1}{##2}{##3}{##4}%
{\glsnavhypertarget{##4}{\glxtr@grptitle}}%
}%
}
}%
{%
}

```

Similarly for `mcoltreesspannav`.

```

\ifdef{\@glsstyle@mcoltreesspannav}
{%
\renewglossarystyle{mcoltreesspannav}{%

```

```

\setglossarystyle{tree}%
\renewenvironment{theglossary}%
{
  \begin{multicols}{\glsmcols}%
    [\noindent\glstreenavigationfmt{\glsnavigation}]%
    \setlength{\parindent}{0pt}%
    \setlength{\parskip}{0pt plus 0.3pt}%
  }%
{\end{multicols}}%

```

Group heading.

```

\renewcommand*\glsgroupheading}[1]{%
  \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
  \glstreePreHeader{##1}{\glxtr@grptitle}%
  \par\noindent
  \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
  \glstreegroupheaderskip\@afterheading
}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading}[4]{%
  \glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
  \glstreesubgroupitem{##1}{##2}{##3}{##4}%
  \glsnavhypertarget{##4}{\glxtr@grptitle}}%
}%
}
}%
{
}

```

Similarly for `mcoltreenonamegroup`. There are no sub-groups for this style as it doesn't show the name of the child entries.

```

\ifdef{\@glstyle@mcoltreenonamegroup}
{
  \renewglossarystyle{mcoltreenonamegroup}{%
    \setglossarystyle{mcoltreenoname}%
    \renewcommand{\glsgroupheading}[1]{%
      \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
      \glstreePreHeader{##1}{\glxtr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glxtr@grptitle}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}%
{
}
}

```

Similarly for `mcoltreenonamehypergroup`.

```

\ifdef{\@glstyle@mcoltreenonamehypergroup}
{

```

```

\renewglossarystyle{mcoltreenamehypergroup}{%
  \setglossarystyle{mcoltreename}%
  \renewcommand*{\glossaryheader}{%
    \par\noindent\glstreenavigationfmt{\glsnavigation}%
    \glstreegroupheaderskip
  }%
  \renewcommand*{\glsgroupheading}[1]{%
    \glstrgetgrouptitle{##1}{\glstr@grptitle}%
    \glstreePreHeader{##1}{\glstr@grptitle}%
    \par\noindent
    \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glstr@grptitle}}%
    \glstreegroupheaderskip\@afterheading}%
  }
}%
{
}

```

Similarly for mcoltreenamespannav.

```

\ifdef{\@glsstyle@mcoltreenamespannav}
{
  \renewglossarystyle{mcoltreenamespannav}{%
    \setglossarystyle{treename}%
    \renewenvironment{theglossary}%
    {
      \begin{multicols}{\glsncols}%
        [\noindent\glstreenavigationfmt{\glsnavigation}]%
      \setlength{\parindent}{0pt}%
      \setlength{\parskip}{0pt plus 0.3pt}%
    }%
    {\end{multicols}}%
    \renewcommand*{\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%
      \glstreePreHeader{##1}{\glstr@grptitle}%
      \par\noindent
      \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glstr@grptitle}}%
      \glstreegroupheaderskip\@afterheading}%
    }
  }%
{
}
}

```

mcolalttree needs adjusting so that it uses \glstralttreeInit This doesn't use \mbox{}\par which would unbalance the top of the columns.

```

\ifdef{\@glsstyle@mcolalttree}
{
  \renewglossarystyle{mcolalttree}{%
    \setglossarystyle{alttree}%
    \renewenvironment{theglossary}%
    {
      \glstralttreeInit
      \def\@gls@prevlevel{-1}%
    }
  }
}

```

```

        \begin{multicols}{\glsmcols}%
    }%
    {\par\end{multicols}}%
}
}%
{%
}

```

Redefine mcolalttreegroup to discourage page breaks after the group headings.

```

\ifdef{\@glsstyle@mcolalttreegroup}
{%
  \renewglossarystyle{mcolalttreegroup}{%
    \setglossarystyle{mcolalttree}%
    \renewcommand{\glsgroupheading}[1]{%
      \glxstrgetgrouptitle{##1}{\glxtr@grptitle}%
      \glstreePreHeader{##1}{\glxtr@grptitle}%
    }%
    \par
    \def\@gls@prevlevel{-1}%
    \hangindent0pt\relax
    \parindent0pt\relax
    \glstreegroupheaderfmt{\glxtr@grptitle}%
    \glstreegroupheaderskip
  }%
}

```

Sub-groups are only supported with \printunsrtglossary.

```

\renewcommand*{\glssubgroupheading}[4]{%
  \glxstrgetgrouptitle{##4}{\glxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%
}

```

This is similar to \subglossentry

```

\ifnum\@gls@prevlevel=##2\relax
\else
  \ifcsundef{@glswidestname\romannumeral##2}%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}%
  }%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
      \csname @glswidestname\romannumeral##2\endcsname\space}}%
  }%
\ifnum\@gls@prevlevel<##2\relax
  \setlength\glstreeindent\gls@tmplen
  \addtolength\glstreeindent\parindent
  \parindent\glstreeindent
\else
  \ifnum\@gls@prevlevel=0\relax
  \glxtrComputeTreeIndent{##2}%
\else
  \ifcsundef{@glswidestname\romannumeral##2}%
  {%
    \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
  }%
}

```



```

    }%
    {%
        \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
            \csname @glswidestname\romannumeral##2\endcsname\space}}%
        }%
    \fi
    \addtolength\parindent{-\glstreeindent}%
    \setlength\glstreeindent\parindent
    \fi
    \fi
    \glsxtrAltTreeSetSubHangIndent{##2}%
    \glsaltnestsubgroupheader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}{\gls@tmplen}%
    \def\@gls@prevlevel{##2}%
    \par
}
}
}%
}
}

```

Similarly for `mcolaltnesthypergroup`.

```

\ifdef{\@glsstyle@mcolaltnesthypergroup}
{%
    \renewglossarystyle{mcolaltnesthypergroup}{%
        \setglossarystyle{mcolaltnest}%
        \renewcommand*\glossaryheader{%
            \par
            \def\@gls@prevlevel{-1}%
            \hangindentOpt\relax
            \parindentOpt\relax
            \glstreenavigationfmt{\glsnavigation}%
            \glstreegroupheaderskip
        }%
        \renewcommand*\glsgrptitle[1]{%
            \glsxtrgetgrptitle{##1}{\glsxtr@grptitle}%
            \glstreePreHeader{##1}{\glsxtr@grptitle}%
            \par
            \def\@gls@prevlevel{-1}%
            \hangindentOpt\relax
            \parindentOpt\relax
            \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
            \glstreegroupheaderskip
        }%
    }
}

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\gls subgroupheading[4]{%
    \glsxtrgetgrptitle{##4}{\glsxtr@grptitle}%
    \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glsxtr@grptitle}%
}

```

This is similar to `\subglossentry`

```

\ifnum\@gls@prevlevel=##2\relax

```

```

\else
  \ifcsundef{@glswidestname\romannumeral##2}%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}%
  }%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
      \csname @glswidestname\romannumeral##2\endcsname\space}}%
  }%
  \ifnum\@gls@prevlevel<##2\relax
    \setlength\glstreeindent\gls@tmplen
    \addtolength\glstreeindent\parindent
    \parindent\glstreeindent
  \else
    \ifnum\@gls@prevlevel=0\relax
      \glsxtrComputeTreeIndent{##2}%
    \else
      \ifcsundef{@glswidestname\romannumeral##2}%
      {%
        \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
      }%
      {%
        \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
          \csname @glswidestname\romannumeral##2\endcsname\space}}%
        }%
      \fi
      \addtolength\parindent{-\glstreeindent}%
      \setlength\glstreeindent\parindent
    \fi
  \fi
  \glsxtrAltTreeSetSubHangIndent{##2}%
  \glsaltnestsubgroupheader{##1}{##2}{##3}{##4}%
  {\glsnavhypertarget{##4}{\glsxtr@grptitle}}{\gls@tmplen}%
  \def\@gls@prevlevel{##2}%
  \par
}%
}
}%
{%
}

```

Similarly for mcolaltnestspannav.

```

\ifdef{\@glsstyle@mcolaltnestspannav}
{%
  \renewglossarystyle{mcolaltnestspannav}{%
    \setglossarystyle{altnest}%
    \renewenvironment{theglossary}%
  }%
  \glsxtraltnestInit
  \def\@gls@prevlevel{-1}%
}

```

```

\begin{multicols}{\glsmcols}%
  [\noindent\glstreenavigationfmt{\glsnavigation}]%
}%
{\par\end{multicols}}%
\renewcommand*\glsgroupheading}[1]{%
  \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
  \glstreePreHeader{##1}{\glxtr@grptitle}%
  \par
  \def\@gls@prevlevel{-1}%
  \hangindent0pt\relax
  \parindent0pt\relax
  \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
  \glstreegroupheaderskip
}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading}[4]{%
  \glxtrgetgrouptitle{##4}{\glxtr@grptitle}%
  \glstreeSubPreHeader{##1}{##2}{##3}{##4}{\glxtr@grptitle}%

```

This is similar to `\subglossentry`

```

\ifnum\@gls@prevlevel=##2\relax
\else
  \ifcsundef{@glswidestname\romannumeral##2}%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{\@glswidestname\space}}%
  }%
  {%
    \glsmeasurewidth{\gls@tmplen}{\glstreenamefmt{%
      \csname @glswidestname\romannumeral##2\endcsname\space}}%
  }%
\ifnum\@gls@prevlevel<##2\relax
  \setlength\glstreeindent\gls@tmplen
  \addtolength\glstreeindent\parindent
  \parindent\glstreeindent
\else
  \ifnum\@gls@prevlevel=0\relax
    \glxtrComputeTreeIndent{##2}%
  \else
    \ifcsundef{@glswidestname\romannumeral##2}%
    {%
      \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{\@glswidestname\space}}%
    }%
    {%
      \glsmeasurewidth{\glstreeindent}{\glstreenamefmt{%
        \csname @glswidestname\romannumeral##2\endcsname\space}}%
    }%
  \fi
  \addtolength\parindent{-\glstreeindent}%
  \setlength\glstreeindent\parindent
\fi

```

```

\fi
\glstrAltTreeSetSubHangIndent{##2}%
\glsalttreesubgroupheader{##1}{##2}{##3}{##4}%
  {\glsnavhypertarget{##4}{\glstr@grptitle}}{\gls@tmplen}%
\def\@gls@prevlevel{##2}%
\par
}%
}
}%
{
}

Reset the default style
\ifx\@glossary@default@style\relax
\else
  \setglossarystyle{\@glstr@current@style}
\fi

```

## 5 bookindex style (glossary-bookindex.sty)

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossary-bookindex-2021-11-22.sty}
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossary-bookindex}[2025/01/03 v1.54 (NLCT)]
```

Load required packages.

```
\RequirePackage{multicol}
\RequirePackage{glossary-tree}
```

`\glstrbookindexcols` Number of columns.

```
\newcommand{\glstrbookindexcols}{2}
```

`\glstrbookindextarget` Create the target for top-level items.

```
\newcommand*{\glstrbookindextarget}[2]{\glstarget{#1}{#2}}
```

`\glstrbookindexsubtarget` Create the target for child items.

```
\newcommand*{\glstrbookindexsubtarget}[2]{\glstrbookindextarget{#1}{#2}}
```

`\glstrbookindexname` Format used for top-level entries. (Argument is the label.)

```
\newcommand*{\glstrbookindexname}[1]{\glossentryname{#1}}
```

`\glstrbookindexsubname` Format used for sub entries.

```
\newcommand*{\glstrbookindexsubname}[1]{\glstrbookindexname{#1}}
```

`\glstrprelocation` Provide in case glossaries-stylemods isn't loaded.

```
\providecommand*{\glstrprelocation}{\space}
```

`\glxtrbookindexprelocation` Separator used before location list for top-level entries. Version 1.22 has removed the `\ifglsnopostdot` check since this style doesn't display the description.

```
\newcommand*\glxtrbookindexprelocation[1]{%
  \glxtrifhasfield{location}{#1}%
  {,\glxtrprelocation}%
  {\glxtrprelocation}%
}
```

`\glxtrbookindexsubprelocation` Separator used before location list for sub-entries.

```
\newcommand*\glxtrbookindexsubprelocation[1]{%
  \glxtrbookindexprelocation{#1}%
}
```

```
\glxtrbookindexlocation{\label}{\location}
```

`\glxtrbookindexlocation`

Displays the location.

```
\newcommand*\glxtrbookindexlocation[2]{#2}
```

```
\glxtrbookindexlocation{\label}{\location}
```

`\glxtrbookindexsublocation`

Displays the location for sub-entries.

```
\newcommand*\glxtrbookindexsublocation{\glxtrbookindexlocation}
```

`\glxtrbookindexparentchildsep` Separator used between top-level parent and child entry.

```
\newcommand{\glxtrbookindexparentchildsep}{\nopagebreak}
```

`\glxtrbookindexparentsubchildsep` Separator used between sub-level parent and child entry.

```
\newcommand{\glxtrbookindexparentsubchildsep}{\glxtrbookindexparentchildsep}
```

`\glxtrbookindexbetween` Between two top-level entries identified by the labels in the arguments.

```
\newcommand{\glxtrbookindexbetween}[2]{}
```

`\glxtrbookindexsubbetween` Between two level 1 entries identified by the labels in the arguments.

```
\newcommand{\glxtrbookindexsubbetween}[2]{}
```

`\glxtrbookindexsubsubbetween` Between two level 2 entries identified by the labels in the arguments.

```
\newcommand{\glxtrbookindexsubsubbetween}[2]{}
```

`\glxtrbookindexatendgroup` At the end of a letter group. The argument is the label of the last top-level entry.

```
\newcommand{\glxtrbookindexatendgroup}[1]{}
```

`\glxtrbookindexsubatendgroup` At the end of a letter group. The argument is the label of the last level 1 entry.

```
\newcommand{\glxtrbookindexsubatendgroup}[1]{}
```

`\glstrbookindexsubsubatendgroup` At the end of a letter group. The argument is the label of the last level 2 entry.  
`\newcommand{\glstrbookindexsubsubatendgroup}[1]{}`

`\glstrbookindexgroupskip` Group separator.  
`\newcommand{\glstrbookindexgroupskip}{\ifglsnogroupskip\else\indexspace\fi}`

`\glstrbookindexpregroupskip` After group header. The argument is the skip that would normally be inserted if there wasn't a group header.  
`\newcommand{\glstrbookindexpregroupskip}[1]{#1}`

`\glstrbookindexpostgroupskip` After group header.  
`\newcommand{\glstrbookindexpostgroupskip}{\indexspace}`

`\glstrbookindexpresubgroupskip{<default>}{<prev group level>}{<group level>}`

`\glstrbookindexpresubgroupskip` Before sub-group separator. The first argument is the skip that would normally be used at this point if there wasn't a header.  
`\newcommand{\glstrbookindexpresubgroupskip}[3]{\par\medskip}`

`\glstrbookindexpostsubgroupskip` After sub-group separator.  
`\newcommand{\glstrbookindexpostsubgroupskip}[2]{\par\medskip}`

`\glstrbookindexsubsubitem` Sub-sub item and lower. The argument is the level, which will be 2 or more.  
`\newcommand{\glstrbookindexsubsubitem}[1]{\glstreesubsubitem}`

Format group title.

`\glstrbookindexformatheader` Group header.  
`\newcommand*{\glstrbookindexformatheader}[1]{%`  
`\par{\centering\glstreegroupheaderfmt{#1}\par}%`  
`}`

Format sub-group title.

`\glstrbookindexformatsubheader` Sub-group header. This defaults to the same format as the top-level group.  
`\newcommand*{\glstrbookindexformatsubheader}[5]{%`  
`\ifnum#2>1\relax`  
`\glstrbookindexsubsubitem{#2}\glstreegroupheaderfmt{#5}%`  
`\else`  
`\glstreesubitem\glstreegroupheaderfmt{#5}%`  
`\fi`  
`}`

`\glsxtrbookindexbookmark` Book mark group heading if supported.

```
\ifdef\pdfbookmark
{%
  \newcommand*\glsxtrbookindexbookmark}[2]{%
    \ifdefstring{\@glossarysec}{chapter}%
    {\pdfbookmark[1]{#1}{#2}}%
    {\pdfbookmark[2]{#1}{#2}}%
  }
}
{%
  \newcommand*\glsxtrbookindexbookmark}[2]{}
}
```

`\glsxtrbookindexsubbookmark` Book mark sub-group heading if supported.

```
\ifdef\pdfbookmark
{%
  \newcommand*\glsxtrbookindexsubbookmark}[3]{%
    \ifdefstring{\@glossarysec}{chapter}%
    {\expandafter\pdfbookmark\expandafter[\number\numexpr#1+1]{#3}{#2}}%
    {\expandafter\pdfbookmark\expandafter[\number\numexpr#1+2]{#3}{#2}}%
  }
}
{%
  \newcommand*\glsxtrbookindexsubbookmark}[3]{}
}
```

`\glsxtrbookindexbookmarkprefix` Make the bookmark label prefix used for letter groups depend on the glossary label (instead of original hardcoded “index.”).

```
\newcommand*\glsxtrbookindexbookmarkprefix{\currentglossary.}
```

`\glsxtrbookindexcolspread`

```
\newcommand*\glsxtrbookindexcolspread{}
```

`\glsxtrbookindexmulticolse`

```
\newcommand*\glsxtrbookindexmulticolse{\multicols}
```

`bookindex` Define the style.

```
\newglossarystyle{bookindex}{%
  \setglossarystyle{index}%
  \renewenvironment{theglossary}%
  {%
    \ifnum\glsxtrbookindexcols>1\relax
    \ifdefempty\glsxtrbookindexcolspread
    {%
      \edef\glsxtr@beginbookindex{%
        \noexpand\begin{\glsxtrbookindexmulticolse}
          {\glsxtrbookindexcols}}%
      }%
    }%
  }
```

```

    {%
      \edef\glstr@beginbookindex{%
        \noexpand\begin{\glstrbookindexmulticolseenv}%
          {\glstrbookindexcols}[\glstrbookindexcolspread]%
        }%
      }%
    }%
  \else
    \def\glstr@beginbookindex{}%
  \fi
  \glstr@beginbookindex
  \setlength{\parindent}{0pt}%
  \setlength{\parskip}{0pt plus 0.3pt}%
  \let\@glstr@bookindex@sep\glstrbookindexparentchildsep
  \let\@glstr@bookindex@subsep\glstrbookindexparentsubchildsep
  \let\@glstr@bookindex@between\@gobble
  \let\@glstr@bookindex@subbetween\@gobble
  \let\@glstr@bookindex@subsubbetween\@gobble
  \let\@glstr@bookindex@atendgroup\relax
  \let\@glstr@bookindex@subatendgroup\relax
  \let\@glstr@bookindex@subsubatendgroup\relax
  \let\@glstr@bookindexgroupskip\relax
}%
{%

```

Do end group hooks.

```

  \@glstr@bookindex@subsubatendgroup
  \@glstr@bookindex@subatendgroup
  \@glstr@bookindex@atendgroup

```

End multicol environment.

```

  \ifnum\glstrbookindexcols>1\relax
    \edef\glstr@endbookindex{%
      \noexpand\end{\glstrbookindexmulticolseenv}%
    }%
  \else
    \def\glstr@endbookindex{}%
  \fi
  \glstr@endbookindex
}%

```

Use ragged right as columns are likely to be narrow and indexes tend not to be fully justified.

```

  \renewcommand*{\glossaryheader}{\raggedright}%

```

Top level entry format.

```

  \renewcommand*{\glossentry}[2]{%

```

Do separator.

```

    \@glstr@bookindex@between{##1}%

```

Update separators.

```

  \let\@glstr@bookindex@sep\glstrbookindexparentchildsep

```



```

\let\@glxtr@bookindex@subsep\glxtrbookindexparentschildsep
\let\@glxtr@bookindex@subbetween@gobble
\let\@glxtr@bookindex@subsubbetween@gobble

```

The second argument of `\glxtrbookindexbetween` will be supplied as the argument to `\@glxtr@bookindex@between`.

```

\protected@edef\@glxtr@bookindex@between{%
  \noexpand\glxtrbookindexbetween{##1}%
}%
\protected@edef\@glxtr@bookindex@atendgroup{%
  \noexpand\glxtrbookindexatendgroup{##1}%
}%
\let\@glxtr@bookindex@subatendgroup\relax
\let\@glxtr@bookindex@subsubatendgroup\relax

```

Format entry.

```

\glstreeitem
  \glstryitem{##1}%
  \glxtrbookindextarget{##1}{\glxtrbookindexname{##1}}%
  \glxtrbookindexprelocation{##1}%
  \glxtrbookindexlocation{##1}{##2}%
}%
\renewcommand{\subglossentry}[3]{%
  \ifcase##1\relax

```

Level 0 (shouldn't happen as that's formatted with `\glossentry`).

```

  \glstreeitem
  \or

```

Level 1.

```

  \@glxtr@bookindex@sep
  \@glxtr@bookindex@subbetween{##2}%
  \let\@glxtr@bookindex@sep\relax

```

Update separators.

```

\let\@glxtr@bookindex@subsubbetween@gobble
\let\@glxtr@bookindex@subsep\glxtrbookindexparentschildsep
\edef\@glxtr@bookindex@subbetween{%
  \noexpand\glxtrbookindexsubbetween{##2}%
}%
\edef\@glxtr@bookindex@atsubendgroup{%
  \noexpand\glxtrbookindexatsubendgroup{##1}%
}%

```

Start sub-item.

```

  \glstreesubitem
  \glssubentryitem{##2}%
  \else

```

All other levels.

```

  \@glxtr@bookindex@subsep
  \@glxtr@bookindex@subsubbetween{##2}%

```

Update separators.

```
\let\@glsxtr@bookindex@subsep\relax
\edef\@glsxtr@bookindex@subsubbetween{%
  \noexpand\glsxtrbookindexsubsubbetween{##2}%
}%
\edef\@glsxtr@bookindex@atsubsubendgroup{%
  \noexpand\glsxtrbookindexatsubsubendgroup{##1}%
}%
```

Start sub-sub-item.

```
\glsxtrbookindexsubsubitem{##1}%
\fi
```

Format entry.

```
\glsxtrbookindexsubtarget{##2}{\glsxtrbookindexsubname{##2}}%
\glsxtrbookindexsubprelocation{##2}%
\glsxtrbookindexsublocation{##2}{##3}%
}%
```

The group skip is moved to the group heading to avoid interfering with the end letter group hooks.

```
\renewcommand*{\glsgroupskip}{}%
```

Group heading format.

```
\renewcommand*{\glsgroupheading}[1]{%
```

Do end group hooks.

```
\@glsxtr@bookindex@subsubatendgroup
\@glsxtr@bookindex@subatendgroup
\@glsxtr@bookindex@atendgroup
\glsxtrbookindexpregroupskip\@glsxtr@bookindexgroupskip
```

Update separators.

```
\let\@glsxtr@bookindexgroupskip\glsxtrbookindexgroupskip
\let\@glsxtr@bookindex@between@gobble
\let\@glsxtr@bookindex@atendgroup\relax
\let\@glsxtr@bookindex@subatendgroup\relax
\let\@glsxtr@bookindex@subsubatendgroup\relax
```

Fetch the group title from the label supplied in #1.

```
\glsxtrgetgrouptitle{##1}{\glsxtrcurrentgrptitle}%
```

Do the PDF bookmark if supported.

```
\glsxtrbookindexbookmark{\glsxtrcurrentgrptitle}{\glsxtrbookindexbookmarkprefix##1}%
```

Format the group title.

```
\glsxtrbookindexformatheader{\glsxtrcurrentgrptitle}%
\nopagebreak\glsxtrbookindexpostgroupskip\nopagebreak\@afterheading
}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*{\gls subgroupheading}[4]{%
```

Do end group hooks.

```
\@glxtr@bookindex@subsubatendgroup
\@glxtr@bookindex@subatendgroup
\@glxtr@bookindex@atendgroup
\glxtrbookindexpresubgroupskip\@glxtr@bookindexgroupskip{##1}{##2}%
```

Update separators.

```
\let\@glxtr@bookindexgroupskip\glxtrbookindexgroupskip
\let\@glxtr@bookindex@between\@gobble
\let\@glxtr@bookindex@atendgroup\relax
\let\@glxtr@bookindex@subatendgroup\relax
\let\@glxtr@bookindex@subsubatendgroup\relax
```

Get group title.

```
\glxtrgetgrouptitle{##4}{\glxtrcurrentgrptitle}%
```

Do the PDF bookmark if supported.

```
\glxtrbookindexsubbookmark{##2}{##4}{\glxtrcurrentgrptitle}%
```

Format the group title.

```
\glxtrbookindexformatsubheader{##1}{##2}{##3}{##4}{\glxtrcurrentgrptitle}%
\nopagebreak\glxtrbookindexpostsubgroupskip{##1}{##2}\nopagebreak\@afterheading
}
}
```

Some supplementary commands that may be useful. These store the entry label for the current page. Since the page number is needed in the control sequence, this uses `\glxtrbookindexthepage` instead of `\thepage` in case the page numbering has been set to something that contains formatting commands.

`\glxtrbookindexthepage` The `\@printglossary` sets `\currentglossary` to the current glossary label. This is used as a prefix in case the page number is reset.

```
\newcommand{\glxtrbookindexthepage}{%
\ifdef\currentglossary{\currentglossary.\arabic{page}}{\arabic{page}}%
}
```

`\glxtrbookindexmarkentry` Writes entry information to the `.aux` file. The argument is the entry label.

```
\newcommand*{\glxtrbookindexmarkentry}[1]{%
\protected@write\@auxout
{\let\glxtrbookindexthepage\relax}%
{\string\glxtr@setbookindexmark{\glxtrbookindexthepage}{#1}}%
}
```

`\glxtr@setbookindexmark`

```
\newcommand*{\glxtr@setbookindexmark}[2]{%
\ifcsundef{glxtr@idxfirstmark@#1}%
{\csgdef{glxtr@idxfirstmark@#1}{#2}}%
{}%
\csgdef{glxtr@idxlastmark@#1}{#2}%
}
```

`\glsxtrbookindexfirstmarkfmt`

```
\newcommand*\glsxtrbookindexfirstmarkfmt}[1]{%
  \glsentryname{#1}%
}
```

`\glsxtrbookindexfirstmark`

```
\newcommand*\glsxtrbookindexfirstmark{%
  \letcs{\glsxtr@label}{\glsxtr@idxfirstmark@\glsxtrbookindexthepage}%
  \ifdef\glsxtr@label
  {\glsxtrbookindexfirstmarkfmt{\glsxtr@label}}%
  {}%
}
```

`\glsxtrbookindexlastmarkfmt`

```
\newcommand*\glsxtrbookindexlastmarkfmt}[1]{%
  \glsentryname{#1}%
}
```

`\glsxtrbookindexlastmark`

```
\newcommand*\glsxtrbookindexlastmark{%
  \letcs{\glsxtr@label}{\glsxtr@idxlastmark@\glsxtrbookindexthepage}%
  \ifdef\glsxtr@label
  {\glsxtrbookindexlastmarkfmt{\glsxtr@label}}%
  {}%
}
```

## 6 longextra styles (`glossary-longextra.sty`)

Provides additional long styles.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossary-longextra-2021-11-22.sty}
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossary-longextra}[2025/01/03 v1.54 (NLCT)]
```

Load required packages.

```
\RequirePackage{glossary-longbooktabs}
```

```
\glslongextraNameFmt{<label>}
```

`\glslongextraNameFmt`

Governs the way the name is displayed.

```
\newcommand*\glslongextraNameFmt}[1]{%
  \glsentryitem{#1}\glstarget{#1}{\glossentryname{#1}}%
}
```

`\glslongextraDescFmt`

`\glslongextraDescFmt{<label>}`

Governs the way the description is displayed.

```
\newcommand{\glslongextraDescFmt}[1]{%
  \glossentrydesc{#1}\glspostdescription
}
```

`\glslongextraSymbolFmt`

`\glslongextraSymbolFmt{<label>}`

Governs the way the symbol is displayed.

```
\newcommand{\glslongextraSymbolFmt}[1]{\glossentrysymbol{#1}}
```

`\glslongextraSymbolTargetFmt`

`\glslongextraSymbolTargetFmt{<label>}`

Governs the way the symbol is displayed if it needs to include the target.

```
\newcommand{\glslongextraSymbolTargetFmt}[1]{%
  \glsentryitem{#1}\glstarget{#1}{\glslongextraSymbolFmt{#1}}
```

`\glslongextraSymbolOrName`

`\glslongextraSymbolOrName{<label>}`

Governs the way the symbol is displayed if it needs to include the target.

```
\newcommand{\glslongextraSymbolOrName}[1]{%
  \ifglshassymbol{#1}%
  {\glslongextraSymbolTargetFmt{#1}}%
  {\glslongextraNameFmt{#1}}%
}
```

`\glslongextraLocationFmt`

`\glslongextraLocationFmt{<label>}{<location list>}`

Governs the way the location is displayed.

```
\newcommand{\glslongextraLocationFmt}[2]{#2}
```

`\glslongextraShortTargetFmt`

`\glslongextraShortTargetFmt{<label>}`

Governs the way the short form is displayed if it needs to include the target.

```
\newcommand{\glslongextraShortTargetFmt}[1]{%
  \glsentryitem{#1}\glstarget{#1}{\glsxtrshort[noindex,hyper=false]{#1}}%
  \glsxtrpostnamehook{#1}%
}
```

`\glslongextraLongFmt`

`\glslongextraLongFmt{<label>}`

Governs the way the long form is displayed.

```
\newcommand{\glslongextraLongFmt}[1]{%
  {\glsxtrlong[noindex,hyper=false]{#1}}\glspostdescription
}
```

`\glslongextraSubNameFmt`

`\glslongextraSubNameFmt{<level>}{<label>}`

Governs the way the child name is displayed. Just does the sub-entry counter, if enabled, and the target.

```
\newcommand{\glslongextraSubNameFmt}[2]{%
  \glssubentryitem{#2}\glstarget{#2}{\strut}%
}
```

`\glslongextraSubDescFmt`

`\glslongextraSubDescFmt{<level>}{<label>}`

Governs the way the child description is displayed.

```
\newcommand{\glslongextraSubDescFmt}[2]{%
  \glslongextraDescFmt{#2}%
}
```

`\glslongextraSubSymbolFmt`

`\glslongextraSubSymbolFmt{<level>}{<label>}`

Governs the way the child symbol is displayed.

```
\newcommand{\glslongextraSubSymbolFmt}[2]{%
  \glslongextraSymbolFmt{#2}%
}
```

`\glslongextraSubSymbolTargetFmt`

`\glslongextraSubSymbolTargetFmt{<level>}{<label>}`

Governs the way the child symbol is displayed if the target is required.

```
\newcommand{\glslongextraSubSymbolTargetFmt}[2]{%
  \glssubentryitem{#2}\glstarget{#2}{\glslongextraSymbolFmt{#2}}%
}
```

`\glslongextraSubSymbolOrName`

`\glslongextraSubSymbolOrName{<level>}{<label>}`

Shows the symbol or the name (if the symbol isn't set) as the target for sub-entries.

```

\newcommand{\glslongextraSubSymbolOrName}[2]{%
  \ifglshassymbol{#2}%
    {\glslongextraSubSymbolTargetFmt{#1}{#2}}%
    {\glslongextraSubNameFmt{#1}{#2}}%
}

```

```
\glslongextraSubShortTargetFmt{<level>}{<label>}
```

`\glslongextraSubShortTargetFmt`

Governs the way the short form is displayed if it needs to include the target.

```

\newcommand{\glslongextraSubShortTargetFmt}[2]{%
  \glssubentryitem{#2}\glstarget{#2}{\glxtrshort[noindex,hyper=false]{#2}}%
  \glxtrpostnamehook{#2}%
}

```

```
\glslongextraSubLongFmt{<label>}
```

`\glslongextraSubLongFmt`

Governs the way the long form is displayed.

```
\newcommand{\glslongextraSubLongFmt}[2]{\glslongextraLongFmt{#2}}
```

```
\glslongextraSubLocationFmt{<level>}{<label>}{<location
list>}
```

`\glslongextraSubLocationFmt`

Governs the way the child location list is displayed.

```
\newcommand{\glslongextraSubLocationFmt}[3]{#3}
```

`\glslongextraNameAlign` Alignment for the name column.

```
\newcommand{\glslongextraNameAlign}{l}
```

`\glslongextraDescAlign` Alignment for the description column.

```
\newcommand{\glslongextraDescAlign}{>{\raggedright}p{\glsdescwidth}}
```

`\glslongextraSymbolAlign` Alignment for the symbol column.

```
\newcommand{\glslongextraSymbolAlign}{c}
```

`\glslongextraSymbolNameAlign` Alignment for the symbol column when it's being used instead of the name.

```
\newcommand{\glslongextraSymbolNameAlign}{l}
```

`\glslongextraLocationAlign` Alignment for the location column.

```
\newcommand{\glslongextraLocationAlign}{>{\raggedright}p{\glspagelistwidth}}
```

`\glslongextraGroupHeading` Used to format the letter group headings. The first argument is the number of columns in the table. The second is the group *label* (not the title).

```
\newcommand{\glslongextraGroupHeading}[2]{}
```

```
\glslongextraSubGroupHeading{<number of columns>}{<prev
group level>}{<group
level>}{<parent entry>}{<group label>}
```

`\glslongextraSubGroupHeading`

```
\newcommand*{\glslongextraSubGroupHeading}[5]{}
```

`\glslongextraHeaderFormat` Format for the column headers.

```
\newcommand{\glslongextraHeaderFmt}[1]{\textbf{#1}}
```

`\glslongextraNameDescHeader`

```
\newcommand{\glslongextraNameDescHeader}{%
\glslongextraNameDescTabularHeader\endhead
\glslongextraNameDescTabularFooter\endfoot
}
```

`\glslongextraNameDescTabularHeader`

```
\newcommand{\glslongextraNameDescTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname\tabularnewline
\midrule
}
```

`\glslongextraNameDescTabularFooter`

```
\newcommand{\glslongextraNameDescTabularFooter}{%
\bottomrule
}
```

Unlike the `alttree` style, there aren't different widths for the hierarchical levels.

`\glslongextraSetWidest` Provide in case the tree styles haven't been loaded.

```
\newcommand*{\glslongextraSetWidest}[1]{%
\def\@glslongextrawidestname{#1}%
}
```

`\@glslongextrawidestname` Pick up the widest name from the `alttree` style if it has been set. (Will expand to nothing otherwise.)

```
\newcommand*{\@glslongextrawidestname}{\csuse{@glswidestname}}
```

`\glslongextraUpdateWidest`

```
\newcommand*{\glslongextraUpdateWidest}[1]{%
\ifundef\@glslongextrawidestname
{\def\@glslongextrawidestname{#1}}%
{%
\glsmeasurewidth{\dimen@}{\@glslongextrawidestname}%
\glsmeasurewidth{\dimen@ii}{#1}%
\ifdim\dimen@ii>\dimen@
```



```

\def\@glslongextrawidestname{#1}%
\fi
}%
}

```

```
\glslongextraUpdateWidestChild{<level>}{<text>}
```

`\glslongextraUpdateWidestChild`

Used by `\glsxtrSetWidest` in glossaries-extra-bib2gls. Does nothing by default, since the default action in these styles is to omit the child name. If the child name should be displayed, then this needs to be redefined to use `\glslongextraUpdateWidest`.

```
\newcommand*{\glslongextraUpdateWidestChild}[2]{}

```

`\glslongextraSetDescWidth` Computes the value of `\glsdescwidth` for the styles that only have name and description columns.

```
\newcommand{\glslongextraSetDescWidth}{%
\glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\entryname}%

```

Has the widest name been set.

```
\glsmeasurewidth{\dimen@}{\glsnamefont{\@glslongextrawidestname}}%
\ifdim\dimen@>\gls@tmplen
\gls@tmplen=\dimen@
\fi

```

Description width is `\linewidth` less `4\tabcolsep` less the width of the name column.

```
\setlength{\glsdescwidth}{\dimexpr\linewidth-4\tabcolsep-\gls@tmplen}%
}

```

`\glslongextraSymSetDescWidth` Computes the value of `\glsdescwidth` for the styles that only have name, symbol and description columns.

```
\newcommand{\glslongextraSymSetDescWidth}{%

```

Work out the size for just the name and description style.

```
\glslongextraSetDescWidth

```

Now work out the symbol column width. This is assuming that the column title will be the widest text in the column.

```
\glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\symbolname}%

```

Subtract `2\tabcolsep` and the symbol header width.

```
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\gls@tmplen}%
}

```

`\glslongextraSymNoNameSetDescWidth` Computes the value of `\glsdescwidth` for the styles that only have symbol and description columns.

```
\newcommand{\glslongextraSymNoNameSetDescWidth}{%

```

Now work out the symbol column width. This is assuming that the column title will be the widest text in the column.

```
\glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\symbolname}%
```

Subtract  $4\text{\tabcolsep}$  and the symbol header width.

```
\setlength{\glsdescwidth}{\dimexpr\linewidth-4\tabcolsep-\gls@tmplen}%  
}
```

`\glslongextraLocSetDescWidth` Computes the value of `\glsdescwidth` for the styles that only have name, location and description columns.

```
\newcommand{\glslongextraLocSetDescWidth}{%
```

Work out the size for just the name and description style.

```
\glslongextraSetDescWidth
```

Subtract  $2\text{\tabcolsep}$  and the location list column width.

```
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\glspagelistwidth}%  
}
```

`\glslongextraSymLocSetDescWidth` Computes the value of `\glsdescwidth` for the styles that have name, symbol, location and description columns.

```
\newcommand{\glslongextraSymLocSetDescWidth}{%
```

Work out the size for just the name, symbol and description style.

```
\glslongextraSymSetDescWidth
```

Subtract  $2\text{\tabcolsep}$  and the location list column width.

```
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\glspagelistwidth}%  
}
```

`\glslongextraShortNoNameSetDescWidth` Computes the value of `\glsdescwidth` for the styles that only have short and long columns. The long form will essentially be treated like a description column.

```
\newcommand{\glslongextraShortNoNameSetDescWidth}{%
```

Now work out the short column width. This is assuming that the column title will be the widest text in the column.

```
\glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\glslongextraShortHeader}%
```

Subtract  $4\text{\tabcolsep}$  and the above header width.

```
\setlength{\glsdescwidth}{\dimexpr\linewidth-4\tabcolsep-\gls@tmplen}%  
}
```

`\ifGlsLongExtraUseTabular` If true use `tabular` instead of `longtable`. Obviously only intended for short glossaries that can fit into a single page.

```
\newif\ifGlsLongExtraUseTabular  
\GlsLongExtraUseTabularfalse
```

`\glslongextraTabularVAlign` Only used with the `tabular` setting.

```
\newcommand*\glslongextraTabularVAlign{c}
```

long-name-desc Two column style with multi-lined descriptions and header. This is similar to the longragged-booktabs style.

```

\newglossarystyle{long-name-desc}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraDescAlign}}%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraNameDescTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraNameDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraDescAlign}}%
    \@glslongextra@begintab
  }%
  {\end{longtable}}%
  \renewcommand*\glossaryheader{\glslongextraNameDescHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{2}{##1}}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*\glssubgroupheading{\glslongextraSubGroupHeading{2}}%
```

Top-level entry.

```

\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraDescFmt{##1}\tabularnewline
}%

```

Child entry.

```

\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2}
  &
  \glslongextraSubDescFmt{##1}{##2}%
  \tabularnewline
}%

```

```

\ifglsgroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

extraNameDescLocationHeader

```

\newcommand{\glslongextraNameDescLocationHeader}{%
\glslongextraNameDescLocationTabularHeader\endhead
\glslongextraNameDescLocationTabularFooter\endfoot
}

```

ameDescLocationTabularHeader

```

\newcommand{\glslongextraNameDescLocationTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\pagelistname\tabularnewline
\midrule
}

```

ameDescLocationTabularFooter

```

\newcommand{\glslongextraNameDescLocationTabularFooter}{%
\bottomrule
}

```

long-name-desc-loc Three columns: name, description and location list.

```

\newglossarystyle{long-name-desc-loc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraNameDescLocationTabularFooter
\end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraNameDescLocationTabularHeader}%
\else
\renewenvironment{theglossary}%

```

```

    {%
      \glspatchLToutput
      \glslongextraLocSetDescWidth
      \edef\@glslongextra@begintab{%
        \noexpand\begin{longtable}{%
          \expandonce\glslongextraNameAlign
          \expandonce\glslongextraDescAlign
          \expandonce\glslongextraLocationAlign
        }}%
      \@glslongextra@begintab
    }%
  {\end{longtable}}%
  \renewcommand*\glossaryheader{\glslongextraNameDescLocationHeader}%
  \fi
  \renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%
  Sub-groups are only supported with \printunsrtglossary.
  \renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
  \renewcommand*\glossentry[2]{%
    \glslongextraNameFmt{##1} &
    \glslongextraDescFmt{##1} &
    \glslongextraLocationFmt{##1}{##2}\tabularnewline
  }%
  \renewcommand*\subglossentry[3]{%
    \glslongextraSubNameFmt{##1}{##2}&
    \glslongextraSubDescFmt{##1}{##2}&
    \glslongextraSubLocationFmt{##1}{##2}{##3}%
    \tabularnewline
  }%
  \ifglsnogroupskip
    \renewcommand*\gls groupskip{ }%
  \else
    \renewcommand*\gls groupskip{\gls penaltygroupskip}%
  \fi
}

```

\glslongextraDescNameHeader

```

\newcommand*\glslongextraDescNameHeader{%
  \glslongextraDescNameTabularHeader\endhead
  \glslongextraDescNameTabularFooter\endfoot
}

```

gextraDescNameTabularHeader

```

\newcommand*\glslongextraDescNameTabularHeader{%
  \toprule
  \glslongextraHeaderFmt\descriptionname&
  \glslongextraHeaderFmt\entryname \tabularnewline
  \midrule
}

```

gextraDescNameTabularFooter

```
\newcommand{\glslongextraDescNameTabularFooter}{%  
  \bottomrule  
}
```

long-desc-name Like name-desc but swaps the columns.

```
\newglossarystyle{long-desc-name}%  
{%  
  \ifGlsLongExtraUseTabular  
  \renewenvironment{theglossary}%  
  {%  
    \glslongextraSetDescWidth  
    \edef\@glslongextra@begintab{%  
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%  
        \expandonce\glslongextraDescAlign  
        \expandonce\glslongextraNameAlign}}%  
    \@glslongextra@begintab  
  }%  
  {%  
    \glslongextraDescNameTabularFooter  
    \end{tabular}%  
  }%  
  \renewcommand*\glossaryheader{\glslongextraDescNameTabularHeader}%  
\else  
  \renewenvironment{theglossary}%  
  {%  
    \glspatchLToutput  
    \glslongextraSetDescWidth  
    \edef\@glslongextra@begintab{%  
      \noexpand\begin{longtable}{%  
        \expandonce\glslongextraDescAlign  
        \expandonce\glslongextraNameAlign}}%  
    \@glslongextra@begintab  
  }%  
  {\end{longtable}}%  
  \renewcommand*\glossaryheader{\glslongextraDescNameHeader}%  
\fi  
  \renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{2}{##1}}%
```

Sub-groups are only supported with \printunsrtglossary.

```
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{2}}%  
\renewcommand{\glossentry}[2]{%  
  \glslongextraDescFmt{##1} &  
  \glslongextraNameFmt{##1}\tabularnewline  
}%  
\renewcommand{\subglossentry}[3]{%  
  \glslongextraSubDescFmt{##1}{##2} &  
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline  
}%  
\ifglsnogroupskip
```

```

        \renewcommand*{\glsgroupskip}{}%
    \else
        \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
    \fi
}

```

extraLocationDescNameHeader

```

\newcommand{\glslongextraLocationDescNameHeader}{%
\glslongextraLocationDescNameTabularHeader\endhead
\glslongextraLocationDescNameTabularFooter\endfoot
}

```

ocationDescNameTabularHeader

```

\newcommand{\glslongextraLocationDescNameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\pagelistname&
\glslongextraHeaderFmt\descriptionname&
\glslongextraHeaderFmt\entryname \tabularnewline
\midrule
}

```

ocationDescNameTabularFooter

```

\newcommand{\glslongextraLocationDescNameTabularFooter}{%
\bottomrule
}

```

long-loc-desc-name Three columns: location, description and name.

```

\newglossarystyle{long-loc-desc-name}%
{%
  \ifGlsLongExtraUseTabular
  {%
    \glslongextraLocSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraLocationAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraNameAlign}}%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraLocationDescNameTabularFooter
    \end{tabular}%
  }%
  \renewcommand*{\glossaryheader}{\glslongextraLocationDescNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraLocSetDescWidth

```

```

\edef\@glslongextra@begintab{%
  \noexpand\begin{longtable}{%
    \expandonce\glslongextraLocationAlign
    \expandonce\glslongextraDescAlign
    \expandonce\glslongextraNameAlign}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraLocationDescNameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*{\glssubgroupheading}{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraLocationFmt{##1}{##2} &
  \glslongextraDescFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubLocationFmt{##1}{##2}{##3} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

`\glslongextraNameDescSymHeader`

```

\newcommand{\glslongextraNameDescSymHeader}{%
  \glslongextraNameDescSymTabularHeader\endhead
  \glslongextraNameDescSymTabularFooter\endfoot
}

```

`\glslongextraNameDescSymTabularHeader`

```

\newcommand{\glslongextraNameDescSymTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\entryname &
  \glslongextraHeaderFmt\descriptionname &
  \glslongextraHeaderFmt\symbolname\tabularnewline
  \midrule
}

```

`\glslongextraNameDescSymTabularFooter`

```

\newcommand{\glslongextraNameDescSymTabularFooter}{%
  \bottomrule
}

```



long-name-desc-sym Three column style with symbol in the third column.

```

\newglossarystyle{long-name-desc-sym}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSymSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraSymbolAlign
      }%
    }%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraNameDescSymTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraNameDescSymTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSymSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraDescAlign
      \expandonce\glslongextraSymbolAlign
    }%
  }%
  \@glslongextra@begintab
  }%
  {\end{longtable}}%
  \renewcommand*\glossaryheader{\glslongextraNameDescSymHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand*\glossentry[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraSymbolFmt{##1}\tabularnewline
}%
\renewcommand*\subglossentry[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2}%
  \tabularnewline
}

```

```

}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

raNameDescSymLocationHeader

```

\newcommand{\glslongextraNameDescSymLocationHeader}{%
\glslongextraNameDescSymLocationTabularHeader\endhead
\glslongextraNameDescSymLocationTabularFooter\endfoot
}

```

DescSymLocationTabularHeader

```

\newcommand{\glslongextraNameDescSymLocationTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\pagelistname\tabularnewline
\midrule
}

```

DescSymLocationTabularFooter

```

\newcommand{\glslongextraNameDescSymLocationTabularFooter}{%
\bottomrule
}

```

long-name-desc-sym-loc Four columns: name, description and location

```

\newglossarystyle{long-name-desc-sym-loc}%
{%
\ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSymLocSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraLocationAlign
      }}%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraNameDescSymLocationTabularFooter
    \end{tabular}%
  }%
}

```

```

\renewcommand*\glossaryheader{\glslongextraNameDescSymLocationTabularHeader}%
\else
\renewenvironment{theglossary}%
{
  \glspatchLToutput
  \glslongextraSymLocSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraDescAlign
      \expandonce\glslongextraSymbolAlign
      \expandonce\glslongextraLocationAlign
    }}%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameDescSymLocationHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraSymbolFmt{##1}&
  \glslongextraLocationFmt{##1}{##2}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2}&
  \glslongextraSubLocationFmt{##1}{##2}{##3}%
  \tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\gls groupskip}{}%
\else
\renewcommand*\gls groupskip}{\gls penaltygroupskip}%
\fi
}

\gls longextraNameSymDescHeader
\newcommand{\gls longextraNameSymDescHeader}{%
\gls longextraNameSymDescTabularHeader\endhead
\gls longextraNameSymDescTabularFooter\endfoot
}

\gls longextraNameSymDescTabularHeader
\newcommand{\gls longextraNameSymDescTabularHeader}{%

```

```

\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname\tabularnewline
\midrule
}

```

extraNameSymDescTabularFooter

```

\newcommand{\glslongextraNameSymDescTabularFooter}{%
\bottomrule
}

```

long-name-sym-desc Three column style with symbol in the second column.

```

\newglossarystyle{long-name-sym-desc}{%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}{%
{%
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraNameSymDescTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescTabularHeader}%
\else
\renewenvironment{theglossary}{%
{%
\glspatchLToutput
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*{\glssubgroupheading}{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2}\tabularnewline
}%
\ifglsgroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

raNameSymDescLocationHeader

```

\newcommand{\glslongextraNameSymDescLocationHeader}{%
  \glslongextraNameSymDescLocationTabularHeader\endhead
  \glslongextraNameSymDescLocationTabularFooter\endfoot
}

```

ymDescLocationTabularHeader

```

\newcommand{\glslongextraNameSymDescLocationTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\entryname &
  \glslongextraHeaderFmt\symbolname &
  \glslongextraHeaderFmt\descriptionname &
  \glslongextraHeaderFmt\pagelistname\tabularnewline
  \midrule
}

```

ymDescLocationTabularFooter

```

\newcommand{\glslongextraNameSymDescLocationTabularFooter}{%
  \bottomrule
}

```

`long-name-sym-desc-loc` Four column style with symbol in the second column.

```

\newglossarystyle{long-name-sym-desc-loc}%
{%
  \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
    {%
      \glslongextraSymLocSetDescWidth
      \edef\@glslongextra@begintab{%
        \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%

```

```

        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraLocationAlign
    }%
    \@glslongextra@begintab
}%
{%
    \glslongextraNameSymDescLocationTabularFooter
    \end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescLocationTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
    \glspatchLToutput
    \glslongextraSymLocSetDescWidth
    \edef\@glslongextra@begintab{%
        \noexpand\begin{longtable}{%
            \expandonce\glslongextraNameAlign
            \expandonce\glslongextraSymbolAlign
            \expandonce\glslongextraDescAlign
            \expandonce\glslongextraLocationAlign
        }%
        \@glslongextra@begintab
    }%
    {\end{longtable}}%
    \renewcommand*\glossaryheader{\glslongextraNameSymDescLocationHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand*\glossentry[2]{%
    \glslongextraNameFmt{##1} &
    \glslongextraSymbolFmt{##1} &
    \glslongextraDescFmt{##1} &
    \glslongextraLocationFmt{##1}{##2}\tabularnewline
}%
\renewcommand*\subglossentry[3]{%
    \glslongextraSubNameFmt{##1}{##2} &
    \glslongextraSubSymbolFmt{##1}{##2} &
    \glslongextraSubDescFmt{##1}{##2} &
    \glslongextraSubLocationFmt{##1}{##2}{##3}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi

```

```
    }
```

```
glslongextraSymDescNameHeader
```

```
\newcommand{\glslongextraSymDescNameHeader}{%  
  \glslongextraSymDescNameTabularHeader\endhead  
  \glslongextraSymDescNameTabularFooter\endfoot  
}
```

```
glslongextraSymDescNameTabularHeader
```

```
\newcommand{\glslongextraSymDescNameTabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt\symbolname &  
  \glslongextraHeaderFmt\descriptionname &  
  \glslongextraHeaderFmt\entryname\tabularnewline  
  \midrule  
}
```

```
glslongextraSymDescNameTabularFooter
```

```
\newcommand{\glslongextraSymDescNameTabularFooter}{%  
  \bottomrule  
}
```

`long-sym-desc-name` Three column style with symbol in the first column, description in the second and name in the third.

```
\newglossarystyle{long-sym-desc-name}{%  
  {%  
    \ifGlsLongExtraUseTabular  
    \renewenvironment{theglossary}{%  
      {%  
        \glslongextraSymSetDescWidth  
        \edef\@glslongextra@begintab{%  
          \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%  
            \expandonce\glslongextraSymbolAlign  
            \expandonce\glslongextraDescAlign  
            \expandonce\glslongextraNameAlign  
          }%  
        \@glslongextra@begintab  
      }%  
      {%  
        \glslongextraSymDescNameTabularFooter  
        \end{tabular}%  
      }%  
    \renewcommand*\glossaryheader{\glslongextraSymDescNameTabularHeader}%  
  \else  
    \renewenvironment{theglossary}{%  
      {%  
        \glspatchLTOoutput  
        \glslongextraSymSetDescWidth  
        \edef\@glslongextra@begintab{%
```

```

\expand\begin{longtable}{%
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraSymDescNameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%

```

Sub-groups are only supported with \printunsrtglossary.

```

\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
\glslongextraSymbolFmt{##1} &
\glslongextraDescFmt{##1} &
\glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubSymbolFmt{##1}{##2} &
\glslongextraSubDescFmt{##1}{##2} &
\glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

```

raLocationSymDescNameHeader

```

\newcommand{\glslongextraLocationSymDescNameHeader}{%
\glslongextraLocationSymDescNameTabularHeader\endhead
\glslongextraLocationSymDescNameTabularFooter\endfoot
}

```

ionSymDescNameTabularHeader

```

\newcommand{\glslongextraLocationSymDescNameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\pagelistname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\entryname\tabularnewline
\midrule
}

```

ionSymDescNameTabularFooter

```

\newcommand{\glslongextraLocationSymDescNameTabularFooter}{%
\bottomrule
}

```



}

long-loc-sym-desc-name Four column style with location list, symbol, description and name.

```
\newglossarystyle{long-loc-sym-desc-name}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSymLocSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraLocationAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraNameAlign
      }%
    }
    \@glslongextra@begintab
  }%
  {%
    \glslongextraLocationSymDescNameTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraLocationSymDescNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSymLocSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraLocationAlign
      \expandonce\glslongextraSymbolAlign
      \expandonce\glslongextraDescAlign
      \expandonce\glslongextraNameAlign
    }%
  }
  \@glslongextra@begintab
  }%
  {\end{longtable}}%
  \renewcommand*\glossaryheader{\glslongextraLocationSymDescNameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\glssubgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand*\glossentry[2]{%
  \glslongextraLocationFmt{##1}{##2} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
```

```

\renewcommand{\subglossentry}[3]{%
  \glslongextraSubLocationFmt{##1}{##2}{##3} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

glslongextraDescSymNameHeader

```

\newcommand{\glslongextraDescSymNameHeader}{%
  \glslongextraDescSymNameTabularHeader\endhead
  \glslongextraDescSymNameTabularFooter\endfoot
}

```

glslongextraDescSymNameTabularHeader

```

\newcommand{\glslongextraDescSymNameTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\descriptionname &
  \glslongextraHeaderFmt\symbolname &
  \glslongextraHeaderFmt\entryname\tabularnewline
  \midrule
}

```

glslongextraDescSymNameTabularFooter

```

\newcommand{\glslongextraDescSymNameTabularFooter}{%
  \bottomrule
}

```

**long-desc-sym-name** Three column style with description in the first column, symbol in the second and name in the third.

```

\newglossarystyle{long-desc-sym-name}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSymSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraNameAlign
      }}%
    \@glslongextra@begintab
  }%
}

```

```

    {%
      \glslongextraDescSymNameTabularFooter
    \end{tabular}%
  }%
\renewcommand*\glossaryheader{\glslongextraDescSymNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSymSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraDescAlign
      \expandonce\glslongextraSymbolAlign
      \expandonce\glslongextraNameAlign
    }}%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraDescSymNameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraDescFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

raLocationDescSymNameHeader
\newcommand{\glslongextraLocationDescSymNameHeader}{%
\glslongextraLocationDescSymNameTabularHeader\endhead
\glslongextraLocationDescSymNameTabularFooter\endfoot
}

ionDescSymNameTabularHeader
\newcommand{\glslongextraLocationDescSymNameTabularHeader}{%

```

```

\toprule
\glslongextraHeaderFmt\pagelistname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\entryname\tabularnewline
\midrule
}

```

ionDescSymNameTabularFooter

```

\newcommand{\glslongextraLocationDescSymNameTabularFooter}{%
\bottomrule
}

```

long-loc-desc-sym-name Four column style with location list, description, symbol and name.

```

\newglossarystyle{long-loc-desc-sym-name}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraSymLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraLocationAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraLocationDescSymNameTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraLocationDescSymNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraSymLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraLocationAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraLocationDescSymNameHeader}%

```

```

\fi
\renewcommand*\glsgroupheading}[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\glssubgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraLocationFmt{##1}{##2} &
  \glslongextraDescFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubLocationFmt{##1}{##2}{##3} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsgroupskip
  \renewcommand*\glsgroupskip}{}%
\else
  \renewcommand*\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-sym-desc Two column style with symbol in the first column and description in the second. The name isn't shown unless the symbol is missing.

```

\newglossarystyle{long-sym-desc}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraSymNoNameSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraSymbolNameAlign
        \expandonce\glslongextraDescAlign
      }%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraSymDescTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraSymDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSymNoNameSetDescWidth
  \edef\@glslongextra@begintab{%

```

```

        \noexpand\begin{longtable}{%
        \expandonce\glslongextraSymbolNameAlign
        \expandonce\glslongextraDescAlign
        }>%
        \@glslongextra@begintab
    }%
    {\end{longtable}}%
    \renewcommand*{\glossaryheader}{\glslongextraSymDescHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\gls subgroupheading}{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraSymbolOrName{##1} &
    \glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubSymbolOrName{##1}{##2} &
    \glslongextraSubDescFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*{\gls groupskip}{}%
\else
    \renewcommand*{\gls groupskip}{\gls penaltygroupskip}%
\fi
}

```

`\glslongextraSymDescHeader`

```

\newcommand{\glslongextraSymDescHeader}{%
\glslongextraSymDescTabularHeader\endhead
\glslongextraSymDescTabularFooter\endfoot
}

```

`\glslongextraSymDescTabularHeader`

```

\newcommand{\glslongextraSymDescTabularHeader}{%
\toprule
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname\tabularnewline
\midrule
}

```

`\glslongextraSymDescTabularFooter`

```

\newcommand{\glslongextraSymDescTabularFooter}{%
\bottomrule
}

```

`long-desc-sym` Two column style with description in the first column and symbol in the second.  
The name isn't shown.

```

\newglossarystyle{long-desc-sym}%

```

```

{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{
\glslongextraSymNoNameSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolNameAlign
}}%
\@glslongextra@begintab
}%
{
\glslongextraDescSymTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraDescSymTabularHeader}%
\else
\renewenvironment{theglossary}%
{
\glspatchLTOoutput
\glslongextraSymNoNameSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraDescSymHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand\glossentry[2]{%
\glslongextraDescFmt{##1} &
\glslongextraSymbolOrName{##1}\tabularnewline
}%
\renewcommand\subglossentry[3]{%
\glslongextraSubDescFmt{##1}{##2} &
\glslongextraSubSymbolOrName{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

```

`\glslongextraDescSymHeader`

```
\newcommand{\glslongextraDescSymHeader}{%  
  \glslongextraDescSymTabularHeader\endhead  
  \glslongextraDescSymTabularFooter\endfoot  
}
```

`\glslongextraDescSymTabularHeader`

```
\newcommand{\glslongextraDescSymTabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt\descriptionname &  
  \glslongextraHeaderFmt\symbolname\tabularnewline  
  \midrule  
}
```

`\glslongextraDescSymTabularFooter`

```
\newcommand{\glslongextraDescSymTabularFooter}{%  
  \bottomrule  
}
```

`abbr-short-long` Two column style with the short field in the first column and the long field in the second. The name, symbol and description aren't shown (although the abbreviation style may mean that they will happen to be shown if they are the same as the short or long field).

```
\newglossarystyle{abbr-short-long}{%  
  {%  
    \ifGlsLongExtraUseTabular  
    \renewenvironment{theglossary}{%  
      {%  
        \glslongextraShortNoNameSetDescWidth  
        \edef\@glslongextra@begintab{%  
          \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%  
            \expandonce\glslongextraNameAlign  
            \expandonce\glslongextraDescAlign  
          }%  
        \@glslongextra@begintab  
      }%  
      {%  
        \glslongextraShortLongTabularFooter  
        \end{tabular}%  
      }%  
    \renewcommand*{\glossaryheader}{\glslongextraShortLongTabularHeader}%  
  \else  
    \renewenvironment{theglossary}{%  
      {%  
        \glspatchLToutput  
        \glslongextraShortNoNameSetDescWidth  
        \edef\@glslongextra@begintab{%  
          \noexpand\begin{longtable}{%  
            \expandonce\glslongextraNameAlign
```



```

        \expandonce\glslongextraDescAlign
    }}%
    \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraShortLongHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\glssubgroupheading}{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \ifglshasshort{##1}%
  {\glslongextraShortTargetFmt{##1}}%
  {\glslongextraNameFmt{##1}}%
  &
  \ifglshaslong{##1}%
  {\glslongextraLongFmt{##1}}%
  {\glslongextraDescFmt{##1}}%
  \tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \ifglshasshort{##2}%
  {\glslongextraSubShortTargetFmt{##1}{##2}}%
  {\glslongextraSubNameFmt{##1}{##2}}%
  &
  \ifglshaslong{##2}%
  {\glslongextraSubLongFmt{##1}{##2}}%
  {\glslongextraSubDescFmt{##1}{##2}}%
  \tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

`\glslongextraShortLongHeader`

```

\newcommand{\glslongextraShortLongHeader}{%
  \glslongextraShortLongTabularHeader\endhead
  \glslongextraShortLongTabularFooter\endfoot
}

```

`\glslongextraShortHeader`

```

\newcommand{\glslongextraShortHeader}{\entryname}

```

`\glslongextraLongHeader`

```

\newcommand{\glslongextraLongHeader}{\descriptionname}

```

extraShortLongTabularHeader

```
\newcommand{\glslongextraShortLongTabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt\glslongextraShortHeader &  
  \glslongextraHeaderFmt\glslongextraLongHeader\tabularnewline  
  \midrule  
}
```

extraShortLongTabularFooter

```
\newcommand{\glslongextraShortLongTabularFooter}{%  
  \bottomrule  
}
```

abbr-long-short Two column style with the short field in the first column and the long field in the second. The name, symbol and description aren't shown (although the abbreviation style may mean that they will happen to be shown if they are the same as the short or long field).

```
\newglossarystyle{abbr-long-short}{%  
  {%  
    \ifGlsLongExtraUseTabular  
    \renewenvironment{theglossary}{%  
      {%  
        \glslongextraShortNoNameSetDescWidth  
        \edef\@glslongextra@begintab{%  
          \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%  
            \expandonce\glslongextraDescAlign  
            \expandonce\glslongextraNameAlign  
          }%  
        \@glslongextra@begintab  
      }%  
      {%  
        \glslongextraLongShortTabularFooter  
        \end{tabular}%  
      }%  
    \renewcommand*{\glossaryheader}{\glslongextraLongShortTabularHeader}%  
  \else  
  \renewenvironment{theglossary}{%  
    {%  
      \glspatchLToutput  
      \glslongextraShortNoNameSetDescWidth  
      \edef\@glslongextra@begintab{%  
        \noexpand\begin{longtable}{%  
          \expandonce\glslongextraDescAlign  
          \expandonce\glslongextraNameAlign  
        }%  
      \@glslongextra@begintab  
    }%  
    {\end{longtable}}%  
  \renewcommand*{\glossaryheader}{\glslongextraLongShortHeader}%
```

```

\fi
\renewcommand*\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\glssubgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \ifglshaslong{##1}%
  {\glslongextraLongFmt{##1}}%
  {\glslongextraDescFmt{##1}}%
  &
  \ifglshasshort{##1}%
  {\glslongextraShortTargetFmt{##1}}%
  {\glslongextraNameFmt{##1}}%
  \tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \ifglshaslong{##2}%
  {\glslongextraSubLongFmt{##1}{##2}}%
  {\glslongextraSubDescFmt{##1}{##2}}%
  &
  \ifglshasshort{##2}%
  {\glslongextraSubShortTargetFmt{##1}{##2}}%
  {\glslongextraSubNameFmt{##1}{##2}}%
  \tabularnewline
}%
\ifglsgroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

\glslongextraLongShortHeader
\newcommand{\glslongextraLongShortHeader}{%
\glslongextraLongShortTabularHeader\endhead
\glslongextraLongShortTabularFooter\endfoot
}

\glslongextraLongShortTabularHeader
\newcommand{\glslongextraLongShortTabularHeader}{%
\toprule
\glslongextraHeaderFmt\glslongextraLongHeader &
\glslongextraHeaderFmt\glslongextraShortHeader\tabularnewline
\midrule
}

\glslongextraLongShortTabularFooter
\newcommand{\glslongextraLongShortTabularFooter}{%
\bottomrule
}

```

```

\glslongextraCustomIField
    \newcommand{\glslongextraCustomIField}{useri}

\glslongextraCustomIHeader
    \newcommand{\glslongextraCustomIHeader}{%
    \MFUsentencecase{\glslongextraCustomIField}}

\glslongextraCustomIFmt
    \newcommand{\glslongextraCustomIFmt}[1]{%
    \glsxtrusefield{#1}{\glslongextraCustomIField}%
    }

\glslongextraSubCustomIFmt
    \newcommand{\glslongextraSubCustomIFmt}[2]{%
    \glslongextraCustomIFmt{#2}%
    }

\glslongextraCustomIIField
    \newcommand{\glslongextraCustomIIField}{userii}

\glslongextraCustomIIHeader
    \newcommand{\glslongextraCustomIIHeader}{%
    \MFUsentencecase{\glslongextraCustomIIField}}

\glslongextraCustomIIFmt
    \newcommand{\glslongextraCustomIIFmt}[1]{%
    \glsxtrusefield{#1}{\glslongextraCustomIIField}%
    }

\glslongextraSubCustomIIFmt
    \newcommand{\glslongextraSubCustomIIFmt}[2]{%
    \glslongextraCustomIIFmt{#2}%
    }

\glslongextraCustomIIIField
    \newcommand{\glslongextraCustomIIIField}{useriii}

\glslongextraCustomIIIHeader
    \newcommand{\glslongextraCustomIIIHeader}{%
    \MFUsentencecase{\glslongextraCustomIIIField}}

\glslongextraCustomIIIFmt
    \newcommand{\glslongextraCustomIIIFmt}[1]{%
    \glsxtrusefield{#1}{\glslongextraCustomIIIField}%
    }

```

```

\glslongextraSubCustomIIIFmt
    \newcommand{\glslongextraSubCustomIIIFmt}[2]{%
    \glslongextraCustomIIIFmt{#2}%
    }

\glslongextraCustomIAlign Alignment for the custom1 column.
    \newcommand{\glslongextraCustomIAlign}{1}

\glslongextraCustomIIAlign Alignment for the custom2 column.
    \newcommand{\glslongextraCustomIIAlign}{1}

\glslongextraCustomIIIAlign Alignment for the custom3 column.
    \newcommand{\glslongextraCustomIIIAlign}{1}

ongextraCustomTabularFooter
    \newcommand{\glslongextraCustomTabularFooter}{%
    \bottomrule
    }

slongextraNameCustomIHeader
    \newcommand{\glslongextraNameCustomIHeader}{%
    \glslongextraNameCustomITabularHeader\endhead
    \glslongextraCustomTabularFooter\endfoot
    }

etraNameCustomITabularHeader
    \newcommand{\glslongextraNameCustomITabularHeader}{%
    \toprule
    \glslongextraHeaderFmt\entryname &
    \glslongextraHeaderFmt{\glslongextraCustomIHeader}%
    \tabularnewline\midrule
    }

slongextraCustomINameHeader
    \newcommand{\glslongextraCustomINameHeader}{%
    \glslongextraCustomINameTabularHeader\endhead
    \glslongextraCustomTabularFooter\endfoot
    }

etraCustomINameTabularHeader
    \newcommand{\glslongextraCustomINameTabularHeader}{%
    \toprule
    \glslongextraHeaderFmt{\glslongextraCustomIHeader} &
    \glslongextraHeaderFmt\entryname
    \tabularnewline\midrule
    }

```

\glslongextraNameCustomIIHeader

```
\newcommand{\glslongextraNameCustomIIHeader}{%  
  \glslongextraNameCustomIITabularHeader\endhead  
  \glslongextraCustomTabularFooter\endfoot  
}
```

\glslongextraNameCustomIITabularHeader

```
\newcommand{\glslongextraNameCustomIITabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt\entryname &  
  \glslongextraHeaderFmt{\glslongextraCustomIHeader} &  
  \glslongextraHeaderFmt{\glslongextraCustomIIHeader}%  
  \tabularnewline\midrule  
}
```

\glslongextraCustomIINameHeader

```
\newcommand{\glslongextraCustomIINameHeader}{%  
  \glslongextraCustomIINameTabularHeader\endhead  
  \glslongextraCustomTabularFooter\endfoot  
}
```

\glslongextraCustomIINameTabularHeader

```
\newcommand{\glslongextraCustomIINameTabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt{\glslongextraCustomIHeader} &  
  \glslongextraHeaderFmt{\glslongextraCustomIIHeader} &  
  \glslongextraHeaderFmt\entryname  
  \tabularnewline\midrule  
}
```

\glslongextraNameCustomIIIHeader

```
\newcommand{\glslongextraNameCustomIIIHeader}{%  
  \glslongextraNameCustomIIITabularHeader\endhead  
  \glslongextraCustomTabularFooter\endfoot  
}
```

\glslongextraNameCustomIIITabularHeader

```
\newcommand{\glslongextraNameCustomIIITabularHeader}{%  
  \toprule  
  \glslongextraHeaderFmt\entryname &  
  \glslongextraHeaderFmt{\glslongextraCustomIHeader} &  
  \glslongextraHeaderFmt{\glslongextraCustomIIHeader} &  
  \glslongextraHeaderFmt{\glslongextraCustomIIIHeader}%  
  \tabularnewline\midrule  
}
```

\glslongextraCustomNameIIIHeader

```
\newcommand{\glslongextraCustomIIINameHeader}{%  
  \glslongextraCustomIIINameTabularHeader\endhead
```

```

\glslongextraCustomTabularFooter\endfoot
}

```

raCustomIIINameTabularHeader

```

\newcommand{\glslongextraCustomIIINameTabularHeader}{%
\toprule
\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIIHeader} &
\glslongextraHeaderFmt\entryname
\tabularnewline\midrule
}

```

long-name-custom1 Two column style with custom 1 field in the second column.

```

\newglossarystyle{long-name-custom1}{%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}{%
{%
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraCustomIAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraCustomTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameCustomITabularHeader}%
\else
\renewenvironment{theglossary}{%
{%
\glspatchLToutput
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraCustomIAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameCustomIHeader}%
\fi
\renewcommand*\glsgroupheading}[1]{\glslongextraGroupHeading{2}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{2}}%
\renewcommand{\glossentry}[2]{%

```

```

\glslongextraNameFmt{##1} &
\glslongextraCustomIFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubNameFmt{##1}{##2} &
\glslongextraSubCustomIFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*{\glsgroupskip}{}%
\else
\renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-custom1-name Two column style with custom 1 field in the first column.

```

\newglossarystyle{long-custom1-name}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraCustomTabularFooter
\end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraCustomINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraCustomINameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{2}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\gls subgroupheading}{\glslongextraSubGroupHeading{2}}%

```



```

\renewcommand{\glossentry}[2]{%
  \glslongextraCustomIFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubCustomIFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-name-custom2 Three column style with custom 1 field in the second column and custom 2 field in the third column.

```

\newglossarystyle{long-name-custom2}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraCustomIAlign
        \expandonce\glslongextraCustomIIAlign
      }}%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraCustomTabularFooter
    \end{tabular}%
  }%
  \renewcommand*{\glossaryheader}{\glslongextraNameCustomIITabularHeader}%
\else
  \renewenvironment{theglossary}%
  {%
    \glspatchLToutput
    \edef\@glslongextra@begintab{%
      \noexpand\begin{longtable}{%
        \expandonce\glslongextraNameAlign
        \expandonce\glslongextraCustomIAlign
        \expandonce\glslongextraCustomIIAlign
      }}%
    \@glslongextra@begintab
  }%
  {\end{longtable}}%
  \renewcommand*{\glossaryheader}{\glslongextraNameCustomIIHeader}%
\fi

```

```

\renewcommand*\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraCustomIFmt{##1}&
  \glslongextraCustomIIFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubCustomIFmt{##1}{##2} &
  \glslongextraSubCustomIIFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*\glsgroupskip}{}%
\else
  \renewcommand*\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-custom2-name As long-name-custom2 but with the name column at the end.

```

\newglossarystyle{long-custom2-name}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraCustomIAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraNameAlign
      }%
    }%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraCustomTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraCustomIINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraCustomIAlign
      \expandonce\glslongextraCustomIIAlign
      \expandonce\glslongextraNameAlign
    }%
  }%

```

```

        \@glslongextra@begintab
    }%
    {\end{longtable}}%
    \renewcommand*{\glossaryheader}{\glslongextraCustomINameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\glssubgroupheading}{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraCustomIFmt{##1}&
    \glslongextraCustomIIFmt{##1} &
    \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubCustomIFmt{##1}{##2} &
    \glslongextraSubCustomIIFmt{##1}{##2} &
    \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*{\glsgroupskip}{}%
\else
    \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-name-custom3 Four column style with custom 1 field in the second column, custom 2 field in the third column and custom 3 field in the fourth column.

```

\newglossarystyle{long-name-custom3}%
{%
    \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
    {%
        \edef\@glslongextra@begintab{%
            \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
                \expandonce\glslongextraNameAlign
                \expandonce\glslongextraCustomIAlign
                \expandonce\glslongextraCustomIIFmt
                \expandonce\glslongextraCustomIIFmt
            }%
        }%
        \@glslongextra@begintab
    }%
    {%
        \glslongextraCustomTabularFooter
        \end{tabular}%
    }%
    \renewcommand*{\glossaryheader}{\glslongextraNameCustomIIITabularHeader}%
\else
\renewenvironment{theglossary}%
{%

```

```

\glspatchLToutput
\edef\@glslongextra@begintab{%
  \noexpand\begin{longtable}{%
    \expandonce\glslongextraNameAlign
    \expandonce\glslongextraCustomIAAlign
    \expandonce\glslongextraCustomIIAlign
    \expandonce\glslongextraCustomIIIAlign
  }}%
\@glslongextra@begintab
}%
\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameCustomIIIHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand*\glossentry[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraCustomIFmt{##1}&
  \glslongextraCustomIIFmt{##1}&
  \glslongextraCustomIIIFmt{##1}\tabularnewline
}%
\renewcommand*\subglossentry[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubCustomIFmt{##1}{##2} &
  \glslongextraSubCustomIIFmt{##1}{##2} &
  \glslongextraSubCustomIIIFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*\glsgroupskip{}}%
\else
  \renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

```

long-custom3-name As long-name-custom3 but with the name in the end column.

```

\newglossarystyle{long-custom3-name}%
{%
  \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
    {%
      \edef\@glslongextra@begintab{%
        \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
          \expandonce\glslongextraCustomIAAlign
          \expandonce\glslongextraCustomIIAlign
          \expandonce\glslongextraCustomIIIAlign
          \expandonce\glslongextraNameAlign
        }}%
      \@glslongextra@begintab
    }%
  }%

```

```

}%
{%
  \glslongextraCustomTabularFooter
  \end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraCustomIIIINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraCustomIAlign
      \expandonce\glslongextraCustomIIAlign
      \expandonce\glslongextraCustomIIIAlign
      \expandonce\glslongextraNameAlign
    }}%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraCustomIIIINameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\gls subgroupheading}{\glslongextraSubGroupHeading{4}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraCustomIFmt{##1}&
  \glslongextraCustomIIFmt{##1}&
  \glslongextraCustomIIIFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubCustomIFmt{##1}{##2} &
  \glslongextraSubCustomIIFmt{##1}{##2} &
  \glslongextraSubCustomIIIFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\gls groupskip}{}%
\else
  \renewcommand*{\gls groupskip}{\gls penaltygroupskip}%
\fi
}

```

`\glslongextraCustomISetDescWidth` Computes the value of `\glsdescwidth` for the styles that have name, custom1 and description columns.

```
\newcommand{\glslongextraCustomISetDescWidth}{%
```

Work out the size for just the name and description style.

```
\glslongextraSetDescWidth
```

Now work out the custom1 column width. This is assuming that the column title will be the widest text in the column.

```
\glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\glslongextraCustomIHeader}%
```

Subtract 2\tabcolsep and the custom1 header width.

```
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\gls@tmplen}%
}
```

`\glslongextraCustomIISetDescWidth` Computes the value of `\glsdescwidth` for the styles that have name, custom1, custom2 and description columns.

```
\newcommand{\glslongextraCustomIISetDescWidth}{%
  \glslongextraCustomIISetDescWidth
  \glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\glslongextraCustomIHeader}%
  \setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\gls@tmplen}%
}
```

`\glslongextraCustomIIISetDescWidth` Computes the value of `\glsdescwidth` for the styles that have name, custom1, custom2 and description columns.

```
\newcommand{\glslongextraCustomIIISetDescWidth}{%
  \glslongextraCustomIIISetDescWidth
  \glsmeasurewidth{\gls@tmplen}{\glslongextraHeaderFmt\glslongextraCustomIIHeader}%
  \setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\gls@tmplen}%
}
```

`\glslongextraNameCustomIDescHeader`

```
\newcommand{\glslongextraNameCustomIDescHeader}{%
  \glslongextraNameCustomIDescTabularHeader\endhead
  \glslongextraCustomTabularFooter\endfoot
}
```

`\glslongextraNameCustomIDescTabularHeader`

```
\newcommand{\glslongextraNameCustomIDescTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\entryname &
  \glslongextraHeaderFmt{\glslongextraCustomIHeader} &
  \glslongextraHeaderFmt\descriptionname
  \tabularnewline\midrule
}
```

`\glslongextraNameCustomIIDescHeader`

```
\newcommand{\glslongextraNameCustomIIDescHeader}{%
  \glslongextraNameCustomIIDescTabularHeader\endhead
  \glslongextraCustomTabularFooter\endfoot
}
```

`\glslongextraNameCustomIIDescTabularHeader`

```
\newcommand{\glslongextraNameCustomIIDescTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\entryname &
```

```

\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIHeader} &
\glslongextraHeaderFmt\descriptionname
\tabularnewline\midrule
}

```

extraNameCustomIIIDescHeader

```

\newcommand{\glslongextraNameCustomIIIDescHeader}{%
\glslongextraNameCustomIIIDescTabularHeader\endhead
\glslongextraCustomTabularFooter\endfoot
}

```

neCustomIIIDescTabularHeader

```

\newcommand{\glslongextraNameCustomIIIDescTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIIHeader} &
\glslongextraHeaderFmt\descriptionname
\tabularnewline\midrule
}

```

long-name-custom1-desc Three column style with custom 1 field in the second column and the description in the third.

```

\newglossarystyle{long-name-custom1-desc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraCustomISetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraDescAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraCustomTabularFooter
\end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraNameCustomIDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraCustomISetDescWidth

```

```

\edef\@glslongextra@begintab{%
\expand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraDescAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\{glossaryheader}\{glslongextraNameCustomIDescHeader}%
\fi
\renewcommand*\{glsgroupheading}[1]\{glslongextraGroupHeading{3}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\{gls subgroupheading}\{glslongextraSubGroupHeading{3}}%
\renewcommand*\{glossentry}[2]{%
\glslongextraNameFmt{##1} &
\glslongextraCustomIFmt{##1}&
\glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand*\{subglossentry}[3]{%
\glslongextraSubNameFmt{##1}{##2} &
\glslongextraSubCustomIFmt{##1}{##2}&
\glslongextraSubDescFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\{gls groupskip}\{}%
\else
\renewcommand*\{gls groupskip}\{gls penaltygroupskip}%
\fi
}

```

long-name-custom2-desc Four column style with custom 1 field in the second column, custom 2 field in the third column and the description in the fourth.

```

\newglossarystyle{long-name-custom2-desc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraCustomIISetDescWidth
\edef\@glslongextra@begintab{%
\expand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraCustomIIAlign
\expandonce\glslongextraDescAlign
}}%
\@glslongextra@begintab
}%
}%

```



```

        \glslongextraCustomTabularFooter
        \end{tabular}%
    }%
\renewcommand*\glossaryheader{\glslongextraNameCustomIIDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{
    \glspatchLToutput
    \glslongextraCustomIISetDescWidth
    \edef\@glslongextra@begintab{%
        \noexpand\begin{longtable}%
            \expandonce\glslongextraNameAlign
            \expandonce\glslongextraCustomIAlign
            \expandonce\glslongextraCustomIISAlign
            \expandonce\glslongextraDescAlign
        }%
    \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameCustomIIDescHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{4}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraNameFmt{##1} &
    \glslongextraCustomIFmt{##1}&
    \glslongextraCustomIIFmt{##1}&
    \glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubNameFmt{##1}{##2} &
    \glslongextraSubCustomIFmt{##1}{##2}&
    \glslongextraSubCustomIIFmt{##1}{##2}&
    \glslongextraSubDescFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*\glsgroupskip{}%
\else
    \renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

```

long-name-custom3-desc Five column style with custom 1 field in the second column, custom 2 field in the third column, custom 3 field in the fourth column, and the description in the fifth.

```

\newglossarystyle{long-name-custom3-desc}%
{
    \ifGlsLongExtraUseTabular

```

```

\renewenvironment{theglossary}%
{
  \glslongextraCustomIIISetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraCustomIAlign
      \expandonce\glslongextraCustomIIAlign
      \expandonce\glslongextraCustomIIIAlign
      \expandonce\glslongextraDescAlign
    }}%
  \@glslongextra@begintab
}%
{
  \glslongextraCustomTabularFooter
  \end{tabular}%
}%
\renewcommand*\{glossaryheader}\{glslongextraNameCustomIIIDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{
  \glspatchLToutput
  \glslongextraCustomIIISetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraCustomIAlign
      \expandonce\glslongextraCustomIIAlign
      \expandonce\glslongextraCustomIIIAlign
      \expandonce\glslongextraDescAlign
    }}%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\{glossaryheader}\{glslongextraNameCustomIIIDescHeader}%
\fi
\renewcommand*\{glsgroupheading}[1]{\glslongextraGroupHeading{5}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*\{glssubgroupheading}\{glslongextraSubGroupHeading{5}}%
\renewcommand*\{glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraCustomIFmt{##1}&
  \glslongextraCustomIIFmt{##1}&
  \glslongextraCustomIIIFmt{##1}&
  \glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand*\{subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubCustomIFmt{##1}{##2}&

```

```

        \glslongextraSubCustomIIFmt{##1}{##2}&
        \glslongextraSubCustomIIIFmt{##1}{##2}&
        \glslongextraSubDescFmt{##1}{##2}\tabularnewline
    }%
    \ifglsnogroupskip
        \renewcommand*\glsgroupskip{}{}%
    \else
        \renewcommand*\glsgroupskip{\glspenaltygroupskip}%
    \fi
}

\glslongextraDescCustomINameHeader
\newcommand{\glslongextraDescCustomINameHeader}{%
\glslongextraDescCustomINameTabularHeader\endhead
\glslongextraCustomTabularFooter\endfoot
}

\glslongextraDescCustomINameTabularHeader
\newcommand{\glslongextraDescCustomINameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt\entryname
\tabularnewline\midrule
}

\glslongextraDescCustomINameHeader
\newcommand{\glslongextraDescCustomINameHeader}{%
\glslongextraDescCustomINameTabularHeader\endhead
\glslongextraCustomTabularFooter\endfoot
}

\glslongextraDescCustomINameTabularHeader
\newcommand{\glslongextraDescCustomINameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIHeader} &
\glslongextraHeaderFmt\entryname
\tabularnewline\midrule
}

\glslongextraDescCustomIINameHeader
\newcommand{\glslongextraDescCustomIINameHeader}{%
\glslongextraDescCustomIINameTabularHeader\endhead
\glslongextraCustomTabularFooter\endfoot
}

```

CustomIIIINameTabularHeader

```
\newcommand{\glslongextraDescCustomIIIINameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt{\glslongextraCustomIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIHeader} &
\glslongextraHeaderFmt{\glslongextraCustomIIIHeader} &
\glslongextraHeaderFmt\entryname
\tabularnewline\midrule
}
```

long-desc-custom1-name As long-name-custom1-desc but with the name and description columns the other way around.

```
\newglossarystyle{long-desc-custom1-name}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraCustomISetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraCustomTabularFooter
\end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraDescCustomINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraCustomISetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraCustomIAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraDescCustomINameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\glssubgroupheading{\glslongextraSubGroupHeading{3}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraDescFmt{##1} &
  \glslongextraCustomIFmt{##1}&
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubCustomIFmt{##1}{##2}&
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*\glsgroupskip{}%
\else
  \renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}

```

`long-desc-custom2-name` As `long-name-custom2-desc` but with the name and description columns the other way around.

```

\newglossarystyle{long-desc-custom2-name}%
{%
  \ifGlsLongExtraUseTabular
  \renewenvironment{theglossary}%
  {%
    \glslongextraCustomIISetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraCustomIAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraNameAlign
      }}%
    \@glslongextra@begintab
  }%
  {%
    \glslongextraCustomTabularFooter
    \end{tabular}%
  }%
  \renewcommand*\glossaryheader{\glslongextraDescCustomIINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraCustomIISetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraDescAlign

```

```

        \expandonce\glslongextraCustomIAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraNameAlign
    }>%
    \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraDescCustomINameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{4}{##1}}%
Sub-groups are only supported with \printunsrtglossary.
\renewcommand*{\glssubgroupheading}{\glslongextraSubGroupHeading{4}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraDescFmt{##1} &
    \glslongextraCustomIFmt{##1}&
    \glslongextraCustomIIFmt{##1}&
    \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubDescFmt{##1}{##2} &
    \glslongextraSubCustomIFmt{##1}{##2}&
    \glslongextraSubCustomIIFmt{##1}{##2}&
    \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*{\glsgroupskip}{}%
\else
    \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

long-desc-custom3-name As long-name-custom-desc but with the name and description columns switched.

```

\newglossarystyle{long-desc-custom3-name}%
{%
    \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
    {%
        \glslongextraCustomIIISetDescWidth
        \edef\@glslongextra@begintab{%
            \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
                \expandonce\glslongextraDescAlign
                \expandonce\glslongextraCustomIAlign
                \expandonce\glslongextraCustomIIAlign
                \expandonce\glslongextraCustomIIIAAlign
                \expandonce\glslongextraNameAlign
            }>%
            \@glslongextra@begintab
        }%
    }%
}

```

```

        \glslongextraCustomTabularFooter
        \end{tabular}%
    }%
\renewcommand*\glossaryheader{\glslongextraDescCustomIINameTabularHeader}%
\else
\renewenvironment{theglossary}%
{
    \glspatchLToutput
    \glslongextraCustomIIISetDescWidth
    \edef\@glslongextra@begintab{%
        \noexpand\begin{longtable}%
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraCustomIIAlign
        \expandonce\glslongextraNameAlign
    }%
    \@glslongextra@begintab
}%
\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraDescCustomIINameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{5}{##1}}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*\gls subgroupheading{\glslongextraSubGroupHeading{5}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraDescFmt{##1} &
    \glslongextraCustomIFmt{##1}&
    \glslongextraCustomIIFmt{##1}&
    \glslongextraCustomIIIFmt{##1}&
    \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubDescFmt{##1}{##2} &
    \glslongextraSubCustomIFmt{##1}{##2}&
    \glslongextraSubCustomIIFmt{##1}{##2}&
    \glslongextraSubCustomIIIFmt{##1}{##2}&
    \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\gls groupskip{}%
\else
\renewcommand*\gls groupskip{\gls penaltygroupskip}%
\fi
}

```

## 7 topic styles (glossary-topic.sty)

Provides “topic” styles where top-level entries are considered a topic.

```
\NeedsTeXFormat{LaTeX2e}
```

Rollback releases:

```
\DeclareRelease{v1.48}{2021-11-22}{glossary-topic-2021-11-22.sty}
\DeclareCurrentRelease{v1.54}{2025-01-03}
```

Declare package:

```
\ProvidesPackage{glossary-topic}[2025/01/03 v1.54 (NLCT)]
```

Load required package.

```
\RequirePackage{multicol}
```

The top-level entries act like headers. If the top-level entry has a description it’s placed below the name.

topic

```
\newglossarystyle{topic}{%
  \renewenvironment{theglossary}%
  {%
    \glstopicInit
    \def\glstopic@prechildren{}%
    \def\glstopic@prevlevel{-1}%
  }%
  {\par}%
  \renewcommand*{\glossaryheader}{}%
  \renewcommand*{\glsgroupheading}[1]{%
    \def\glstopic@prevlevel{-1}%
    \glstopicGroupHeading{##1}%
  }%
}
```

Sub-groups are only supported with `\printunsrtglossary`.

```
\renewcommand*{\glssubgroupheading}{\glstopicSubGroupHeading}%
\renewcommand{\glossentry}[2]{%
  \hangindent0pt\relax
  \parindent\glstopicParIndent\relax
  \glstopicItem{##1}{##2}%
}
```

If there isn’t a description, penalise a page break.

```
\ifglshasdesc{##1}%
{%
  \def\glstopic@prechildren{}%
}%
{%
  \def\glstopic@prechildren{\nopagebreak}%
}%
\renewcommand{\subglossentry}[3]{%
  \ifnum\glstopic@prevlevel=0\relax\glstopic@prechildren\fi
  \def\glstopic@prevlevel{##1}%
}
```



Grouping is added to scope the effect of `\everypar`.

```

\begingroup
\glstopicAssignSubIndent{##1}%
\glstopicSubItem{##1}{##2}{##3}%

\par
\endgroup
}%
\renewcommand*{\glsgroupskip}{}%
}

```

`\glstopicGroupHeading`

```
\glstopicGroupHeading{<group label>}
```

May be redefined if letter group headings are required. For example:

```

%\renewcommand*{\glstopicGroupHeading}[1]{%
% \glstrgetgrouptitle{#1}{\thisgrptitle}%
% \section*{\thisgrptitle}%
%}
%

\newcommand*{\glstopicGroupHeading}[1]{}

```

`\glstopicSubGroupHeading`

```
\glstopicSubGroupHeading{<prev group level>}{<group level>}{<parent entry>}{<group label>}
```

```

\newcommand*{\glstopicSubGroupHeading}[4]{%
\begingroup
\glspare\glstopicPreSkip\glspare\noindent
\glstrgetgrouptitle{#4}{\glstopicSubgrouptitle}%
\glstopicAssignSubIndent{#2}%
\glstopicSubItemBox{#2}{\glstopicTitleFont{\glstopicSubgrouptitle}}%
\glstopicSubItemSep
\glspare\nobreak\glstopicPostSkip
\par
\endgroup
}

```

`\glstopicItem`

```
\glstopicItem{<label>}{<location list>}
```

```

\newcommand*{\glstopicItem}[2]{%
\glspare\glstopicPreSkip\glspare\noindent
\glstopicMarker{#1}%
\glstopicTitleFont
{%

```

```

        \glstentryitem{#1}\glstarget{#1}{\glstopicTitle{#1}}%
    }%
    \ifglshasdesc{#1}%
    {\glspare\nobreak\glstopicMidSkip\glspare\nobreak
      \@afterheading\glstopicDesc{#1}\glspare\glstopicPostSkip
    }%
    {\glspare\nobreak\glstopicPostSkip}%
    \glstopicLoc{#1}{#2}%
}

```

`\glstopicMarker` May be used to insert a bookmark etc if required.

```
\newcommand*\glstopicMarker}[1]{}
```

`\glstopicName`

```
\newcommand*\glstopicTitle}[1]{\Glossentryname{#1}%
  \ifglshassymbol{#1}{\space\glossentrysymbol{#1}}{}}%
}

```

`\glstopicTitleFont`

```
\newcommand*\glstopicTitleFont}[1]{\textbf{\large #1}}
```

`\glstopicDesc`

```
\newcommand*\glstopicDesc}[1]{\Glossentrydesc{#1}\glspostdescription}
```

`\glstopicLoc`

```
\newcommand*\glstopicLoc}[2]{}
```

`\glstopicParIndent`

```
\newlength\glstopicParIndent
\setlength\glstopicParIndent{20pt}

```

`\glstopicSubIndent`

```
\newlength\glstopicSubIndent
\setlength\glstopicSubIndent{20pt}

```

`\glstopicInit`

```
\newcommand{\glstopicInit}{}

```

```
\glstopicAssignSubIndent{<level>}
```

`\glstopicAssignSubIndent`

Used to set the indentation for sub-levels.

```
\newcommand*\glstopicAssignSubIndent}[1]{%
```

```

  \par
  \parindent\dimexpr#1\glstopicSubIndent-\glstopicSubIndent\relax
  \glstopicAssignWidest{#1}%
  \glstopicsubitemhangindent=\dimexpr\parindent+\glstopicwidest\relax
  \hangindent\glstopicsubitemhangindent\relax

```

```

\everypar{\hangindent\glstopicsubitemhangindent\relax
\parindent\dimexpr\glstopicSubItemParIndent+\glstopicsubitemhangindent\relax}%
}

```

`\glstopicsubitemhangindent`

```
\newlength\glstopicsubitemhangindent
```

`\glstopicSubItemParIndent`

```
\newlength\glstopicSubItemParIndent
\glstopicSubItemParIndent\parindent
```

`\glstopicwidest`

```
\newlength\glstopicwidest
```

`\glstopicAssignWidest`

```
\glstopicAssignWidest{<level>}
```

Used in the definition of `\glstopicAssignSubIndent` to set the indentation from the widest name for the given level. This will require `glossary-tree` to set the values.

```

\newcommand*\glstopicAssignWidest[1]{%
\ifcsundef{@glswidestlength\romannumeral#1}%
{%
\ifcsdef{@glswidestname\romannumeral#1}%
{%
\glsmmeasurewidth{\glstopicwidest}{%
\glstopicSubNameFont{\csuse{@glswidestname\romannumeral#1}}%
\glstopicSubItemSep
}%
}%
{\setlength{\glstopicwidest}{0pt}}%
}

```

Save the value so that it doesn't have to keep being recalculated.

```

\csedef{@glswidestlength\romannumeral#1}{\the\glstopicwidest}%
}%
{\setlength{\glstopicwidest}{\csuse{@glswidestlength\romannumeral#1}}}%
}

```

`\glstopicPreSkip`

```
\newcommand*\glstopicPreSkip{\medskip}
```

`\glstopicMidSkip`

```
\newcommand*\glstopicMidSkip{\smallskip}
```

`\glstopicPostSkip`

```
\newcommand*\glstopicPostSkip{\smallskip}
```

```

\glstopicSubItem
\newcommand*\glstopicSubItem[3]{%
  \glstopicSubItemBox{#1}{\glstopicSubNameFont{\glstentryitem{#2}%
    \glstarget{#2}{\glossentryname{#2}}}%
    \glstopicSubItemSep
  }%
  \ifglshassymbol{#2}{(\glossentrysymbol{#2})\space}{}%
  \ifglshasdesc{#2}%
    {\glossentrydesc{#2}\glspostdescription\glstopicSubPreLocSep}{}%
  \glstopicSubLoc{#2}{#3}%
}

```

```

\glstopicSubItemSep
\newcommand*\glstopicSubItemSep{\quad}

```

```

\glstopicSubItemBox
\newcommand*\glstopicSubItemBox[2]{%
  \ifdim\glstopicwidest>0pt\relax\makebox[\glstopicwidest][l]{#2}\else#2\fi
}

```

```

\glstopicSubNameFont
\newcommand*\glstopicSubNameFont[1]{\textbf{#1}}

```

```

\glstopicSubPreLocSep
\newcommand*\glstopicSubPreLocSep{\space}

```

```

\glstopicSubLoc
\newcommand*\glstopicSubLoc[2]{#2}

```

```

\glstopicCols
\newcommand*\glstopicCols{2}

```

```

\glstopicColsEnv
\newcommand*\glstopicColsEnv{\multicols}

```

```

topicmcols
\newglossarystyle{topicmcols}{%
  \renewenvironment{theglossary}%
  {%
    \glstopicInit
    \def\glstopic@prechildren{}%
    \def\glstopic@postchildren{}%
    \def\glstopic@prevlevel{-1}%

```

```

}%
{%
  \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
  \par
}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{%
  \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
  \def\glstopic@prevlevel{-1}%
  \glsstopicGroupHeading{##1}%
}%

```

Sub-groups are only supported with `\printunsrtglossary`.

```

\renewcommand*{\gls subgroupheading}{\glstopicSubGroupHeading}%
\renewcommand{\glossentry}[2]{%
  \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
  \def\glstopic@prevlevel{0}%
  \hangindent0pt\relax
  \parindent\glstopicParIndent\relax
  \glstopicItem{##1}{##2}%
  \ifnum\glstopicCols>1\relax

```

If there isn't a description, penalise a page break.

```

  \ifglshasdesc{##1}%
  {%
    \edef\glstopic@prechildren{%
      \noexpand\begin{\glstopicColsEnv}{\glstopicCols}%
    }%
  }%
  {%
    \edef\glstopic@prechildren{%
      \noexpand\nopagebreak
      \noexpand\begin{\glstopicColsEnv}{\glstopicCols}%
    }%
  }%
  \edef\glstopic@postchildren{\noexpand\end{\glstopicColsEnv}}%
  \fi
}%
\renewcommand{\subglossentry}[3]{%
  \ifnum\glstopic@prevlevel=0\relax\glstopic@prechildren\fi
  \def\glstopic@prevlevel{##1}%
  \glstopicAssignSubIndent{##1}%
  \glstopicSubItem{##1}{##2}{##3}%
}%
\renewcommand*{\gls groupskip}{}%
}

```

## 8 table styles (`glossary-table.sty`)

Intended for use with `bib2gls`. This is still experimental.

```
\NeedsTeXFormat{LaTeX2e}
```

Declare package:

```
\ProvidesPackage{glossary-table}[2025/01/03 v1.54 (NLCT)]
```

Load required packages.

```
\RequirePackage{longtable}
```

```
\RequirePackage{array}
```

```
\RequirePackage{booktabs}
```

Check if `\gls@start@measuring` has been defined (introduced to `glossaries v4.51`). This package also requires `\ifglsfieldvoid` which was added to `glossaries v4.50`.

```
\ifdef\gls@start@measuring
```

```
{}
```

```
{\PackageError{glossary-table}%
```

```
{glossaries.sty v4.51+ required. Please update glossaries.sty}
```

```
{Your version of glossaries.sty is too old. Minimum version 4.51 required}
```

```
}
```

`\glstableblockperrowcount` Number of blocks (entries) per row.

```
\newcount\glstableblockperrowcount
```

```
\glstableblockperrowcount=2\relax
```

Add a key to allow this value to be changed.

```
\define@key{printglosstable}{blocks}{\glstableblockperrowcount=#1\relax}
```

`\glstablecurrentblockindex` Keep track of current block (entry) index.

```
\newcount\glstablecurrentblockindex
```

`\glstabletotalcols` Total number of columns. This will be updated at the start of `\printunsrtable`, but is a user level command so that it can be used in any hooks.

```
\newcount\glstabletotalcols
```

```
\glstabletotalcols=4\relax
```

`\glstablenameheader`

```
\newcommand{\glstablenameheader}{\entryname}
```

`\glstabledescheader`

```
\newcommand{\glstabledescheader}{\descriptionname}
```

`\glstableotherheader`

```
\newcommand{\glstableotherheader}{\MFUsentencecase{\glstableotherfield}}
```

`\glstablesymbolheader`

```
\newcommand{\glstablesymbolheader}{\symbolname}
```

Provide boolean option to suppress header.

```
\define@boolkey{printglosstable}{header}[true]{}  
\KV@printglosstable@headertrue
```

Provide boolean option to suppress rules.

```
\define@boolkey{printglosstable}{rules}[true]{}  
\KV@printglosstable@rulestrue
```

Provide boolean option to suppress caption.

```
\define@boolkey{printglosstable}{caption}[true]{}  
\KV@printglosstable@captiontrue
```

```
\define@key{printglosstable}{blocksep}{\renewcommand{\glstable@blockalignsep}{#1}}
```

`\glstable@blockalignsep` Alignment spec between blocks.

```
\newcommand{\glstable@blockalignsep}{{}}
```

`\glstablesubentryalign`

```
\newcommand{\glstablesubentryalign}{%  
\glstableleftalign{\dimexpr\glstablesubentrywidth-\tabcolsep}@{}}
```

`\glstablesubentrywidth`

```
\newcommand{\glstablesubentrywidth}{\glstabledescwidth}
```

`glstablesubentries` (*env.*)

```
\newenvironment{glstablesubentries}%  
{%  
\protected@edef\@gls@dotabular{%  
\noexpand\begin{tabular}[t]{\glstablesubentryalign}}%  
\@gls@dotabular  
}%  
{\end{tabular}}
```

`\glstablePreChildren`

```
\newcommand{\glstablePreChildren}{\glstableifpar{\par}}
```

`\glstableblocksubentrysep`

```
\newcommand{\glstableblocksubentrysep}{\glstablenewline}
```

Provide boolean option to allow paragraph cells.

```
\define@choickey{printglosstable}{par}  
[{\glstable@par@val\@glstable@par@n}  
{false,justified,ragged}  
{%  
\ifcase\@glstable@par@n  
\renewcommand{\glstable@parcase}[3]{##1}%  
\or  
\renewcommand{\glstable@parcase}[3]{##2}%  
\or  
\renewcommand{\glstable@parcase}[3]{##3}%  
\fi  
}
```

```

\glstable@parcase
    \newcommand{\glstable@parcase}[3]{#1}

\glstableifpar
    \newcommand{\glstableifpar}[1]{\glstable@parcase{}{#1}{#1}}

\glstableleftalign
    \newcommand{\glstableleftalign}[1]{%
    \glstable@parcase{l}{p{#1}}{>{\protect\raggedright}p{#1}}%
    }

\glstablerightalign
    \newcommand{\glstablerightalign}[1]{%
    \glstable@parcase{r}{p{#1}}{>{\protect\raggedleft}p{#1}}%
    }

\glstablecenteralign
    \newcommand{\glstablecenteralign}[1]{%
    \glstable@parcase{c}{p{#1}}{>{\protect\centering}p{#1}}%
    }

\glstablenamecolalign The alignment for the name column.
    \newcommand{\glstablenamecolalign}{\glstableleftalign{\glstablenamewidth}}

\glstabledesccolalign The alignment for the description column.
    \newcommand{\glstabledesccolalign}{\glstableleftalign{\glstabledesccolwidth}}

\glstableothercolalign The alignment for the description column.
    \newcommand{\glstableothercolalign}{\glstableleftalign{\glstableotherwidth}}

\glstablesymbolcolalign The alignment for the symbol column.
    \newcommand{\glstablesymbolcolalign}{\glstablecenteralign{\glstablesymbolwidth}}

\glstableNameTarget
    \newcommand{\glstableNameTarget}[1]{%
    \glstarget{#1}{\glstableName{#1}}%
    }

\glstableNameFmt
    \newcommand{\glstableNameFmt}[1]{#1}

\glstableName Entry item needs to be included in measuring to ensure there's enough room
for it as well.
    \newcommand{\glstableName}[1]{%
    \glstentryitem{#1}%
    \glstableNameFmt{\glossentryname{#1}}
    }

```



```

\glstableSubNameTarget
    \newcommand{\glstableSubNameTarget}[1]{%
        \glstarget{#1}{\glstableSubName{#1}}%
    }

\glstableSubNameFmt
    \newcommand{\glstableSubNameFmt}[1]{

\glstableSubName
    \newcommand{\glstableSubName}[1]{%
        \glssubentryitem{#1}%
        \glstableSubNameFmt{\glossentryname{#1}}%
    }

\glstableleotherfield
    \newcommand{\glstableleotherfield}{

\glstableleifhasotherfield
    \newcommand{\glstableleifhasotherfield}[3]{%
        \ifdefvoid\glstableleotherfield
        {#3}%
        {%
            \ifglstablevoid{\glstableleotherfield}{#1}{#3}{#2}%
        }%
    }

    Add an extra key to allow this value to be changed.
    \define@key{printglosstable}{other}{\renewcommand{\glstableleotherfield}{#1}}

\glstableOther
    \newcommand{\glstableOther}[1]{%
        \glstableOtherFmt{\glstableleotherfield{#1}}
    }

\glstableOtherFmt
    \newcommand{\glstableOtherFmt}[1]{#1}

\glstableSubOther
    \newcommand{\glstableSubOther}[1]{\glstableOther{#1}}

\glstableOtherWithSep
    \newcommand{\glstableOtherWithSep}[3]{%
        \glstableleifhasotherfield{#2}%
        {#1\glstableOther{#2}#3}%
        {}%
    }

```

`\glstableSubOtherWithSep`

```
\newcommand{\glstableSubOtherWithSep}[3]{%
  \glstableifhasotherfield{#2}%
  {#1\glstableSubOther{#2}#3}%
  {}%
}
```

`\glstableNameSingleFmt`

```
\newcommand{\glstableNameSingleFmt}[1]{%
  \glstableNameTarget{#1}%
  \ifglshasdesc{#1}%
  {%
```

Has description.

```
  \glstableNameSinglePostName
  \glstableNameSingleSuppl
  {%
    \ifglshassymbol{#1}%
    {\glstableSymbol{#1}\glstableNameSingleSymSep}%
    {}%

    \glstableOtherWithSep{#1}{\glstableOtherSep}%
    \glstableDesc{#1}%
  }%
}%
{%
```

No description.

```
  \ifglshassymbol{#1}%
  {%
```

Has symbol

```
  \glstableNameSinglePostName
  \glstableNameSingleSuppl
  {%
    \glstableSymbol{#1}%

    \glstableifhasotherfield{#1}%
    {%

      \glstableNameSingleSymSep\glstableOther{#1}%
    }%
  }%
}%
{%
```

No description or symbol.

```
  \glstableifhasotherfield{#1}%
  {%
```

Has other but no description or symbol

```
\glstableNameSinglePostName
\glstableNameSingleSuppl{\glstableOther{#1}}%
}%
{%
```

No description, symbol or other.

```
}%
}%
}%
}
```

`\glstableNameSingleSuppl`

```
\newcommand{\glstableNameSingleSuppl}[1]{(#1)}
```

`\glstableNameSinglePostName`

```
\newcommand{\glstableNameSinglePostName}{ }
```

`\glstableNameSingleSymSep`

```
\newcommand{\glstableNameSingleSymSep}{ }
```

`\glstableOtherSep`

```
\newcommand{\glstableOtherSep}{, }
```

`\glstableSubOtherSep`

```
\newcommand{\glstableSubOtherSep}{\glstableOtherSep}
```

`\glstableSubDescSep`

```
\newcommand{\glstableSubDescSep}{\glstableSubOtherSep}
```

`\glstableSubNameSingleFmt`

```
\newcommand{\glstableSubNameSingleFmt}[1]{%
\glstableSubNameTarget{#1}%
```

```
\ifglshasdesc{#1}%
{%
```

```
\ifglshassymbol{#1}%
```

```
{%
\glstableifhasotherfield{#1}%
{%
```

Description, symbol and other

```
\glstableNameSinglePostSubName
\glstableNameSingleSubSuppl
{%
\glstableSubSymbol{#1}%
\glstableNameSingleSymSep
\glstableSubOtherWithSep{#1}{\glstableSubOtherSep}%
\glstableSubDesc{#1}%
```

```
}%  
}%  
{%
```

Description and symbol but no other.

```
\glstableNameSinglePostSubName  
\glstableNameSingleSubSuppl  
{%  
  \glstableSubSymbol{#1}%  
  \glstableNameSingleSymSep  
  \glstableSubDesc{#1}%  
}%  
}%  
}%  
{%
```

Description but no symbol.

```
\glstableNameSinglePostSubName  
\glstableNameSingleSubSuppl  
{%  
  \glstableSubOtherWithSep{#1}{\glstableSubOtherSep}%  
  \glstableSubDesc{#1}%  
}%  
}%  
}%  
{%
```

No description.

```
\ifglshassymbol{#1}%  
{%
```

No description but has symbol.

```
\glstableNameSinglePostSubName  
\glstableNameSingleSubSuppl  
{%  
  \glstableifhasotherfield{#1}%  
  {%
```

No description, but has symbol and other.

```
\glstableSubSymbol{#1}\glstableNameSingleSymSep  
\glstableSubOther{#1}%  
}%  
{%
```

No description or other but has symbol.

```
\glstableSubSymbol{#1}%  
}%  
}%  
}%  
{%  
  \glstableifhasotherfield{#1}%  
  {%
```

No description or symbol but has other.

```
\glstableNameSinglePostSubName
\glstableNameSingleSubSuppl{\glstableSubOther{#1}}%
}%
{%
```

No description, symbol or other.

```
}%
}%
}%
}
```

`\glstableNameSingleSubSuppl`

```
\newcommand{\glstableNameSingleSubSuppl}[1]{#1}
```

`\glstableNameSinglePostSubName`

```
\newcommand{\glstableNameSinglePostSubName}{ }
```

`\glstableSubSep`

```
\newcommand{\glstableSubSep}{\space}
```

`\glstableSubNameSep`

```
\newcommand{\glstableSubNameSep}{} 
```

`\glstableNameNoDesc`

```
\newcommand{\glstableNameNoDesc}[1]{%
\glstableNameTarget{#1}%
\glstableOtherWithSep{\glstableSubNameSep}{##1}{}%
}
```

`\glstableSubNameNoDesc`

```
\newcommand{\glstableSubNameNoDesc}[1]{%
\glstableSubNameTarget{#1}%
\glstableSubOtherWithSep{\glstableSubNameSep}{#1}{}%
}
```

`\glstableSubNameSymbolNoDesc`

```
\newcommand{\glstableSubNameSymbolNoDesc}[1]{%
\glstableSubNameTarget{#1}%
\glstableifhasotherfield{#1}%
{%
\glstableSubOther{#1}%
\ifglshassymbol{#1}%
{\glstableSubOtherSep\glstableSubSymbol{#1}}%
{}%
}%
{%
\ifglshassymbol{#1}%
{\glstableSubSymbol{#1}}%
}
```

```

        {}%
    }%
}

\glstableSymbolFmt
\newcommand{\glstableSymbolFmt}[1]{#1}

\glstableSymbol
\newcommand{\glstableSymbol}[1]{\glstableSymbolFmt{\glossentrysymbol{#1}}}

\glstableSubSymbolFmt
\newcommand{\glstableSubSymbolFmt}[1]{\glstableSymbolFmt{#1}}

\glstableSubSymbol
\newcommand{\glstableSubSymbol}[1]{\glstableSubSymbolFmt{\glossentrysymbol{#1}}}

\glstableSubSymbolWithSep
\newcommand{\glstableSubSymbolWithSep}[3]{%
\ifglshassymbol{#2}%
{#1\glstableSubSymbol{#2}#3}%
}%
}

\glstableSymbolNameTarget Where the symbol takes place of the name.
\newcommand{\glstableSymbolNameTarget}[1]{%
\glstarget{#1}{\glstableSymbolName{#1}}%
}

\glstableSymbolNameFmt
\newcommand{\glstableSymbolNameFmt}[1]{%
\glstableSymbolFmt{#1}%
}

\glstableSymbolName
\newcommand{\glstableSymbolName}[1]{%
\glsentryitem{#1}\glstableSymbolNameFmt{\glossentrysymbol{#1}}%
}

\glstableSubSymbolNameTarget Where the symbol takes place of the name.
\newcommand{\glstableSubSymbolNameTarget}[1]{%
\glstarget{#1}{\glstableSubSymbolName{#1}}%
}

\glstableSubSymbolNameFmt
\newcommand{\glstableSubSymbolNameFmt}[1]{%
}

\glstableSubSymbolName
\newcommand{\glstableSubSymbolName}[1]{%
\glssubentryitem{#1}\glstableSubSymbolNameFmt{\glossentrysymbol{#1}}%
}

```

```

\glstableDesc
\newcommand{\glstableDesc}[1]{%
\glstableDescFmt{\glossentrydesc{#1}\glspostdescription}%
}

\glstableDescFmt
\newcommand{\glstableDescFmt}[1]{#1}

\glstableDescWithOther
\newcommand{\glstableDescWithOther}[1]{%
\glstableifhasotherfield{#1}%
{%
\glstableOther{#1}%
\ifglshasdesc{#1}{\glstableOtherSep\glstableDesc{#1}}{}%
}%
{%
\ifglshasdesc{#1}{\glstableDesc{#1}}{}%
}%
}

\glstableSubDescFmt
\newcommand{\glstableSubDescFmt}[1]{\glstableDescFmt{#1}}

\glstableSubDesc
\newcommand{\glstableSubDesc}[1]{%
\glstableSubDescFmt{\glossentrydesc{#1}\glspostdescription}%
}

\glstableSubDescWithOther
\newcommand{\glstableSubDescWithOther}[1]{\glstableDescWithOther{#1}}

\glstableSubDescSymbolOther
\newcommand{\glstableSubDescSymbolOther}[1]{%
\ifglshasdesc{#1}%
{%
\glstableSubDesc{#1}%
\ifglshassymbol{#1}%
{%
\glstableSubDescSep
\glstableSubSymbol{#1}%
\glstableSubOtherWithSep{\glstableSubSep}{#1}{}%
}%
{%
\glstableSubOtherWithSep{\glstableSubOtherSep}{#1}{}%
}%
}%
{%
\ifglshassymbol{#1}%
{%

```

```

        \glstableSubSymbol{#1}%
        \glstableSubOtherWithSep{\glstableSubSep}{#1}{}%
    }%
    {\glstableSubOther{#1}}%
}%
}

\glstableOtherNoDesc
\newcommand{\glstableOtherNoDesc}[1]{%
\glstableOtherIfSet{#1}%
}

\glstableOtherIfSet
\newcommand{\glstableOtherIfSet}[1]{%
\glstableifhasotherfield{#1}{\glstableOther{#1}}{}}%
}

\glstableSubOtherNoDesc
\newcommand{\glstableSubOtherNoDesc}[1]{%
\glstableOtherNoDesc{#1}%
}

\glstableSubOtherIfSet
\newcommand{\glstableSubOtherIfSet}[1]{%
\glstableOtherIfSet{#1}%
}

\glstableHeaderFmt
\newcommand{\glstableHeaderFmt}[1]{\textbf{#1}}

\define@key{printglosstable}{block-style}
{\glstablesetstyle{#1}}

\glstablecolsperblock Number of columns per block (entry). Assigned by block style.
\newcount\glstablecolsperblock
\glstablecolsperblock=2\relax

\glstableblockheader The column header, which may cover multiple columns. Redefined by block
style.
\newcommand{\glstableblockheader}{}

\glstableblockalign The column alignment specs for the block. Redefined by the block style.
\newcommand{\glstableblockalign}{}

\glstableblockentry The entry item, which may cover multiple columns. Redefined by block style.
\newcommand{\glstableblockentry}[1]{}

\glstableblocksubentry The sub-entry is in a single column of the block (requires children to be saved)
Redefined by block style.
\newcommand{\glstableblocksubentry}[1]{}

```



```

\glstableinitlengthupdates Block style command.
    \newcommand{\glstableinitlengthupdates}{}

\glstablelengthupdate Block style command.
    \newcommand{\glstablelengthupdate}[1]{}

\glstablefinishlengthupdates Block style command.
    \newcommand{\glstablefinishlengthupdates}{}

\glstablesetstyle
    \newcommand{\glstablesetstyle}[1]{%
    \ifcsdef{@glstable@style@#1}%
    {\csuse{@glstable@style@#1}}%
    {\PackageError{glossary-table}{Unknown style ‘#1’}{}%
    }
}

\glstablenewstyle
    \newcommand{\glstablenewstyle}[2]{%
    \ifcsdef{@glstable@style@#1}%
    {\PackageError{glossary-table}{style ‘#1’ already defined}{}%
    {\csdef{@glstable@style@#1}{#2}}%
    }

    Provide some common layouts.

name-desc
    \glstablenewstyle{name-desc}{%
2 columns per block (name, description).
    \glstablecolsperblock=2\relax
Initialise length registers (need to calculate max name width if par align).
    \renewcommand{\glstableinitlengthupdates}{%
    \ifKV@printglosstable@header
    \glsmeasurewidth{\glstablenamewidth}%
    {\glstableHeaderFmt\glstablenameheader}%
    \else
    \setlength{\glstablenamewidth}{0pt}%
    \fi
    \setlength{\glstabledescwidth}{0pt}%
    }%
Update width in unsrt hook.
    \renewcommand{\glstablelengthupdate}[1]{%
    \glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%
    }%
Finally set the description width to the remaining available.
    \renewcommand{\glstablefinishlengthupdates}{%
    \setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth
    - \glstablenamewidth}%

```

```

\ifdim\glstabledescwidth<0pt\relax
  \setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth}%
  \setlength{\glstabledescwidth}{\glstablenamewidth}%
\fi
}%

```

How to format the top-level entry in the block.

```

\renewcommand{\glstableblockentry}[1]{%
  \glstableNameTarget{##1} &
  \glstableDescWithOther{##1}%
  \glstableChildEntries{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksumentry}[1]{%
  \glstableSubNameTarget{##1}\glstableSubNameSep
  \glstableSubDescWithOther{##1}%
}%

```

Available width for child entries.

```

\renewcommand{\glstablesumentrywidth}{\glstabledescwidth}

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstablenameheader &
  \glstableHeaderFmt\glstabledescheader}%

```

Set the block's column alignments.

```

\renewcommand{\glstableblockalign}{\glstablenamecolalign\glstabledesccolalign}%
}

```

Set the default style.

```

\glstablesetstyle{name-desc}

```

name

```

\glstablenuwstyle{name}{%

```

1 columns per block (name optionally with symbol and description).

```

\glstablecolsperblock=1\relax

```

Initialise length registers (no calculation required, column width same as block width).

```

\renewcommand{\glstableinitlengthupdates}{}%

```

No measuring required.

```

\renewcommand{\glstablelengthupdate}[1]{%

```

Set the name width to the amount available.

```

\renewcommand{\glstablefinishlengthupdates}{%
  \setlength{\glstablenamewidth}{\glstableblockwidth}%
}%

```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%
  \glstableNameSingleFmt{##1}%
  \glstableChildEntries{##1}%
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksumentry}[1]{%
  \glstableSubNameSingleFmt{##1}}%
```

Available width for child entries.

```
\renewcommand{\glstablesumentrywidth}{\glstableblockwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstablenameheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstablenamecolalign}%
}
```

name-symbol

```
\glstablenuwstyle{name-symbol}{%
```

2 columns per block (name and symbol).

```
\glstablecolsperblock=2\relax
```

Initialise length registers (need to calculate max symbol width if par align). This assumes the symbol requires the minimal width and any leftover can be assigned to the name.

```
\renewcommand{\glstableinitlengthupdates}{%
  \ifKV@printglosstable@header
    \glsmasurewidth{\glstablesymbolwidth}%
    {\glstableHeaderFmt\glstablesymbolheader}%
  \else
    \setlength{\glstablesymbolwidth}{0pt}%
  \fi
  \setlength{\glstablenamewidth}{0pt}%
}%
```

Update widths in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%
  \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbol{##1}}%
}%
```

Finally set the name width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%
  \setlength{\glstablenamewidth}{\dimexpr\glstableblockwidth
  - \glstablesymbolwidth}%
  \ifdim\glstablenamewidth<0pt\relax
    \setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth}%
    \setlength{\glstablesymbolwidth}{\glstablenamewidth}%
  \fi
}
```

```

\fi
}%

```

How to format the top-level entry in the block. v1.50 child entries now in name column.

```

\renewcommand{\glstableblockentry}[1]{%
  \glstableNameNoDesc{##1}%
  \glstableChildEntries{##1}%
  & \glstableSymbol{##1}}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
  \glstableSubNameSymbolNoDesc{##1}}%

```

Available width for child entries.

```

\renewcommand{\glstablesubentrywidth}{\glstabilenamewidth}

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstabilenameheader &
  \glstableHeaderFmt\glstablesymbolheader}%

```

Set the block's column alignments.

```

\renewcommand{\glstableblockalign}{\glstabilenamecolalign\glstablesymbolcolalign}%
}

```

desc-name

```

\glstablenustyle{desc-name}{%

```

2 columns per block (description, name).

```

\glstablecolsperblock=2\relax

```

Initialise length registers (need to calculate max name width if par align).

```

\renewcommand{\glstableinitlengthupdates}{%
  \ifKV@printglosstable@header
    \glsmesurewidth{\glstabilenamewidth}%
    {\glstableHeaderFmt\glstabilenameheader}%
  \else
    \setlength{\glstabilenamewidth}{0pt}%
  \fi
  \setlength{\glstabledescwidth}{0pt}%
}%

```

Update width in unsrt hook.

```

\renewcommand{\glstablelengthupdate}[1]{%
  \glstablemeasureandupdate{\glstabilenamewidth}{\glstableName{##1}}%
}%

```

Finally set the description width to the remaining available.

```

\renewcommand{\glstablefinishlengthupdates}{%
  \setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth
    - \glstabilenamewidth}%
  \ifdim\glstabledescwidth<0pt\relax

```

```

        \setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth}%
        \setlength{\glstabledescwidth}{\glstablenamewidth}%
    \fi
}%

```

How to format the top-level entry in the block. v1.50 child entries now in description column

```

\renewcommand{\glstableblockentry}[1]{%
    \glstableDescWithOther{##1}%
    \glstableChildEntries{##1}%
&
    \glstableNameTarget{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
    \glstableSubDescWithOther{##1}\glstableSubNameSep
    \glstableSubNameTarget{##1}%
}%

```

Available width for child entries.

```

\renewcommand{\glstablesubentrywidth}{\glstabledescwidth}

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
    \glstableHeaderFmt\glstabledescheader &
    \glstableHeaderFmt\glstablenameheader
}%

```

Set the block's column alignments.

```

\renewcommand{\glstableblockalign}{\glstabledesccolalign\glstablenamecolalign}%
}

```

symbol-name

```

\glstableneverstyle{symbol-name}{%

```

2 columns per block (symbol, name).

```

\glstablecolsperblock=2\relax

```

Initialise length registers (need to calculate max symbol width if par align).

```

\renewcommand{\glstableinitlengthupdates}{%
    \ifKV@printglosstable@header
        \glsmeasurewidth{\glstablesymbolwidth}%
        {\glstableHeaderFmt\glstablesymbolheader}%
    \else
        \setlength{\glstablesymbolwidth}{0pt}%
    \fi
    \setlength{\glstablenamewidth}{0pt}%
}%

```

Update widths in unsrt hook.

```

\renewcommand{\glstablelengthupdate}[1]{%
    \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbol{##1}}%
}%

```

Finally set the name width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%
  \setlength{\glstablenamewidth}{\dimexpr\glstableblockwidth
  - \glstablesymbolwidth}%
  \ifdim\glstablenamewidth<Opt\relax
    \setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth}%
    \setlength{\glstablesymbolwidth}{\glstablenamewidth}%
  \fi
}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%
  \glstableSymbol{##1} &
  \glstableNameNoDesc{##1}%
  \glstableChildEntries{##1}%
%
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%
  \glstableSubSymbolWithSep{}{##1}{\glstableSubSep}%
  \glstableSubNameNoDesc{##1}%
}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstablenamewidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstablesymbolheader &
  \glstableHeaderFmt\glstablenameheader
}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstablesymbolcolalign\glstablenamecolalign}%
}
```

name-symbol-desc

```
\glstablenuwstyle{name-symbol-desc}{%
```

3 columns per block (name, symbol, description).

```
\glstablecolspblock=3\relax
```

Initialise length registers (need to calculate max name and symbol widths if par align).

```
\renewcommand{\glstableinitlengthupdates}{%
  \ifKV@printglosstable@header
    \glsmesurewidth{\glstablenamewidth}%
    {\glstableHeaderFmt\glstablenameheader}%
    \glsmesurewidth{\glstablesymbolwidth}%
    {\glstableHeaderFmt\glstablesymbolheader}%
  \else
```

```

        \setlength{\glstablenamewidth}{Opt}%
        \setlength{\glstablesymbolwidth}{Opt}%
    \fi
    \setlength{\glstabledescwidth}{Opt}%
}%

```

Update widths in unsrt hook.

```

\renewcommand{\glstablelengthupdate}[1]{%
    \glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%
    \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbol{##1}}%
}%

```

Finally set the description width to the remaining available.

```

\renewcommand{\glstablefinishlengthupdates}{%
    \setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth
    - \glstablesymbolwidth - \glstablenamewidth}%
    \ifdim\glstabledescwidth<Opt\relax
        \setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth
        - 0.5\glstablesymbolwidth}%
        \setlength{\glstabledescwidth}{\glstablenamewidth}%
    \fi
}%

```

How to format the top-level entry in the block.

```

\renewcommand{\glstableblockentry}[1]{%
    \glstableNameTarget{##1} &
    \glstableSymbol{##1} &
    \glstableDescWithOther{##1}%
    \glstableChildEntries{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
    \glstableSubNameTarget{##1}\glstableSubNameSep
    \glstableSubSymbolWithSep{}{##1}{\glstableSubSep}%
    \glstableSubDescWithOther{##1}%
}%

```

Available width for child entries.

```

\renewcommand{\glstablesubentrywidth}{\glstabledescwidth}

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
    \glstableHeaderFmt\glstablenameheader &
    \glstableHeaderFmt\glstablesymbolheader &
    \glstableHeaderFmt\glstabledescheader}%

```

Set the block's column alignments.

```

\renewcommand{\glstableblockalign}{%
    \glstablenamecolalign\glstablesymbolcolalign\glstabledesccolalign%
}

```

name-other-desc

```
\glstablenustyle{name-other-desc}{%  
3 columns per block (name, other, description).  
\glstablecolsperblock=3\relax  
Initialise length registers (need to calculate max name and other widths if par  
align).
```

```
\renewcommand{\glstableinitlengthupdates}{%  
\ifKV@printglosstable@header  
\glsmasurewidth{\glstablenamewidth}%  
\glstableHeaderFmt\glstablenameheader}%  
\glsmasurewidth{\glstableotherwidth}%  
\glstableHeaderFmt\glstableotherheader}%  
\else  
\setlength{\glstablenamewidth}{Opt}%  
\setlength{\glstableotherwidth}{Opt}%  
\fi  
\setlength{\glstabledescwidth}{Opt}%  
}%
```

Update widths in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%  
\glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%  
\glstablemeasureandupdate{\glstableotherwidth}{\glstableOther{##1}}%  
}%
```

Finally set the description width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%  
\setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth  
- \glstableotherwidth - \glstablenamewidth}%  
\ifdim\glstabledescwidth<Opt\relax  
\setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth  
- 0.5\glstableotherwidth}%  
\setlength{\glstabledescwidth}{\glstablenamewidth}%  
\fi  
}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%  
\glstableNameTarget{##1} &  
\glstableOther{##1} &  
\glstableDesc{##1}%  
\glstableChildEntries{##1}%  
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksumentry}[1]{%  
\glstableSubNameTarget{##1}\glstableSubNameSep  
\glstableSubOtherWithSep{##1}{\glstableSubOtherSep}%  
\glstableSubDesc{##1}}%
```



Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstabledescwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%  
  \glstableHeaderFmt\glstablenameheader &  
  \glstableHeaderFmt\glstableotherheader &  
  \glstableHeaderFmt\glstabledescheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%  
  \glstablenamecolalign\glstableothercolalign\glstabledesccolalign}%  
}
```

desc-other-name As name-other-desc but with the end columns switched.

```
\glstablenuwstyle{desc-other-name}{%  
  \glstablessetstyle{name-other-desc}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%  
  \glstableDesc{##1}%  
  \glstableChildEntries{##1} &  
  \glstableOther{##1} &  
  \glstableNameTarget{##1}%  
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%  
  \glstableSubDesc{##1}%  
  \glstableSubOtherWithSep{\glstableSubOtherSep}{##1}{}%  
  \glstableSubNameSep  
  \glstableSubNameTarget{##1}%  
}%
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%  
  \glstableHeaderFmt\glstabledescheader &  
  \glstableHeaderFmt\glstableotherheader &  
  \glstableHeaderFmt\glstablenameheader  
}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%  
  \glstabledesccolalign  
  \glstableothercolalign  
  \glstablenamecolalign  
}%  
}
```

name-symbol-other-desc

```
\glstablenuwstyle{name-symbol-other-desc}{%
```

4 columns per block (name, symbol, other, description).

```
\glstablecolspan=4\relax
```

Initialise length registers (need to calculate max name, symbol and other widths if par align).

```
\renewcommand{\glstableinitlengthupdates}{%
  \ifKV@printglosstable@header
    \glsmesurewidth{\glstablenamewidth}%
    {\glstableHeaderFmt\glstablenameheader}%
    \glsmesurewidth{\glstablesymbolwidth}%
    {\glstableHeaderFmt\glstablesymbolheader}%
    \glsmesurewidth{\glstableotherwidth}%
    {\glstableHeaderFmt\glstableotherheader}%
  \else
    \setlength{\glstablenamewidth}{Opt}%
    \setlength{\glstablesymbolwidth}{Opt}%
    \setlength{\glstableotherwidth}{Opt}%
  \fi
  \setlength{\glstabledescwidth}{Opt}%
}%
```

Update widths in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%
  \glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%
  \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbol{##1}}%
  \glstablemeasureandupdate{\glstableotherwidth}{\glstableOther{##1}}%
}%
```

Finally set the description width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%
  \setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth
  - \glstablesymbolwidth - \glstablenamewidth - \glstableotherwidth}%
  \ifdim\glstabledescwidth<Opt\relax
```

Not enough room so balance them out evenly.

```
    \setlength{\glstablenamewidth}{\dimexpr0.25\glstableblockwidth}%
    \setlength{\glstablesymbolwidth}{\glstablenamewidth}%
    \setlength{\glstableotherwidth}{\glstablenamewidth}%
    \setlength{\glstabledescwidth}{\glstablenamewidth}%
  \fi
}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%
  \glstableNameTarget{##1} &
  \glstableSymbol{##1} &
  \glstableOther{##1} &
  \glstableDesc{##1}%
  \glstableChildEntries{##1}%
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%
  \glstableSubNameTarget{##1}\glstableSubNameSep
  \glstableSubSymbolWithSep{##1}{\glstableSubSep}%
  \glstableSubOtherWithSep{##1}{\glstableSubOtherSep}%
  \glstableSubDesc{##1}}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstabledescwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstablenameheader &
  \glstableHeaderFmt\glstablesymbolheader &
  \glstableHeaderFmt\glstableotherheader &
  \glstableHeaderFmt\glstabledescheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%
  \glstablenamecolalign
  \glstablesymbolcolalign
  \glstableothercolalign
  \glstabledesccolalign}%
}
```

name-desc-symbol

```
\glstablenuwstyle{name-desc-symbol}{%
```

3 columns per block (name, description, symbol).

```
\glstablecolsperblock=3\relax
```

Initialise length registers (need to calculate max name and symbol widths if par align).

```
\renewcommand{\glstableinitlengthupdates}{%
  \ifKV@printglosstable@header
    \glsmeasurewidth{\glstablenamewidth}%
    {\glstableHeaderFmt\glstablenameheader}%
    \glsmeasurewidth{\glstablesymbolwidth}%
    {\glstableHeaderFmt\glstablesymbolheader}%
  \else
    \setlength{\glstablenamewidth}{0pt}%
    \setlength{\glstablesymbolwidth}{0pt}%
  \fi
  \setlength{\glstabledescwidth}{0pt}%
}%
```

Update widths in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%
  \glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%
  \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbol{##1}}%
}%
```

Finally set the description width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%
\setlength{\glstabledescwidth}{\dimexpr\glstableblockwidth
- \glstablesymbolwidth - \glstablenamewidth}%
\ifdim\glstabledescwidth<0pt\relax
\setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth
- 0.5\glstablesymbolwidth}%
\setlength{\glstabledescwidth}{\glstablenamewidth}%
\fi
}%
```

How to format the top-level entry in the block. v1.50 child entries in description column.

```
\renewcommand{\glstableblockentry}[1]{%
\glstableNameTarget{##1} &
\glstableDescWithOther{##1}%
\glstableChildEntries{##1}%
&
\glstableSymbol{##1}%
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%
\glstableSubNameTarget{##1}\glstableSubNameSep
\glstableSubDescWithOther{##1}%
\glstableSubSymbolWithSep{\glstableSubSep}{##1}{}%
}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstabledescwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
\glstableHeaderFmt\glstablenameheader &
\glstableHeaderFmt\glstabledescheader &
\glstableHeaderFmt\glstablesymbolheader
}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%
\glstablenamecolalign\glstabledesccolalign\glstablesymbolcolalign}%
}
```

`desc-symbol-other-name` As name-symbol-other-desc but with the end columns switched.

```
\glstablenewstyle{desc-symbol-other-name}{%
\glstablesetstyle{name-symbol-other-desc}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%
\glstableDesc{##1}%
\glstableChildEntries{##1} &
\glstableSymbol{##1} &
```

```

\glstableOther{##1} &
\glstableNameTarget{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
\glstableSubDescSymbolOther{##1}%
\glstableSubNameSep
\glstableSubNameTarget{##1}%
}%

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
\glstableHeaderFmt\glstabledescheader &
\glstableHeaderFmt\glstablesymbolheader &
\glstableHeaderFmt\glstableotherheader &
\glstableHeaderFmt\glstablenameheader
}%

```

Set the block's column alignments.

```

\renewcommand{\glstableblockalign}{%
\glstabledesccolalign
\glstablesymbolcolalign
\glstableothercolalign
\glstablenamecolalign
}%
}

```

**desc-other-symbol-name** As name-symbol-other-desc but column order is description, other, symbol and name.

```

\glstablenuwstyle{desc-other-symbol-name}{%
\glstablesetstyle{name-symbol-other-desc}%

```

How to format the top-level entry in the block.

```

\renewcommand{\glstableblockentry}[1]{%
\glstableDesc{##1}%
\glstableChildEntries{##1} &
\glstableOther{##1} &
\glstableSymbol{##1} &
\glstableNameTarget{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
\glstableSubDesc{##1}%
\glstableSubOtherWithSep{\glstableSubOtherSep}{##1}{}%
\glstableSubSymbolWithSep{\glstableSubSep}{##1}{}%
\glstableSubNameSep
\glstableSubNameTarget{##1}%
}%

```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstabledescheader &
  \glstableHeaderFmt\glstableotherheader &
  \glstableHeaderFmt\glstablesymbolheader &
  \glstableHeaderFmt\glstablenameheader
}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%
  \glstabledesccolalign
  \glstableothercolalign
  \glstablesymbolcolalign
  \glstablenamecolalign
}%
}
```

`name-other-symbol-desc` As name-symbol-other-desc but column order is name, other, symbol and description.

```
\glstablenewstyle{name-other-symbol-desc}{%
  \glstablesetstyle{name-symbol-other-desc}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%
  \glstableNameTarget{##1} &
  \glstableOther{##1} &
  \glstableSymbol{##1} &
  \glstableDesc{##1}%
  \glstableChildEntries{##1}%
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%
  \glstableSubNameTarget{##1}\glstableSubNameSep
  \glstableSubOtherWithSep{##1}{\glstableSubOtherSep}%
  \glstableSubSymbolWithSep{##1}{\glstableSubSep}%
  \glstableSubDesc{##1}%
}%
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstablenameheader &
  \glstableHeaderFmt\glstableotherheader &
  \glstableHeaderFmt\glstablesymbolheader &
  \glstableHeaderFmt\glstabledescheader
}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{%
  \glstablenamecolalign
  \glstableothercolalign
```

```

\glstablesymbolcolalign
\glstabledesccolalign
}%
}

```

name-other As name-desc but the other field is put in the description column.

```

\glstablenustyle{name-other}{%
2 columns per block (name, other).
\glstablecolsperblock=2\relax

```

Initialise length registers (need to calculate max name width if par align).

```

\renewcommand{\glstableinitlengthupdates}{%
\ifKV@printglosstable@header
\glsmesurewidth{\glstablenamewidth}%
{\glstableHeaderFmt\glstablenameheader}%
\else
\setlength{\glstablenamewidth}{0pt}%
\fi
\setlength{\glstableotherwidth}{0pt}%
}%

```

Update width in unsrt hook.

```

\renewcommand{\glstablelengthupdate}[1]{%
\glstablemeasureandupdate{\glstablenamewidth}{\glstableName{##1}}%
}%

```

Finally set the other width to the remaining available.

```

\renewcommand{\glstablefinishlengthupdates}{%
\setlength{\glstableotherwidth}{\dimexpr\glstableblockwidth
- \glstablenamewidth}%
\ifdim\glstableotherwidth<0pt\relax
\setlength{\glstablenamewidth}{\dimexpr0.5\glstableblockwidth}%
\setlength{\glstableotherwidth}{\glstablenamewidth}%
\fi
}%

```

How to format the top-level entry in the block.

```

\renewcommand{\glstableblockentry}[1]{%
\glstableNameTarget{##1} & \glstableOtherNoDesc{##1}%
\glstableChildEntries{##1}%
}%

```

How to format the entry's children.

```

\renewcommand{\glstableblocksubentry}[1]{%
\glstableSubNameTarget{##1}\glstableSubNameSep \glstableSubOtherNoDesc{##1}}%

```

Available width for child entries.

```

\renewcommand{\glstablesubentrywidth}{\glstableotherwidth}

```

How to format the block's header row, if required.

```

\renewcommand{\glstableblockheader}{%
\glstableHeaderFmt\glstablenameheader &
\glstableHeaderFmt\glstableotherheader}%

```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstablenamecolalign\glstableothercolalign}%  
}
```

other-name

```
\glstablenuwstyle{other-name}{%
```

2 columns per block (other, name).

```
\glstablecolsperblock=2\relax
```

Initialise length registers (need to calculate max name width if par align).

```
\renewcommand{\glstableinitlengthupdates}{%  
  \ifKV@printglosstable@header  
    \glsmesurewidth{\glstablenuwwidth}%  
    {\glstableHeaderFmt\glstablenuwheader}%  
  \else  
    \setlength{\glstablenuwwidth}{0pt}%  
  \fi  
  \setlength{\glstableotherwidth}{0pt}%  
}%
```

Update width in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%  
  \glstablemeasureandupdate{\glstablenuwwidth}{\glstableName{##1}}%  
}%
```

Finally set the other width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%  
  \setlength{\glstableotherwidth}{\dimexpr\glstableblockwidth  
  - \glstablenuwwidth}%  
  \ifdim\glstableotherwidth<0pt\relax  
    \setlength{\glstablenuwwidth}{\dimexpr0.5\glstableblockwidth}%  
    \setlength{\glstableotherwidth}{\glstablenuwwidth}%  
  \fi  
}%
```

How to format the top-level entry in the block. v1.50 child entries in other column.

```
\renewcommand{\glstableblockentry}[1]{%  
  \glstableOtherNoDesc{##1}%  
  \glstableChildEntries{##1}%  
  &  
  \glstableNameTarget{##1}}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%  
  \glstableSubOtherNoDesc{##1}\glstableSubNameSep  
  \glstableSubNameTarget{##1}}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstableotherwidth}
```



How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%  
  \glstableHeaderFmt\glstableotherheader &  
  \glstableHeaderFmt\glstablenameheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstableothercolalign\glstablenamecolalign}%  
}
```

symbol-other As name-other but the use the symbol in place of the name.

```
\glstablenustyle{symbol-other}{%
```

2 columns per block (symbol, other).

```
\glstablecolsperblock=2\relax
```

Initialise length registers (need to calculate max symbol width if par align).

```
\renewcommand{\glstableinitlengthupdates}{%  
  \ifKV@printglosstable@header  
    \glsmesurewidth{\glstablesymbolwidth}%  
    {\glstableHeaderFmt\glstablesymbolheader}%  
  \else  
    \setlength{\glstablesymbolwidth}{0pt}%  
  \fi  
  \setlength{\glstableotherwidth}{0pt}%  
}%
```

Update width in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%  
  \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbolName{##1}}%  
}%
```

Finally set the other width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%  
  \setlength{\glstableotherwidth}{\dimexpr\glstableblockwidth  
  - \glstablesymbolwidth}%  
  \ifdim\glstableotherwidth<0pt\relax  
    \setlength{\glstablesymbolwidth}{\dimexpr0.5\glstableblockwidth}%  
    \setlength{\glstableotherwidth}{\glstablesymbolwidth}%  
  \fi  
}%
```

How to format the top-level entry in the block.

```
\renewcommand{\glstableblockentry}[1]{%  
  \glstableSymbolNameTarget{##1} & \glstableOtherNoDesc{##1}%  
  \glstableChildEntries{##1}%  
}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%  
  \glstableSubSymbolNameTarget{##1}\glstableSubNameSep  
  \glstableSubOtherNoDesc{##1}}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstableotherwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%  
  \glstableHeaderFmt\glstablesymbolheader &  
  \glstableHeaderFmt\glstableotherheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstablesymbolcolalign\glstableothercolalign}%  
}
```

other-symbol

```
\glstablenuewstyle{other-symbol}{%
```

2 columns per block (other-symbol).

```
\glstablecolspanperblock=2\relax
```

Initialise length registers (need to calculate max symbol width if par align).

```
\renewcommand{\glstableinitlengthupdates}{%  
  \ifKV@printglosstable@header  
    \glsmesurewidth{\glstablesymbolwidth}%  
    {\glstableHeaderFmt\glstablesymbolheader}%  
  \else  
    \setlength{\glstablesymbolwidth}{0pt}%  
  \fi  
  \setlength{\glstableotherwidth}{0pt}%  
}%
```

Update width in unsrt hook.

```
\renewcommand{\glstablelengthupdate}[1]{%  
  \glstablemeasureandupdate{\glstablesymbolwidth}{\glstableSymbolName{##1}}%  
}%
```

Finally set the other width to the remaining available.

```
\renewcommand{\glstablefinishlengthupdates}{%  
  \setlength{\glstableotherwidth}{\dimexpr\glstableblockwidth  
  - \glstablesymbolwidth}%  
  \ifdim\glstableotherwidth<0pt\relax  
    \setlength{\glstablesymbolwidth}{\dimexpr0.5\glstableblockwidth}%  
    \setlength{\glstableotherwidth}{\glstablesymbolwidth}%  
  \fi  
}%
```

How to format the top-level entry in the block. v1.50 child entries in other column.

```
\renewcommand{\glstableblockentry}[1]{%  
  \glstableOtherNoDesc{##1}%  
  \glstableChildEntries{##1}%  
  & \glstableSymbolNameTarget{##1}}%
```

How to format the entry's children.

```
\renewcommand{\glstableblocksubentry}[1]{%
  \glstableSubOtherWithSep{##1}{\glstableSubSep}%
  \glstableSubSymbol{##1}%
  \glstableSubNameSep
  \glstableSubSymbolNameTarget{##1}}%
```

Available width for child entries.

```
\renewcommand{\glstablesubentrywidth}{\glstableotherwidth}
```

How to format the block's header row, if required.

```
\renewcommand{\glstableblockheader}{%
  \glstableHeaderFmt\glstableotherheader &
  \glstableHeaderFmt\glstablesymbolheader}%
```

Set the block's column alignments.

```
\renewcommand{\glstableblockalign}{\glstableothercolalign\glstablesymbolcolalign}%
}
```

`\glstablecaption`

```
\glstablecaption{<toc title>}{<title>}{<label code>}
```

The `<label code>` will be `\@@glossaryseclabel`.

```
\newcommand{\glstablecaption}[3]{%
  \caption[#1]{#3#2}%
}
```

`\glstablepostnextcaption`

```
\newcommand{\glstablepostnextcaption}{ (\MFUsentencecase{\glxtrcontinuedname})}
```

`\glstabilenextcaption`

```
\glstabilenextcaption{<toc title>}{<title>}
```

```
\newcommand{\glstabilenextcaption}[2]{%
  \caption[] {#1\glstablepostnextcaption}%
}
```

`\glstablefoot`

```
\glstablefoot{<postamble>}
```

```
\newcommand{\glstablefoot}[1]{}
```

`\glstablelastfoot`

```
\glstablelastfoot{<postamble>}
```

```
\newcommand{\glstablelastfoot}[1]{\glstablerowspan{#1}}
```

```
\glstablehead
\glstablehead{\glstablehead{<preamble>}}
\newcommand{\glstablehead}[1]{}
```

```
\glstablefirsthead
\glstablefirsthead{\glstablefirsthead{<preamble>}}
\newcommand{\glstablefirsthead}[1]{\glstablerowspan{#1}}
```

```
\glstablepostpreambleskip
\newlength\glstablepostpreambleskip
\setlength\glstablepostpreambleskip{5pt}
```

```
\glstableprepostambleskip
\newlength\glstableprepostambleskip
\setlength\glstableprepostambleskip{5pt}
```

```
\glstablefootstrut
\newcommand{\glstablefootstrut}{%
\rule{0pt}{\dimexpr\baselineskip+\glstableprepostambleskip}%
}
```

```
\glstablerowspan
\glstablerowspan{\glstablerowspan{<text>}}
\newcommand{\glstablerowspan}[1]{%
\multicolumn{\glstabletotalcols}{c}{\parbox{\glstablespanwidth}{#1}}%
}
```

```
\glstablespanwidth This will be updated if column widths are measured. This width doesn't include
\tabcolsep on either side. The default is to use \LTcapwidth, which may not
be the same size as the table.
\newcommand{\glstablespanwidth}{\LTcapwidth}
```

```
\glstable@begin
\newcommand{\glstable@begin}{%
\PackageError{glossary-table}{table style can only be used with
\string\printunsrttable}{}%
}
```

```
\glstable@filter Filter all child entries, but take level offset into account and apply custom
handler.
\newcommand{\glstable@filter}[1]{%
\ifnum\glscurrententrylevel>0\relax
\printunsrtglossaryskipentry
\else
```

```

\glstableiffilter{#1}%
{\printunsrtglossaryskipentry}%
{%
\glstable@calclengths{\glstablelengthupdate{#1}}%
}%
\fi
}

```

```

\glstableiffilter
\newcommand{\glstableiffilter}[3]{#3}

```

```

\glstablenamewidth
\newlength\glstablenamewidth

```

```

\glstableblockwidth Maximum width available for each block.
\newlength\glstableblockwidth

```

```

\glstabledescwidth
\newlength\glstabledescwidth

```

```

\glstablesymbolwidth
\newlength\glstablesymbolwidth

```

```

\glstableotherwidth
\newlength\glstableotherwidth

```

```

\glstableifmeasuring{\true}{\false}
\newcommand{\glstableifmeasuring}[2]{#2}

```

```

\glstable@stepentry
\newcommand{\glstable@stepentry}[1]{%
\ifglstepentrycounter
\stepcounter{glossaryentry}%
\fi
}

```

```

\glstable@stepsubentry
\newcommand{\glstable@stepsubentry}[1]{%
\ifglssubentrycounter
\stepcounter{glossarysubentry}%
\fi
}

```

```

\glstablemeasureandupdate{\len reg}{\text}
\newcommand{\glstablemeasureandupdate}[2]{%

```

Measure.

```
\glsmeasurewidth{\dimen@}{#2}%
```

Update if wider.

```
\ifdim\dimen@>#1\relax
  \setlength{#1}{\dimen@}%
\fi
}
```

`\glsstable@ifhaspreamble`

```
\newcommand{\glsstable@ifhaspreamble}[2]{%
\ifdefempty\glossarypreamble
{#2}%
{%
\ifx\@glsstable@defaultpreamble\glossarypreamble
\ifcvoid{\@glossarypreamble@\currentglossary}{#2}{#1}%
\else
#1%
\fi
}%
}
```

Need the type, preamble and postamble.

```
\define@key{printglosstable}{type}{\renewcommand{\@glo@type}{#1}}
\define@key{printglosstable}{preamble}{\renewcommand{\glossarypreamble}{#1}}
\define@key{printglosstable}{postamble}{\renewcommand{\glossarypostamble}{#1}}
```

Allow localised initialisation.

`\glsstable@init`

```
\newcommand\glsstable@init{}
\define@cmdkey{printglosstable}[glsstable@]{init}{}
```

The default setting is `groups=false`, unlike the usual default for `\printunsrtglossary`. Support for groups isn't fully implemented.

```
\define@choicekey{printglosstable}{groups}
[{\@glsstable@groups@val\@glsstable@groups@n}
{false,true,noskip,addskip}[true]%
{%
\ifcase\@glsstable@groups@n\relax
\let\glsstable@groupheading\@gobble
\glsxtr@printgloss@groupsfalse
\or
\let\glsstable@groupheading\glsstablegroupheading
\glsxtr@printgloss@groupstrue
\or
\let\glsstable@groupheading\glsstablegroupheading
\glsxtr@printgloss@groupstrue
\glsnogroupskiptrue
\or
```

```

\let\glstable@groupheading\glstablegroupheading
\glstr@printgloss@groupstrue
\glsnogroupskipfalse
\fi
}

```

`\glstable@groupheading`

```
\newcommand{\glstable@groupheading}[1]{}

```

`\glstablegroupheading` This isn't quite working as it puts a spurious line above if it occurs at the start of a new row.

```

\newcommand{\glstablegroupheading}[1]{%
\multicolumn{\glstabletotalcols}{c}{%
\glstrgetgrptitle{#1}{\glstrcurrentgrptitle}%
\glstableGroupHeaderFmt\glstrcurrentgrptitle
}%
\glstablePostGroupNewLine
}

```

`\glstablePostGroupNewLine`

```
\newcommand{\glstablePostGroupNewLine}{\glstablnewline*}

```

`\glstableGroupHeaderFmt`

```
\newcommand{\glstableGroupHeaderFmt}{\glstableHeaderFmt}

```

`\glstable@preentryhook`

```

\newcommand{\glstable@preentryhook}[1]{%
\ifglstable@afterheading
\else
\advance\glstablecurrentblockindex by 1\relax
\ifnum\glstablecurrentblockindex<\glstableblockperrowcount
\appto#1{&}%
\else
\appto#1{\glstablnewline}%
\fi
\fi
}

```

`\glstablnewline`

```
\newcommand{\glstablnewline}{\tabularnewline}

```

`\glstable@postentryhook`

```

\newcommand{\glstable@postentryhook}[1]{%
\ifnum\glstableblockperrowcount=\glstablecurrentblockindex
\glstablecurrentblockindex=0\relax
\fi
\@glstable@afterheadingfalse
}

```

`\glstable@grouphook`

```
\newcommand{\glstable@grouphook}[1]{%
  \if@glstable@afterheading
  \else
    \preto#1{\glstablenewline}%
    \advance\glstablecurrentblockindex by 1\relax
    \ifnum\glstablecurrentblockindex<\glstableblockperrowcount\relax
      \expandafter\glstable@n@to@amps\expandafter
      {\numexpr\glstableblockperrowcount-\glstablecurrentblockindex}%
      {\preto}{#1}%
    \fi
  \fi
  \glstablecurrentblockindex=0\relax
  \@glstable@afterheadingtrue
}
```

`\glstable@finish`

```
\newcommand{\glstable@finish}[1]{%
  \if@glstable@afterheading
  \else
    \advance\glstablecurrentblockindex by 1\relax
    \ifnum\glstablecurrentblockindex<\glstableblockperrowcount\relax
      \expandafter\glstable@n@to@amps\expandafter
      {\numexpr\glstableblockperrowcount-\glstablecurrentblockindex}%
      {\appto}{#1}%
    \fi
  \fi
}
```

`\@glstable@defaultpreamble`

```
\let\@glstable@defaultpreamble\glossarypreamble
```

`\@glstable@clearpage`

```
\newcommand{\@glstable@clearpage}{}%
```

`\@glstable@clearpage@iflt` Clear page if less than given length available.

```
\newcommand{\@glstable@clearpage@iflt}[1]{%
  \par
  \ifdim #1>\dimexpr\pagegoal-\pagetotal\relax
    \clearpage
  \fi
}
```

Allow `\clearpage` to be inserted.

```
\define@key{printglosstable}{clearpage}[true]{%
  \ifstrequal{#1}{true}%
  {%
    \renewcommand{\@glstable@clearpage}{\clearpage}%
  }%
}
```



```

    {%
      \ifstrequal{#1}{false}%
      {%
        \renewcommand{\@glstable@clearpage}{}%
      }%
      {%
        \renewcommand{\@glstable@clearpage}{\@glstable@clearpage@iflt{#1}}%
      }%
    }%
  }
\if@glstable@afterheading
  \newif\if@glstable@afterheading

\printunsrtable
\NewDocumentCommand\printunsrtable{0{}}{%
  \bgroup
  Initialise glossary type.
  \def\@glo@type{\glsdefaulttype}%
  Initialise title.
  \def\glossarytitle{%
    \ifcsdef{@glo@type@\@glo@type @title}%
    {\csuse{@glo@type@\@glo@type @title}}%
    {\glossaryname}%
  }%
  \def\glossarytoctitle{\glossarytitle}%
  Initialise preamble.
  \let\glossarypreamble\@glstable@defaultpreamble
  Initialise groups=false.
  \glsxtr@printgloss@groupsfalse
  Initialise nogroupskip=true.
  \glsnogroupskiptrue
  Set table keys.
  \setkeys*{printglosstable}{#1}%
  %\changes{1.50}{2022-11-08}{added check for caption and floats options}
  If this table should have a caption, check the floats package option to determine whether or not to switch counter. Can be counteracted by redefining \glscounter in init code.
  \ifKV@printglosstable@caption
  \if@glsxtr@floats
  \renewcommand{\glscounter}{table}%
  \fi
  \fi
  Initialisation hook.
  \glstable@init

```

Should lengths be calculated?

```
\let\glstable@calclengths\glstableifpar
Has nogroupskip=false been used?
\ifglsnogroupskip
\else
\ifundef\glspenaltygroupskip
{%
\PackageError{glossary-table}{\string\printunsrtable[nogroupskip=false]
requires glossary-longbooktabs.sty}%
{You need to load glossary-longbooktabs.sty in addition to
loading glossary-table.sty if you want the group skip}%
\glsnogroupskiptrue
}%
{\glspatchLToutput}%
\fi
\let\currentglossary@glo@type
\protected@edef\glstable@opts{type=@glo@type,style=table}%
\ifdefempty\XKV@rm{\epto\glstable@opts{\expandonce\XKV@rm,}}%
```

Calculate the total number of columns.

```
\glstabletotalcols=\numexpr\glstablecolsperblock*\glstableblockperrowcount\relax
If the widest name is non-void, calculate the remaining width available for the
blocks. 1pt is subtracted to allow for rounding errors.
```

```
\glstable@calclengths
{%
\edef\glstablespanwidth{\dimexpr\linewidth-2\tabcolsep-1pt}%
\glstableblockwidth=\dimexpr
(\linewidth-\glstabletotalcols\tabcolsep-\glstabletotalcols\tabcolsep)
/\glstableblockperrowcount-1pt
\relax
\glstableinitlengthupdates
}%
```

Build the header row.

```
\def\glstable@alignment{}%
\ifKV@printglosstable@rules
\def\glstable@header{\toprule}%
\else
\def\glstable@header{}%
\fi
\global\glstablecurrentblockindex=0\relax
\loop
```

Add to alignment spec.

```
\ifnum\glstablecurrentblockindex>0\relax
\protected@eappto\glstable@alignment{\glstable@blockalignsep}%
\fi
\protected@eappto\glstable@alignment{\glstableblockalign}%
\ifKV@printglosstable@header
```

Add to header.

```
\ifnum\glstablecurrentblockindex>0\relax
\appto\glstable@header{&}%
\fi
\eaappto\glstable@header{\expandonce\glstableblockheader}%
\fi
```

Increment loop counter

```
\advance\glstablecurrentblockindex by 1\relax
\ifnum\glstablecurrentblockindex<\glstableblockperrowcount
\repeat
\ifKV@printglosstable@header
```

Append cr to header.

```
\appto\glstable@header{\glstablnewline}%
\ifKV@printglosstable@rules
\appto\glstable@header{\midrule}%
\fi
\fi
\protected@edef\glstable@begin{%
\noexpand\begin{longtable}{\expandonce\glstable@alignment}%
}%
```

Use `\expandafter` after to allow an empty `\glossarytoctitle` to prevent the caption from being added to the table of contents.

```
\ifKV@printglosstable@caption
\appto\glstable@begin{%
\expandafter\glstablecaption\expandafter
{\glossarytoctitle}{\glossarytitle}%
{\@@glossaryseclabel}%
\glstablnewline
}%
\fi
```

Add preamble if set.

```
\glstable@ifhaspreamble
{%
\eaappto\glstable@begin{%
\noexpand\glstablefirsthead
{\expandonce\glossarypreamble}%
\noexpand\glstablnewline[\glstablepostpreambleskip]%
\expandonce\glstable@header
\noexpand\endfirsthead
}%
\ifKV@printglosstable@caption
\appto\glstable@begin{%
\expandafter\glstablnextcaption\expandafter
{\glossarytoctitle}{\glossarytitle}%
\glstablnewline
}%
\fi
```

```

\ifx\glstablehead@gobble
\else
\eapto\glstable@begin{%
\noexpand\glstablehead{\expandonce\glossarypreamble}%
\noexpand\glstablnewline[\glstablepostpreambleskip]%
}%
\fi
}%
{%
\eapto\glstable@begin{%
\expandonce\glstable@header
\noexpand\endfirsthead
}%
\ifKV@printglosstable@caption
\appto\glstable@begin{%
\expandafter\glstablnextcaption\expandafter
{\glossarytoctitle}{\glossarytitle}%
\glstablnewline
}%
\fi
}%
\eapto\glstable@begin{%
\expandonce\glstable@header
\noexpand\endhead
}%
Add postamble if set.
\ifvoid\glossarypostamble
{%
Just add rule, if required.
\ifKV@printglosstable@rules
\appto\glstable@begin{\bottomrule\endfoot}%
\fi
}
{%
\ifKV@printglosstable@rules
\eapto\glstable@begin{%
\noexpand\bottomrule
\noexpand\glstablefoot
{\noexpand\glstablefootstrut\expandonce\glossarypostamble}%
\noexpand\glstablnewline
\noexpand\endfoot
\noexpand\bottomrule
\noexpand\glstablelastfoot
{\noexpand\glstablefootstrut\expandonce\glossarypostamble}%
\noexpand\glstablnewline
\noexpand\endlastfoot
}%
\else
\eapto\glstable@begin{%

```

```

\noexpand\glstablefoot{\expandonce\glossarypostamble}%
\noexpand\glstablnewline[\glstableprepostambleskip]%
\noexpand\endfoot
\noexpand\glstablelastfoot{\expandonce\glossarypostamble}%
\noexpand\glstablnewline[\glstableprepostambleskip]%
\noexpand\endlastfoot
}%
\fi
}%

```

Set up filtering.

```
\let\printunsrtglossaryentryprocesshook\glstable@filter
```

Use the hooks to add tab and new lines to avoid awkward conditionals within longtable.

```

\renewcommand{\printunsrtglossarypreentryprocesshook}{%
\glstable@preentryhook
}%
\renewcommand{\printunsrtglossarypostentryprocesshook}{%
\glstable@postentryhook
}%
\renewcommand{\printunsrtglossarygrouphook}{%
\glstable@grouphook
}%
\renewcommand{\printunsrtglossarypreend}{%
\glstable@finish
}%

```

Disable preamble and postamble commands as their content has already been added to the table specs.

```

\let\glossarypostamble\relax
\let\glossarypreamble\relax

```

Disable the section command as the title and toc title are now in the caption.

```
\renewcommand{\glossarysection}[2][{}]{}
```

Used in hooks.

```

\glstablecurrentblockindex=0\relax
\@glstable@afterheadingtrue

```

Clear page if required.

```
\@glstable@clearpage
```

Finish updating lengths in hook.

```

\let\glstable@org@predoglossary\printunsrtglossarypredoglossary
\renewcommand{\printunsrtglossarypredoglossary}
{%
\glstable@calclengths{\glstablefinishlengthupdates}%
\glstable@org@predoglossary
}%

```

The glossary will be empty on the first L<sup>A</sup>T<sub>E</sub>X run as the entries won't be defined until bib2gls has selected them.

```

\glxtrifemptyglossary{\currentglossary}
{%
  \GlossariesExtraWarning{Glossary ‘\currentglossary’ is empty}%

```

Just do the table header and footer to allow it to be added to the list of tables and have the label added to the aux file.

```

  \edef\@glxtr@tmp{\noexpand\setkeys{printgloss}{\expandonce\glstable@opts}}%
  \glxtr@tmp
  \glstable@begin% \begin{longtable}{specs}
  \end{longtable}%
}%
{%
  \expandafter\printunsrtglossary\expandafter[\glstable@opts]\relax
}%
\egroup
}

```

`\glstableiffilterchild`

```

\newcommand{\glstableiffilterchild}[3]{#3}

```

`\glstable@child`

```

\newcommand{\glstable@child}[1]{%
  \glstableiffilterchild{#1}{}%
  {%
    \ifdefempty\glstable@dochildren{%
      \appto\glstable@dochildren{\glstableblocksubentrysep}}%
      \appto\glstable@dochildren{\glstableblocksubentry{#1}}%
    }%
  }

```

`\glstableChildEntries`

```

\newcommand{\glstableChildEntries}[1]{%
  \def\glstable@dochildren{%
    \GlsXtrIfFieldNonZero*{childcount}{#1}%
    {%
      \glxtrfieldforlistloop{#1}{childlist}{\glstable@child}%
      \ifdefempty\glstable@dochildren
      {%
        {%
          \preto\glstable@dochildren{%
            \glstablePreChildren
            \begin{glstablesubentries}%
          }%
          \appto\glstable@dochildren{\end{glstablesubentries}}%
        }%
      }%
    }%
  }%
  \glstable@dochildren
}

```

`\glstable@n@amps` Removed.

`\glstable@n@to@amps`

```
\newcommand{\glstable@n@to@amps}[3]{%
\ifnum#1>0\relax
\count@=0\relax
\loop
\advance\count@ by 1\relax
#2#3{&}%
\ifnum\count@<#1
\repeat
\fi
}
```

`\glstablefinishrow` Removed in v1.50.

`table`

```
\newglossarystyle{table}%
{%
\renewenvironment{theglossary}%
{%
\glstable@begin
}
}%
\end{longtable}%
}%
\renewcommand*\glossaryheader{}%
\renewcommand*\glsgroupheading[1]{\glstable@groupheading{#1}}%
\renewcommand*\gls subgroupheading[4]{}%
\ifglsnogroupskip
\renewcommand*\gls groupskip{}%
\else
\renewcommand*\gls groupskip{\gls penalty groupskip}%
\fi
\renewcommand{\glossentry}[2]{%
\glstableblockentry{#1}%
```

v1.50: `\glstableChildEntries` moved to block style and conditionals moved to processing hooks.

```
}%
\renewcommand{\subglossentry}[3]{}%
}
```

## 9 Rollback Files

### 9.1 Rollback v1.48 (glossaries-extra-2021-11-22.sty)

Version 1.48 preserved for rollback.

```
\NeedsTeXFormat{LaTeX2e}
```

```

\ProvidesPackage{glossaries-extra}[2021/11/22 v1.48 (NLCT)]
\RequirePackage{xkeyval}
\RequirePackage{etoolbox}
\@ifpackageloaded{glossaries}
{%
  \newcommand{\glstr@dooption}[1]{\setupglossaries{#1}}%
  \let\glstr@declareoption\gls@declareoption
}
{%
  \newcommand{\glstr@dooption}[1]{%
    \PassOptionsToPackage{#1}{glossaries}%
  }%
  \PassOptionsToPackage{toc}{glossaries}
  \PassOptionsToPackage{nopostdot}{glossaries}
  \PassOptionsToPackage{noredefwarn}{glossaries}
  \@ifpackageloaded{polyglossia}%
  {}%
  {%
    \@ifpackageloaded{babel}%
    {\PassOptionsToPackage{translate=babel}{glossaries}}%
    {}%
  }%
  \newcommand*{\@glstr@declareoption}[2]{%
    \DeclareOptionX{#1}{#2}%
    \DeclareOption{#1}{#2}%
  }
}
\newcommand*{\glstrundefaction}[2]{%
  \@glstrundeftag\PackageError{glossaries-extra}{#1}{#2}%
}
\newcommand*{\glstr@warnonexistsordo}[1]{%
  \newcommand*{\glstrundeftag}{??}%
  \newcommand*{\@glstrundeftag}{%
    \newcommand*{\@glstr@warn@undefaction}[2]{%
      \@glstrundeftag\GlossariesExtraWarning{#1}%
    }
  }
}
\newcommand*{\@glstr@err@undefaction}[2]{%
  \@glstrundeftag\PackageError{glossaries-extra}{#1}{#2}%
}
\newcommand*{\@glstr@warn@onexistsordo}[1]{%
  \GlossariesExtraWarning{\string#1\space hasn't been defined, so
    some errors won't be converted to warnings.
    (This most likely means your version of
    glossaries.sty is below version 4.19.)}%
}

\newcommand*{\@glstr@redef@forglsentries}{%
  \newcommand*{\@glstr@do@redef@forglsentries}{%
    \renewcommand*{\forglsentries}[3][\glsdefaulttype]{%
      \protected@edef\@glo@list{\csname glist@##1\endcsname}%
    }
  }
}

```



```

\ifdefstring{\@glo@list}{,}%
{%
  \GlossariesExtraWarning{No entries defined in glossary ‘##1’}%
}%
{%
  \@for##2:=\@glo@list\do
  {%
    \ifdefempty{##2}{-}{##3}%
  }%
}%
}%
}%
\define@choicekey{glossaries-extra.sty}{undefaction}%
[\glsxtr@undefaction@val\glsxtr@undefaction@nr]%
{warn,error}%
{%
  \ifcase\glsxtr@undefaction@nr\relax
  \let\glsxtrundefaction\@glsxtr@warn@undefaction
  \let\glsxtr@warnonexistsordo\@glsxtr@warn@onexistsordo
  \let\@glsxtr@redef@forglsentries\@glsxtr@do@redef@forglsentries
  \or
  \let\glsxtrundefaction\@glsxtr@err@undefaction
  \let\glsxtr@warnonexistsordo\@gobble
  \let\@glsxtr@redef@forglsentries\relax
  \fi
}
\newcommand*{\@glsxtr@record}[3]{%
\newcommand*{\glsxtr@recordsee}[2]{%
\newcommand*{\@glsxtr@defaultnumberformat}{\glsnumberformat}%
\newcommand*{\GlsXtrSetDefaultNumberFormat}[1]{%
  \renewcommand*{\@glsxtr@defaultnumberformat}{##1}%
}%
\newcommand*{\@glsxtr@do@record@wrglossary}[1]{%
\begingroup
  \ifKV@glslink@noindex
  \else
  \protected@edef\@gls@label{\glsdetoklabel{##1}}%
  \let\glslabel\@gls@label
  \glswriteentry{##1}%
  {%
    \ifdefempty{\@glsxtr@thevalue}%
    {%
      \ifx\@glsxtr@org@theHvalue\@glsxtr@theHvalue
      \else
      \let\theHglsentrycounter\@glsxtr@theHvalue
      \fi
      \glsxtr@saveentrycounter
      \let\@do@wrglossary\@glsxtr@dorecord
    }%
  }%
}

```

```

        \let\theglsentrycounter\@glxtr@thevalue
        \let\theHglentrycounter\@glxtr@theHvalue
        \let\@do@wrglossary\@glxtr@dorecordnodefer
    }%
    \ifx\@glxtr@record@setting\@glxtr@record@setting@alsoindex
        \glxtr@do@wrglossary{#1}%
    \else
        \@glxtrwrglossmark
        \glxtr@inc@wrglossaryctr{#1}%
        \@do@wrglossary
    \fi
    }%
\fi
\endgroup
}
\newcommand*\@glxtr@do@alsoindex@wrglossary}[1]{%
    \glxtr@do@wrglossary{#1}%
    \@glxtr@do@record@wrglossary{#1}%
}
\newcommand*\@@glxtr@record}[3]{%
    \protected@edef\@gls@label{\glsdetoklabel{#2}}%
    \let\glslabel\@gls@label
    \ifglsentryexists{#2}{%
        {%
            \@glxtrwrglossmark
            \begingroup
                \let\@glsnumberformat\@glxtr@defaultnumberformat
                \def\@glxtr@thevalue{%
                    \def\@glxtr@theHvalue{\@glxtr@thevalue}%
                    \let\@glxtr@org@theHvalue\@glxtr@theHvalue
                    \let\@gls@counter\glscounter
                    \if@glxtr@equations
                        \@glxtr@use@equation@counter
                    \fi
                    \@gls@setdefault@glslink@opts
                    \csuse{@glxtr@#3@prekeys}%
                    \setkeys{#3}{#1}%
                    \glxtr@do@autoadd{#3}%
                    \csuse{@glxtr@#3@postkeys}%
                    \glxtr@inc@wrglossaryctr{#2}%
                    \ifKV@glslink@noindex
                    \else
                        \glswriteentry{#2}%
                    {%
                        \ifdefempty{\@glxtr@thevalue}%
                        {%
                            \ifx\@glxtr@org@theHvalue\@glxtr@theHvalue
                                \else
                                    \let\theHglentrycounter\@glxtr@theHvalue
                                \fi
                            \fi
                        }%
                    }%
                }%
            \endgroup
        }%
    }%
}

```

```

        \glsxtr@saveentrycounter
        \let\@do@wrglossary\glsxtr@dorecord
    }%
    {%
        \let\theglentrycounter\glsxtr@thevalue
        \let\theHglentrycounter\glsxtr@theHvalue
        \let\@do@wrglossary\glsxtr@dorecordnodefer
    }%
    \ifx\glsxtr@record@setting\glsxtr@record@setting@alsoindex
        \glsxtr@do@wrglossary{#2}%
    \else
        \@do@wrglossary
    \fi
    }%
\fi
\endgroup
}%
}
\newcommand{\glsxtr@glslink@prekeys}{\glslinkpresetkeys}
\newcommand{\glsxtr@glslink@postkeys}{\glslinkpostsetkeys}
\newcommand{\glsxtr@glossadd@prekeys}{\glsaddpresetkeys}
\newcommand{\glsxtr@glossadd@postkeys}{\glsaddpostsetkeys}
\newcommand*\glsxtr@dorecord{%
    \global\let\glsrecordlocref\theglentrycounter
    \let\glsxtr@orgprefix\glo@counterprefix
    \ifx\theglentrycounter\theHglentrycounter
        \def\glo@counterprefix{}%
    \else
        \protected@edef\glsxtr@theentrycounter{\theglentrycounter}%
        \protected@edef\glsxtr@theHentrycounter{\theHglentrycounter}%
        \@onelevel@sanitize\glsxtr@theentrycounter
        \@onelevel@sanitize\glsxtr@theHentrycounter
        \protected@edef\do@gls@getcounterprefix{\noexpand\gls@getcounterprefix
            {\glsxtr@theentrycounter}{\glsxtr@theHentrycounter}}%
        }%
        \do@gls@getcounterprefix
    \fi
    \ifx\glsxtr@record@setting\glsxtr@record@setting@nameref
        \glsxtr@do@nameref@record
        {\gls@label}{\glo@counterprefix}{\gls@counter}{\glsnumberformat}%
        {\glsrecordlocref}%
    \else
        \protected@write\auxout{}{\string\glsxtr@record
            {\gls@label}{\glo@counterprefix}{\gls@counter}{\glsnumberformat}%
            {\glsrecordlocref}}%
    \fi
    \glsxtr@counterrecordhook
    \let\glo@counterprefix\glsxtr@orgprefix
}
\newcommand*\glsxtr@dorecordnodefer{%

```

```

\ifx\theglentrycounter\theHglentrycounter
\ifx\@glxtr@record@setting\@glxtr@record@setting@nameref
\@glxtr@do@nameref@record
{\@gls@label}{\@gls@counter}{\@glsnumberformat}%
{\theglentrycounter}%
\else
\protected@write\@auxout{}{\string\glxtr@record
{\@gls@label}{\@gls@counter}{\@glsnumberformat}%
{\theglentrycounter}}%
\fi
\else
\edef\@do@gls@getcounterprefix{\noexpand\@gls@getcounterprefix
{\theglentrycounter}{\theHglentrycounter}%
}%
\@do@gls@getcounterprefix
\ifx\@glxtr@record@setting\@glxtr@record@setting@nameref
\@glxtr@do@nameref@record
{\@gls@label}{\@gls@counterprefix}{\@gls@counter}%
{\@glsnumberformat}{\theglentrycounter}%
\else
\protected@write\@auxout{}{\string\glxtr@record
{\@gls@label}{\@gls@counterprefix}{\@gls@counter}{\@glsnumberformat}%
{\theglentrycounter}}%
\fi
\fi
\@glxtr@counterrecordhook
}
\newcommand{\@glxtr@ifnum@mmode}[2]{%
\ifmmode
\ifst@rred
#2%
\else
\if@display #1\else #2\fi
\fi
\else
#2%
\fi
}
\newcommand*{\@glxtr@do@nameref@record}[5]{%
\gls@ifnotmeasuring
{%
\protected@write\@auxout{}{\string\glxtr@record@nameref
{#1}{#2}{#3}{#4}{#5}%
{\csuse{@currentlabelname}}{\csuse{@currentHref}}}%
{\theHglentrycounter}}%
}%
}
\newcommand*{\@glxtr@recordcounter}{%
\@glxtr@noop@recordcounter
}

```

```

\newcommand*{\@glxtr@noop@recordcounter}[1]{%
  \PackageError{glossaries-extra}{\string\GlsXtrRecordCounter\space
    requires record=only or record=hybrid package option}{}%
}
\newcommand*{\@glxtr@op@recordcounter}[1]{%
  \protected@eappto\@glxtr@counterrecordhook{\noexpand\@glxtr@docounterrecord{#1}}%
}
\newcommand*{\@glxtr@recordsee}[2]{%
  \@glxtrwrglossmark
  \def\@gls@xref{#2}%
  \@onelevel@sanitize\@gls@xref
  \protected@write\@auxout{}{\string\glxtr@recordsee{#1}{\@gls@xref}}%
}
\newcommand{\printunstrtglossaryunit}{%
  \print@noop@unstrtglossaryunit
}
\newcommand*{\glxtr@setup@record}{\let\@do@wrglossary\glxtr@do@wrglossary}
\newcommand*{\glxtr@indexonly@saveentrycounter}{%
  \ifKV@glslink@noindex
  \else
    \glxtr@saveentrycounter
  \fi
}
\newcommand*{\glxtr@addloclistfield}{%
  \key@ifundefined{glossentry}{loclist}%
  {%
    \define@key{glossentry}{loclist}{\def\@glo@loclist{##1}}%
    \appto\@gls@keymap{,{loclist}{loclist}}%
    \appto\@newglossaryentryprehook{\def\@glo@loclist{}}%
    \appto\@newglossaryentryposthook{%
      \gls@assign@field{\@glo@label}{loclist}{\@glo@loclist}%
    }%
    \glssetnoexpandfield{loclist}%
  }%
  {}%
  \key@ifundefined{glossentry}{location}%
  {%
    \define@key{glossentry}{location}{\def\@glo@location{##1}}%
    \appto\@gls@keymap{,{location}{location}}%
    \appto\@newglossaryentryprehook{\def\@glo@location{}}%
    \appto\@newglossaryentryposthook{%
      \gls@assign@field{\@glo@label}{location}{\@glo@location}%
    }%
    \glssetnoexpandfield{location}%
  }%
  {}%
  \key@ifundefined{glossentry}{group}%
  {%
    \define@key{glossentry}{group}{\def\@glo@group{##1}}%
    \appto\@gls@keymap{,{group}{group}}%
  }%
}

```

```

\appto\@newglossaryentryprehook{\def\@glo@group{}}%
\appto\@newglossaryentryposthook{%
  \gls@assign@field{\@glo@label}{group}{\@glo@group}%
}%
\glssetnoexpandfield{group}%
}%
{}%
}
\newcommand*\@glsxtr@record@setting@{off}
\newcommand*\@glsxtr@record@setting@alsoindex@{alsoindex}
\newcommand*\@glsxtr@record@setting@only@{only}
\newcommand*\@glsxtr@record@setting@nameref@{nameref}
\newcommand*\@glsxtr@if@record@only@[2]{%
  \ifx\@glsxtr@record@setting\@glsxtr@record@setting@only
    #1%
  \else
    \ifx\@glsxtr@record@setting\@glsxtr@record@setting@nameref
      #1%
    \else
      #2%
    \fi
  \fi
}
\newcommand*\@glsxtr@record@setting@off@{off}
\newcommand\@glsxtr@warn@hybrid@noprintgloss{%
  \ifdefstring{\@glo@types}{,}%
  {%
    \GlossariesExtraWarningNoLine{No glossaries have been defined}%
  }%
  {%
    \GlossariesExtraWarningNoLine{No \string\printglossary\space
      or \string\printglossaries\space
      found. ^^JYou have requested the hybrid setting
      record=\@glsxtr@record@setting\space which requires a
      combination of bib2gls (to fetch entries) and makeindex/xindy
      (to sort and collate the entries). If you only want to use
      bib2gls then change the option to record=only or record=nameref}%
  }%
}
\newcommand*\@glsxtr@record@only@setup@{%
\def\glsxtr@setup@record{%
  \@glsxtr@autoseeindexfalse
  \let\@do@seeglossary\@glsxtr@recordsee
  \let\@glsxtr@record\@glsxtr@record
  \let\@do@wrglossary\@glsxtr@do@record@wrglossary
  \let\@gls@saveentrycounter\relax
  \let\glsxtrundefaction\@glsxtr@warn@undefaction
  \let\glsxtr@warnonexistsordo\@glsxtr@warn@onexistsordo
  \glsxtr@addloclistfield
  \renewcommand*\@glsxtr@autoindexcrossrefs@{}%
}

```

```

\let\@glxtr@recordcounter\@glxtr@op@recordcounter
\def\printunsrtglossaryunit{\print@op@unsrtglossaryunit}%
\def\glxtrsetaliasnoindex{}%
\ifdef\@gls@setupsort@none{\@gls@setupsort@none}{}%
\def\glxtrNoGlossaryWarning{\@glxtr@record@noglossarywarning}%
\RequirePackage{glossaries-extra-bib2gls}[=v1.48]%
}%
}
\define@choicekey{glossaries-extra.sty}{record}
[\@glxtr@record@setting\glxtr@record@nr]%
{off,only,alsoindex,nameref,hybrid}%
[only]%
{%
\ifcase\glxtr@record@nr\relax
\def\glxtr@setup@record{%
\renewcommand*{\@do@seeglossary}{\@glxtr@doseeglossary}%
\renewcommand*{\@glxtr@record}[3]{}%
\let\@do@wrglossary\glxtr@do@wrglossary
\let\@gls@saveentrycounter\glxtr@indexonly@saveentrycounter
\let\glxtrundefaction\@glxtr@err@undefaction
\let\glxtr@warnonexistsordo\@gobble
\let\@glxtr@recordcounter\@glxtr@noop@recordcounter
\def\printunsrtglossaryunit{\print@noop@unsrtglossaryunit}%
\undef\glxtrsetaliasnoindex
}%
\or
\@glxtr@record@only@setup
\or
\def\glxtr@setup@record{%
\renewcommand*{\@glxtr@record@setting@alsoindex}{alsoindex}%
\renewcommand*{\@do@seeglossary}{\@glxtr@dosee@alsoindex@glossary}%
\let\@glxtr@record\@glxtr@record
\let\@do@wrglossary\glxtr@do@alsoindex@wrglossary
\let\@gls@saveentrycounter\glxtr@indexonly@saveentrycounter
\let\glxtrundefaction\@glxtr@warn@undefaction
\let\glxtr@warnonexistsordo\@glxtr@warn@onexistsordo
\glxtr@addlocclistfield
\let\@glxtr@recordcounter\@glxtr@op@recordcounter
\def\printunsrtglossaryunit{\print@op@unsrtglossaryunit}%
\undef\glxtrsetaliasnoindex
}%
\or
\@glxtr@record@only@setup
\ifundef\hyperlink
{\GlossariesExtraWarning{You have requested record=nameref but
the document doesn't support hyperlinks}}%
{}%
\or
\def\glxtr@setup@record{%
\renewcommand*{\@glxtr@record@setting@alsoindex}{hybrid}%

```

```

        \renewcommand*{\do@seeglossary}{\@glxtr@dosee@alsoindex@glossary}%
        \let\@glxtr@record\@glxtr@record
        \let\@do@wrglossary\glxtr@do@alsoindex@wrglossary
        \let\@glxtr@saveentrycounter\glxtr@indexonly@saveentrycounter
        \let\glxtrundefaction\@glxtr@warn@undefaction
        \let\glxtr@warnonexistssordo\@glxtr@warn@onexistssordo
        \glxtr@addloclistfield
        \let\@glxtr@recordcounter\@glxtr@op@recordcounter
        \def\printunstrtglossaryunit{\print@op@unstrtglossaryunit}%
        \undef\glxtrsetaliasnoindex
    }%
    \fi
}
\newcommand*{\@glxtr@docdefval}{0}
\newcommand*{\if@glxtrdocdef}{\ifnum\@glxtr@docdefval>0 }
\newcommand*{\@glxtrdocdeftrue}{\def\@glxtr@docdefval{1}}
\newcommand*{\@glxtrdocdeffalse}{\def\@glxtr@docdefval{0}}
\define@choicekey{glossaries-extra.sty}{docdef}
[\@glxtr@docdefsetting\@glxtr@docdefval]%
{false,true,restricted,atom}[true]%
{%
    \ifnum\@glxtr@docdefval>1\relax
        \renewcommand*{\@glxdoifexistssorwarn}{\glxdoifexists}%
    \else
        \renewcommand*{\@glxdoifexistssorwarn}{\glxdoifexistssorwarn}%
    \fi
}
\newcommand*{\if@glxtrdocdefrestricted}{\ifnum\@glxtr@docdefval>1 }
\newcommand*{\@glxdoifexistssorwarn}{\glxdoifexistssorwarn}
\define@boolkey{glossaries-extra.sty}[@glxtr]{indexcrossrefs}[true]{%
\if@glxtrindexcrossrefs
\else
    \renewcommand*{\@glxtr@autoindexcrossrefs}{}%
\fi
}
\@glxtrindexcrossrefsfalse
\newcommand*{\@glxtr@autoindexcrossrefs}{\@glxtrindexcrossrefstrue}
\define@boolkey{glossaries-extra.sty}[@glxtr@]{autoseeindex}[true]{%
}
\@glxtr@autoseeindextrue
\define@boolkey{glossaries-extra.sty}[@glxtr@]{equations}[true]{%
}
\@glxtr@equationsfalse
\let\glxtr@float\@float
\let\glxtr@dblfloat\@dblfloat
\define@boolkey{glossaries-extra.sty}[@glxtr@]{floats}[true]{%
\if@glxtr@floats
\renewcommand*{\@float}[1]{\renewcommand{\glxcounter}{##1}\glxtr@float{##1}}%
\renewcommand*{\@dblfloat}[1]{\renewcommand{\glxcounter}{##1}\glxtr@dblfloat{##1}}%
\else

```



```

\let\@float\glsxtr@float
\let\@dblfloat\glsxtr@dblfloat
\fi
}
\@glsxtr@floatsfalse
\newcommand*\GlossariesExtraWarning[1]{\PackageWarning{glossaries-extra}{#1}}
\newcommand*\GlossariesExtraWarningNoLine[1]{%
\PackageWarningNoLine{glossaries-extra}{#1}}
\@glsxtr@declareoption{nowarn}{%
\let\GlossariesExtraWarning@gobble
\let\GlossariesExtraWarningNoLine@gobble
\glsxtr@doooption{nowarn}%
}
\newcommand*\@glsxtr@defpostpunc{}
\@glsxtr@declareoption{postdot}{%
\glsxtr@doooption{nopostdot=false}%
\renewcommand*\@glsxtr@defpostpunc{%
\renewcommand*\glspostdescription{%
\ifglsnopostdot\else.\spacefactor\sfcode'\. \fi}%
}%
}
}
\define@choicekey{glossaries-extra.sty}{nopostdot}{true,false}[true]{%
\glsxtr@doooption{nopostdot=#1}%
\renewcommand*\@glsxtr@defpostpunc{%
\renewcommand*\glspostdescription{%
\ifglsnopostdot\else.\spacefactor\sfcode'\. \fi}%
}%
}
}
\define@key{glossaries-extra.sty}{postpunc}{%
\glsxtr@doooption{nopostdot=false}%
\ifstrequal{#1}{dot}%
{%
\renewcommand*\@glsxtr@defpostpunc{%
\renewcommand*\glspostdescription{.\spacefactor\sfcode'\. }%
}%
}%
{%
\ifstrequal{#1}{comma}%
{%
\renewcommand*\@glsxtr@defpostpunc{%
\renewcommand*\glspostdescription{,}%
}%
}%
{%
\ifstrequal{#1}{none}%
{%
\glsxtr@doooption{nopostdot=true}%
\renewcommand*\@glsxtr@defpostpunc{%
\renewcommand*\glspostdescription{}%
}
}
}
}

```



```

\newcommand*\AS{\GLSxtrshort}%
\newcommand*\ASP{\GLSxtrshortpl}%
\newcommand*\AL{\GLSxtrlong}%
\newcommand*\ALP{\GLSxtrlongpl}%
\newcommand*\AF{\GLSxtrfull}%
\newcommand*\AFP{\GLSxtrfullpl}%
\providecommand*\newabbr{\newabbreviation}%
\let\GlsXtrDefineAbbreviationShortcuts\relax
}
\newcommand*\GlsXtrDefineAcShortcuts{%
\newcommand*\ac{\cGls}%
\newcommand*\acp{\cGlspl}%
\newcommand*\acs{\GLSxtrshort}%
\newcommand*\acsp{\GLSxtrshortpl}%
\newcommand*\acl{\GLSxtrlong}%
\newcommand*\aclp{\GLSxtrlongpl}%
\newcommand*\acf{\GLSxtrfull}%
\newcommand*\acfp{\GLSxtrfullpl}%
\newcommand*\Ac{\cGls}%
\newcommand*\Acp{\cGlspl}%
\newcommand*\Acs{\GLSxtrshort}%
\newcommand*\Acsp{\GLSxtrshortpl}%
\newcommand*\Acl{\GLSxtrlong}%
\newcommand*\Aclp{\GLSxtrlongpl}%
\newcommand*\Acf{\GLSxtrfull}%
\newcommand*\Acfp{\GLSxtrfullpl}%
\newcommand*\AC{\cGLS}%
\newcommand*\ACP{\cGLSpl}%
\newcommand*\ACS{\GLSxtrshort}%
\newcommand*\ACSP{\GLSxtrshortpl}%
\newcommand*\ACL{\GLSxtrlong}%
\newcommand*\ACLP{\GLSxtrlongpl}%
\newcommand*\ACF{\GLSxtrfull}%
\newcommand*\ACFP{\GLSxtrfullpl}%
\providecommand*\newabbr{\newabbreviation}%
\let\GlsXtrDefineAcShortcuts\relax
}
\newcommand*\GlsXtrDefineOtherShortcuts{%
\newcommand*\newentry{\newglossaryentry}%
\ifdef\printsymbols
{%
\newcommand*\newsym{\GLSxtrnewsymbol}%
}{}%
\ifdef\printnumbers
{%
\newcommand*\newnum{\GLSxtrnewnumber}%
}{}%
\let\GlsXtrDefineOtherShortcuts\relax
}
\newcommand*\@Glsxtr@setupshortcuts{}

```

```

\newcommand*{\@glsxtr@shortcutsval}{\ifglsacrshortcuts acro\else none\fi}%
\define@choicekey{glossaries-extra.sty}{shortcuts}%
  [\@glsxtr@shortcutsval\@glsxtr@shortcutsnr]%
  {acronyms,acro,abbreviations,abbr,other,all,true,ac,none,false}[true]{%
  \ifcase\@glsxtr@shortcutsnr\relax % acronyms
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \DefineAcronymSynonyms
  }%
  \or % acro
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \DefineAcronymSynonyms
  }%
  \or % abbreviations
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \GlsXtrDefineAbbreviationShortcuts
  }%
  \or % abbr
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \GlsXtrDefineAbbreviationShortcuts
  }%
  \or % other
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \GlsXtrDefineOtherShortcuts
  }%
  \or % all
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAcShortcuts
  \GlsXtrDefineAbbreviationShortcuts
  \GlsXtrDefineOtherShortcuts
  }%
  \or % true
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAcShortcuts
  \GlsXtrDefineAbbreviationShortcuts
  \GlsXtrDefineOtherShortcuts
  }%
  \or % ac
  \renewcommand*{\@glsxtr@setupshortcuts}{%
  \glsacrshortcutstrue
  \GlsXtrDefineAcShortcuts
  }%
  \else % none, false
  \renewcommand*{\@glsxtr@setupshortcuts}{}%
  \fi
}
\newcommand*{\@glsxtr@doaccsupp}{}

```

```

\@glxtr@declareoption{accsupp}{%
  \renewcommand*{\@glxtr@doaccsupp}{\RequirePackage{glossaries-accsupp}}
\newcommand*{\@glxtr@doloadprefix}{%
\@glxtr@declareoption{prefix}{%
  \renewcommand*{\@glxtr@doloadprefix}{\RequirePackage{glossaries-prefix}}
\newcommand{\glxtrNoGlossaryWarning}[1]{%
  \GlossariesExtraWarning{Glossary '#1' is missing}%
  \@glxtr@defaultnoglossarywarning{#1}%
}
\define@choicekey{glossaries-extra.sty}{nomissingglstext}
[\@glxtr@nomissingglstextval\@glxtr@nomissingglstextnr]%
{true,false}[true]{%
  \ifcase\@glxtr@nomissingglstextnr\relax % true
  \renewcommand{\glxtrNoGlossaryWarning}[1]{\null}%
  \else % false
  \renewcommand{\glxtrNoGlossaryWarning}[1]{%
    \@glxtr@defaultnoglossarywarning{#1}%
  }%
  \fi
}
\newcommand*{\@glxtr@redefstyles}{%
\define@key{glossaries-extra.sty}{stylemods}[default]{%
  \ifstrequal{#1}{default}%
  {%
    \renewcommand*{\@glxtr@redefstyles}{%
      \RequirePackage{glossaries-extra-stylemods}}%
  }%
  {%
    \ifstrequal{#1}{all}%
    {%
      \renewcommand*{\@glxtr@redefstyles}{%
        \PassOptionsToPackage{all}{glossaries-extra-stylemods}%
        \RequirePackage{glossaries-extra-stylemods}}%
    }%
  }%
  {%
    \renewcommand*{\@glxtr@redefstyles}{%
      \@for\@glxtr@tmp:=#1\do{%
        \IfFileExists{glossary-\@glxtr@tmp.sty}%
        {%
          \eappto\@glxtr@redefstyles{%
            \noexpand\RequirePackage{glossary-\@glxtr@tmp}}%
          }%
        }%
        \PackageError{glossaries-extra}%
        {Glossaries style package 'glossary-\@glxtr@tmp.sty'
        doesn't exist (did you mean to use the 'style' key?)}%
        {The list of values (#1) in the 'stylemods' key should
        match the glossary-xxx.sty files provided with
        glossaries.sty}%
      }%
    }%
  }%
}

```

```

    }%
  }%
  \appto\@glsxtr@redefstyles{\RequirePackage{glossaries-extra-stylemods}[=v1.48]}%
}
}%
}
\newcommand*\@glsxtr@do@style{}
\define@key{glossaries-extra.sty}{style}{%
  \renewcommand*\@glsxtr@do@style{%
    \setkeys{glossaries.sty}{style=#1}}%
  \setglossarystyle{#1}%
}%
}
\newcommand*\glsxtr@inc@wrglossaryctr}[1]{}
\newcommand*\GlsXtrInternalLocationHyperlink}[3]{%
  \glsxtrhyperlink{#1#2#3}{#3}%
}
\newcommand*\@glsxtr@wrglossary@locationhyperlink}[3]{%
  \pageref{wrglossary.#3}%
}
\@glsxtr@declareoption{indexcounter}{%
  \glsxtr@doooption{counter=wrglossary}%
  \ifundef\c@wrglossary
  {%
    \newcounter{wrglossary}%
    \renewcommand{\thewrglossary}{\arabic{wrglossary}}%
  }%
  {}%
}
\renewcommand*\glsxtr@inc@wrglossaryctr}[1]{%
  \ifdefstring\@gls@counter{wrglossary}%
  {%
    \refstepcounter{wrglossary}%
    \label{wrglossary.\thewrglossary}%
  }%
  {}%
}%
\renewcommand*\GlsXtrInternalLocationHyperlink}[3]{%
  \ifdefstring\glsentrycounter{wrglossary}%
  {%
    \@glsxtr@wrglossary@locationhyperlink{##1}{##2}{##3}%
  }%
  {\glsxtrhyperlink{##1##2##3}{##3}}%
}%
}
\newcommand*\@glsxtrwrglossmark{}
\newcommand*\@@glsxtrwrglossmark{}
\AtBeginDocument{\renewcommand*\@@glsxtrwrglossmark}{\@glsxtrwrglossmark}}
\newcommand*\glsxtrwrglossmark{\ensuremath{\cdot}}
\newcommand\@glsxtr@doshowtarget[2]{#2}
\define@choicekey{glossaries-extra.sty}{debug}

```

```

[\@glsxtr@debugval\@glsxtr@debugnr]%
{true,false,showtargets,showwrgloss,all,showaccsupp}[true]{%
  \ifcase\@glsxtr@debugnr\relax % true
  \glsxtr@doooption{debug=true}%
  \renewcommand*\@glsxtrwrglossmark}{}%
  \or % false
  \glsxtr@doooption{debug=false}%
  \renewcommand*\@glsxtrwrglossmark}{}%
  \let\@glsxtr@doshowtarget\@secondoftwo
  \or % showtargets
  \glsxtr@doooption{debug=showtargets}%
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetleft}%
  \or % showwrgloss
  \glsxtr@doooption{debug=true}%
  \renewcommand*\@glsxtrwrglossmark{\glsxtrwrglossmark}%
  \or % all
  \glsxtr@doooption{debug=showtargets,debug=showaccsupp}%
  \renewcommand*\@glsxtrwrglossmark{\glsxtrwrglossmark}%
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetleft}%
  \or % showaccsupp
  \glsxtr@doooption{debug=showaccsupp}%
  \fi
}
\newcommand*\glsxtrshowtargetouter{\glsshowtargetouter}
\newcommand*\glsxtrshowtargetinner}[1]{\glsshowtargetinner{#1}}
\newcommand{\@glsxtrshowtargetleft}[2]{\@glsshowtarget{#1}#2\@glsxtrshowtargetmark}%
\newcommand{\@glsxtrshowtargetright}[2]{\@glsshowtargetmark#2\@glsshowtarget{#1}}%
\newcommand{\@glsxtrshowtargetmark}{}%
\define@choicekey{glossaries-extra.sty}{showtargets}
[\@glsxtr@showtargetsval\@glsxtr@showtargetsnr]%
{left,right,innerleft,innerright,annoteleft,annoteright}%
{%
  \glsxtr@doooption{debug=showtargets}%
  \ifcase\@glsxtr@showtargetsnr\relax
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetleft}%
  \def\glsxtrshowtargetouter{\glsshowtargetouter}%
  \def\glsxtrshowtargetinner{\glsshowtargetinner}%
  \let\@glsxtrshowtargetmark\empty
  \or
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetright}%
  \def\glsxtrshowtargetouter{\glsshowtargetouter}%
  \def\glsxtrshowtargetinner{\glsshowtargetinner}%
  \let\@glsxtrshowtargetmark\empty
  \or
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetleft}%
  \def\glsxtrshowtargetouter{\glsxtrshowtargetinner}%
  \def\glsxtrshowtargetinner{\glsshowtargetinnersymleft}%
  \let\@glsxtrshowtargetmark\empty
  \or
  \def\@glsxtr@doshowtarget{\@glsxtrshowtargetright}%

```

```

\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymright}%
\let\@glxtrshowtargetmark\empty
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetleft}%
\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymleft}%
\def\@glxtrshowtargetmark{\@glsshowtargetmarkfmt\glxtrshowtargetsymbolright}%
\or
\def\@glxtr@doshowtarget{\@glxtrshowtargetright}%
\def\glxtrshowtargetouter{\glxtrshowtargetinner}%
\def\glxtrshowtargetinner{\glsshowtargetinnersymright}%
\def\@glxtrshowtargetmark{\@glsshowtargetmarkfmt\glxtrshowtargetsymbolleft}%
\fi
}
\DeclareOptionX*{%
\expandafter\glxtr@doooption\expandafter{\CurrentOption}}
\ProcessOptionsX
\RequirePackage{glossaries}
\@glxtr@doaccsupp
\@glxtr@doloadprefix
\@glxtr@defpostpunc
\def\glsdoshowtarget{\@glxtr@doshowtarget}
\newcommand{\glxtrshowtargetsymbolright}{\tiny$\triangleleft$}%
\newcommand{\glxtrshowtargetsymbolleft}{\tiny$\triangleright$}%
\providecommand*\glsshowtargetinner[1]{\glsshowtargetfont [1]}
\providecommand*\glsshowtargetfont{\ttfamily\footnotesize}
\newcommand*\glsshowtargetinnersymleft[1]{%
\glsshowtargetinner{#1}\allowbreak\glxtrshowtargetsymbolleft}
\newcommand*\glsshowtargetinnersymright[1]{%
\glxtrshowtargetsymbolright\allowbreak\glsshowtargetinner{#1}}
\providecommand*\glsshowtargetouter[1]{%
\glsshowtargetsymbol\marginpar{\glsshowtargetsymbol\glsshowtargetfont #1}}
\providecommand*\@glsshowtarget[1]{%
\def\glsshowtarget#1{%
\glxtrtitleorpdforheading
{%
\ifmode
\nfss@text{\glxtrshowtargetinner{#1}}%
\else
\ifinner
\glxtrshowtargetinner{#1}%
\else
\glxtrshowtargetouter{#1}%
\fi
\fi
}%
}
}
}

```



```

\newcommand*{\@glsshowtargetmarkfmt}[1]{%
\glxtrtitleorpdforheading
{%
\ifmmode \nfss@text{#1}\else #1\fi
}%
}%
{\ifmmode \nfss@text{#1}\else #1\fi}%
}
\let\@glxtr@org@doseeglossary\@do@seeglossary
\newcommand*{\@glxtr@doseeglossary}[2]{%
\glstoifexists{#1}%
{%
\@glxtrwrglossmark
\@glxtr@org@doseeglossary{#1}{#2}%
}%
}
\newcommand*{\@glxtr@dosee@alsoindex@glossary}[2]{%
\@glxtr@recordsee{#1}{#2}%
\@glxtr@doseeglossary{#1}{#2}%
}
\let\@glxtr@org@gloautosee\@glo@autosee
\if@glxtr@autoseeindex
\else
\ifdef\@glxtr@org@gloautosee
{%
{\PackageError{glossaries-extra}{‘autoseeindex=false’ package
option requires at least v4.30 of glossaries.sty}%
{You need to update the glossaries.sty package}}%
}
\fi
\ifdef\@glo@autosee
{%
\renewcommand*{\@glo@autosee}{%
\if@glxtr@autoseeindex\@glxtr@org@gloautosee\fi}%
}%
}
\renewcommand*{\gls@checkseeallowed}{%
\if@glxtr@autoseeindex\@gls@see@noindex\fi
}
\@glxtr@abbreviationsdef
\let\@glxtr@abbreviationsdef\relax
\@glxtr@setupshortcuts
\@glxtr@redef@for@gl@entries
\renewcommand{\glxtr@doooption}[1]{\setupglossaries{#1}}%
\disable@keys{glossaries-extra.sty}{accsupp}
\newcommand*{\glossariesextrasetup}[1]{%
\let\glxtr@setup@record\relax
\let\@glxtr@setupshortcuts\relax
\let\@glxtr@redef@for@gl@entries\relax
\let\@glxtr@do@load@prefix\relax

```

```

\setkeys{glossaries-extra.sty}{#1}%
\@glxtr@abbreviationsdef
\let\@glxtr@abbreviationsdef\relax
\@glxtr@setupshortcuts
\glxtr@setup@record
\@glxtr@redef@forglentries
\@glxtr@doloadprefix
}
\let\glxtr@org@@do@wrglossary\@do@wrglossary
\newcommand*{\glxtr@@do@wrglossary}[1]{%
  \@glxtrwrglossmark
  \glxtr@inc@wrglossaryctr{#1}%
  \glxtr@org@@do@wrglossary{#1}%
}
\let\glxtr@saveentrycounter\@gls@saveentrycounter
\let\@gls@saveentrycounter\glxtr@indexonly@saveentrycounter
\renewcommand*\@gls@getcounterprefix[2]{%
  \protected@edef\@gls@thisloc{#1}\protected@edef\@gls@thisHloc{#2}%
  \ifx\@gls@thisloc\@gls@thisHloc
    \def\@glo@counterprefix{}%
  \else
    \def\@gls@get@counterprefix##1.#1##2\end@getprefix{%
      \def\@glo@tmp{##2}%
      \ifx\@glo@tmp\@empty
        \def\@glo@counterprefix{}%
      \else
        \def\@glo@counterprefix{##1}%
      \fi
    }%
    \@gls@get@counterprefix#2.#1\end@getprefix
    \ifx\@glo@counterprefix\@empty
      \ifx\@glxtr@record@setting\@glxtr@record@setting@nameref
        \else
          \GlossariesExtraWarning{Hyper target ‘#2’ can’t be formed by
            prefixing^^Jlocation ‘#1’. You need to modify the
            definition of \string\theH\@gls@counter^^Jotherwise you
            will get the warning: “‘name{\@gls@counter.#1}’ has been^^J
            referenced but does not exist”%
          \ifx\@glxtr@record@setting\@glxtr@record@setting@only
            . You may want to consider using record=nameref instead%
          \fi}%
        \fi
      \fi
    \fi
  \fi
}
\newcommand*{\@glxtrdialecthook}{}
\glxtr@setup@record
\AtBeginDocument{%
  \disable@keys{glossaries-extra.sty}{abbreviations,docdef,record}%
  \def\@glxtrundeftag{\glxtrundeftag}%
}

```

```

}
\newcommand*\GlsXtrIfUnusedOrUndefined}[3]{%
  \ifglentryexists{#1}%
  {\ifbool{glo@glsetoklabel{#1}@flag}{#3}{#2}}%
  {#2}%
}
\ifdef\s@ifglossaryexists
{}
{
  \renewcommand{\ifglossaryexists}{%
    \ifstar\s@ifglossaryexists\s@ifglossaryexists
  }
  \newcommand{@ifglossaryexists}[3]{%
    \ifcsundef{glotype@#1@out}{#3}{#2}%
  }
  \newcommand{\s@ifglossaryexists}[3]{%
    \ifcsundef{glolist@#1}{#3}{#2}%
  }
}
\newcommand{\glxtrifemptyglossary}[3]{%
  \ifcsdef{glolist@#1}%
  {%
    \ifcsstring{glolist@#1}{,}{#2}{#3}%
  }%
  {%
    \glxtrundefaction{Glossary type ‘#1’ doesn’t exist}{}%
    #2%
  }%
}
\newcommand*\glxtrifkeydefined}[3]{%
  \key@ifundefined{glossentry}{#1}{#3}{#2}%
}
\newcommand*\glxtrprovidestoragekey{%
  \ifstar\sglsxtr@provide@storagekey\glxtr@provide@storagekey
}
\newcommand*\@glxtr@provide@storagekey}[3]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
    \appto\gls@keymap{,}{#1}{#1}%
    \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
    \appto\@newglossaryentryposthook{%
      \letcs{@glo@tmp}{@glo@#1}%
      \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
    }%
    \ifblank{#3}
    {}%
    {%
      \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
    }%
  }%
}

```

```

}%
{%
  \ifblank{#3}
  {}%
  {%
    \providecommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
  }%
}%
}
\newcommand*\s@glxtr@provide@storagekey}[1]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \expandafter\newcommand\expandafter*\expandafter
    {\csname gls@assign@#1@field\endcsname}[2]{%
      \@gls@expand@field{##1}{#1}{##2}%
    }%
  }%
  {}%
  \@glxtr@provide@addstoragekey{#1}%
}
\newcommand{\GlsXtrFmtField}{useri}
\newcommand{\GlsXtrFmtDefaultOptions}{noindex}
\newrobustcmd*\glxtrfmt{\@ifstar\s@glxtrfmt\@glxtrfmt}
\newcommand*\@glxtrfmt}[3][\@glxtrfmt{#1}{#2}{#3}]{%
\newcommand*\s@glxtrfmt}[3][\@glxtrfmt{#1}{#2}{#3}]{%
  \new@ifnextchar[{\s@glxtrfmt{#1}{#2}{#3}}%
  {\@glxtrfmt{#1}{#2}{#3}]{%
}
\def\s@glxtrfmt#1#2#3[#4]{\@glxtrfmt{#1}{#2}{#3}{#4}}
\newcommand*\@glxtrfmt}[4]{%
\begingroup
  \def\glslabel{#2}%
  \glsdoifexistsordo{#2}%
  {%
    \ifglshasfield{\GlsXtrFmtField}{#2}%
    {%
      \let\do@gls@link@checkfirsthyper\relax
      \expandafter\@gls@link\expandafter[\GlsXtrFmtDefaultOptions,#1]{#2}%
      {\glxtrfmtdisplay{\glscurrentfieldvalue}{#3}{#4}}%
    }%
    {\glxtrfmtdisplay{@firstofone}{#3}{#4}}%
  }%
  {}%
  \begingroup
    \@gls@setdefault@glslink@opts
    \setkeys{glslink}{\GlsXtrFmtDefaultOptions,#1}%
    \ifKV@glslink@noindex\else\glsadd{#2}\fi
  \endgroup
  \glxtrfmtdisplay{@firstofone}{#3}{#4}%
}%

```

```

\endgroup
}
\newcommand{\glstrfmtdisplay}[3]{\csuse{#1}{#2}#3}
\ifdef\texorpdfstring
{
\newcommand*\glstrentryfmt}[2]{%
\texorpdfstring{\@glstrentryfmt{#1}{#2}}{\glstrpdfentryfmt{#1}{#2}}%
}
}
{
\newcommand*\glstrentryfmt{\@glstrentryfmt}
}
\newcommand*\glstrpdfentryfmt}[2]{#2}
\newrobustcmd*\@glstrentryfmt}[2]{%
{%
\protected@edef\glslabel{#1}%
\glsdofexistsordo{#1}%
{%
\ifglshasfield{\GlsXtrFmtField}{#1}%
{%
\csuse{\glscurrentfieldvalue}{#2}%
}%
{#2}%
}%
{#2}%
}%
}
}
\newcommand*\glstrfieldlistadd}[3]{%
\listcsadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
}
\newcommand*\glstrfieldlistgadd}[3]{%
\listcsgadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
}
\newcommand*\glstrfieldlistead}[3]{%
\listcseadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
}
\newcommand*\glstrfieldlistxadd}[3]{%
\listcsxadd{glo@\glsdetoklabel{#1}@#2}{#3}%
}
}
\newcommand*\glstrfielddolistloop}[2]{%
\dolistcsloop{glo@\glsdetoklabel{#1}@#2}%
}
}
\newcommand*\glstrfieldforlistloop}[3]{%
\forlistcsloop{#3}{glo@\glsdetoklabel{#1}@#2}%
}
}
\newrobustcmd*\glstrfieldformatlist}[2]{%
\begingroup
\def\@dtl@formatlist@itemsep{}%
\def\@dtl@formatlist@lastitem{}%
\def\@dtl@formatlist@prelastitem{}%

```

```

\def\@dtl@formatlist@prelastitemsep{}%
\forlistcsloop{\@dtl@formatlist@handler}{glo@glstdetoklabel{#1}@#2}%
\@dtl@formatlist@prelastitem\@dtl@formatlist@lastitem
\endgroup
}
\newcommand*\glstrfieldinlist}[5]{%
\ifinlistcs{#3}{glo@glstdetoklabel{#1}@#2}{#4}{#5}%
}
\newcommand*\glstrfieldxinlist}[5]{%
\xifinlistcs{#3}{glo@glstdetoklabel{#1}@#2}{#4}{#5}%
}
\newcommand*\glstrforcsvfield{%
\@ifstar\s@glstrforcsvfield\@glstrforcsvfield
}
\newcommand*\@glstrforcsvfield}[3]{%
\@glstrifhasfield{#2}{#1}%
{%
\let\glstrendfor\@endfortrue
\@for\@glstr@label:=\glscurrentfieldvalue\do
{\expandafter#3\expandafter{\@glstr@label}}}%
}%
}
\newcommand*\s@glstrforcsvfield}[3]{%
\s@glstrifhasfield{#2}{#1}%
{%
\let\glstrendfor\@endfortrue
\@for\@glstr@label:=\glscurrentfieldvalue\do
{\expandafter#3\expandafter{\@glstr@label}}}%
}%
}
\newrobustcmd*\glstrfieldformatcsvlist}[2]{%
\@glstrifhasfield{#2}{#1}%
{\@dtlformatlist\glscurrentfieldvalue}%
}%
}
\newcommand*\GlsXtrIfFieldValueInCsvList{%
\@ifstar\s@GlsXtrIfFieldValueInCsvList\@GlsXtrIfFieldValueInCsvList
}
\newcommand*\@GlsXtrIfFieldValueInCsvList}[5]{%
\@glstrifhasfield{#2}{#1}%
{%
\expandafter\DTLifinlist\expandafter{\glscurrentfieldvalue}%
{#3}{#4}{#5}%
}%
{#5}%
}
\newcommand*\s@GlsXtrIfFieldValueInCsvList}[5]{%
\s@glstrifhasfield{#2}{#1}%
{%
\expandafter\DTLifinlist\expandafter{\glscurrentfieldvalue}%

```

```

    {#3}{#4}{#5}%
  }%
  {#5}%
}
\newcommand*\GlsXtrIfValueInFieldCsvList{%
  \ifstar\s@GlsXtrIfValueInFieldCsvList\@GlsXtrIfValueInFieldCsvList
}
\newcommand*\@GlsXtrIfValueInFieldCsvList}[5]{%
  \@glsxtrifhasfield{#2}{#1}%
  {%
    \DTLifinlist{#3}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
\newcommand*\s@GlsXtrIfValueInFieldCsvList}[5]{%
  \s@glsxtrifhasfield{#2}{#1}%
  {%
    \DTLifinlist{#3}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
\newcommand*\xGlsXtrIfValueInFieldCsvList{%
  \ifstar\s@xGlsXtrIfValueInFieldCsvList\@xGlsXtrIfValueInFieldCsvList
}
\newcommand*\@xGlsXtrIfValueInFieldCsvList}[5]{%
  \@glsxtrifhasfield{#2}{#1}%
  {%
    \protected@edef\@gls@tmp{#3}%
    \expandafter\DTLifinlist\expandafter{\@gls@tmp}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
\newcommand*\s@xGlsXtrIfValueInFieldCsvList}[5]{%
  \s@glsxtrifhasfield{#2}{#1}%
  {%
    \protected@edef\@gls@tmp{#3}%
    \expandafter\DTLifinlist\expandafter{\@gls@tmp}{\glscurrentfieldvalue}{#4}{#5}%
  }%
  {#5}%
}
\newrobustcmd{\glsxtrifhasfield}{%
  \ifstar{\s@glsxtrifhasfield}{\@glsxtrifhasfield}%
}
\newcommand{\@glsxtrifhasfield}[4]{%
  {\s@glsxtrifhasfield{#1}{#2}{#3}{#4}}%
}
\newcommand{\s@glsxtrifhasfield}[4]{%
  \letcs{\glscurrentfieldvalue}{glo@glsdetoklabel{#2}@#1}%
  \ifundef\glscurrentfieldvalue
  {#4}%
}

```

```

    {%
      \ifdefempty\glscurrentfieldvalue{#4}{#3}%
    }%
  }
\newcommand{\GlsXtrIfFieldNonZero}{%
  \@ifstar\s@GlsXtrIfFieldNonZero\@GlsXtrIfFieldNonZero
}
\newcommand{\@GlsXtrIfFieldNonZero}[4]{%
  \@GlsXtrIfFieldCmpNum{#1}{#2}{=}{0}{#4}{#3}%
}
\newcommand{\s@GlsXtrIfFieldNonZero}[4]{%
  \s@GlsXtrIfFieldCmpNum{#1}{#2}{=}{0}{#4}{#3}%
}
\newcommand{\GlsXtrIfFieldEqNum}{%
  \@ifstar\s@GlsXtrIfFieldEqNum\@GlsXtrIfFieldEqNum
}
\newcommand{\@GlsXtrIfFieldEqNum}[5]{%
  \@GlsXtrIfFieldCmpNum{#1}{#2}{=}{#3}{#4}{#5}%
}
\newcommand{\s@GlsXtrIfFieldEqNum}[5]{%
  \s@GlsXtrIfFieldCmpNum{#1}{#2}{=}{#3}{#4}{#5}%
}
\newcommand{\GlsXtrIfFieldCmpNum}{%
  \@ifstar\s@GlsXtrIfFieldCmpNum\@GlsXtrIfFieldCmpNum
}
\newcommand{\@GlsXtrIfFieldCmpNum}[6]{%
  {%
    \letcs{\glscurrentfieldvalue}{glo@\glsdetoklabel{#2}@#1}%
    \ifundef\glscurrentfieldvalue
    {\def\glscurrentfieldvalue{0}}%
    {%
      \ifdefempty\glscurrentfieldvalue
      {\def\glscurrentfieldvalue{0}}%
      {}%
    }%
    \ifnum\glscurrentfieldvalue#3#4\relax #5\else #6\fi
  }%
}
\newcommand{\s@GlsXtrIfFieldCmpNum}[6]{%
  \letcs{\glscurrentfieldvalue}{glo@\glsdetoklabel{#2}@#1}%
  \ifundef\glscurrentfieldvalue
  {\def\glscurrentfieldvalue{0}}%
  {%
    \ifdefempty\glscurrentfieldvalue
    {\def\glscurrentfieldvalue{0}}%
    {}%
  }%
  \ifnum\glscurrentfieldvalue#3#4\relax #5\else #6\fi
}
\newcommand{\GlsXtrIfFieldUndef}[2]{%

```



```

\ifcsundef{glo@glsdetoklabel{#2}@#1}%
}
\newcommand*{\glxtrusefield}[2]{%
  \@gls@entry@field{#1}{#2}%
}
\ifdef\texorpdfstring
{
  \newcommand*{\Glsxtrusefield}[2]{%
    \texorpdfstring
      {\@Gls@entry@field{#1}{#2}}
      {\@gls@entry@field{#1}{#2}}%
  }
}
{
  \newcommand*{\Glsxtrusefield}[2]{%
    \@Gls@entry@field{#1}{#2}%
  }
}
\ifdef\texorpdfstring
{
  \newcommand*{\GLSxtrusefield}[2]{%
    \texorpdfstring
      {\glsdoifexists{#1}{\mfirstucMakeUppercase{\@gls@entry@field{#1}{#2}}}}%
      {\@gls@entry@field{#1}{#2}}%
  }
}
{
  \newcommand*{\GLSxtrusefield}[2]{%
    \glsdoifexists{#1}{\mfirstucMakeUppercase{\@gls@entry@field{#1}{#2}}}%
  }
}
\newcommand*{\glxtrentryparentname}[1]{%
  \ifcsdef{glo@glsdetoklabel{#1}@parent}%
  {\csuse{glo@\csuse{glo@glsdetoklabel{#1}@parent}@name}}%
  {}%
}
\newcommand*{\glxtrdeffield}[2]{\csdef{glo@glsdetoklabel{#1}@#2}}
\newcommand*{\glxtrreffield}[2]{\protected@csdef{glo@glsdetoklabel{#1}@#2}}
\newcommand*{\glxtrapptocsvfield}[3]{%
  \ifcsdef{glo@glsdetoklabel{#1}@#2}%
  {\csappto{glo@glsdetoklabel{#1}@#2}{, #3}}%
  {\csdef{glo@glsdetoklabel{#1}@#2}{#3}}%
}
\newcommand*{\glxtrsetfieldifexists}[3]{\glsdoifexists{#1}{#3}}
\newrobustcmd*{\GlsXtrSetField}[3]{%
  \glxtrsetfieldifexists{#1}{#2}%
  {\csdef{glo@glsdetoklabel{#1}@#2}{#3}}%
}
\newrobustcmd*{\GlsTrLetField}[3]{%
  \glxtrsetfieldifexists{#1}{#2}%
}

```

```

    {\cslet{glo@glsdetoklabel{#1}@#2}{#3}}%
  }
  \newrobustcmd*{\csGlsXtrLetField}[3]{%
    \glsxtrsetfieldifexists{#1}{#2}%
    {\csletcs{glo@glsdetoklabel{#1}@#2}{#3}}%
  }
  \newrobustcmd*{\GlsXtrLetFieldToField}[4]{%
    \glsxtrsetfieldifexists{#1}{#2}%
    {\csletcs{glo@glsdetoklabel{#1}@#2}{glo@glsdetoklabel{#3}@#4}}%
  }
  \newrobustcmd*{\gGlsXtrSetField}[3]{%
    \glsxtrsetfieldifexists{#1}{#2}%
    {\csgdef{glo@glsdetoklabel{#1}@#2}{#3}}%
  }
  \newrobustcmd*{\xGlsXtrSetField}[3]{%
    \glsxtrsetfieldifexists{#1}{#2}%
    {\protected@csxdef{glo@glsdetoklabel{#1}@#2}{#3}}%
  }
  \newrobustcmd*{\eGlsXtrSetField}[3]{%
    \glsxtrsetfieldifexists{#1}{#2}%
    {\protected@csedef{glo@glsdetoklabel{#1}@#2}{#3}}%
  }
  \newcommand*{\GlsXtrIfFieldEqStr}{%
    \@ifstar\s@GlsXtrIfFieldEqStr@GlsXtrIfFieldEqStr
  }
  \newrobustcmd*{\@GlsXtrIfFieldEqStr}[5]{%
    \glsxtrifhasfield{#1}{#2}%
    {%
      \ifdefstring{\glscurrentfieldvalue}{#3}{#4}{#5}%
    }%
    {#5}%
  }
  \newrobustcmd*{\s@GlsXtrIfFieldEqStr}[5]{%
    \s@glsxtrifhasfield{#1}{#2}%
    {%
      \ifdefstring{\glscurrentfieldvalue}{#3}{#4}{#5}%
    }%
    {#5}%
  }
  \newcommand*{\GlsXtrIfFieldEqXpStr}{%
    \@ifstar\s@GlsXtrIfFieldEqXpStr@GlsXtrIfFieldEqXpStr
  }
  \newrobustcmd*{\@GlsXtrIfFieldEqXpStr}[5]{%
    \glsxtrifhasfield{#1}{#2}%
    {%
      \protected@edef\@gls@tmp{#3}%
      \ifdequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
    }%
    {#5}%
  }
}

```

```

\newrobustcmd*{\s@GlsXtrIfFieldEqXpStr}[5]{%
  \s@glxtrifhasfield{#1}{#2}%
  {%
    \protected@edef\@gls@tmp{#3}%
    \ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
  }%
  {#5}%
}
\newcommand*{\GlsXtrIfXpFieldEqXpStr}{%
  \@ifstar\s@GlsXtrIfXpFieldEqXpStr\@GlsXtrIfXpFieldEqXpStr
}
\newrobustcmd*{\@GlsXtrIfXpFieldEqXpStr}[5]{%
  \@glxtrifhasfield{#1}{#2}%
  {%
    \protected@edef\@gls@tmp{\glscurrentfieldvalue}%
    \let\glscurrentfieldvalue\@gls@tmp
    \protected@edef\@gls@tmp{#3}%
    \ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
  }%
  {#5}%
}
\newrobustcmd*{\s@GlsXtrIfXpFieldEqXpStr}[5]{%
  \s@glxtrifhasfield{#1}{#2}%
  {%
    \protected@edef\@gls@tmp{\glscurrentfieldvalue}%
    \let\glscurrentfieldvalue\@gls@tmp
    \protected@edef\@gls@tmp{#3}%
    \ifdefequal{\glscurrentfieldvalue}{\@gls@tmp}{#4}{#5}%
  }%
  {#5}%
}
\ifdef\foreignlanguage
{
  \ifdef\GetTrackedDialectFromLanguageTag
  {
    \newcommand{\GlsXtrForeignText}[2]{%
      \let\@glxtr@org@currentfieldvalue\glscurrentfieldvalue
      \glxtrifhasfield{\GlsXtrForeignTextField}{#1}%
      {%
        \expandafter\GetTrackedDialectFromLanguageTag\expandafter
          {\glscurrentfieldvalue}{\@glxtr@dialect}%
        \let\@glxtr@locale\glscurrentfieldvalue
        \let\glscurrentfieldvalue\@glxtr@org@currentfieldvalue
        \ifdefempty\@glxtr@dialect
        {%
          \ifundef\TrackedDialectClosestSubMatch
          {%
            \GlossariesExtraWarning{Can't obtain dialect label
              (tracklang v1.3.6+ required)}%
          }%
        }%
      }%
    }%
  }
}

```

```

        {\let\@glsxtr@dialect\TrackedDialectClosestSubMatch}%
    }%
    {}%
    \ifdefempty\@glsxtr@dialect
    {%
    }%
    {%
    \ifcsundef{captions\@glsxtr@dialect}{}%
    {%
    \IfTrackedDialectHasMapping{\@glsxtr@dialect}%
    {%
    \edef\@glsxtr@dialect{%
    \GetTrackedDialectToMapping{\@glsxtr@dialect}}%
    \ifcsundef{captions\@glsxtr@dialect}{}%
    {%
    \ifcsundef{captions\@tracklang@lang}{}%
    {%
    \let\@glsxtr@dialect\@tracklang@lang
    }%
    }%
    }%
    }%
    {}%
    \ifcsundef{captions\@tracklang@lang}{}%
    {%
    \let\@glsxtr@dialect\@tracklang@lang
    }%
    }%
    }%
    }%
    \ifdefempty\@glsxtr@dialect
    {%
    \GlsXtrUnknownDialectWarning{\@glsxtr@locale}{\@tracklang@lang}%
    #2%
    }%
    {\foreignlanguage{\@glsxtr@dialect}{#2}}%
    }%
    {#2}% key not set
    }
}
{
\newcommand{\GlsXtrForeignText}[2]{%
\GlossariesExtraWarning{Can't encapsulate foreign text:
tracklang v1.3.6+ required}%
#2%
}
}
}
{
\newcommand{\GlsXtrForeignText}[2]{#2}
}

```

```

\newcommand*\GlsXtrForeignTextField{userii}
\newcommand*\GlsXtrUnknownDialectWarning}[2]{%
  \GlossariesExtraWarning{Can't determine valid dialect label
    for locale '#1' (root language: #2)}%
}
\ifdef\GlsEntryCounterLabelPrefix
{%
  \newcommand*\glsxtrpageref}[1]{%
    \ifglentrycounter
      \pageref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
    \else
      \ifglssubentrycounter
        \pageref{\GlsEntryCounterLabelPrefix\glsdetoklabel{#1}}%
      \else
        \gls{#1}%
      \fi
    \fi
  }
}%
{%
  \newcommand*\glsxtrpageref}[1]{%
    \ifglentrycounter
      \pageref{glsentry-\glsdetoklabel{#1}}%
    \else
      \ifglssubentrycounter
        \pageref{glsentry-\glsdetoklabel{#1}}%
      \else
        \gls{#1}%
      \fi
    \fi
  }
}%
\newcommand{\apptoglossary preamble}[2][\glsdefaulttype]{%
  \ifcsdef{glolist@#1}%
  {%
    \ifcsundef{@glossary preamble@#1}%
    {\csdef{@glossary preamble@#1}{}}%
  }%
  \csappto{@glossary preamble@#1}{#2}%
}%
{%
  \GlossariesExtraWarning{Glossary '#1' is not defined}%
}%
}
\newcommand{\preglossary preamble}[2][\glsdefaulttype]{%
  \ifcsdef{glolist@#1}%
  {%
    \ifcsundef{@glossary preamble@#1}%
    {\csdef{@glossary preamble@#1}{}}%
  }%
}

```

```

\cspretto{@glossarypreamble@#1}{#2}%
}%
{%
\GlossariesExtraWarning{Glossary ‘#1’ is not defined}%
}%
}
\ifdef\@gls@entry@field
{
\renewcommand*\@gls@entry@field}[2]{\csuse{glo@glsdetoklabel{#1}@#2}}
}
{}
\renewcommand*\ifglsused}[3]{%
\glsdoifexists{#1}{\ifbool{glo@glsdetoklabel{#1}@flag}{#2}{#3}}%
}
\renewcommand*\longnewglossaryentry{%
\@ifstar\@glsxtr@s@longnewglossaryentry\@glsxtr@longnewglossaryentry
}
\newcommand*\@glsxtr@s@longnewglossaryentry}[3]{%
\glsdoifnoexists{#1}%
{%
\bgrou
\let\@org@newglossaryentryprehook\@newglossaryentryprehook
\long\def\@newglossaryentryprehook{%
\long\def\@glo@desc{#3}%
\@org@newglossaryentryprehook
}%
\renewcommand*\gls@assign@desc}[1]{%
\global\cslet{glo@glsdetoklabel{#1}@desc}{\@glo@desc}%
\global\cslet{glo@glsdetoklabel{#1}@descplural}{\@glo@descplural}%
}
\gls@defglossaryentry{#1}{#2}%
\egrou
}%
}
\newcommand*\@glsxtr@longnewglossaryentry}[3]{%
\glsdoifnoexists{#1}%
{%
\bgrou
\let\@org@newglossaryentryprehook\@newglossaryentryprehook
\long\def\@newglossaryentryprehook{%
\long\def\@glo@desc{#3\glsxtrpostlongdescription}%
\@org@newglossaryentryprehook
}%
\renewcommand*\gls@assign@desc}[1]{%
\global\cslet{glo@glsdetoklabel{#1}@desc}{\@glo@desc}%
\global\cslet{glo@glsdetoklabel{#1}@descplural}{\@glo@descplural}%
}
\gls@defglossaryentry{#1}{#2}%
\egrou
}%
}

```

```

}
\newcommand*\glstrpostlongdescription{\leavevmode\unskip\nopostdesc}
\renewcommand\newignoredglossary{%
\ifstar\glstr@s@newignoredglossary\glstr@org@newignoredglossary
}
\newcommand*\glstr@org@newignoredglossary}[1]{%
\ifcsdef{glolist@#1}
{%
\glstrundefaction{Glossary type ‘#1’ already exists}{}%
}%
{%
\ifdefempty\@ignored@glossaries
{%
\protected@edef\@ignored@glossaries{#1}%
}%
{%
\protected@eappto\@ignored@glossaries{,#1}%
}%
\csgdef{glolist@#1}{,}%
\ifcsundef{gls@#1@entryfmt}%
{%
\defglsentryfmt[#1]{\glsentryfmt}%
}%
{}%
\ifdefempty\@gls@nohyperlist
{%
\renewcommand*\@gls@nohyperlist}{#1}%
}%
{%
\protected@eappto\@gls@nohyperlist{,#1}%
}%
}%
}
\newcommand*\glstr@s@newignoredglossary}[1]{%
\ifcsdef{glolist@#1}
{%
\glstrundefaction{Glossary type ‘#1’ already exists}{}%
}%
{%
\ifdefempty\@ignored@glossaries
{%
\protected@edef\@ignored@glossaries{#1}%
}%
{%
\protected@eappto\@ignored@glossaries{,#1}%
}%
\csgdef{glolist@#1}{,}%
\ifcsundef{gls@#1@entryfmt}%
{%
\defglsentryfmt[#1]{\glsentryfmt}%
}

```

```

    }%
    {}%
  }%
}
\glsifusetranslator
{%
  \renewcommand*{\glssettoctitle}[1]{%
    \ifcsdef{gls@tr@set@#1@toctitle}%
    {%
      \csuse{gls@tr@set@#1@toctitle}%
    }%
    {%
      \ifcsdef{glotype@#1@title}%
      {\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}%
      {\def\glossarytoctitle{\glossarytitle}}%
    }%
  }%
}
{
  \renewcommand*{\glssettoctitle}[1]{%
    \ifcsdef{@glotype@#1@title}%
    {\def\glossarytoctitle{\csname @glotype@#1@title\endcsname}}%
    {\def\glossarytoctitle{\glossarytitle}}%
  }
}
\newcommand{\provideignoredglossary}{%
  \@ifstar\glsxtr@s@provideignoredglossary\glsxtr@provideignoredglossary
}
\newcommand*{\glsxtr@provideignoredglossary}[1]{%
  \ifcsdef{glolist@#1}
  {}%
  {%
    \ifdefempty\@ignored@glossaries
    {%
      \protected@edef\@ignored@glossaries{#1}%
    }%
    {%
      \protected@eappto\@ignored@glossaries{,#1}%
    }%
    \csgdef{glolist@#1}{,}%
    \ifcsundef{gls@#1@entryfmt}%
    {%
      \defglsentryfmt[#1]{\glsentryfmt}%
    }%
    {}%
    \ifdefempty\@gls@nohyperlist
    {%
      \renewcommand*{\@gls@nohyperlist}{#1}%
    }%
    {}%
  }
}

```



```

        \protected@eappto\@gls@nohyperlist{,#1}%
    }%
}
\newcommand*\glsxtr@s@provideignoredglossary}[1]{%
  \ifcsdef{glolist@#1}
  {}%
  {%
    \ifdefempty\@ignored@glossaries
    {%
      \protected@edef\@ignored@glossaries{#1}%
    }%
    {%
      \protected@eappto\@ignored@glossaries{,#1}%
    }%
    \csgdef{glolist@#1}{,}%
    \ifcsundef{gls@#1@entryfmt}%
    {%
      \defglsentryfmt[#1]{\glsentryfmt}%
    }%
    {}%
  }%
}
\newcommand*\glsxtrcopytoglossary}[2]{%
  \glsdoifexists{#1}%
  {%
    \ifcsdef{glolist@#2}
    {%
      \protected@eappto{glolist@#2}{#1,%}
    }%
    {%
      \glsxtrundefaction{Glossary type ‘#2’ doesn’t exist}{}%
    }%
  }%
}
\renewcommand{\glsdoifexists}[2]{%
  \ifglsentryexists{#1}{#2}%
  {%
    \protected@edef\glslabel{\glsdetoklabel{#1}}%
    \glsxtrundefaction{Glossary entry ‘\glslabel’
      has not been defined}{You need to define a glossary entry before
      you can reference it.}%
  }%
}
\renewcommand{\glsdoifnoexists}[2]{%
  \ifglsentryexists{#1}{%
    \glsxtrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
      has already been defined}{}}{#2}%
}
\ifdef\glsdoifexistsordo

```

```

{%
\renewcommand{\glsdoifexistsordo}[3]{%
\ifglsentryexists{#1}{#2}%
{%
\glstrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
has not been defined}{You need to define a glossary entry
before you can use it.}%
#3%
}%
}%
}
{%
\glsxtr@warnonexistsordo\glsdoifexistsordo
\newcommand{\glsdoifexistsordo}[3]{%
\ifglsentryexists{#1}{#2}%
{%
\glstrundefaction{Glossary entry ‘\glsdetoklabel{#1}’
has not been defined}{You need to define a glossary entry
before you can use it.}%
#3%
}%
}%
}
\ifdef\doifglossarynoexistsordo
{%
\renewcommand{\doifglossarynoexistsordo}[3]{%
\ifglossaryexists*{#1}%
{%
\glstrundefaction{Glossary type ‘#1’ already exists}{}%
#3%
}%
{#2}%
}%
}
{%
\glsxtr@warnonexistsordo\doifglossarynoexistsordo
\newcommand{\doifglossarynoexistsordo}[3]{%
\ifglossaryexists*{#1}%
{%
\glstrundefaction{Glossary type ‘#1’ already exists}{}%
#3%
}%
{#2}%
}%
}
}

\appto@newglossaryentryposthook{%
\ifdefvoid@glo@see
{\csxdef{glo@\@glo@label @see}{}}%
}%

```

```

\csxdef{glo@\@glo@label @see}{\@glo@see}%
\if@glxtr@autoseeindex
  \@glxtr@autoindexcrossrefs
\fi
}%
}
\appto\@gls@keymap{, {see}{see}}
\newcommand*{\glxtrusesee}[1]{%
  \glsdoifexists{#1}%
  {%
    \letcs{\@glo@see}{glo\@glsdetoklabel{#1}@see}%
    \ifdefempty\@glo@see
      {}%
    {%
      \expandafter\glxtr@usesee\@glo@see\@end@glxtr@usesee
    }%
  }%
}
\newcommand*{\glxtr@usesee}[1][\@seenname]{%
  \@glxtr@usesee[1]}%
}
\def\@glxtr@usesee[#1]#2\@end@glxtr@usesee{%
  \glxtruseseeformat{#1}{#2}%
}
\newcommand*{\glxtruseseeformat}[2]{%
  \glsseeformat[1]{#2}{}}%
}
\renewcommand*{\glsseeitemformat}[1]{%
  \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
}
\newcommand*{\glxtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glxtrifhasfield{parent}{#1}%
    {\glxtrhiername{\glscurrentfieldvalue}\glxtrhiernamesep}%
    {}%
    \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
  }%
}
\newcommand*{\Glsxtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glxtrifhasfield{parent}{#1}%
    {%
      \Glsxtrhiername{\glscurrentfieldvalue}\glxtrhiernamesep
      \ifglshasshort{#1}{\glsfmttext{#1}}{\glsfmtname{#1}}%
    }%
    {\ifglshasshort{#1}{\Glsfmttext{#1}}{\Glsfmtname{#1}}}%
  }%
}
}

```

```

\newcommand*\GlsXtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glsxtrifhasfield{parent}{#1}%
    {\GlsXtrhiername{\glscurrentfieldvalue}\glsxtrhiernamesep}%
    {}%
    \ifglshasshort{#1}{\Glsfmttext{#1}}{\Glsfmtname{#1}}%
  }%
}
\newcommand*\GLSxtrhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glsxtrifhasfield{parent}{#1}%
    {%
      \GLSxtrhiername{\glscurrentfieldvalue}\glsxtrhiernamesep
      \ifglshasshort{#1}{\Glsfmttext{#1}}{\Glsfmtname{#1}}%
    }%
    {\ifglshasshort{#1}{\GLSfmttext{#1}}{\GLSfmtname{#1}}}%
  }%
}
\newcommand*\GLSXRhiername}[1]{%
  \glsdoifexists{#1}%
  {%
    \glsxtrifhasfield{parent}{#1}%
    {\GLSXRhiername{\glscurrentfieldvalue}\glsxtrhiernamesep}%
    {}
    \ifglshasshort{#1}{\GLSfmttext{#1}}{\GLSfmtname{#1}}%
  }%
}
\newcommand*\glsxtrhiernamesep}{\,\small$\triangleright$}\,}
\newcommand*\glsxtruseseealso}[1]{%
  \glsdoifexists{#1}%
  {%
    \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@seealso}%
    \ifdefempty\@glo@see
    {}%
    {%
      \expandafter\glsxtruseseealsoformat\expandafter{\@glo@see}%
    }%
  }%
}
\newcommand*\glsxtrusealias}[1]{%
  \glsdoifexists{#1}%
  {%
    \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@alias}%
    \ifdefempty\@glo@see
    {}%
    {%
      \glsxtruseseeformat{\seename}{\@glo@see}%
    }%
  }%
}

```

```

}%
}
\newcommand*\glxtruseealsoformat}[1]{%
  \glssseeformat[\seealso]{#1}{}%
}
\newrobustcmd{\glxtrseelist}[1]{%
  \protected@edef\@glo@tmp{\noexpand\glssseelist{#1}}\@glo@tmp
}
\renewrobustcmd*\glssseelist}[1]{%
  \let\@gls@dolast\relax
  \let\@gls@donext\relax
  \let\@glsseeitem\@glxtr@seefirstitem
  \let\@glsseelastsep\glssseelastsep
  \@for\@gls@thislabel:=#1\do{%
    \ifx\@xfor@nextelement\@nnil
      \@gls@dolast
    \else
      \@gls@donext
    \fi
    \expandafter\@glsseeitem\expandafter{\@gls@thislabel}%
    \let\@gls@dolast\@glsseelastsep
    \let\@gls@donext\glssseesep
    \let\@glsseeitem\@glxtr@seeitem
    \let\@glsseelastsep\glssseelastoxfordsep
  }%
}
\newcommand*\@glxtr@seeitem}[1]{%
  \glxtrifmulti{#1}{\mglssseeitem{#1}}{\glssseeitem{#1}}%
}
\newcommand*\@glxtr@seefirstitem}[1]{%
  \glxtrifmulti{#1}{\mglssseefirstitem{#1}}{\glssseefirstitem{#1}}%
}
\newcommand*\mglssseeitem}[1]{%
  \mglssname[all={noindex},setup={hyper=allmain}]{#1}%
}
\newcommand*\mglssseefirstitem}{\mglssseeitem}
\newcommand*\glssseefirstitem}{\glssseeitem}
\newcommand*\glssseelastoxfordsep}{\glssseelastsep}
\ifdef\also
{\providecommand{\seealso}{\also}}
{\providecommand{\seealso}{see also}}
\ifdef\@xdycrossrefhook
{
  \appto\@xdycrossrefhook{%
    \write\glswrite{(define-crossref-class \string"seealso\string"
      :unverified )}%
    \write\glswrite{(markup-crossref-list
      :class \string"seealso\string"^^J\space\space\space
      :open \string"\string\glxtruseealsoformat\glsoopenbrace\string"
      :close \string"\glsclosebrace\string")}%
  }
}

```

```

}
\appto\@xdylocationclassorder{\space\string"seealso\string"}
\newrobustcmd*{\glxtrindexseealso}[2]{%
  \ifx\@glxtr@record@setting\@glxtr@record@setting@alsoindex
    \@glxtr@recordsee{#1}{#2}%
  \fi
  \glsoifexists{#1}%
  {%
    \@glxtrwrglossmark
    \def\@glx@xref{#2}%
    \@onelevel@sanitize\@glx@xref
    \@glx@checkmkidxchars\@glx@xref
    \glsglossary{\csname glo@#1@type\endcsname}{%
      (indexentry
        :tkey (\csname glo@#1@index\endcsname)
        :xref (\string"\@glx@xref\string")
        :attr \string"seealso\string"
      )
    }%
  }%
}
}
{
\newrobustcmd*{\glxtrindexseealso}{\glsee[\seealsoname]}
}
\ifdef\@glset@xr@key
{
\define@key{glossentry}{alias}{%
  \glset@xr@key{alias}{\@glo@alias}{#1}%
}
\define@key{glossentry}{seealso}{%
  \glset@xr@key{seealso}{\@glo@seealso}{#1}%
}
\appto\@glset@keymap{, {alias}{alias}, {seealso}{seealso}}
\appto\@newglossaryentryprehook{\def\@glo@alias{}\def\@glo@seealso{}}%
\appto\@newglossaryentryposthook{%
  \ifdefvoid\@glo@seealso
    {\csxdef{glo@\@glo@label @seealso}{}}%
    {%
      \csxdef{glo@\@glo@label @seealso}{\@glo@seealso}%
      \if@glxtr@autoseealsoindex
        \@glxtr@autoindexcrossrefs
      \fi
    }%
  \ifdefvoid\@glo@alias
    {\csxdef{glo@\@glo@label @alias}{}}%
    {%
      \csxdef{glo@\@glo@label @alias}{\@glo@alias}%
    }%
  }
}

```

```

\newcommand*\glxtralias}[1]{\@gls@entry@field{#1}{alias}}
\newcommand*\glxtrseealsolabels}[1]{\@gls@entry@field{#1}{seealso}}
\appto\@glo@autoseehook{%
  \ifdefvoid\@glo@alias
  {%
    \ifdefvoid\@glo@seealso
    {}%
    {%
      \protected@edef\@do@glssee{\noexpand\glxtrindexseealso
        {\@glo@label}{\@glo@seealso}}%
      \@do@glssee
    }%
  }%
  {%
    \ifdefvoid\@glo@see
    {%
      \protected@edef\@do@glssee{\noexpand\glssee{\@glo@label}{\@glo@alias}}%
      \@do@glssee
    }%
    {}%
  }%
}%
}
{
\glsaddstoragekey*{alias}{}\glxtralias}
\glsaddstoragekey*{seealso}{}\glxtrseealsolabels}
\appto\@newglossaryentryposthook{%
  \ifcvoid{glo@\@glo@label @alias}%
  {%
    \ifcvoid{glo@\@glo@label @seealso}%
    {}%
    {%
      \protected@edef\@do@glssee{\noexpand\glxtrindexseealso
        {\@glo@label}{\csuse{glo@\@glo@label @seealso}}}%
      \@do@glssee
    }%
  }%
  {%
    \ifdefvoid\@glo@see
    {%
      \protected@edef\@do@glssee{\noexpand\glssee
        {\@glo@label}{\csuse{glo@\@glo@label @alias}}}%
      \@do@glssee
    }%
    {}%
  }%
}%
}
}
\AtEndDocument{\ifglxtrindexcrossrefs\glxtraddallcrossrefs\fi}
\newcommand*\glxtraddallcrossrefs{%

```

```

\foralllglossaries{\@glo@type}%
{%
  \forallglsentries[\@glo@type]{\@glo@label}%
  {%
    \ifglsused{\@glo@label}%
    {\expandafter\@glsxtr@addunusedxrefs\expandafter{\@glo@label}}{%
    }%
  }%
}%
}
\newcommand*\@glsxtr@addunusedxrefs}[1]{%
  \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@see}%
  \ifdefvoid\@glo@see
  {}%
  {%
    \expandafter\glsxtr@addunused\@glo@see\@end@glsxtr@addunused
  }%
  \letcs{\@glo@see}{glo@\glsdetoklabel{#1}@seealso}%
  \ifdefvoid\@glo@see
  {}%
  {%
    \expandafter\glsxtr@addunused\@glo@see\@end@glsxtr@addunused
  }%
}
\newcommand*\@glsxtr@addunused}[1][ ]{%
  \@glsxtr@addunused
}
\def\@glsxtr@addunused#1\@end@glsxtr@addunused{%
  \@for\@glsxtr@label:=#1\do
  {%
    \glsxtrifmulti\@glsxtr@label
    {%
      \letcs\@glsxtr@labellist{\@gls@combined@\@glsxtr@label @list}%
      \@for\@glsxtr@multilabel:=\@glsxtr@labellist\do
      {\@glsxtr@addunused\@glsxtr@multilabel\@end@glsxtr@addunused}%
    }%
    {%
      \ifglsused{\@glsxtr@label}{%
        {%
          \glsadd[format=glsxtrunusedformat]{\@glsxtr@label}%
          \glsunset{\@glsxtr@label}%
          \expandafter\@glsxtr@addunusedxrefs\expandafter{\@glsxtr@label}%
        }%
      }%
    }%
  }%
}
\newcommand*\@glsxtr@runusedformat}[1]{\unskip}
\ifdef\gls@begindocdefs
{%
  \renewcommand*\@gls@begindocdefs{%
    \ifnum\@glsxtr@docdefval=1\relax

```



```

\@gls@enablesavenonumberlist
\edef\@gls@restoreat{%
  \noexpand\catcode'\noexpand\@=\number\catcode'\@}\relax}%
\makeatletter
\InputIfFileExists{\jobname.glsdefs}{-}{-}%
\@gls@restoreat
\undef\@gls@restoreat
\gls@defdocnewglossaryentry
\else
\ifnum\@glsxtr@docdefval=3\relax
  \@gls@enablesavenonumberlist
  \let\gls@checkseeallowed\relax
  \let\newglossaryentry\new@atom@glossaryentry
  \global\newwrite\@gls@deffile
  \immediate\openout\@gls@deffile=\jobname.glsdefs
  \forallglsentries{\@glsentry}{\@gls@writedef{\@glsentry}}}%
\fi
\fi
}
}
{%
\ifnum\@glsxtr@docdefval=3\relax
  \PackageError{glossaries-extra}{Package option
    'docdef=\@glsxtr@docdefsetting' requires at least version 4.37
    of the base glossaries.sty package}{}
\fi
}
\newrobustcmd{\new@atom@glossaryentry}[2]{%
  \gls@defglossaryentry{#1}{#2}%
  \@gls@writedef{#1}%
}
\let\glsxtr@orgmakenoidxglossaries\makenoidxglossaries
\renewcommand{\makenoidxglossaries}{%
  \@domakeglossaries
  {%
  \ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off
  {%
  \glsxtr@orgmakenoidxglossaries
  \renewcommand{\@do@seeglossary}[2]{%
    \@glsxtrwrglossmark
    \protected@edef\@gls@label{\glsdetoklabel{##1}}%
    \protected@write\@auxout{}{%
      \string\@gls@reference
      {\csname glo@\@gls@label @type\endcsname}%
      {\@gls@label}%
      {%
        \string\glsseeformat##2}%
      }%
    }%
  }%
  }%
}

```

```

\if@glxtrdocdefrestricted
  \renewcommand*{\@gls@reference}[3]{%
    \ifcsundef{@glsref@##1}{\csgdef{@glsref@##1}{}}{}%
    \ifinlistcs{##2}{@glsref@##1}%
    {}%
    {\listcsgadd{@glsref@##1}{##2}}%
    \ifcsundef{glo@glstdetoklabel{##2}@loclist}%
    {\csgdef{glo@glstdetoklabel{##2}@loclist}{}}%
    {}%
    \listcsgadd{glo@glstdetoklabel{##2}@loclist}{##3}%
  }%
\else
  \@glxtrdocdeffalse
\fi
\disable@keys{glossaries-extra.sty}{docdef}%
}%
{%
\PackageError{glossaries-extra}{\string\makenoidxglossaries\space
not permitted\MessageBreak
with record=@glxtr@record@setting\space package option}%
{You may only use \string\makenoidxglossaries\ space with the
record=off option}%
}%
}%
}
\renewcommand*{\gls@defdocnewglossaryentry}{%
  \ifcase\@glxtr@docdefval
    \renewcommand*{\newglossaryentry}[2]{%
      \PackageError{glossaries-extra}{Glossary entries must
be \MessageBreak defined in the preamble with \MessageBreak
package option ‘docdef=false’\MessageBreak(consider using
‘docdef=restricted’)}{Move your glossary definitions to
the preamble. You can also put them in a \MessageBreak separate file
and load them with \string\loadglsentries.}%
    }%
  \or
    \let\gls@checkseeallowed\relax
    \let\newglossaryentry\new@glossaryentry
  \else
    \let\gls@checkseeallowed\relax
  \fi
}%
\newcommand*{\GlsXtrEnableOnTheFly}{%
  \@ifstar\@sGlsXtrEnableOnTheFly\@GlsXtrEnableOnTheFly
}
\newcommand*{\@sGlsXtrEnableOnTheFly}{%
  \renewcommand*{\glstdetoklabel}[1]{%
    \expandafter\@glxtr@ifcsstart\string##1 \@glxtr@end@
    {%
      \expandafter\detokenize\expandafter{##1}%
    }
  }
}

```

```

    }%
    {\detokenize{##1}}%
  }%
  \@GlsXtrEnableOnTheFly
}
\def\@glstr@ifcsstart#1#2\@glstr@end@#3#4{%
  \expandafter\if\glstrbackslash#1%
    #3%
  \else
    #4%
  \fi
}
\newcommand*\glstrstarflywarn{%
  \GlossariesExtraWarning{Experimental starred version of
  \string\GlsXtrEnableOnTheFly\space in use (please ensure you have
  read the warnings in the glossaries-extra user manual)}%
}
\newcommand*\@GlsXtrEnableOnTheFly{%
  \newcommand*\glstrcat{general}
  \newcommand*\glstr}[1] []{%
    \def\glstr@keylist{##1}%
    \@glstr
  }
  \newcommand*\@glstr}[2] []{%
    \ifglstryexists{##2}%
    {%
      \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
    }%
    {%
      \glstrdefglossaryentry{##2}{name={##2},category=\glstrcat,
      description={\nopostdesc},##1}%
    }%
    \expandafter\glstr\expandafter[\glstr@keylist]{##2}%
  }
  \newcommand*\Glsstr}[1] []{%
    \def\glstr@keylist{##1}%
    \@Glsstr
  }
  \newcommand*\@Glsstr}[2] []{%
    \ifglstryexists{##2}%
    {%
      \ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
    }%
    {%
      \glstrdefglossaryentry{##2}{name={##2},category=\glstrcat,
      description={\nopostdesc},##1}%
    }%
    \expandafter\Gls\expandafter[\glstr@keylist]{##2}%
  }
  \newcommand*\glstrpl}[1] []{%

```

```

\def\glxstr@keylist{##1}%
\@glxstrpl
}
\newcommand*{\@glxstrpl}[2] []{%
\ifgl Sentryexists{##2}%
{%
\ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
}%
{%
\gls@defglossaryentry{##2}{name={##2},category=\glxstrcat,
description={\nopostdesc},##1}%
}%
\expandafter\glsp\expandafter[\glxstr@keylist]{##2}%
}
\newcommand*{\Glsxtrpl}[1] []{%
\def\glxstr@keylist{##1}%
\@Glsxtrpl
}
\newcommand*{\@Glsxtrpl}[2] []{%
\ifgl Sentryexists{##2}
{%
\ifblank{##1}{-}{\GlsXtrWarning{##1}{##2}}%
}%
{%
\gls@defglossaryentry{##2}{name={##2},category=\glxstrcat,
description={\nopostdesc},##1}%
}%
\expandafter\Glspl\expandafter[\glxstr@keylist]{##2}%
}
\newcommand*{\GlsXtrWarning}[2]{%
\def\@glxstr@optlist{##1}%
\@onelevel@sanitize\@glxstr@optlist
\GlossariesExtraWarning{The options ‘\@glxstr@optlist’ have
been ignored for entry ‘##2’ as it has already been defined}%
}
\renewcommand\@printglossary[2]{%
\def\@glxstr@printglossopts{##1}%
\@glxstr@orgprintglossary{##1}{##2}%
\def\@glxstr{\@glxstr@disabledflycommand\glxstr}%
\def\@glxstrpl{\@glxstr@disabledflycommand\glxstrpl}%
\def\@Glsxtr{\@glxstr@disabledflycommand\Glsxtr}%
\def\@Glsxtrpl{\@glxstr@disabledflycommand\Glsxtrpl}%
}
\newcommand*{\@glxstr@disabledflycommand}[1]{%
\PackageError{glossaries-extra}%
{string##1\space can’t be used after any of the \MessageBreak
glossaries have been displayed}%
{The on-the-fly commands enabled by
\string\GlsXtrEnableOnTheFly\space may only be used \MessageBreak
before the glossaries. If you want to use any entries \MessageBreak

```

```

        after any of the glossaries, you must use the standard \MessageBreak
        method of first defining the entry and then using the \MessageBreak
        entry with commands like \string\gls}%
        \@glsxtr@disabledflycommand
    }%
    \newcommand*{\@glsxtr@disabledflycommand}[2] []{##2}
    \let\GlsXtrEnableOnTheFly\relax
}
\@onlypreamble\GlsXtrEnableOnTheFly
\newcommand*{\@glsxtr@current@style}{\@glossary@default@style}
\renewcommand*{\setglossarystyle}[1]{%
    \ifcsundef{@glsstyle@#1}%
    {%
        \PackageError{glossaries-extra}{Glossary style ‘#1’ undefined}{}%
    }%
    {%
        \csname @glsstyle@#1\endcsname
        \protected@edef\@glsxtr@current@style{#1}%
    }%
    \ifx\@glossary@default@style\relax
        \protected@edef\@glossary@default@style{#1}%
    \fi
}
\ifdef\@glossary@default@style
{}
{%
    \let\@glossary@default@style\relax
}
\ifdef\glslistdottedwidth
{%
    \ifdim\glslistdottedwidth=.5\hsize
        \setlength{\glslistdottedwidth}{-\dimexpr\maxdimen-1sp\relax}
    \AtBeginDocument{%
        \ifdim\glslistdottedwidth=-\dimexpr\maxdimen-1sp\relax
            \setlength{\glslistdottedwidth}{.5\columnwidth}%
        \fi
    }%
}
\fi
}
{}%
\ifdef\glsdescwidth
{%
    \ifdim\glsdescwidth=.6\hsize
        \setlength{\glsdescwidth}{-\dimexpr\maxdimen-1sp\relax}
    \AtBeginDocument{%
        \ifdim\glsdescwidth=-\dimexpr\maxdimen-1sp\relax
            \setlength{\glsdescwidth}{.6\columnwidth}%
        \fi
    }%
}
\fi

```

```

}
{}%
\ifdef\glspagelistwidth
{
  \ifdim\glspagelistwidth=.1\hsize
    \setlength{\glspagelistwidth}{-\dimexpr\maxdimen-1sp\relax}
    \AtBeginDocument{
      \ifdim\glspagelistwidth=-\dimexpr\maxdimen-1sp\relax
        \setlength{\glspagelistwidth}{.1\columnwidth}%
      \fi
    }%
  \fi
}
{}%
\def\org@glossaryentrynumbers#1{#1\gls@save@numberlist{#1}}%
\ifx\org@glossaryentrynumbers\glossaryentrynumbers
  \glsnonumberlistfalse
  \renewcommand*{\glossaryentrynumbers}[1]{%
    \ifglsentryexists{\glscurrententrylabel}%
    {%
      \@glsxtrpreloctag
      \GlsXtrFormatLocationList{#1}%
      \@glsxtrpostloctag
      \gls@save@numberlist{#1}%
    }{}%
  }%
\else
  \glsnonumberlisttrue
  \renewcommand*{\glossaryentrynumbers}[1]{%
    \ifglsentryexists{\glscurrententrylabel}%
    {%
      \gls@save@numberlist{#1}%
    }{}%
  }%
\fi
\newcommand*{\GlsXtrFormatLocationList}[1]{#1}
\newcommand*{\GlsXtrEnablePreLocationTag}[2]{%
  \let\@glsxtrpreloctag\@glsxtrpreloctag
  \let\@glsxtrpostloctag\@glsxtrpostloctag
  \renewcommand*{\@glsxtr@pagetag}{#1}%
  \renewcommand*{\@glsxtr@pagestag}{#2}%
  \renewcommand*{\@glsxtr@savepreloctag}[2]{%
    \csgdef{\@glsxtr@preloctag@##1}{##2}%
  }%
  \renewcommand*{\@glsxtr@doloctag}{%
    \ifcsundef{\@glsxtr@preloctag@\glscurrententrylabel}%
    {%
      \GlossariesWarning{Missing pre-location tag for ‘\glscurrententrylabel’.
        Rerun required}%
    }%
  }%

```

```

    {%
      \csuse{@glxstr@preloctag@}\glscurrententrylabel}%
    }%
  }%
}
\@onlypreamble\GlsXtrEnablePreLocationTag
\newcommand*{@@glxstr@preloctag}{%
  \let\@glxstr@org@delimN\delimN
  \let\@glxstr@org@delimR\delimR
  \let\@glxstr@org@glsglignore\glsglignore
  \gdef\@glxstr@thisloctag{\@glxstr@pagetag}%
  \renewcommand*{\delimN}{%
    \gdef\@glxstr@thisloctag{\@glxstr@pagetag}%
    \@glxstr@org@delimN}%
  \renewcommand*{\delimR}{%
    \gdef\@glxstr@thisloctag{\@glxstr@pagetag}%
    \@glxstr@org@delimR}%
  \renewcommand*{\glsglignore}[1]{%
    \gdef\@glxstr@thisloctag{\relax}%
    \@glxstr@org@glsglignore{##1}}%
  \@glxstr@doloctag
}
\newcommand*{\@glxstr@preloctag}{}
\newcommand*{\@glxstr@pagetag}{}%
\newcommand*{\@glxstr@pagetag}{}%
\newcommand*{\@glxstr@postloctag}{%
  \let\delimN\@glxstr@org@delimN
  \let\delimR\@glxstr@org@delimR
  \let\glsglignore\@glxstr@org@glsglignore
  \protected@write\@auxout{%
    \string\@glxstr@savepreloctag{\glscurrententrylabel}{\@glxstr@thisloctag}}%
}
\newcommand*{\@glxstr@postloctag}{}
\newcommand*{\@glxstr@savepreloctag}[2]{}
\protected@write\@auxout{}{%
  \string\providecommand\string\@glxstr@savepreloctag[2]{}%
}
\newcommand*{\@glxstr@doloctag}{}
\renewcommand*{\KV@printgloss@nonumberlist}[1]{%
  \XKV@plfalse
  \XKV@sttrue
  \XKV@checkchoice[\XKV@resa]{#1}{true,false}%
}%
\csname glsnonumberlist\XKV@resa\endcsname
\ifglsnonumberlist
  \def\glossaryentrynumbers##1{\gls@save@numberlist{##1}}%
\else
  \def\glossaryentrynumbers##1{%
    \@glxstr@preloctag
    \GlsXtrFormatLocationList{##1}%
    \@glxstr@postloctag
  }

```

```

        \gls@save@numberlist{##1}}%
    \fi
}%
}
\renewcommand*{\glsentryfmt}{%
  \ifgls@has@short{\gls@label}{\gls@set@abbrvfmt{\gls@category{\gls@label}}}{}%
  \gls@if@regular{\gls@label}%
  {\gls@xtr@regularfont{\gls@genentryfmt}}%
  {%
    \ifgls@has@short{\gls@label}%
    {\gls@xtr@abbreviationfont{\gls@xtr@genabbrvfmt}}%
    {\gls@xtr@regularfont{\gls@genentryfmt}}%
  }%
}
\newcommand*{\gls@xtr@regularfont}[1]{#1}
\newcommand*{\gls@xtr@abbreviationfont}[1]{#1}
\renewcommand{\gls@field@link}[4][[]]{%
  \gls@xtr@record{#2}{#3}{\gls@link}%
  \gls@do@if@exists{#3}%
  {%
    \let\gls@xtr@org@ifKV@gls@link@hyper\ifKV@gls@link@hyper
    \gls@save@gls@local
    \let\do@gls@link@check@first@hyper\@gls@link@nocheck@first@hyper
    \def\gls@customtext{#4}%
    \gls@xtr@field@link@defs
    #1%
    \gls@link[#2]{#3}{#4}%
    \let\ifKV@gls@link@hyper\gls@xtr@org@ifKV@gls@link@hyper
    \gls@restore@gls@local
  }%
  \gls@post@link@hook
}
\let\@gls@xtr@org@gls@\@gls@
\def\@gls@#1#2{%
  \gls@xtr@record{#1}{#2}{\gls@link}%
  \@gls@xtr@org@gls@{#1}{#2}%
}%
\let\@gls@xtr@org@gls@pl@\@gls@pl@
\def\@gls@pl@#1#2{%
  \gls@xtr@record{#1}{#2}{\gls@link}%
  \@gls@xtr@org@gls@pl@{#1}{#2}%
}%
\let\@gls@xtr@org@Gls@\@Gls@
\def\@Gls@#1#2{%
  \gls@xtr@record{#1}{#2}{\gls@link}%
  \@gls@xtr@org@Gls@{#1}{#2}%
}%
\let\@gls@xtr@org@Gls@pl@\@Gls@pl@
\def\@Gls@pl@#1#2{%
  \gls@xtr@record{#1}{#2}{\gls@link}%
}

```



```

    \@glsxtr@org@GLspl@{#1}{#2}%
}%
\let\@glsxtr@org@GLS@\@GLS@
\def\@GLS@#1#2{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \@glsxtr@org@GLS@{#1}{#2}%
}%
\let\@glsxtr@org@GLSpl@\@GLSpl@
\def\@GLSpl@#1#2{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \@glsxtr@org@GLSpl@{#1}{#2}%
}%
\renewcommand*\@glsdisp}[3][{}]{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \glsdoifexists{#2}{%
        \let\do@gls@link@checkfirsthyper\@gls@link@checkfirsthyper
        \let\glsifplural\@secondoftwo
        \let\glscapscase\@firstofthree
        \def\glscustomtext{#3}%
        \def\glsinsert{}%
        \def\@glo@text{\csname gls@\gls@type @entryfmt@endcsname}%
        \@gls@link[#1]{#2}{\@glo@text}%
        \@gls@do@glsunset{#2}%
    }%
    \glspostlinkhook
}
\renewcommand*\@gls@link}[3][{}]{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \glsdoifexistsordo{#2}{%
        {%
            \let\do@gls@link@checkfirsthyper\relax
            \def\glscustomtext{#3}%
            \@glsxtr@field@linkdefs
            \@gls@link[#1]{#2}{#3}%
        }%
        {%
            \gls@textformat{#3}%
        }%
        \glspostlinkhook
    }
}
\newcommand*\glsxtr@in@wrgloss{%
    \glsifattribute{\glslabel}{wrgloss}{after}%
    {%
        \glsxtr@in@wrglossbeforefalse
    }%
    {%
        \glsxtr@in@wrglossbeforetrue
    }%
}
\newif\ifglsxtr@in@wrglossbefore

```

```

\glxtrinitwrglossbeforetrue
\define@choicekey{glslink}{wrgloss}%
[\@glxtr@wrglossval\@glxtr@wrglossnr]%
{before,after}%
{%
  \ifcase\@glxtr@wrglossnr\relax
    \glxtrinitwrglossbeforetrue
  \or
    \glxtrinitwrglossbeforefalse
  \fi
}
\define@key{glslink}{thevalue}{\def\@glxtr@thevalue{#1}}
\define@key{glslink}{theHvalue}{\def\@glxtr@theHvalue{#1}}
\define@boolkey{glslink}[glxtr@]{hyperoutside}[true]{}
\glxtr@hyperoutsidetrue
\define@key{glslink}{textformat}{%
  \ifcsdef{#1}
  {%
    \letcs{\@glxtr@local@textformat}{#1}%
  }%
  {%
    \PackageError{glossaries-extra}{Unknown control sequence name ‘#1’}{}%
  }%
}
\define@key{glslink}{prefix}{\def\glolinkprefix{#1}}
\newcommand*{\glxtrinithyperoutside}{%
  \glsifattribute{\glslabel}{hyperoutside}{false}%
  {%
    \glxtr@hyperoutsidefalse
  }%
  {%
    \glxtr@hyperoutsidetrue
  }%
}
\newcommand*{\glxtr@inc@linkcount}{}
\newcommand*{\glslinkpresetkeys}{}
\newrobustcmd*{\GlsXtrExpandedFmt}[2]{%
  \protected@edef\@glxtr@tmp{#2}%
  \expandafter#1\expandafter{\@glxtr@tmp}%
}
\newcommand*{\@glxtr@use@equation@counter}{%
  \@glxtr@ifnum@mmode{\def\@gls@counter{equation}}{}%
}
\newcommand*{\glxtr@do@autoadd}[1]{}
\newcommand*{\GlsXtrAutoAddOnFormat}[3][\glslabel]{%
  \renewcommand*{\glxtr@do@autoadd}[1]{%
    \begingroup
      \protected@edef\@glxtr@do@autoadd{%
        \noexpand\ifstrequal{##1}{glslink}%
      }%
    \endgroup
  }%
}

```

```

        \noexpand\DTLifinlist{\@glsnumberformat}{#2}{\noexpand\glsadd[format={\@glsnumberformat},
    }%
    {}%
    }%
    \@glsxtr@do@autoadd
\endgroup
}%
}
\providecommand*\glslinkwrcontent}[1]{#{#1}}
\def\@gls@link[#1]#2#3{%
    \leavevmode
    \protected@edef\glslabel{\glsdetoklabel{#2}}%
    \def\@gls@link@opts{#1}%
    \let\@gls@link@label\glslabel
    \let\@glsnumberformat\@glsxtr@defaultnumberformat
    \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
    \protected@edef\gls@type{\csname glo@\glslabel @type\endcsname}%
    \let\org@ifKV\glslink@hyper\ifKV\glslink@hyper
    \@gls@save@glslocal
    \let\@glsxtr@org@glo@link@prefix\glo@link@prefix
    \let\@glsxtr@local@textformat\relax
    \def\@glsxtr@thevalue{}%
    \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
    \glsxtr@trinit@wrgloss
    \glsxtr@trinit@hyper@outside
    \@gls@setdefault@glslink@opts
    \glsxtr@inc@linkcount
    \if@glsxtr@equations
        \@glsxtr@use@equation@counter
    \fi
    \do@gls@disable@hyper@inlist
    \do@gls@link@check@first@hyper
    \glslink@presetkeys
    \setkeys{glslink}{#1}%
    \glsxtr@do@autoadd{glslink}%
    \glslink@postsetkeys
    \ifdefempty{\@glsxtr@thevalue}%
    {%
        \@gls@save@entry@counter
    }%
    {%
        \let\the@gl@entry@counter\@glsxtr@thevalue
        \def\the@H@gl@entry@counter{\@glsxtr@theHvalue}%
    }%
    \@gls@set@sort{\glslabel}%
    \ifx\@glsxtr@local@textformat\relax
        \gls@shas@attribute{\glslabel}{textformat}%
    {%
        \protected@edef\@glsxtr@attrval{\gls@get@attribute{\glslabel}{textformat}}%
        \ifcsdef{\@glsxtr@attrval}%

```

```

    {%
      \letcs{@glsxtr@textformat}{@glsxtr@attrval}%
    }%
    {%
      \GlossariesExtraWarning{Unknown control sequence name
        '@glsxtr@attrval' supplied in textformat attribute
        for entry 'glslabel'. Reverting to default \string\glstextformat}%
      \let@glsxtr@textformat\glstextformat
    }%
  }%
  {%
    \let@glsxtr@textformat\glstextformat
  }%
\else
  \let@glsxtr@textformat@glsxtr@local@textformat
\fi
\glslinkwrcontent
{%
  \ifglsxtrinitwrglossbefore
    \do@wrglossary{#2}%
  \fi
  \ifKV@glslink@hyper
    \ifglsxtr@hyperoutside
      \glslink{\glolinkprefix\glslabel}{@glsxtr@textformat{#3}}%
    \else
      \glsxtr@textformat{\glslink{\glolinkprefix\glslabel}{#3}}%
    \fi
  \else
    \ifglsxtr@hyperoutside
      \glsdonohyperlink{\glolinkprefix\glslabel}{@glsxtr@textformat{#3}}%
    \else
      \glsxtr@textformat{\glsdonohyperlink{\glolinkprefix\glslabel}{#3}}%
    \fi
  \fi
  \ifglsxtrinitwrglossbefore
  \else
    \do@wrglossary{#2}%
  \fi
}%
\let\glolinkprefix@glsxtr@org@glolinkprefix
\let\ifKV@glslink@hyper@org@ifKV@glslink@hyper
@gls@restore@glslocal
}
\define@key{glossadd}{thevalue}{\def@glsxtr@thevalue{#1}}
\define@key{glossadd}{theHvalue}{\def@glsxtr@theHvalue{#1}}
\newcommand*{\glsaddpresetkeys}{}

\newcommand*{\glsaddpostsetkeys}{}
\renewrobustcmd*{\glsadd}[2][]{%
  \glsxtrifinmark

```

```

}%
{%
  \@gls@adjustmode
  \begingroup
  \@glsxtr@record{#1}{#2}{glossadd}%
  \glsdoifexists{#2}%
  {%
    \let\@glsnumberformat\@glsxtr@defaultnumberformat
    \protected@edef\@gls@counter{\csname glo\@glsdetoklabel{#2}@counter\endcsname}%
    \def\@glsxtr@thevalue{}%
    \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
    \glsaddpresetkeys
    \setkeys{glossadd}{#1}%
    \glsaddpostsetkeys
    \ifdefempty{\@glsxtr@thevalue}%
    {%
      \@gls@saveentrycounter
    }%
    {%
      \let\theglsentrycounter\@glsxtr@thevalue
      \def\theHglentrycounter{\@glsxtr@theHvalue}%
    }%
    \@gls@setsort{#2}%
    \KV@glslink@noindexfalse
    \@do@wrglossary{#2}%
  }%
  \endgroup
}%
}
\newrobustcmd{\glsaddeach}[2][ ]{%
  \@for\@gls@thislabel:=#2\do{\glsadd[#1]{\@gls@thislabel}}%
}
\newcommand*{\@glsxtr@field@linkdefs}{%
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glsifcaps\@firstofthree
  \let\glsinsert\@empty
}
\newcommand*{\glsxtrassignfieldfont}[1]{%
  \ifglshashshort{#1}%
  {%
    \ifglshashshort{#1}%
    {%
      \glssetabbrvfmt{\gls@category{#1}}%
      \glsifregular{#1}%
      {\let\@gls@field@font\glsxtrregularfont}%
      {\let\@gls@field@font\@firstofone}%
    }%
    {%
      \glsifnotregular{#1}%

```

```

        {\let\@gls@field@font\@firstofone}%
        {\let\@gls@field@font\glsxtrregularfont}%
    }%
}%
{%
    \let\@gls@field@font\@gobble
}%
}
\def\@gls@text@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link{#1}{#2}{\@gls@field@font{\gls@access@text{#2}#3}}%
}
\def\@GL@text@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link{\let\gls@caps@case\@thirdofthree}{#1}{#2}%
    {\@gls@field@font{\GL@access@text{#2}\mfirstucMakeUppercase{#3}}}%
}
\def\@Gls@text@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link{\let\gls@caps@case\@secondofthree}{#1}{#2}%
    {\@gls@field@font{\Gls@access@text{#2}#3}}%
}
\newcommand*\@glsxtr@check@no@hyper@first[1]{%
    \gls@if@attribute{#1}{no@hyper@first}{true}{\KV@gls@link@hyper@false}{}%
}
\def\@gls@first@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link
    [\let\glsxtr@if@was@first@use\@firstoftwo
    \glsxtr@check@no@hyper@first{#2}%
    ]{#1}{#2}%
    {\@gls@field@font{\gls@access@first{#2}#3}}%
}
\def\@Gls@first@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link
    [\let\glsxtr@if@was@first@use\@firstoftwo
    \let\gls@caps@case\@secondofthree
    \glsxtr@check@no@hyper@first{#2}%
    ]%
    {#1}{#2}{\@gls@field@font{\Gls@access@first{#2}#3}}%
}
\def\@GLS@first@#1#2[#3]{%
    \glsxtrassignfieldfont{#2}%
    \@gls@field@link
    [\let\glsxtr@if@was@first@use\@firstoftwo
    \let\gls@caps@case\@thirdofthree
    \glsxtr@check@no@hyper@first{#2}%
    ]%
    {#1}{#2}{\@gls@field@font{\GLS@access@first{#2}\mfirstucMakeUppercase{#3}}}%
}

```

```

}
\def\glsplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link[\let\glsifplural\@firstoftwo]{#1}{#2}%
  {\@gls@field@font{\glsaccessplural{#2}#3}}%
}
\def\Glsplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glsifplural\@firstoftwo
  \let\glscapscase\@secondofthree
  ]%
  {#1}{#2}{\@gls@field@font{\Glsaccessplural{#2}#3}}%
}
\def\GLSplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glsifplural\@firstoftwo
  \let\glsapscale\@thirdofthree
  ]%
  {#1}{#2}{\@gls@field@font{\GLSaccessplural{#2}\mfirstucMakeUppercase{#3}}}%
}
\def\glsfirstplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glsxtrifwasfirstuse\@firstoftwo
  \let\glsifplural\@firstoftwo
  \glsxtrchecknohyperfirst{#2}%
  ]%
  {#1}{#2}{\@gls@field@font{\glsaccessfirstplural{#2}#3}}%
}
\def\Glsfirstplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glsxtrifwasfirstuse\@firstoftwo
  \let\glsifplural\@firstoftwo
  \let\glsapscale\@secondofthree
  \glsxtrchecknohyperfirst{#2}%
  ]%
  {#1}{#2}{\@gls@field@font{\Glsaccessfirstplural{#2}#3}}%
}
\def\GLSfirstplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glsxtrifwasfirstuse\@firstoftwo
  \let\glsifplural\@firstoftwo
  \let\glsapscale\@thirdofthree
  \glsxtrchecknohyperfirst{#2}%
  ]%
  {#1}{#2}%
}

```

```

    {\@gls@field@font{\GLSaccessfirstplural{#2}\mfirstucMakeUppercase{#3}}}%
}
\def\@glsname@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link{#1}{#2}{\@gls@field@font{\glsaccessname{#2}#3}}%
}
\def\@Glsname@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]{#1}{#2}%
  {\@gls@field@font{\Glsaccessname{#2}#3}}%
}
\def\@GLSname@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}%
  {\@gls@field@font{\GLSaccessname{#2}\mfirstucMakeUppercase{#3}}}%
}
\def\@glsdesc@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link{#1}{#2}{\@gls@field@font{\glsaccessdesc{#2}#3}}%
}
\def\@Glsdesc@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]{#1}{#2}%
  {\@gls@field@font{\Glsaccessdesc{#2}#3}}%
}
\def\@GLSdesc@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\GLSaccessdesc{#2}\mfirstucMakeUppercase{#3}}}%
}
\def\@glsdescplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo
  \let\glsifplural\@firstoftwo
  ]{#1}{#2}{\@gls@field@font{\glsaccessdescplural{#2}#3}}%
}
\def\@Glsdescplural@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo
  \let\glsifplural\@firstoftwo
  ]{#1}{#2}{\@gls@field@font{\Glsaccessdescplural{#2}#3}}%
}
\def\@GLSdesc@#1#2[#3]{%
  \glsxtrassignfieldfont{#2}%
  \@gls@field@link

```



```

[\let\glscapscase\@thirdoftwo
 \let\glsifplural\@firstoftwo
 ]%
 {#1}{#2}%
 {\@gls@field@font{\GLSaccessdescplural{#2}\mfirstucMakeUppercase{#3}}}%
 }
\def\@glsymbol@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link{#1}{#2}{\@gls@field@font{\glsaccesssymbol{#2}#3}}%
 }
\def\@Glsymbol@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link
 [\let\glscapscase\@secondoftwo]%
 {#1}{#2}{\@gls@field@font{\Glsaccesssymbol{#2}#3}}%
 }
\def\@GLSsymbol@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link[\let\glscapscase\@thirdoftwo]%
 {#1}{#2}{\@gls@field@font{\GLSaccesssymbol{#2}\mfirstucMakeUppercase{#3}}}%
 }
\def\@glsymbolplural@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link
 [\let\glscapscase\@secondoftwo
 \let\glsifplural\@firstoftwo
 ]{#1}{#2}{\@gls@field@font{\glsaccesssymbolplural{#2}#3}}%
 }
\def\@Glsymbolplural@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link
 [\let\glscapscase\@secondoftwo
 \let\glsifplural\@firstoftwo
 ]{#1}{#2}{\@gls@field@font{\Glsaccesssymbolplural{#2}#3}}%
 }
\def\@GLSsymbol@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link
 [\let\glscapscase\@thirdoftwo
 \let\glsifplural\@firstoftwo
 ]%
 {#1}{#2}%
 {\@gls@field@font{\GLSaccesssymbolplural{#2}\mfirstucMakeUppercase{#3}}}%
 }
\def\@Glsuseri@#1#2[#3]{%
 \glstrassignfieldfont{#2}%
 \@gls@field@link
 [\let\glscapscase\@secondoftwo]{#1}{#2}%
 {\@gls@field@font{\Glsentryuseri{#2}#3}}%
 }

```

```

\def\@GLSuseri@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\mfirstucMakeUppercase{\glstentryuseri{#2}#3}}}%
}
\def\@Glsuserii@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]%
  {#1}{#2}{\@gls@field@font{\Glsentryuserii{#2}#3}}%
}
\def\@GLSuserii@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\mfirstucMakeUppercase{\glstentryuserii{#2}#3}}}%
}
\def\@Glsuseriii@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]%
  {#1}{#2}{\@gls@field@font{\Glsentryuseriii{#2}#3}}%
}
\def\@GLSuseriii@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\mfirstucMakeUppercase{\glstentryuseriii{#2}#3}}}%
}
\def\@Glsuseriv@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]%
  {#1}{#2}{\@gls@field@font{\Glsentryuseriv{#2}#3}}%
}
\def\@GLSuseriv@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}%
  {\@gls@field@font{\mfirstucMakeUppercase{\glstentryuseriv{#2}#3}}}%
}
\def\@Glsuserv@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]%
  {#1}{#2}{\@gls@field@font{\Glsentryuserv{#2}#3}}%
}
\def\@GLSuserv@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\mfirstucMakeUppercase{\glstentryuserv{#2}#3}}}%
}

```

```

\def\@Glsuservi@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link
  [\let\glscapscase\@secondoftwo]%
  {#1}{#2}{\@gls@field@font{\Glsentryuservi{#2}#3}}%
}
\def\@GLSuservi@#1#2[#3]{%
  \glstrassignfieldfont{#2}%
  \@gls@field@link[\let\glscapscase\@thirdoftwo]%
  {#1}{#2}{\@gls@field@font{\mfirstucMakeUppercase{\glsentryuservi{#2}#3}}}%
}
\newcommand*{\@@glstr@base@acrcmd@warn}[2]{%
  \GlossariesExtraWarning{Base acronym command \string#1\space
  should not be used with new abbreviation definitions. Use
  \string#2\space instead}%
}
\let\@glstr@base@acrcmd\@@glstr@base@acrcmd@warn
\def\@acrshort#1#2[#3]{%
  \@glstr@base@acrcmd\acrshort\glstrshort
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glstrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glsaccessshort{#2}}#3%
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@Acrshort#1#2[#3]{%
  \@glstr@base@acrcmd\Acrshort\Glsxrshort
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glstrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccessshort{#2}}#3%
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@ACRshort#1#2[#3]{%

```

```

\@glxtr@base@acrcmd\ACRshort\GLSxtrshort
\glsdoifexists{#2}%
{%
  \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
  \let\glxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\glscapscase\@thirdofthree
  \let\glsinsert\@empty
  \def\glscustomtext{%
    \mfirstucMakeUppercase{\acronymfont{\glsaccessshort{#2}}#3}%
  }%
  \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrshortpl#1#2[#3]{%
  \@glxtr@base@acrcmd\acrshortpl\glxtrshortpl
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glsaccessshortpl{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@Acrshortpl#1#2[#3]{%
  \@glxtr@base@acrcmd\Acrshortpl\Glsxtrshortpl
  \glsdoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccessshortpl{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@ACRshortpl#1#2[#3]{%
  \@glxtr@base@acrcmd\ACRshortpl\GLSxtrshortpl
  \glsdoifexists{#2}%

```

```

{%
  \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
  \let\glxtrifwasfirstuse\@secondoftwo
  \let\gl@ifplural\@firstoftwo
  \let\glscapscase\@thirdofthree
  \let\glinsert\@empty
  \def\glscustomtext{%
    \mfirstucMakeUppercase{\acronymfont{\glaccessshortpl{#2}}#3}%
  }%
  \@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrlong#1#2[#3]{%
  \glxtr@base@acrcmd\acrlong\glxtrlong
  \glsoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\gl@ifplural\@secondoftwo
    \let\glscapscase\@firstofthree
    \let\glinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\glaccesslong{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@AcrLong#1#2[#3]{%
  \glxtr@base@acrcmd\AcrLong\Glsxtrlong
  \glsoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\gl@ifplural\@secondoftwo
    \let\glscapscase\@secondofthree
    \let\glinsert\@empty
    \def\glscustomtext{%
      \acronymfont{\Glsaccesslong{#2}}#3%
    }%
    \@gl@link[#1]{#2}{\csname gls@glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\def\@ACRLong#1#2[#3]{%
  \glxtr@base@acrcmd\ACRLong\GLSxtrlong
  \glsoifexists{#2}%
  {%
    \let\do@gl@link@checkfirsthyper\@gl@link@nocheckfirsthyper

```

```

\let\glstrifwasfirstuse\@secondoftwo
\let\glstifplural\@secondoftwo
\let\glscapscase\@thirdofthree
\let\glinsert\@empty
\def\glscustomtext{%
  \mfirstucMakeUppercase{\acronymfont{\glaccesslong{#2}}#3}%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrlongpl#1#2[#3]{%
\@glstr@base@acrcmd\acrlongpl\glstrlongpl
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\let\glstrifwasfirstuse\@secondoftwo
\let\glstifplural\@firstoftwo
\let\glscapscase\@firstofthree
\let\glinsert\@empty
\def\glscustomtext{%
\acronymfont{\glaccesslongpl{#2}}#3%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@AcrLongpl#1#2[#3]{%
\@glstr@base@acrcmd\AcrLongpl\Glsxtrlongpl
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\let\glstrifwasfirstuse\@secondoftwo
\let\glstifplural\@firstoftwo
\let\glscapscase\@secondofthree
\let\glinsert\@empty
\def\glscustomtext{%
\acronymfont{\Glsaccesslongpl{#2}}#3%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@ACRLongpl#1#2[#3]{%
\@glstr@base@acrcmd\ACRLongpl\GLSxtrlongpl
\glsdoifexists{#2}%
{%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\let\glstrifwasfirstuse\@secondoftwo
\let\glstifplural\@firstoftwo

```

```

\let\glscapscase\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{%
  \mfirstucMakeUppercase{\acronymfont{\glsaccesslongpl{#2}}{#3}}%
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\def\@acrfull#1#2[#3]{%
  \@glsxtr@base@acrcmd\acrfull\glsxtrfull
  \acrfullfmt{#1}{#2}{#3}%
}
\def\@Acrfull#1#2[#3]{%
  \@glsxtr@base@acrcmd\Acrfull\Glsxtrfull
  \Acrfullfmt{#1}{#2}{#3}%
}
\def\@ACRfull#1#2[#3]{%
  \@glsxtr@base@acrcmd\ACRfull\GLSxtrfull
  \ACRfullfmt{#1}{#2}{#3}%
}
\def\@acrfullpl#1#2[#3]{%
  \@glsxtr@base@acrcmd\acrfullpl\glsxtrfullpl
  \acrfullplfmt{#1}{#2}{#3}%
}
\def\@Acrfullpl#1#2[#3]{%
  \@glsxtr@base@acrcmd\Acrfullpl\Glsxtrfullpl
  \Acrfullplfmt{#1}{#2}{#3}%
}
\def\@ACRfullpl#1#2[#3]{%
  \@glsxtr@base@acrcmd\ACRfullpl\GLSxtrfullpl
  \ACRfullplfmt{#1}{#2}{#3}%
}
\renewcommand*{\@glsaddkey}[7]{%
  \key@ifundefined{glossentry}{#1}%
  {%
    \define@key{glossentry}{#1}{\csdef{@glo@#1}{##1}}%
    \appto\@gls@keymap{, {#1}{#1}}%
    \appto\@newglossaryentryprehook{\csdef{@glo@#1}{#2}}%
    \appto\@newglossaryentryposthook{%
      \letcs{\@glo@tmp}{@glo@#1}%
      \gls@assign@field{#2}{\@glo@label}{#1}{\@glo@tmp}%
    }%
    \newcommand*{#3}[1]{\@gls@entry@field{##1}{#1}}%
    \newcommand*{#4}[1]{\@Gls@entry@field{##1}{#1}}%
    \ifcsdef{@gls@user@#1@}%
    {%
      \PackageError{glossaries}%
      {Can't define '\string#5' as helper command
        '\expandafter\string\csname @gls@user@#1@\endcsname' already

```

```

exists}%
{}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
  {\csname @gls@user@#1\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@gls@user@#1@}{##1}{##2}}%
      {\csuse{@gls@user@#1@}{##1}{##2}[]}}%
\csdef{@gls@user@#1@}##1##2[##3]{%
  \@gls@field@link{##1}{##2}{#3{##2}##3}%
}%
\newrobustcmd*{#5}{%
  \expandafter\@gls@hyp@opt\csname @gls@user@#1\endcsname}%
}%
\ifcsdef{@Gls@user@#1@}%
{%
  \PackageError{glossaries}%
  {Can't define '\string#6' as helper command
   '\expandafter\string\csname @Gls@user@#1\endcsname' already
   exists}%
  {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
  {\csname @Gls@user@#1\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@Gls@user@#1@}{##1}{##2}}%
      {\csuse{@Gls@user@#1@}{##1}{##2}[]}}%
\csdef{@Gls@user@#1@}##1##2[##3]{%
  \@gls@field@link[\let\gls@caps@case\@secondofthree]%
  {##1}{##2}{#4{##2}##3}%
}%
\newrobustcmd*{#6}{%
  \expandafter\@gls@hyp@opt\csname @Gls@user@#1\endcsname}%
}%
\ifcsdef{@GLS@user@#1@}%
{%
  \PackageError{glossaries}%
  {Can't define '\string#7' as helper command
   '\expandafter\string\csname @GLS@user@#1\endcsname' already
   exists}%
  {}%
}%
{%
\expandafter\newcommand\expandafter*\expandafter
  {\csname @GLS@user@#1\endcsname}[2][]{%
    \new@ifnextchar[%
      {\csuse{@GLS@user@#1@}{##1}{##2}}%
      {\csuse{@GLS@user@#1@}{##1}{##2}[]}}%

```



```

\csdef{@GLS@user@#1@}##1##2[##3]{%
  \@gls@field@link[\let\gls@scaps@case\@thirdofthree]%
  {##1}{##2}{\mfirstucMakeUppercase{#3{##2}##3}}%
}%
\newrobustcmd*{#7}{%
  \expandafter\@gls@hyp@opt\csname @GLS@user@#1\endcsname}%
}%
}%
{%
\PackageError{glossaries-extra}{Key ‘#1’ already exists}{}%
}%
}
\providecommand*{\@gls@link@nocheckfirsthyper}{}
\let\@gls@xtr@org@checkfirsthyper\@gls@link@checkfirsthyper
\renewcommand*{\@gls@link@checkfirsthyper}{%
  \ifglsused{\glslabel}%
  {\let\gls@xtr@ifwasfirstuse\@secondoftwo}
  {\let\gls@xtr@ifwasfirstuse\@firstoftwo}%
  \protected@edef\gls@categorylabel{\gls@category{\glslabel}}%
  \ifglsused{\glslabel}%
  {%
    \gls@ifcategoryattribute{\gls@categorylabel}{nohypernext}{true}%
    {\KV@gls@link@hyperfalse}{}%
  }%
  {%
    \gls@ifcategoryattribute{\gls@categorylabel}{nohyperfirst}{true}%
    {\KV@gls@link@hyperfalse}{}%
  }%
  \gls@link@checkfirsthyperhook
}
\ifdef\do@gls@disablehyperinlist
{%
  \let\@gls@xtr@do@gls@disablehyperinlist\do@gls@disablehyperinlist
  \renewcommand*{\do@gls@disablehyperinlist}{%
    \@gls@xtr@do@gls@disablehyperinlist
    \gls@ifattribute{\glslabel}{nohyper}{true}{\KV@gls@link@hyperfalse}{}%
  }
}
{}
\define@boolkey{gls@link}{noindex}[true]{}
\KV@gls@link@noindexfalse
\providecommand*{\@gls@save@gls@local}{%
  \let\if@org@KV@gls@link@local\ifKV@gls@link@local
}
\providecommand*{\@gls@restore@gls@local}{%
  \ifKV@gls@link@local
  \let\@gls@do@gls@unset\gls@local@unset
  \else
  \let\@gls@do@gls@unset\gls@unset
  \fi
}

```

```

}
\providecommand*{\@gls@do@glsunset}[1]{\glsunset{#1}}
\ifdef\@gls@setdefault@glslink@opts
{
  \renewcommand*{\@gls@setdefault@glslink@opts}{%
    \KV@glslink@noindexfalse
    \@glsxtrsetaliasnoindex
  }
}
{
  \newcommand*{\@gls@setdefault@glslink@opts}{%
    \KV@glslink@noindexfalse
    \@glsxtrsetaliasnoindex
  }
  \preto\do@glsdisablehyperinlist{\@gls@setdefault@glslink@opts}
}
\providecommand*{\glsxtrsetaliasnoindex}{%
  \KV@glslink@noindextrue
}
\newcommand*{\@glsxtrsetaliasnoindex}{%
  \ifcsvoid{glo@\glsdetoklabel{\glslabel}@alias}%
  {}%
  {%
    \let\glsxtrindexaliased\@glsxtrindexaliased
    \glsxtrsetaliasnoindex
    \let\glsxtrindexaliased\@no@glsxtrindexaliased
  }%
}
\newcommand{\@glsxtrindexaliased}{%
  \ifKV@glslink@noindex
  \else
  \begingroup
  \let\@glsnumberformat\@glsxtr@defaultnumberformat
  \protected@edef\@gls@counter{\csname glo@\glsdetoklabel{\glslabel}@counter\endcsname}%
  \glsxtr@saveentrycounter
  \@do@wrglossary{\glsxtralias{\glslabel}}%
  \endgroup
  \fi
}
\newcommand{\@no@glsxtrindexaliased}{%
  \PackageError{glossaries-extra}{\string\glsxtrindexaliased\space
not permitted outside definition of \string\glsxtrsetaliasnoindex}%
  {}%
}
\let\glsxtrindexaliased\@no@glsxtrindexaliased
\newcommand*{\GlsXtrSetDefaultGlsOpts}[1]{%
  \renewcommand*{\@gls@setdefault@glslink@opts}{%
    \setkeys{glslink}{#1}%
    \@glsxtrsetaliasnoindex
  }%
}

```

```

}
\newcommand*\glstrifindexing}[2]{%
  \ifKV@glslink@noindex #2\else #1\fi
}
\renewcommand*\glswriteentry}[2]{%
  \glstrifindexing
  {%
    \ifglindexonlyfirst
      \GlsXtrIfUnusedOrUndefined{#1}
      {#2}%
      {\glstrdoautoindexname{#1}{dualindex}}%
    \else
      \gl@ifattribute{#1}{indexonlyfirst}{true}%
      {%
        \GlsXtrIfUnusedOrUndefined{#1}%
        {#2}%
        {\glstrdoautoindexname{#1}{dualindex}}%
      }%
      {#2}%
    \fi
  }%
}
\appto\do@wrglossary{\glstr@do@wrindex
  \glstrdowrglossaryhook{\@glsl@label}%
}
\appto\gl@noidxglossary{\glstr@do@wrindex
  \glstrdowrglossaryhook{\@glsl@label}%
}
\newcommand*\glstr@do@wrindex{%
  \glstrdoautoindexname{\@glsl@label}{dualindex}%
}
\newcommand*\glstrdowrglossaryhook}[1]{%
\newcommand*\@glsl@alt@hyp@opt}[1]{%
  \let\glslinkvar\@firstofthree
  \let\@glsl@hyp@opt@cs#1\relax
  \@ifstar{\s@glsl@hyp@opt}%
  {\@ifnextchar+%
    {\@firstoftwo{\p@glsl@hyp@opt}}%
    {%
      \expandafter\@ifnextchar\@glsl@alt@hyp@opt@char
      {\@firstoftwo{\@alt@glsl@hyp@opt}}%
      {#1}%
    }%
  }%
}
\newcommand*\@alt@glsl@hyp@opt}[1][1]{%
  \let\glslinkvar\@firstofthree
  \expandafter\@glsl@hyp@opt@cs\expandafter[\@glsl@alt@hyp@opt@keys,#1]}
\newcommand*\@glsl@alt@hyp@opt@char{}

```

```

\newcommand*{\@gls@alt@hyp@opt@keys}{ }
\newcommand*{\GlsXtrSetAltModifier}[2]{%
  \let\@gls@hyp@opt\@gls@alt@hyp@opt
  \ifstrequal{#1}{+}{%
    {\PackageError{glossaries-extra}%
      {Can't use '#1' as modifier (it's already in use)}{}}%
  }%
  \ifstrequal{#1}{*}{%
    {\PackageError{glossaries-extra}%
      {Can't use '#1' as modifier (it's already in use)}{}}%
  }%
  }%
\def\@gls@alt@hyp@opt@char{#1}%
\def\@gls@alt@hyp@opt@keys{#2}%
\ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off
{}%
{}%
  \protected@write\@auxout{}{\string\providecommand{\string\@glsxtr@altmodifier}[1]{} }%
  \protected@write\@auxout{}{\string\@glsxtr@altmodifier{#1}}%
}%
}
\let\glsxtr@org@dohyperlink\glsdohyperlink
\ifdef\glsnavhyperlink
{
  \renewcommand*{\glsnavhyperlink}[3][\@glo@type]{%
    \protected@edef\gls@grplabel{#2}\protected@edef\gls@grptitle{#3}%
    {%
      \let\glsxtrdohyperlink\glsxtr@org@dohyperlink
      \@glslink{\glsnavhyperlinkname{#1}{#2}}{#3}%
    }%
  }%
}
{}
\ifdef\@gls@navhypertarget
{}
{}
\renewcommand*{\glsnavhypertarget}{\protect\@gls@navhypertarget}
\newcommand*{\@gls@navhypertarget}[3][\@glo@type]{%
  \@glsnavhypertarget{#1}{#2}{#3}%
}
}%
\ifdef\@glsnavhypertarget
{}
\renewcommand*{\@glsnavhypertarget}[3]{%
  \protected@write\@auxout{}{\string\@gls@hypergroup{#1}{#2}}%
  \@glsxtr@do@org@target{\glsnavhyperlinkname{#1}{#2}}{#3}%
  \ifcsdef\@gls@hypergroup@list@#1{%
    {%
      \letcs\@gls@list{\@gls@hypergroup@list@#1}%
      \protected@edef\@gls@thishypernavlabel{#2}%

```

```

\expandafter\DTLifinlist\expandafter{\@gls@thishypernavlabel}\@gls@list{}%
{%
  \GlossariesWarningNoLine{Navigation panel
    for glossary type '#1'^^Jmissing group '#2'}%
  \gdef\gls@hypergroup\prerun{%
    \GlossariesWarningNoLine{Navigation panel
      has changed. Rerun LaTeX}}%
  }%
}%
{}%
\GlossariesWarningNoLine{Navigation panel
  for glossary type '#1'^^Jmissing group '#2'}%
\gdef\gls@hypergroup\prerun{%
  \GlossariesWarningNoLine{Navigation panel
    has changed. Rerun LaTeX}}%
}%
}%
}
{}
\newcommand*{\glsxtrdohyperlink}[2]{%
  \gls@hasattribute{\glslabel}{targeturl}%
  {%
    \gls@hasattribute{\glslabel}{targetname}%
    {%
      \gls@hasattribute{\glslabel}{targetcategory}%
      {%
        \hyperref{\gls@getattribute{\glslabel}{targeturl}}%
          {\gls@getattribute{\glslabel}{targetcategory}}%
          {\gls@getattribute{\glslabel}{targetname}}%
          {\glsxtrprotectlinks#2}}%
      }%
    }%
    \hyperref{\gls@getattribute{\glslabel}{targeturl}}%
      {}%
      {\gls@getattribute{\glslabel}{targetname}}%
      {\glsxtrprotectlinks#2}}%
  }%
}%
{}%
\href{\gls@getattribute{\glslabel}{targeturl}}%
  {\glsxtrprotectlinks#2}}%
}%
}%
\glsfieldfetch{\glslabel}{alias}{\gloaliaslabel}%
\ifvoid\gloaliaslabel
{%
  \glsxtrhyperlink{#1}{\glsxtrprotectlinks#2}}%
}%
{}%

```

```

\glstrifmulti\gloaliaslabel
{%
  \letcs\gloaliaslabel{@gls@combined@\gloaliaslabel @main}%
}%
{}%
\glstrhyperlink
{\glolinkprefix\glsdetoklabel{\gloaliaslabel}}%
{\glstrprotectlinks#2}}%
}%
}%
}

\newcommand{\glstrhyperlink}[2]{%
  \glsdoshowtarget{#1}{\hyperlink{#1}{#2}}%
}%
\renewrobustcmd*{\glsyhyperlink}[2][\glsentrytext{@glo@label}]{%
  \glsdoifexists{#2}%
  {%
    \def@glo@label{#2}%
    {\protected@edef\glslabel{#2}%
     \glslink{\glolinkprefix\glslabel}{#1}}%
  }%
}
\renewcommand{\glsdisablehyper}{%
  \KV@glslink@hyperfalse
  \def@glslink{\glsdonohyperlink}%
  \let@glstarget@secondoftwo
}
\renewcommand{\glsenablehyper}{%
  \KV@glslink@hypertrue
  \def@glslink{\glstrdohyperlink}%
  \def@glstarget{\glsdohypertarget}%
}
\def\glsdonohyperlink#1#2{\glstrprotectlinks #2}
\ifcsundef{hyperlink}%
{%
  \def@glslink{\glsdonohyperlink}
}%
{%
  \def@glslink{\glstrdohyperlink}
}
\newcommand*{\glstrprotectlinks}{%
  \KV@glslink@hyperfalse
  \KV@glslink@noindextrue
  \let@gls@\@glstr@p@text@
  \let@Gls@\@GLs@p@text@
  \let@GLS@\@GLS@p@text@
  \let@glspl@\@glstr@p@plural@
  \let@Glspl@\@GLs@p@plural@
  \let@GLSpl@\@GLS@p@plural@
}

```

```

\let\@glsxtrshort\@glsxtrp@short@
\let\@Glsxtrshort\@Glsxtrp@short@
\let\@GLSxtrshort\@GLSxtrp@short@
\let\@glsxtrlong\@glsxtrp@long@
\let\@Glsxtrlong\@Glsxtrp@long@
\let\@GLSxtrlong\@GLSxtrp@long@
\let\@glsxtrshortpl\@glsxtrp@shortpl@
\let\@Glsxtrshortpl\@Glsxtrp@shortpl@
\let\@GLSxtrshortpl\@GLSxtrp@shortpl@
\let\@glsxtrlongpl\@glsxtrp@longpl@
\let\@Glsxtrlongpl\@Glsxtrp@longpl@
\let\@GLSxtrlongpl\@GLSxtrp@longpl@
\let\@acrshort\@glsxtrp@acrshort@
\let\@Acrshort\@Glsxtrp@acrshort@
\let\@ACRshort\@GLSxtrp@acrshort@
\let\@acrshortpl\@glsxtrp@acrshortpl@
\let\@Acrshortpl\@Glsxtrp@acrshortpl@
\let\@ACRshortpl\@GLSxtrp@acrshortpl@
\let\@acrlong\@glsxtrp@acrlong@
\let\@Acrlong\@Glsxtrp@acrlong@
\let\@ACRlong\@GLSxtrp@acrlong@
\let\@acrlongpl\@glsxtrp@acrlongpl@
\let\@Acrlongpl\@Glsxtrp@acrlongpl@
\let\@ACRlongpl\@GLSxtrp@acrlongpl@
}
\def\@glsxtrp@text@#1#2[#3]{\@glstext@{#1}{#2}[#3]}
\def\@Glsxtrp@text@#1#2[#3]{\@Glstext@{#1}{#2}[#3]}
\def\@GLSxtrp@text@#1#2[#3]{\@GLStext@{#1}{#2}[#3]}
\def\@glsxtrp@plural@#1#2[#3]{\@glsplural@{#1}{#2}[#3]}
\def\@Glsxtrp@plural@#1#2[#3]{\@Glsplural@{#1}{#2}[#3]}
\def\@GLSxtrp@plural@#1#2[#3]{\@GLSplural@{#1}{#2}[#3]}
\def\@glsxtrp@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\glsentryshort{#2}}#3%
  }%
}
\def\@Glsxtrp@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\Glsentryshort{#2}}#3%
  }%
}
\def\@GLSxtrp@short@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \mfirstucMakeUppercase{\glsabbrvfont{\glsentryshort{#2}}#3}%
  }%
}
\def\@glsxtrp@shortpl@#1#2[#3]{%

```

```

{%
  \glssetabbrvfmt{\glscategory{#2}}%
  \glsabbrvfont{\glsentryshortpl{#2}}#3%
}%
}
\def\@Glsxtrp@shortpl@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \glsabbrvfont{\Glsentryshortpl{#2}}#3%
  }%
}
\def\@GLSxtrp@shortpl@#1#2[#3]{%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \mfirstucMakeUppercase{\glsabbrvfont{\glsentryshortpl{#2}}#3}%
  }%
}
\def\@glsxtrp@long@#1#2[#3]{\{\glsentrylong{#2}#3}}
\def\@Glsxtrp@long@#1#2[#3]{\{\Glsentrylong{#2}#3}}
\def\@GLSxtrp@long@#1#2[#3]{%
  {\mfirstucMakeUppercase{\glslongfont{\glsentrylong{#2}}#3}}}
\def\@glsxtrp@longpl@#1#2[#3]{\{\glsentrylongpl{#2}#3}}
\def\@Glsxtrp@longpl@#1#2[#3]{\{\glslongfont{\Glsentrylongpl{#2}}#3}}
\def\@GLSxtrp@longpl@#1#2[#3]{%
  {\mfirstucMakeUppercase{\glslongfont{\glsentrylongpl{#2}}#3}}}
\def\@glsxtrp@acrshort@#1#2[#3]{\{\acronymfont{\glsentryshort{#2}}#3}}
\def\@Glsxtrp@acrshort@#1#2[#3]{\{\acronymfont{\Glsentryshort{#2}}#3}}
\def\@GLSxtrp@acrshort@#1#2[#3]{%
  {\mfirstucMakeUppercase{\acronymfont{\glsentryshort{#2}}#3}}}
\def\@glsxtrp@acrshortpl@#1#2[#3]{\{\acronymfont{\glsentryshortpl{#2}}#3}}
\def\@Glsxtrp@acrshortpl@#1#2[#3]{\{\acronymfont{\Glsentryshortpl{#2}}#3}}
\def\@GLSxtrp@acrshortpl@#1#2[#3]{%
  {\mfirstucMakeUppercase{\acronymfont{\glsentryshortpl{#2}}#3}}}
\def\@glsxtrp@acrlong@#1#2[#3]{\{\glsentrylong{#2}#3}}
\def\@Glsxtrp@acrlong@#1#2[#3]{\{\Glsentrylong{#2}#3}}
\def\@GLSxtrp@acrlong@#1#2[#3]{%
  {\mfirstucMakeUppercase{\glsentrylong{#2}#3}}}
\def\@glsxtrp@acrlongpl@#1#2[#3]{\{\glsentrylongpl{#2}#3}}
\def\@Glsxtrp@acrlongpl@#1#2[#3]{\{\Glsentrylongpl{#2}#3}}
\def\@GLSxtrp@acrlongpl@#1#2[#3]{%
  {\mfirstucMakeUppercase{\glsentrylongpl{#2}#3}}}
\newcommand*\@glsxtrp@opt}{hyper=false,noindex}
\newcommand*\glsxtrsetpopts}[1]{%
  \renewcommand*\@glsxtrp@opt}{#1}%
}
\newcommand*\glossxtrsetpopts){%
  \glsxtrsetpopts{noindex}%
}
\newrobustcmd*\@@glsxtrp}[2]{%
  {%

```



```

\let\glspostlinkhook\relax
\csname#1\expandafter\endcsname\expandafter[\@glsxtrp@opt]{#2}[]%
}%
}
\newrobustcmd*{\@glsxtrp}[2]{%
\ifcsdef{gls#1}%
{%
\@glsxtrp{gls#1}{#2}%
}%
{%
\ifcsdef{glsxtr#1}%
{%
\@glsxtrp{glsxtr#1}{#2}%
}%
{%
\PackageError{glossaries-extra}{‘#1’ not recognised by
\string\glsxtrp}{}%
}%
}%
}
\newrobustcmd*{\@Glsxtrp}[2]{%
\ifcsdef{Gls#1}%
{%
\@glsxtrp{Gls#1}{#2}%
}%
{%
\ifcsdef{Glsxtr#1}%
{%
\@glsxtrp{Glsxtr#1}{#2}%
}%
{%
\PackageError{glossaries-extra}{‘#1’ not recognised by
\string\Glsxtrp}{}%
}%
}%
}
\newrobustcmd*{\@GLSxtrp}[2]{%
\ifcsdef{GLS#1}%
{%
\@glsxtrp{GLS#1}{#2}%
}%
{%
\ifcsdef{GLSxtr#1}%
{%
\@glsxtrp{GLSxtr#1}{#2}%
}%
{%
\PackageError{glossaries-extra}{‘#1’ not recognised by
\string\GLSxtrp}{}%
}%
}%
}

```

```

    }%
  }
\newrobustcmd*{\glstr@headentry@p}[2]{%
\gl@ifattribute{#1}{headuc}{true}%
{%
  \mfirstucMakeUppercase{\@glstr@entry@field{#1}{#2}}%
}%
{%
  \@glstr@entry@field{#1}{#2}%
}%
}
}
\ifdef\texorpdfstring
{
\newcommand{\glstrp}[2]{%
\protect\NoCaseChange
{%
  \protect\texorpdfstring
  {%
    \protect\glstr@ifinmark
    {%
      \ifcsdef{glstrhead#1}%
      {%
        {\protect\csuse{glstrhead#1}{#2}}%
      }%
      {%
        \glstr@headentry@p{#2}{#1}%
      }%
    }%
  }%
  {%
    \@glstrp{#1}{#2}%
  }%
}
}
\protect\@glstr@entry@field{#2}{#1}%
}%
}
}
}
{
\newcommand{\glstrp}[2]{%
\protect\NoCaseChange
{%
  \protect\glstr@ifinmark
  {%
    \ifcsdef{glstrhead#1}%
    {%
      {\protect\csuse{glstrhead#1}}%
    }%
    {%
      \glstr@headentry@p{#2}{#1}%
    }%
  }%
}
}
}
}

```

```

    }%
  }%
  {%
    \@glsxtrp{#1}{#2}%
  }%
}%
}
}
\newcommand*\glsps{\glsxtrp{short}}
\newcommand*\glspt{\glsxtrp{text}}
\ifdef\texorpdfstring
{
  \newcommand{\Glsxtrp}[2]{%
    \protect\NoCaseChange
    {%
      \protect\texorpdfstring
      {%
        \protect\glsxtrifinmark
        {%
          \ifcsdef{Glsxtrhead#1}%
            {%
              {\protect\csuse{Glsxtrhead#1}{#2}}%
            }%
            {%
              \protect\@Gls@entry@field{#2}{#1}%
            }%
          }%
        }%
      }%
      {%
        \@Glsxtrp{#1}{#2}%
      }%
    }%
  }%
  {%
    \protect\@Gls@entry@field{#2}{#1}%
  }%
}%
}
}
{
  \newcommand{\Glsxtrp}[2]{%
    \protect\NoCaseChange
    {%
      \protect\glsxtrifinmark
      {%
        \ifcsdef{Glsxtrhead#1}%
          {%
            {\protect\csuse{Glsxtrhead#1}}%
          }%
          {%
            \protect\@Gls@entry@field{#2}{#1}%
          }%
        }%
      }%
    }%
  }%
}

```

```

    }%
    {%
    \@GLSxtrp{#1}{#2}%
    }%
  }%
}
}
\ifdef\texorpdfstring
{
\newcommand{\GLSxtrp}[2]{%
\protect\NoCaseChange
{%
\protect\texorpdfstring
{%
\protect\glsxtrifinmark
{%
\ifcsdef{GLSxtr#1}%
{%
{\protect\GLSxtrshort [noindex,hyper=false]{#1}[]}%
}%
}%
\protect\mfirstucMakeUppercase
{%
\protect\@gls@entry@field{#2}{#1}%
}%
}%
}%
}%
{%
\@GLSxtrp{#1}{#2}%
}%
}%
{\protect\@gls@entry@field{#2}{#1}%
}%
}%
}
}
{
\newcommand{\GLSxtrp}[2]{%
\protect\NoCaseChange
{%
\protect\glsxtrifinmark
{%
\ifcsdef{GLSxtr#1}%
{%
{\protect\GLSxtrshort [noindex,hyper=false]{#1}[]}%
}%
}%
\protect\mfirstucMakeUppercase
{%

```

```

        \protect\@gls@entry@field{#2}{#1}%
      }%
    }%
  }%
  {%
    \@GLSxtrp{#1}{#2}%
  }%
}%
}
}
\newcommand*\@glsxtr@unset}[1]{%
  \@@glsunset{#1}%
  \glsxtrpostunset{#1}%
}%
\let\@glsunset\@glsxtr@unset
\newcommand*\@glsxtrpostunset}[1]{}
\newcommand*\@GlsXtrStartUnsetBuffering}{%
  \@ifstar\s@GlsXtrStartUnsetBuffering\@GlsXtrStartUnsetBuffering
}
\newcommand*\@GlsXtrStartUnsetBuffering}{%
  \let\@glsxtr@org@unset@buffer\@glsxtr@unset@buffer
  \def\@glsxtr@unset@buffer{}%
  \let\@glsunset\@glsxtrbuffer@unset
}
\newcommand*\@s@GlsXtrStartUnsetBuffering}{%
  \let\@glsxtr@org@unset@buffer\@glsxtr@unset@buffer
  \def\@glsxtr@unset@buffer{}%
  \let\@glsunset\@glsxtrbuffer@nodup@unset
}
\newcommand*\@glsxtrbuffer@unset}[1]{%
  \listxadd\@glsxtr@unset@buffer{#1}%
}
\newcommand*\@glsxtrbuffer@nodup@unset}[1]{%
  \expandafter\@ifinlist\expandafter{#1}{\@glsxtr@unset@buffer}{}%
  {\listxadd\@glsxtr@unset@buffer{#1}}%
}
\newcommand*\@GlsXtrStopUnsetBuffering}{%
  \@ifstar\s@GlsXtrStopUnsetBuffering\@GlsXtrStopUnsetBuffering
}
\newcommand*\@GlsXtrStopUnsetBuffering}{%
  \let\@glsunset\@glsxtr@unset
  \forlistloop\@glsunset\@glsxtr@unset@buffer
  \let\@glsxtr@unset@buffer\@glsxtr@org@unset@buffer
}
\newcommand*\@s@GlsXtrStopUnsetBuffering}{%
  \forlistloop\@glslocalunset\@glsxtr@unset@buffer
  \let\@glsunset\@glsxtr@unset
}
\newcommand*\@GlsXtrDiscardUnsetBuffering}{%
  \let\@glsunset\@glsxtr@unset

```

```

\let\@glsxtr@unset@buffer\@glsxtr@org@unset@buffer
}
\newcommand*\GlsXtrForUnsetBufferedList}[1]{%
\forlistloop#1\@glsxtr@unset@buffer
}
\renewcommand*\@glslocalunset}[1]{%
\@@glslocalunset{#1}%
\glsxtrpostlocalunset{#1}%
}%
\newcommand*\glsxtrpostlocalunset}[1]{}
\renewcommand*\@glsreset}[1]{%
\@@glsreset{#1}%
\glsxtrpostreset{#1}%
}%
\newcommand*\glsxtrpostreset}[1]{}
\renewcommand*\@glslocalreset}[1]{%
\@@glslocalreset{#1}%
\glsxtrpostlocalreset{#1}%
}%
\newcommand*\glsxtrpostlocalreset}[1]{}
\newcommand*\glslocalreseteach}[1]{-%
\gls@ifnotmeasuring
{%
\@for\@gls@thislabel:=#1\do{%
\glsdoifexists{\@gls@thislabel}%
{%
\@glslocalreset{\@gls@thislabel}%
}%
}%
}%
}
\newcommand*\glslocalunseteach}[1]{-%
\gls@ifnotmeasuring
{%
\@for\@gls@thislabel:=#1\do{%
\glsdoifexists{\@gls@thislabel}%
{%
\@glslocalunset{\@gls@thislabel}%
}%
}%
}%
}
\newcommand*\GlsXtrEnableEntryCounting}[2]{%
\glsenableentrycount
\renewcommand*\gls{\cgl}%
\renewcommand*\Gls{\cGls}%
\renewcommand*\glspl{\cglspl}%
\renewcommand*\Glspl{\cGlspl}%
\renewcommand*\GLS{\cGLS}%
\renewcommand*\GLSpl{\cGLSpl}%

```

```

\@glxtr@setentrycountunsetattr{#1}{#2}%
\let\GlsXtrEnableEntryCounting\@glxtr@setentrycountunsetattr
\renewcommand*{\GlsXtrEnableEntryUnitCounting}[3]{%
  \PackageError{glossaries-extra}{\string\GlsXtrEnableEntryUnitCounting\space
    can't be used with \string\GlsXtrEnableEntryCounting}%
  {Use one or other but not both commands}}%
}
\newcommand*{\@glxtr@setentrycountunsetattr}[2]{%
  \for\@glxtr@cat:=#1\do
  {%
    \ifdefempty{\@glxtr@cat}{}%
    {%
      \glsssetcategoryattribute{\@glxtr@cat}{entrycount}{#2}%
    }%
  }%
}
\renewcommand*{\glsenableentrycount}{%
  \appto\@newglossaryentry@defcounters{\@newglossaryentry@defcounters}%
  \renewcommand*{\gls@defdocnewglossaryentry}{%
    \renewcommand*newglossaryentry[2]{%
      \PackageError{glossaries}{\string\newglossaryentry\space
        may only be used in the preamble when entry counting has
        been activated}{If you use \string\glsenableentrycount\space
        you must place all entry definitions in the preamble not in
        the document environment}%
    }%
  }%
}
\newcommand*{\glsenentrycurrcount}[1]{%
  \ifcsundef{glo@\glsdetoklabel{##1}@currcount}%
  {0}{\@gls@entry@field{##1}{currcount}}%
}%
\newcommand*{\glsenentryprevcount}[1]{%
  \ifcsundef{glo@\glsdetoklabel{##1}@prevcount}%
  {0}{\@gls@entry@field{##1}{prevcount}}%
}%
\let\@glxtr@entrycount@org@unset\glxtrpostunset
\renewcommand*{\glxtrpostunset}[1]{%
  \@glxtr@entrycount@org@unset{##1}%
  \@gls@increment@currcount{##1}%
}%
\let\@glxtr@entrycount@org@localunset\glxtrpostlocalunset
\renewcommand*{\glxtrpostlocalunset}[1]{%
  \@glxtr@entrycount@org@localunset{##1}%
  \@gls@local@increment@currcount{##1}%
}%
\let\@glxtr@entrycount@org@reset\glxtrpostreset
\renewcommand*{\glxtrpostreset}[1]{%
  \@glxtr@entrycount@org@reset{##1}%
  \csgdef{glo@\glsdetoklabel{##1}@currcount}{0}%
}%

```

```

\let\@glsxtr@entrycount@org@localreset\glsxtrpostlocalreset
\renewcommand*\@glsxtrpostlocalreset}[1]{%
  \@glsxtr@entrycount@org@localreset{##1}%
  \csdef{glo@\glsdetoklabel{##1}@currcount}{0}%
}%
\let\@cgl@s@\@cgl@s@
\let\@cgl@spl@\@cgl@spl@
\let\@cGls@\@cGls@
\let\@cGlspl@\@cGlspl@
\let\@cGLS@\@cGLS@
\let\@cGLSpl@\@cGLSpl@
\AtEndDocument{\@gls@write@entrycounts}%
\renewcommand*\@gls@entry@count}[2]{%
  \csgdef{glo@\glsdetoklabel{##1}@prevcount}{##2}%
}%
\let\glsenableentrycount\relax
\renewcommand*\@glsenableentryunitcount}{%
  \PackageError{glossaries-extra}{\string\glsenableentryunitcount\space
    can't be used with \string\glsenableentrycount}%
  {Use one or other but not both commands}%
}%
}
\renewcommand*\@gls@write@entrycounts}{%
  \immediate\write\@auxout
    {\string\providecommand*\@gls@entry@count}[2]{}}%
\count@=0\relax
\forallglsentries{\@glsentry}{%
  \glshasattribute{\@glsentry}{entrycount}%
  {%
    \ifglsused{\@glsentry}%
    {%
      \immediate\write\@auxout
        {\string\@gls@entry@count{\@glsentry}{\glsentrycurrcount{\@glsentry}}}%
    }%
  }%
  \advance\count@ by \@ne
}%
}%
\ifnum\count@=0
  \GlossariesExtraWarningNoLine{Entry counting has been enabled
  \MessageBreak with \string\glsenableentrycount\space but the
  \MessageBreak attribute 'entrycount' hasn't
  \MessageBreak been assigned to any of the defined
  \MessageBreak entries}%
\fi
}
\newcommand*\@glsxtrifcounttrigger}[3]{%
  \glshasattribute{##1}{entrycount}%
  {%

```



```

\ifnum\glstentryprevcount{#1}>\glstgetattribute{#1}{entrycount}\relax
#3%
\else
#2%
\fi
}%
{#3}%
}
\def\@cgl@s@#1#2[#3]{%
\glstxtrifcounttrigger{#2}%
{%
\cgl@sformat{#2}{#3}%
\glstunset{#2}%
}%
{%
\@cgl@s@{#1}{#2}[#3]%
}%
}%
\def\@cgl@spl@#1#2[#3]{%
\glstxtrifcounttrigger{#2}%
{%
\cgl@splformat{#2}{#3}%
\glstunset{#2}%
}%
{%
\@cgl@spl@{#1}{#2}[#3]%
}%
}%
\def\@cGls@#1#2[#3]{%
\glstxtrifcounttrigger{#2}%
{%
\cGlsformat{#2}{#3}%
\glstunset{#2}%
}%
{%
\@cGls@{#1}{#2}[#3]%
}%
}%
\def\@cGlspl@#1#2[#3]{%
\glstxtrifcounttrigger{#2}%
{%
\cGlsplformat{#2}{#3}%
\glstunset{#2}%
}%
{%
\@cGlspl@{#1}{#2}[#3]%
}%
}%
\def\@cGLS@#1#2[#3]{%
\glstxtrifcounttrigger{#2}%

```

```

{%
  \cGLSformat{#2}{#3}%
  \glsunset{#2}%
}%
{%
  \@GLS@{#1}{#2}[#3]%
}%
}%
\def\@cGLSpl@#1#2[#3]{%
  \glsxtrifcounttrigger{#2}%
  {%
    \cGLSplformat{#2}{#3}%
    \glsunset{#2}%
  }%
  {%
    \@GLSpl@{#1}{#2}[#3]%
  }%
}%
\def\@cgl@#1#2[#3]{\@gls@{#1}{#2}[#3]}
\def\@cGls@#1#2[#3]{\@Gls@{#1}{#2}[#3]}
\def\@cgl@#1#2[#3]{\@glspl@{#1}{#2}[#3]}
\def\@cGlspl@#1#2[#3]{\@Glspl@{#1}{#2}[#3]}
\newrobustcmd*\cGLS{\@gls@hyp@opt@cGLS}
\newcommand*\@cGLS}[2][{}]{%
  \new@ifnextchar[{\@cGLS@{#1}{#2}}{\@cGLS@{#1}{#2}}[{}]}
}
\def\@cGLS@#1#2[#3]{\@Gls@{#1}{#2}[#3]}
\newcommand*\cGLSformat}[2]{%
  \expandafter\mfirstucMakeUppercase\expandafter{\cglformat{#1}{#2}}%
}
\newrobustcmd*\cGLSpl{\@gls@hyp@opt@cGLSpl}
\newcommand*\@cGLSpl}[2][{}]{%
  \new@ifnextchar[{\@cGLSpl@{#1}{#2}}{\@cGLSpl@{#1}{#2}}[{}]}
}
\def\@cGLSpl@#1#2[#3]{\@Glspl@{#1}{#2}[#3]}
\newcommand*\cGLSplformat}[2]{%
  \expandafter\mfirstucMakeUppercase\expandafter{\cglsplformat{#1}{#2}}%
}
\renewcommand*\cglformat}[2]{%
  \glsifregular{#1}
  {\glsentryfirst{#1}}%
  {\ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}
\renewcommand*\cGlsformat}[2]{%
  \glsifregular{#1}
  {\Glsentryfirst{#1}}%
  {\ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\renewcommand*\cglsplformat}[2]{%
  \glsifregular{#1}

```

```

    {\glsentryfirstplural{#1}}%
    {\ifglshaslong{#1}{\glsentrylongpl{#1}}{\glsentryfirstplural{#1}}#2%
}
\renewcommand*{\cGlsplformat}[2]{%
  \glsifregular{#1}
  {\Glsentryfirstplural{#1}}%
  {\ifglshaslong{#1}{\Glsentrylongpl{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*{\@newglossaryentry@defunitcounters}{%
  \protected@edef\@glo@countunit{\csuse{@glsxtr@categoryattr@@\@glo@category @unitcount}}%
  \ifdefvoid\@glo@countunit
  {}%
  {%
    \@glsxtr@ifunitcounter{\@glo@countunit}%
    {}%
    {\expandafter\@glsxtr@addunitcounter\expandafter{\@glo@countunit}}%
  }%
}
\newcommand*{\@glsxtr@unitcountlist}{}
\newcommand*{\@glsxtr@addunitcounter}[1]{%
  \listadd{\@glsxtr@unitcountlist}{#1}%
  \ifcsundef{glsxtr@theunit@#1}
  {%
    \ifcsdef{theH#1}%
    {\csdef{glsxtr@theunit@#1}{\csuse{theH#1}}}%
    {\csdef{glsxtr@theunit@#1}{\csuse{the#1}}}%
  }%
  {}%
}
\newcommand*{\@glsxtr@ifunitcounter}[3]{%
  \xifinlist{#1}{\@glsxtr@unitcountlist}{#2}{#3}%
}
\newcommand*\@glsxtr@currentunitcount[1]{%
  glo@\glsdetoklabel{#1}@currunit@\glsgetattribute{#1}{unitcount}.%
  \csuse{glsxtr@theunit@\glsgetattribute{#1}{unitcount}}%
}
\newcommand*\@glsxtr@previousunitcount[1]{%
  glo@\glsdetoklabel{#1}@prevunit@\glsgetattribute{#1}{unitcount}.%
  \csuse{glsxtr@theunit@\glsgetattribute{#1}{unitcount}}%
}
\newcommand*{\@gls@increment@currunitcount}[1]{%
  \gls@hasattribute{#1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{#1}}%
    \ifcsundef{\@glsxtr@csname}%
    {%
      \csgdef{\@glsxtr@csname}{1}%
      \listcsxadd
      {glo@\glsdetoklabel{#1}@unitlist}%
      {\glsgetattribute{#1}{unitcount}.%

```

```

        \csuse{glsxtr@theunit@glsggetattribute{#1}{unitcount}}%
      }%
    }%
    {%
      \csxdef{\@glsxtr@csname}%
        {\number\numexpr\csname\@glsxtr@csname\endcsname+1}%
    }%
  }%
  {}%
}
\newcommand*{\@gls@local@increment@currunitcount}[1]{%
  \glshasattribute{#1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{#1}}%
    \ifcsundef{\@glsxtr@csname}%
    {%
      \csdef{\@glsxtr@csname}{1}%
      \listcseadd
        {glo@\glsdetoklabel{#1}@unitlist}%
        {\glsggetattribute{#1}{unitcount}.%
          \csuse{glsxtr@theunit@glsggetattribute{#1}{unitcount}}%
        }%
    }%
    {%
      \csedef{\@glsxtr@csname}%
        {\number\numexpr\csname\@glsxtr@csname\endcsname+1}%
    }%
  }%
  {}%
}
}
\newcommand*{\@glsxtr@currunitcount}[2]{%
  \ifcsundef
    {glo@\glsdetoklabel{#1}@currunit@#2}%
    {0}%
    {\csuse{glo@\glsdetoklabel{#1}@currunit@#2}}%
  }%
\newcommand*{\@glsxtr@prevunitcount}[2]{%
  \ifcsundef
    {glo@\glsdetoklabel{#1}@prevunit@#2}%
    {0}%
    {\csuse{glo@\glsdetoklabel{#1}@prevunit@#2}}%
  }%
\newcommand*{\glsenableentryunitcount}{%
  \appto\@newglossaryentry@defcounters{\@newglossaryentry@defunitcounters}%
  \renewcommand*{\gls@defdocnewglossaryentry}{%
    \renewcommand*newglossaryentry[2]{%
      \PackageError{glossaries}{\string\newglossaryentry\space
        may only be used in the preamble when entry counting has
        been activated}{If you use \string\glsenableentryunitcount\space
        you must place all entry definitions in the preamble not in

```

```

    the document environment}%
  }%
}%
\newcommand*\glsentrycurrcount}[1]{%
  \@glsxtr@currunitcount{##1}{\glsgetattribute{##1}{unitcount}}.%
  \csuse{glsxtr@theunit@\glsgetattribute{##1}{unitcount}}}%
}%
\newcommand*\glsentryprevcount}[1]{%
  \@glsxtr@prevunitcount{##1}{\glsgetattribute{##1}{unitcount}}.%
  \csuse{glsxtr@theunit@\glsgetattribute{##1}{unitcount}}}%
}%
\newcommand*\glsentryprevtotalcount}[1]{%
  \ifcsundef{glo@\glsdetoklabel{##1}@prevunittotal}%
  {0}%
  {%
    \number\csuse{glo@\glsdetoklabel{##1}@prevunittotal}
  }%
}%
\newcommand*\glsentryprevmaxcount}[1]{%
  \ifcsundef{glo@\glsdetoklabel{##1}@prevunitmax}%
  {0}%
  {%
    \number\csuse{glo@\glsdetoklabel{##1}@prevunitmax}
  }%
}%
\let\@glsxtr@entryunitcount@org@unset\glsxtrpostunset
\renewcommand*\glsxtrpostunset}[1]{%
  \@glsxtr@entryunitcount@org@unset{##1}%
  \@gls@increment@currunitcount{##1}%
}%
\let\@glsxtr@entryunitcount@org@localunset\glsxtrpostlocalunset
\renewcommand*\glsxtrpostlocalunset}[1]{%
  \@glsxtr@entryunitcount@org@localunset{##1}%
  \@gls@local@increment@currunitcount{##1}%
}%
\let\@glsxtr@entryunitcount@org@reset\glsxtrpostreset
\renewcommand*\glsxtrpostreset}[1]{%
  \gls@hasattribute{##1}{unitcount}%
  {%
    \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{##1}}%
    \ifcsundef{\@glsxtr@csname}%
    {}%
    {\csgdef{\@glsxtr@csname}{0}}%
  }%
  {}%
}%
\let\@glsxtr@entryunitcount@org@localreset\glsxtrpostlocalreset
\renewcommand*\glsxtrpostlocalreset}[1]{%
  \@glsxtr@entryunitcount@org@localreset{##1}%
  \gls@hasattribute{##1}{unitcount}%

```

```

    {%
      \protected@edef\@glsxtr@csname{\@glsxtr@currentunitcount{##1}}%
      \ifcsundef{\@glsxtr@csname}%
      {}%
      {\csdef{\@glsxtr@csname}{0}}%
    }%
    {}%
  }%
  \let\@cgl@s\@cgl@s@
  \let\@cgl@spl\@cgl@spl@
  \let\@cGls\@cGls@
  \let\@cGlspl\@cGlspl@
  \let\@cGLS\@cGLS@
  \let\@cGLSpl\@cGLSpl@
  \AtEndDocument{\@gls@write@entryunitcounts}%
  \renewcommand*{\@gls@entry@unitcount}[3]{%
    \csgdef{glo@glstdetoklabel{##1}@prevunit@##3}{##2}%
    \ifcsundef{glo@glstdetoklabel{##1}@prevunittotal}%
    {\csgdef{glo@glstdetoklabel{##1}@prevunittotal}{##2}}%
    {%
      \csxdef{glo@glstdetoklabel{##1}@prevunittotal}{
        \number\numexpr\csuse{glo@glstdetoklabel{##1}@prevunittotal}+##2}%
      }%
      \ifcsundef{glo@glstdetoklabel{##1}@prevunitmax}%
      {\csgdef{glo@glstdetoklabel{##1}@prevunitmax}{##2}}%
      {%
        \ifnum\csuse{glo@glstdetoklabel{##1}@prevunitmax}<##2
          \csgdef{glo@glstdetoklabel{##1}@prevunitmax}{##2}%
        \fi
      }%
    }%
  }%
  \let\glsenableentryunitcount\relax
  \renewcommand*{\glsenableentrycount}{%
    \PackageError{glossaries-extra}{\string\glsenableentrycount\space
      can't be used with \string\glsenableentryunitcount}%
    {Use one or other but not both commands}%
  }%
}
\@onlypreamble\glsenableentryunitcount
\newcommand*{\@gls@entry@unitcount}[3]{}
\newcommand*{\@gls@write@entryunitcounts@do}[1]{%
  \immediate\write\@auxout
  {\string\@gls@entry@unitcount
    {\@glsentry}%
    {\@glsxtr@currunitcount{\@glsentry}{##1}}%
    }%
  {##1}}%
}
\newcommand*{\@gls@write@entryunitcounts}{%
  \immediate\write\@auxout

```

```

    {\string\providecommand*\string\@gls@entry@unitcount}[3]{}%
\count@=0\relax
\forallglsentries{\@glsentry}{%
  \glshasattribute{\@glsentry}{unitcount}%
  {%
    \ifglsused{\@glsentry}%
    {%
      \forlistcsloop
        {\@gls@write@entryunitcounts@do}%
        {glo@\glsdetoklabel{\@glsentry}@unitlist}%
    }%
  }%
  \advance\count@ by \@ne
}%
}%
\ifnum\count@=0
  \GlossariesExtraWarningNoLine{Entry counting has been enabled
  \MessageBreak with \string\glsenableentryunitcount\space but the
  \MessageBreak attribute ‘unitcount’ hasn’t
  \MessageBreak been assigned to any of the defined
  \MessageBreak entries}%
\fi
}
\newcommand*\GlsXtrEnableEntryUnitCounting}[3]{%
  \glsenableentryunitcount
  \renewcommand*\gls{\cgl}%
  \renewcommand*\Gls{\cGls}%
  \renewcommand*\glspl{\cglpl}%
  \renewcommand*\Glspl{\cGlspl}%
  \renewcommand*\GLS{\cGLS}%
  \renewcommand*\GLSpl{\cGLSpl}%
  \@glsxtr@setentryunitcountunsetattr{#1}{#2}{#3}%
  \let\GlsXtrEnableEntryUnitCounting\@glsxtr@setentryunitcountunsetattr
  \renewcommand*\GlsXtrEnableEntryCounting}[2]{%
    \PackageError{glossaries-extra}{\string\GlsXtrEnableEntryUnitCounting\space
    can’t be used with \string\GlsXtrEnableEntryUnitCounting}%
    {Use one or other but not both commands}}%
}
\newcommand*\@glsxtr@setentryunitcountunsetattr}[3]{%
  \@for\@glsxtr@cat:=#1\do
  {%
    \ifdefempty{\@glsxtr@cat}{}%
    {%
      \glssetcategoryattribute{\@glsxtr@cat}{entrycount}{#2}%
      \glssetcategoryattribute{\@glsxtr@cat}{unitcount}{#3}%
    }%
  }%
}
\renewcommand*\SetGenericNewAcronym}{%

```

```

\ifdefequal\@addtoacronymlists\@glxtr@org@addtoacronymlists
{}%
{%
  \GlossariesWarning{\string\SetGenericNewAcronym\space used
without restoring base acronym functions with
\string\RestoreAcronyms}%
}%
\let\@Gls@entryname\@Gls@acrenryname
\renewcommand{\newacronym}[4][]{%
  \ifdefempty{\@glzacronymlists}%
  {%
    \def\@glo@type{\acronymtype}%
    \setkeys{glossentry}{##1}%
    \DeclareAcronymList{\@glo@type}%
  }%
  {}%
  \glskeylisttok{##1}%
  \glslabeltok{##2}%
  \glsshorttok{##3}%
  \glslongtok{##4}%
  \newacronymhook
  \protected@edef\@do@newglossaryentry{%
    \noexpand\newglossaryentry{\the\glslabeltok}%
    {%
      type=\acronymtype,%
      name={\expandonce{\acronymentry{##2}}},%
      sort={\acronymssort{\the\glsshorttok}{\the\glslongtok}},%
      text={\the\glsshorttok},%
      short={\the\glsshorttok},%
      shortplural={\the\glsshorttok\noexpand\acrpluralsuffix},%
      long={\the\glslongtok},%
      longplural={\the\glslongtok\noexpand\acrpluralsuffix},%
      category=acronym,%
      \GenericAcronymFields,%
      \the\glskeylisttok
    }%
  }%
  \@do@newglossaryentry
}%
\renewcommand*\{acrfullfmt}[3]{%
  \glslink[##1]{##2}{\genacrfullformat{##2}{##3}}%
\renewcommand*\{Acrfullfmt}[3]{%
  \glslink[##1]{##2}{\Genacrfullformat{##2}{##3}}%
\renewcommand*\{ACRfullfmt}[3]{%
  \glslink[##1]{##2}{%
    \mfirstucMakeUppercase{\genacrfullformat{##2}{##3}}}%
\renewcommand*\{acrfullplfmt}[3]{%
  \glslink[##1]{##2}{\genplacrfullformat{##2}{##3}}%
\renewcommand*\{Acrfullplfmt}[3]{%
  \glslink[##1]{##2}{\Genplacrfullformat{##2}{##3}}%

```



```

\renewcommand*\ACRfullplfmt}[3]{%
  \glslink[##1]{##2}{%
    \mfirstucMakeUppercase{\genplacrfullformat{##2}{##3}}}%
\renewcommand*\glsentryfull}[1]{\genacrfullformat{##1}{}}%
\renewcommand*\Glsentryfull}[1]{\Genacrfullformat{##1}{}}%
\renewcommand*\glsentryfullpl}[1]{\genplacrfullformat{##1}{}}%
\renewcommand*\Glsentryfullpl}[1]{\Genplacrfullformat{##1}{}}%
}
\let\@glsxtr@org@setacronymstyle\setacronymstyle
\let\@glsxtr@org@newacronymstyle\newacronymstyle
\let\@glsxtr@acronymlists\@glsacronymlists
\let\@glsxtr@org@addtoacronymlists\@addtoacronymlists
\let\@glsxtr@org@setacronymlists\SetAcronymLists
\newcommand{\@glsxtr@abbrlists}{}
\newcommand*\forallabbreviationslists}[2]{%
  \@for#1:=\@glsxtr@abbrlists\do{\ifdefempty{#1}{#2}}%
}
\newcommand*\@glsxtr@addabbreviationlist}[1]{%
  \protected@edef\@glo@type{#1}%
  \ifdefempty\@glsxtr@abbrlists
  {\let\@glsxtr@abbrlists\@glo@type}%
  {%
    \ifdefequal\@glsxtr@abbrlists\@glo@type
    {}}%
  {%
    \expandafter\DTLifinlist\expandafter{\@glo@type}{\@glsxtr@abbrlists}{}%
    {\protected@eappto\@glsxtr@abbrlists{,\@glo@type}}%
  }%
}%
}
\renewcommand*\forallacronyms}[2]{%
  \@glsxtr@base@acrcmd\forallacronyms\forallabbreviationslists
  \@for#1:=\@glsacronymlists\do{\ifx#1@empty\else#2\fi}%
}
\newcommand*\MakeAcronymsAbbreviations){%
  \@for\@gls@type:=\@glsacronymlists\do{%
    \csgdef{gls@\@gls@type @entryfmt}{\glsentryfmt}%
  }%
  \let\@glsxtr@acronymlists\@glsacronymlists
  \let\@glsacronymlists\@empty
  \let\@addtoacronymlists\@gobble
  \let\SetAcronymLists\@gobble
  \let\@glsxtr@base@acrcmd\@glsxtr@base@acrcmd@warn
  \renewcommand*\newacronym}[4][[]]{%
    \glsxtr@newabbreviation{type=\acronymtype,category=acronym,##1}{##2}{##3}{##4}%
  }%
  \renewcommand*\firstacronymfont}[1]{\glsfirstabbrvfont{##1}}%
  \renewcommand*\acronymfont}[1]{\glsabbrvfont{##1}}%
  \renewcommand*\setacronymstyle}[1]{%
    \PackageError{glossaries-extra}{\string\setacronymstyle{##1}}

```

```

        unavailable.
        Use \string\setabbreviationstyle[acronym]\space instead.
        The original acronym interface can be restored with
        \string\RestoreAcronyms}{}%
    }%
    \renewcommand*{\newacronymstyle}[1]{%
        \GlossariesExtraWarning{New acronym style ‘##1’ won’t be
        available unless you restore the original acronym interface with
        \string\RestoreAcronyms}%
        \@glstr@org@newacronymstyle{##1}%
    }%
}
\MakeAcronymsAbbreviations
\newcommand*{\RestoreAcronyms}{%
    \let\@glsacronymlists\@glstr@acronymlists
    \let\@addtoacronymlists\@glstr@org@addtoacronymlists
    \let\SetAcronymLists\@glstr@org@setacronymlists
    \let\@glstr@base@acrcmd\@gobbletwo
    \@for\@gls@type:=\@glsacronymlists\do{%
        \SetDefaultAcronymDisplayStyle{\@gls@type}%
    }%
    \SetGenericNewAcronym
    \renewcommand{\firstacronymfont}[1]{\acronymfont{##1}}%
    \renewcommand{\acronymfont}[1]{##1}%
    \let\setacronymstyle\@glstr@org@setacronymstyle
    \let\newacronymstyle\@glstr@org@newacronymstyle
    \renewcommand*\@gls@link@checkfirsthyper{%
        \ifglsused{\glslabel}%
        {\let\glstrifwasfirstuse\@secondoftwo}
        {\let\glstrifwasfirstuse\@firstoftwo}%
        \@glstr@org@checkfirsthyper
    }
    \glssetcategoryattribute{acronym}{regular}{false}%
    \setacronymstyle{long-short}%
}
\renewcommand*{\glsacspace}[1]{%
    \settowidth{\dimen@}{(\firstacronymfont{\glsentryshort{##1}})}%
    \ifdim\dimen@<\glsacspacemax~\else\space\fi
}
\newcommand*{\glsacspacemax}{3em}
\newcommand*{\@glstr@reg@glosslist}{%
\let\@glstr@org@makeglossaries\makeglossaries
\providecommand\@makeglossaries@warn@noprntglossary{%
    \ifdefstring{\@glo@types}{,}%
    {%
        \GlossariesWarningNoLine{No glossaries have been defined}%
    }%
    {%
        \GlossariesWarningNoLine{No \string\printglossary\space
        or \string\printglossaries\space

```

```

        found. ^^J(Remove \string\makeglossaries\space if you
        don't want any glossaries.) ^^JThis document will not
        have a glossary}%
    }%
}%
\providecommand{\@domakeglossaries}[1]{#1}
\renewcommand*\makeglossaries[1][]{%
\@domakeglossaries
{%
\@glxtr@if@record@only
{%
\PackageError{glossaries-extra}{\string\makeglossaries\space
not permitted\MessageBreak with record=\@glxtr@record@setting\space
package option}%
{You may only use \string\makeglossaries\space with
record=off or record=hybrid options}%
}%
}%
\ifblank{#1}%
{%
\@glxtr@org@makeglossaries
\ifx\@glxtr@record@setting\@glxtr@record@setting@alsoindex
\let\warn@noprntglossary\@glxtr@warn@hybrid@noprntgloss
\fi
}%
{%
\ifx\@glxtr@record@setting\@glxtr@record@setting@alsoindex
\PackageError{glossaries-extra}{\string\makeglossaries[#1]\space
not permitted\MessageBreak with record=\@glxtr@record@setting\space package option}%
{You may only use the hybrid \string\makeglossaries[...]\space with
record=off option}%
\else
\ifdef\@gls@@automake@immediate{\@gls@@automake@immediate}{}%
\protected@edef\@glxtr@reg@glosslist{#1}%
\ifundef{glswrite}{\newwrite\glswrite}{}%
\protected@write\@auxout{}{\string\providecommand
\string\@glsorder[1]{}}
\protected@write\@auxout{}{\string\providecommand
\string\@istfilename[1]{}}
\protected@write\@auxout{}{\string\@istfilename{\istfilename}}%
\protected@write\@auxout{}{\string\@glsorder{\glsorder}}
\protected@write\@auxout{}{\string\@glxtr@makeglossaries{#1}}
\write\@auxout{\string\providecommand\string\@gls@reference[3]{}}%
\@for\@glo@type:=#1\do{%
\ifdefempty{\@glo@type}{\@makeglossary{\@glo@type}}%
}%
\renewcommand*\newglossary[4][]{%
\PackageError{glossaries}{New glossaries
must be created before \string\makeglossaries}{You need
to move \string\makeglossaries\space after all your

```

```

\string\newglossary\space commands}}%
\let\makeglossary@gobble
\renewcommand\makeglossaries[1][{}]%
\@disable@onlypremakeg
\let\gls@checkseeallowed\relax
\renewcommand*\@do@seeglossary}[2]{%
  \glsdoifexists{##1}%
  {%
    \protected@edef\@gls@label{\glsdetoklabel{##1}}%
    \protected@edef\@gls@type{\csname glo@\@gls@label @type\endcsname}%
    \expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
    {\@glsxtr@org@doseeglossary{##1}{##2}}%
    {%
      \@@glsxtrwrglossmark
      \protected@write\@auxout{%
        \string\@gls@reference
        {\@gls@type}{\@gls@label}{\string\glsseeformat##2}}%
      }%
    }%
  }%
}%
\let\@glsxtr@do@wrglossary\@do@wrglossary
\def\@do@wrglossary{%
  \protected@edef\@gls@type{\csname glo@\@gls@label @type\endcsname}%
  \expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
  {\@glsxtr@do@wrglossary}%
  {\gls@noidxglossary}%
}%
\let\warn@nomakeglossaries\relax
\let\warn@noprntglossary\@makeglossaries@warn@noprntglossary
\renewcommand{\@gls@noref@warn}[1]{%
  \protected@edef\@gls@type{##1}%
  \expandafter\DTLifinlist\expandafter{\@gls@type}{\@glsxtr@reg@glosslist}%
  {%
    \GlossariesExtraWarning{Can't use
      \string\printnoidxglossary[type={\@gls@type}]
      when '\@gls@type' is listed in the optional argument of
      \string\makeglossaries}%
  }%
  {%
    \GlossariesWarning{Empty glossary for
      \string\printnoidxglossary[type={##1}].
      Rerun may be required (or you may have forgotten to use
      commands like \string\gls)}%
  }%
}%
\renewcommand*\@glsdisplaynumberlist}[1]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {\@glsxtr@idx@displaynumberlist{##1}}%
  {\@glsxtr@noidx@displaynumberlist{##1}}%
}

```

```

}%
\renewcommand*{\glsentrynumberlist}[1]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {\@glsxtr@idx@entrynumberlist{##1}}%
  {\@glsxtr@noidx@entrynumberlist{##1}}%
}%
\renewcommand*{\glsnumberlistloop}[2]{%
  \expandafter\DTLifinlist\expandafter{##1}{\@glsxtr@reg@glosslist}%
  {%
    \PackageError{glossaries-extra}{\string\glsnumberlistloop\space
      not available for glossary ‘##1’}{}%
  }%
  {\@glsxtr@noidx@numberlistloop{##1}{##2}}%
}%
\renewcommand*{\glsprestandardssort}[3]{%
  \expandafter\DTLifinlist\expandafter{##2}{\@glsxtr@reg@glosslist}%
  {%
    \glsdosanitizesort
  }%
  {%
    \ifglssanitizesort
      \@gls@noidx@sanitizesort
    \else
      \@gls@noidx@nosanitizesort
    \fi
  }%
}%
\renewcommand*\new@glossaryentry[2]{%
  \PackageError{glossaries-extra}{Glossary entries must be defined
    in the preamble\MessageBreak when you use the optional argument
    of \string\makeglossaries}{Either move your definitions to the
    preamble or don't use the optional argument of
    \string\makeglossaries}%
}%
\let\@glo@assign@sortkey\@glsxtr@mixed@assign@sortkey
\renewcommand*{\@printgloss@setsort}{%
  \expandafter\@glsxtr@gettype\expandafter,\@glsxtr@printglossopts,%
  type=\glsdefaulttype,\@end@glsxtr@gettype
  \def\@glo@sorttype{\@glo@default@sorttype}%
}%
\ifglsautomake
  \renewcommand*{\@gls@doautomake}{%
    \for\@gls@type:=\@glsxtr@reg@glosslist\do{%
      \ifdefempty{\@gls@type}{\@gls@automake{\@gls@type}}%
    }%
  }%
\fi
\ifdef\@glo@check@sortallowed{\@glo@check@sortallowed\makeglossaries}{%
\fi
}%

```

```

}%
}%
}
\ifdef\@printgloss@checkexists
{\newcommand{\glstr@printgloss@checkexists}{\@printgloss@checkexists}}
{\newcommand{\glstr@printgloss@checkexists}[2]{#2}}
\newcommand{\@glstr@orgprintglossary}[2]{%
  \def\@glo@type{\glstypedefault}%
  \def\glossarytitle{%
    \ifcsdef{\@glo@type\@glo@type @title}%
      {\csuse{\@glo@type\@glo@type @title}}%
      {\glossaryname}}%
  \def\glossarytoctitle{\glossarytitle}%
  \let\org@glossarytitle\glossarytitle
  \def\@glossarystyle{%
    \ifx\@glossary@default@style\relax
      \GlossariesWarning{No default glossary style provided \MessageBreak
        for the glossary '@glo@type'. \MessageBreak
        Using deprecated fallback. \MessageBreak
        To fix this set the style with \MessageBreak
        \string\setglossarystyle\space or use the \MessageBreak
        style key=value option}%
    \fi
  }%
  \def\gls@dotoc@title{\glstoc@title{\@glo@type}}%
  \let\org@glossaryentrynumbers\glossaryentrynumbers
  \bgroup
  \@printgloss@setsort
  \setkeys{printgloss}{#1}%
  \ifx\glossarytitle\org@glossarytitle
  \else
    \cslet{\@glo@type\@glo@type @title}{\glossarytitle}%
  \fi
  \let\currentglossary\@glo@type
  \let\org@glossaryentrynumbers\glossaryentrynumbers
  \let\glsnonextpages\glsnonextpages
  \let\glsnextpages\glsnextpages
  \glstractivatenopost
  \gls@dotoc@title
  \@glossarystyle
  \let\gls@org@glossaryentryfield\glossentry
  \let\gls@org@glossarysubentryfield\subglossentry
  \renewcommand{\glossentry}[1]{%
    \protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
    \gls@org@glossaryentryfield{##1}%
  }%
  \renewcommand{\subglossentry}[2]{%
    \protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
    \gls@org@glossarysubentryfield{##1}{##2}%
  }%
}

```

```

    \gls@preglossaryhook
    \glsxtr@printgloss@checkexists{\@glo@type}{#2}%
  \egroup
  \global\let\glossaryentrynumbers\@org@glossaryentrynumbers
  \global\let\warn@noprntglossary\relax
}
\newcommand*\glsxtractivatenopost}{%
  \let\nopostdesc\@nopostdesc
  \let\glsxtrnopostpunc\@glsxtr@nopostpunc
}
\newrobustcmd*\glsxtrnopostpunc}{
\newcommand{\@glsxtr@nopostpunc}{%
\let\@@glsxtr@org@postdescription\glspostdescription
\ifglsnopostdot
  \renewcommand{\glspostdescription}{%
    \glsnopostdottrue
    \let\glspostdescription\@@glsxtr@org@postdescription
    \let\glsxtrrestorepostpunc\@glsxtr@restore@postpunc
    \glsxtrpostdescription
    \@glsxtr@nopostpunc@postdesc}%
  \else
    \renewcommand{\glspostdescription}{%
      \let\glspostdescription\@@glsxtr@org@postdescription
      \let\glsxtrrestorepostpunc\@glsxtr@restore@postpunc
      \glsxtrpostdescription
      \@glsxtr@nopostpunc@postdesc}%
    \fi
  \glsnopostdotfalse
}
\newcommand*\@glsxtr@nopostpunc@postdesc}{
\newcommand*\@glsxtr@restore@postpunc}{%
\def\@glsxtr@nopostpunc@postdesc{%
  \@glsxtr@org@postdescription
  \let\@glsxtr@nopostpunc@postdesc\@empty
  \let\glsxtrrestorepostpunc\@empty
}%
}
\newcommand*\glsxtrrestorepostpunc}{
\renewcommand{\@printglossary}[2]{%
  \def\@glsxtr@printglossopts{#1}%
  \@glsxtr@org@printglossary{#1}{#2}%
}
\define@choicekey{printgloss}{target}
[ \@glsxtr@printglossval\@glsxtr@printglossnr ]%
{true,false}[true]%
{%
  \ifcase\@glsxtr@printglossnr
    \def\@glstarget{\glsdohypertarget}%
  \else
    \let\@glstarget\@secondoftwo

```

```

\fi
}
\newcommand{\@glsxtrhypernameprefix}{}
\define@key{printgloss}{targetnameprefix}{%
  \renewcommand{\@glsxtrhypernameprefix}{#1}%
}
\define@key{printgloss}{prefix}{%
  \renewcommand{\glolinkprefix}{#1}%
}
\define@key{printgloss}{label}{%
  \glsxtrsetglossarylabel{#1}%
}
\newcommand{\glsxtrsetglossarylabel}[1]{%
  \renewcommand*{\@glossaryseclabel}{%
    \protected@edef\@currentlabelname{\glossarytoctitle}%
    \label{#1}%
  }%
}
\newcount\@glsxtr@leveloffset
\define@key{printgloss}{leveloffset}{%
  \@glsxtr@assign@leveloffset#1\relax
}
\newcommand*{\@glsxtr@assign@leveloffset}{%
  \@ifnextchar+{\p@glsxtr@assign@leveloffset}{\np@glsxtr@assign@leveloffset}%
}
\newcommand*{\p@glsxtr@assign@leveloffset}[1]{%
  \@ifnextchar+{\pp@glsxtr@assign@leveloffset}{\np@glsxtr@assign@leveloffset}%
}
\def\np@glsxtr@assign@leveloffset#1\relax{\@glsxtr@leveloffset=#1\relax}
\def\pp@glsxtr@assign@leveloffset#1\relax{\advance\@glsxtr@leveloffset by #1\relax}
\define@boolkey{printgloss}[glsxtr@printgloss@]{groups}[true]{}
\glsxtr@printgloss@groupstrue
\let\@glsxtr@org@glsdohypertarget\glsdohypertarget
\renewcommand{\glsdohypertarget}[2]{%
  \@glsxtr@org@glsdohypertarget{\@glsxtrhypernameprefix#1}{#2}%
}
\ifx\@glstarget\@glsxtr@org@glsdohypertarget
\def\@glstarget{\glsdohypertarget}%
\fi
\newcommand{\@glsxtr@do@org@target}[2]{%
  {%
    \let\glsdohypertarget\@glsxtr@org@glsdohypertarget
    \@glstarget{#1}{#2}%
  }%
}
\newcommand*{\glsxtr@makeglossaries}[1]{}
\def\@glsxtr@gettype#1,type=#2,#3\end@glsxtr@gettype{%
  \def\@glo@type{#2}%
}
\newcommand\@glsxtr@mixed@assign@sortkey[1]{%

```



```

\protected@edef\@glo@type{\@glo@type}%
\expandafter\DTLifinlist\expandafter{\@glo@type}{\@glxtr@reg@glosslist}%
{%
  \@glo@no@assign@sortkey{#1}%
}%
{%
  \@glo@assign@sortkey{#1}%
}%
}%
\let\@glxtr@idx@displaynumberlist\glsdisplaynumberlist
\newcommand*{\@glxtr@noidx@displaynumberlist}[1]{%
  \letcs{\@gls@loclist}{glo@\glsdetoklabel{#1}@loclist}%
  \ifdef\@gls@loclist
  {%
    \def\@gls@noidxloclist@sep{%
      \def\@gls@noidxloclist@sep{%
        \def\@gls@noidxloclist@sep{%
          \glsnumlistsep
        }%
      }%
    }%
    \def\@gls@noidxloclist@finalsep{\glsnumlistlastsep}%
  }%
  \def\@gls@noidxloclist@finalsep{}%
  \def\@gls@noidxloclist@prev{}%
  \forlistloop{\@gls@noidxdisplayloclisthandler}{\@gls@loclist}%
  \@gls@noidxloclist@finalsep
  \@gls@noidxloclist@prev
}%
{%
  \glxtrundeftag
  \glsdoifexists{#1}%
  {%
    \GlossariesWarning{Missing location list for ‘#1’. Either
      a rerun is required or you haven’t referenced the entry.}%
  }%
}%
}%
\newcommand*{\@glxtr@noidx@numberlistloop}[3]{%
  \letcs{\@gls@loclist}{glo@\glsdetoklabel{#1}@loclist}%
  \let\@gls@org@glsnoidxdisplayloc\glsnoidxdisplayloc
  \let\@gls@org@glsseeformat\glsseeformat
  \let\@glsnoidxdisplayloc#2\relax
  \let\@glsseeformat#3\relax
  \ifdef\@gls@loclist
  {%
    \forlistloop{\@glsnoidxnumberlistloophandler}{\@gls@loclist}%
  }%
  {%
    \glxtrundeftag

```

```

\glsdoifexists{#1}%
{%
  \GlossariesWarning{Missing location list for ‘##1’. Either
    a rerun is required or you haven’t referenced the entry.}%
}%
}%
\let\glsnoidxdisplayloc\@gls@org@glsnoidxdisplayloc
\let\glsseeformat\@gls@org@glsseeformat
}%
\newcommand*\@glsxtr@noidx@entrynumberlist}[1]{%
  \letcs{\@gls@loclist}{glo@\glsdetoklabel{#1}@loclist}%
  \ifdef\@gls@loclist
  {%
    \glsnoidxloclist{\@gls@loclist}%
  }%
  {%
    \glsxtrundeftag
    \glsdoifexists{#1}%
    {%
      \GlossariesWarning{Missing location list for ‘#1’. Either
        a rerun is required or you haven’t referenced the entry.}%
    }%
  }%
}%
\newcommand*\@glsxtr@idx@entrynumberlist}[1]{\glsentrynumberlist{#1}}
\renewcommand*\@gls@noidx@getgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{#1}%
  \ifdefvoid\@glsxtr@titlelabel
  {}%
  {%
    \protected@edef\@glsxtr@titlelabel{\csuse{glsxtr@grouptitle@#1}}%
  }%
  \ifdefvoid{\@glsxtr@titlelabel}%
  {%
    \DTLifint{#1}%
    {%
      \ifnum#1<256\relax
        \edef#2{\char#1\relax}%
      \else
        \edef#2{#1}%
      \fi
    }%
    {%
      \ifcsundef{#1groupname}%
      {\def#2{#1}}%
      {\letcs#2{#1groupname}}%
    }%
  }%
  {%
    \let#2\@glsxtr@titlelabel
  }%

```

```

}%
}
\let\glsxtr@org@getgrouptitle\@gls@getgrouptitle
\newrobustcmd{\glsxtr@getgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{\glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlelabel
  \ifcsdef{\@glsxtr@titlelabel}
  {\letcs{#2}{\@glsxtr@titlelabel}}%
  {\glsxtr@org@getgrouptitle{#1}{#2}}%
}
\let\@gls@getgrouptitle\glsxtr@getgrouptitle
\newcommand{\glsxtr@setgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{\glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlelabel
  \protected@csxdef{\@glsxtr@titlelabel}{#2}%
}
\newcommand{\glsxtr@localsetgrouptitle}[2]{%
  \protected@edef\@glsxtr@titlelabel{\glsxtr@grouptitle@#1}%
  \@onelevel@sanitize\@glsxtr@titlelabel
  \protected@csedef{\@glsxtr@titlelabel}{#2}%
}
\renewcommand*{\glsnavigation}{%
  \def\@gls@between{}%
  \ifcsundef{\@gls@hypergrouplist@\@glo@type}%
  {%
    \def\@gls@list{}%
  }%
  {%
    \expandafter\let\expandafter\@gls@list
    \csname @gls@hypergrouplist@\@glo@type\endcsname
  }%
  \@for\@gls@tmp:=\@gls@list\do{%
    \@gls@between
    \glsxtr@getgrouptitle{\@gls@tmp}{\@gls@grptitle}%
    \glsnavhyperlink{\@gls@tmp}{\@gls@grptitle}%
    \let\@gls@between\gls@hypernavsep
  }%
}
\renewcommand*{\@print@noidx@glossary}{%
  \ifcsdef{\@glsref@\@glo@type}%
  {%
    \ifcsdef{\@glo@sortmacro@\@glo@sorttype}%
    {%
      \csuse{\@glo@sortmacro@\@glo@sorttype}{\@glo@type}%
    }%
    {%
      \PackageError{glossaries}{Unknown sort handler '\@glo@sorttype'}{}%
    }%
    \glossarysection[\glossarytoctitle]{\glossarytitle}%
    \glossary preamble
  }%
}

```

```

\def\@gls@currentlettergroup{}%
\begin{theglossary}%
\glossaryheader
\glsresetentrylist
\forlistcsloop{\@gls@noidx@do}{\@gls@ref@{\@gls@type}}%
\end{theglossary}%
\glossarypostamble
}%
{%
\glsxtrifemptyglossary{\@gls@type}%
{}%
\glossarysection[\glossarytoctitle]{\glossarytitle}}%
\@gls@noref@warn{\@gls@type}%
}%
}
\renewcommand*\@glsnoidxdisplayloc}[4]{%
\setentrycounter[#1]{#2}%
\@glsxtr@display@loc#3\empty\end@glsxtr@display@loc{#4}%
}
\def\@glsxtr@display@loc#1#2\end@glsxtr@display@loc#3{%
\ifx#1\relax
\glsxtrdisplaystartloc{#2}{#3}%
\else
\ifx#1)\relax
\glsxtrdisplayendloc{#2}{#3}%
\else
\glsxtrdisplaysingleloc{#1#2}{#3}%
\fi
\fi
}
\newcommand*\@glsxtrdisplaysingleloc}[2]{%
\csuse{#1}{#2}%
}
\newcommand*\@glsxtrdisplaystartloc}[2]{%
\protected@edef\@glsxtrlocrangefmt{#1}%
\ifx\@glsxtrlocrangefmt\empty
\def\@glsxtrlocrangefmt{\glsnumberformat}%
\fi
\expandafter\@glsxtrdisplaysingleloc
\expandafter{\@glsxtrlocrangefmt}{#2}%
}
\newcommand*\@glsxtrdisplayendloc}[2]{%
\protected@edef\@glsxtr@tmp{#1}%
\ifdefempty{\@glsxtr@tmp}{\def\@glsxtr@tmp{\glsnumberformat}}{}%
\ifx\@glsxtrlocrangefmt\@glsxtr@tmp
\else
\GlossariesExtraWarning{Mismatched end location range
(start=\@glsxtrlocrangefmt, end=\@glsxtr@tmp)}%
\fi
\expandafter\@glsxtrdisplayendloohook\expandafter{\@glsxtr@tmp}{#2}%
}

```

```

\expandafter\glxtrdisplaysingleloc
\expandafter{\glxtrlocrangefmt}{#2}%
\def\glxtrlocrangefmt{}%
}
\newcommand*\glxtrdisplayendlochook}[2]{}
\newcommand*\glxtrlocrangefmt{}
\renewcommand*\setentrycounter}[2][{}]{%
\def\glxtrcounterprefix{#1}%
\ifx\glxtrcounterprefix\@empty
\def\@glo@counterprefix{.}%
\else
\def\@glo@counterprefix{.#1.}%
\fi
\def\glentrycounter{#2}%
}
\def\@gls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\@#2\%
\edef\@glo@tmp{\the\toks@}%
\ifx\@glo@tmp\empty
\else
\expandafter\glxtrlocationhyperlink\expandafter
\glentrycounter\expandafter\@glo@counterprefix\expandafter{\the\toks@}%
\fi
\else
\@gls@ReturnAfterFi{%
\@gls@removespaces#2\@nil
}%
\fi
}
\newcommand*\glxtrlocationhyperlink}[3]{%
\ifdefined\glxtrsupplocationurl
{%
\GlsXtrInternalLocationHyperlink{#1}{#2}{#3}%
}%
{%
\hyperref{\glxtrsupplocationurl}{-#1#2#3}{#3}%
}%
}
\newcommand*\glxtrsupphypernumber}[1]{%
{%
\glshasattribute{\glscurrententrylabel}{externalallocation}%
{%
\def\glxtrsupplocationurl{%
\glsetattribute{\glscurrententrylabel}{externalallocation}}%
}%
{%
\def\glxtrsupplocationurl{}%
}%
\glshypernumber{#1}%
}

```

```

}%
}
\renewcommand{\@print@glossary}{%
  \makeatletter
  \@input@{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
  \IfFileExists{\jobname.\csname @glotype@\@glo@type @in\endcsname}%
  {}%
  {\glstrNoGlossaryWarning{\@glo@type}}%
  \ifglxindy
  \ifcsundef{xdy@\@glo@type @language}%
  {%
    \edef\@do@auxoutstuff{%
      \noexpand\AtEndDocument{%
        \noexpand\immediate\noexpand\write\@auxout{%
          \string\providecommand\string\@xdylanguage[2]{}%
        }%
        \noexpand\immediate\noexpand\write\@auxout{%
          \string\@xdylanguage{\@glo@type}{\@xdy@main@language}}%
        }%
      }%
    }%
  }%
  {\edef\@do@auxoutstuff{%
    \noexpand\AtEndDocument{%
      \noexpand\immediate\noexpand\write\@auxout{%
        \string\providecommand\string\@xdylanguage[2]{}%
      }%
      \noexpand\immediate\noexpand\write\@auxout{%
        \string\@xdylanguage{\@glo@type}{\csname @xdy@\@glo@type
          @language\endcsname}}%
      }%
    }%
  }%
  \@do@auxoutstuff
  \edef\@do@auxoutstuff{%
    \noexpand\AtEndDocument{%
      \noexpand\immediate\noexpand\write\@auxout{%
        \string\providecommand\string\@gls@codepage[2]{}%
      }%
      \noexpand\immediate\noexpand\write\@auxout{%
        \string\@gls@codepage{\@glo@type}{\@gls@codepage}}%
      }%
    }%
  \@do@auxoutstuff
  \fi
  \renewcommand*{\@warn@nomakeglossaries}{%
    \GlossariesWarningNoLine{\string\makeglossaries\space
      hasn't been used,^^Jthe glossaries will not be updated}%
  }%
}
\newcommand{\GlsXtrNoGlsWarningHead}[2]{%
  This document is incomplete. The external file associated with
  the glossary '#1' (which should be called \texttt{#2})

```

```

hasn't been created.%
}
\newcommand{\GlsXtrNoGlsWarningEmptyStart}{%
  This has probably happened because there are no entries defined
  in this glossary.%
}
\newcommand{\GlsXtrNoGlsWarningEmptyMain}{%
  If you don't want this glossary,
  add \texttt{nomain} to your package option list when you load
  \texttt{glossaries-extra.sty}. For example:%
}
\newcommand{\GlsXtrNoGlsWarningEmptyNotMain}[1]{%
  Did you forget to use \texttt{type=#1} when you defined your
  entries? If you tried to load entries into this glossary with
  \texttt{\string\loadglsentries} did you remember to use
  \texttt{[#1]} as the optional argument? If you did, check that
  the definitions in the file you loaded all had the type set
  to \texttt{\string\glsdefaulttype}.%
}
\newcommand{\GlsXtrNoGlsWarningCheckFile}[1]{%
  Check the contents of the file \texttt{#1}. If
  it's empty, that means you haven't indexed any of your entries in this
  glossary (using commands like \texttt{\string\gls} or
  \texttt{\string\glsadd}) so this list can't be generated.
  If the file isn't empty, the document build process hasn't been
  completed.%
}
\newcommand{\GlsXtrNoGlsWarningAutoMake}[1]{%
  You may need to rerun \LaTeX. If you already have, it may be that
  \TeX's shell escape doesn't allow you to run
  \ifglxindy xindy\else makeindex\fi. Check the
  transcript file \texttt{\jobname.log}. If the shell escape is
  disabled, try one of the following:

  \begin{itemize}
    \item Run the external (Lua) application:

      \texttt{makeglossaries-lite \string"\jobname\string"}

    \item Run the external (Perl) application:

      \texttt{makeglossaries \string"\jobname\string"}
  \end{itemize}

  Then rerun \LaTeX\ on this document.
  \GlossariesExtraWarning{Rerun required to build the
  glossary '#1' or check TeX's shell escape allows
  you to run \ifglxindy xindy\else makeindex\fi}%
}
\newcommand{\GlsXtrNoGlsWarningMisMatch}{%

```

```

You need to either replace \texttt{\string\makenoidxglossaries}
with \texttt{\string\makeglossaries} or replace
\texttt{\string\printglossary} (or \texttt{\string\printglossaries}) with
\texttt{\string\printnoidxglossary}
(or \texttt{\string\printnoidxglossaries}) and then rebuild
this document.%
}
\newcommand{\GlsXtrNoGlsWarningBuildInfo}{%
  Try one of the following:
  \begin{itemize}
    \item Add \texttt{automake} to your package option list when you load
      \texttt{glossaries-extra.sty}. For example:

      \texttt{\string\usepackage[automake]%
        \glsopenbrace glossaries-extra\glsclosebrace}

    \item Run the external (Lua) application:

      \texttt{makeglossaries-lite.lua \string"\jobname\string"}

    \item Run the external (Perl) application:

      \texttt{makeglossaries \string"\jobname\string"}
  \end{itemize}

  Then rerun \LaTeX\ on this document.%
}
\newcommand{\GlsXtrRecordWarning}[1]{%
  \texttt{\string\printglossary} doesn't work
  with the \texttt{record=@glsxtr@record@setting} package option
  use\par\texttt{\string\printunsrtglossary[type=#1]}\par
  instead (or change the package option).%
}
\newcommand{\GlsXtrNoGlsWarningTail}{%
  This message will be removed once the problem has been fixed.%
}
\newcommand{\GlsXtrNoGlsWarningNoOut}[1]{%
  The file \texttt{#1} doesn't exist. This most likely means you haven't used
  \texttt{\string\makeglossaries} or you have used
  \texttt{\string\nofiles}. If this is just a draft version of the
  document, you can suppress this message using the
  \texttt{nomissingglstext} package option.%
}
\newcommand*{\@glsxtr@defaultnoglossarywarning}[1]{%
  \glossarysection[\glossarytoctitle]{\glossarytitle}
  \GlsXtrNoGlsWarningHead{#1}{\jobname.\csname @glo@type @in\endcsname}
  \par
  \glsxtrifemptyglossary{#1}%
  {%
    \GlsXtrNoGlsWarningEmptyStart\space

```



```

\ifthenelse{\equal{#1}{main}}{\GlsXtrNoGlsWarningEmptyMain\par
\medskip
\noindent\texttt{\string\usepackage[nomain\ifglsacronym ,acronym\fi]%
\glsopenbrace glossaries-extra\glsclosebrace}
\medskip
}%
{\GlsXtrNoGlsWarningEmptyNotMain{#1}}%
}%
{%
\IfFileExists{\jobname.\csname @glotype@\@glo@type @out\endcsname}
{%
\GlsXtrNoGlsWarningCheckFile
{\jobname.\csname @glotype@\@glo@type @out\endcsname}

\ifglsautomake

\GlsXtrNoGlsWarningAutoMake{#1}

\else

\ifthenelse{\equal{#1}{main}}%
{%
\GlsXtrNoGlsWarningEmptyMain\par
\medskip
\noindent\texttt{\string\usepackage[nomain]%
\glsopenbrace glossaries-extra\glsclosebrace}
\medskip
}%
{}}%

\ifdefequal\makeglossaries\@no@makeglossaries
{%
\GlsXtrNoGlsWarningMisMatch
}%
{%
\GlsXtrNoGlsWarningBuildInfo
}%
\fi
}%
{%
\GlsXtrNoGlsWarningNoOut
{\jobname.\csname @glotype@\@glo@type @out\endcsname}%
}%
\par
\GlsXtrNoGlsWarningTail
}
\newcommand*{@glsxtr@record@noglossarywarning}[1]{%
\GlossariesExtraWarning{\string\printglossary\space doesn't work\MessageBreak
with record=@glsxtr@record@setting\space package option\MessageBreak(use

```

```

\string\printunsrtglossary[type=#1)\MessageBreak
instead (or change the package option)}%
\glossarysection[\glossarytoctitle]{\glossarytitle}
\GlsXtrRecordWarning{#1}
\GlsXtrNoGlsWarningTail
}
\newcommand*{\GlsXtrDefaultResourceOptions}{}
\newcommand*{\glxtrresourcefile}[2] []{%
\disable@keys{glossaries-extra.sty}{record}%
\glxtr@writefields
\ifdefempty\GlsXtrDefaultResourceOptions
{%
\protected@write\@auxout{\glxtrresourceinit}%
{\string\glxtr@resource{#1}{#2}}%
}%
{%
\protected@write\@auxout{\glxtrresourceinit}%
{\string\glxtr@resource{\GlsXtrDefaultResourceOptions,#1}{#2}}%
}%
\let\@glxtr@org@see@noindex\@gls@see@noindex
\let\@gls@see@noindex\relax
\IfFileExists{#2.glstex}%
{%
\edef\@bibgls@restreat{\noexpand\catcode\noexpand'\noexpand\@=\number\catcode'\@}%
\makeatletter
\@input{#2.glstex}%
\@bibgls@restreat
\@glxtr@check@bibgls@nameref
}%
{%
\GlossariesExtraWarning{No file '#2.glstex'}%
}%
\let\@gls@see@noindex\@glxtr@org@see@noindex
}
\@onlypreamble\glxtrresourcefile
\newcommand{\@glxtr@check@bibgls@nameref}{%
\ifx\@glxtr@record@setting\@glxtr@record@setting@nameref
\ifdef\bibgls@shrefchar
{}%
{%
\GlossariesExtraWarning{record=nameref requires at least
version 1.8 of bib2gls}%
}%
\fi
\let\@glxtr@check@bibgls@nameref\relax
}
\newcommand*{\glxtrresourceinit}{}
\newcount\glxtrresourcecount
\newcommand*{\GlsXtrLoadResources}[1] []{%
\ifnum\glxtrresourcecount=0\relax

```

```

\glxtrresourcefile[#1]{\jobname}%
\else
\glxtrresourcefile[#1]{\jobname-\the\glxtrresourcecount}%
\fi
\advance\glxtrresourcecount by 1\relax
}
\newcommand*\glxtr@resource}[2]{}
\newcommand*\glxtr@fields}[1]{}
\newcommand*\glxtr@texencoding}[1]{}
\newcommand*\glxtr@langtag}[1]{}
\newcommand*\glxtr@pluralsuffixes}[4]{}
\newcommand*\glxtr@shortcutsval}[1]{}
\newcommand*\glxtr@linkprefix}[1]{}
\newcommand*\glxtr@writefields}{%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@fields}[1]{}}%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@resource}[2]{}}%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@pluralsuffixes}[4]{}}%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@shortcutsval}[1]{}}%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@linkprefix}[1]{}}%
\protected@write\auxout{}{\string\glxtr@fields{\@gls@keymap}}%
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@record}[5]{}}%
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@nameref
\protected@write\auxout{}%
{\string\providecommand*\string\glxtr@record@nameref}[8]{}}%
\fi
\ifdef\CurrentTrackedLanguageTag
{%
\protected@write\auxout{}{%
\string\glxtr@langtag{\CurrentTrackedLanguageTag}}%
}%
}%
\protected@write\auxout{}{\string\glxtr@pluralsuffixes
{\glspluralsuffix}{\abbrvpluralsuffix}{\acrpluralsuffix}%
{\glxtrabbrvpluralsuffix}}%
\ifdef\inputencodingname
{%
\protected@write\auxout{}{\string\glxtr@texencoding{\inputencodingname}}%
}%
}%
\@ifpackageloaded{fontspec}%
{\protected@write\auxout{}{\string\glxtr@texencoding{utf8}}}%
{}%
}%
\protected@write\auxout{}{\string\glxtr@shortcutsval{\@glsxtr@shortcutsval}}%

```

```

\AtBeginDocument
  {\protected@write\@auxout{}\string\glsxtr@linkprefix{\glolinkprefix}}}%
\let\glsxtr@writefields\relax
\ifglsautomake
  \IfFileExists{\jobname.aux}%
  {\immediate\write18{bib2gls \jobname}}{}%
  \ifx\@gls@doautomake\@gls@doautomake@err
    \let\@gls@doautomake\relax
  \fi
\fi
\@glsxtr@if@record@only
{\ifdefstring{\glsorder}{letter}%
  {\GlossariesExtraWarningNoLine{Package option 'order=letter' isn't
supported with 'record=\@glsxtr@record@setting'. Use 'break-at=none'
resource option instead}}}%
{}%
}%
}%
}
\newcommand*{\@gls@doautomake@err}{%
  \PackageError{glossaries}{You must use
\string\makeglossaries\space with automake=true}
{%
  Either remove the automake=true setting or
  add \string\makeglossaries\space to your document preamble.%
}%
}
\newcommand*{\glsxtr@record}[5]{%
\newcommand*{\glsxtr@record@nameref}[8]{%
\newcommand*{\glsxtr@counterrecord}[3]{%
  \glsxtrfieldlistgadd{#1}{record.#2}{#3}%
}
\newcommand*{\@glsxtr@counterrecordhook}{%
\newcommand*{\GlsXtrRecordCounter}[1]{%
  \@glsxtr@recordcounter{#1}%
}
\@onlypreamble\GlsXtrRecordCounter
\newcommand*{\@glsxtr@docounterrecord}[1]{%
  \protected@write\@auxout{}\string\glsxtr@counterrecord
  {\@gls@label}{#1}{\csuse{the#1}}}%
}
\newcommand*{\glsxtrglossentry}[1]{%
  \glsxtrtitleorpdforheading
  {\@glsxtrglossentry{#1}}%
  {\glsentryname{#1}}%
  {\glsxtrheadname{#1}}%
}
\newrobustcmd*{\@glsxtrglossentry}[1]{%
  \glsxtrtitleorpdforheading
  {%

```

```

\glsdoifexists{#1}%
{%
  \begingroup
    \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
    \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
    \ifglshasparent{#1}%
      {\GlsXtrStandaloneSubEntryItem{#1}}%
      {\glsentryitem{#1}}%
      \GlsXtrStandaloneEntryName{#1}%
    \endgroup
  }%
}%
{\glsentryname{#1}}%
{\glsxtrheadname{#1}}%
}
\newcommand*{\GlsXtrStandaloneEntryName}[1]{%
  \glstarget{#1}{\glsentryname{#1}}%
}
\newcommand{\GlsXtrStandaloneGlossaryType}{\glsentrytype{\glscurrententrylabel}}
\newcommand*{\GlsXtrStandaloneSubEntryItem}[1]{%
  \GlsXtrIfFieldEqNum[level]{#1}{1}{\glsesubentryitem{#1}}{}%
}
\newcommand*{\glsxtrglossentryother}[3]{%
  \ifstrempy{#1}%
  {%
    \ifcsdef{glsxtrhead#3}%
    {%
      \glsxtrtitleorpdforheading
      {\@glsxtrglossentryother{#2}{#3}{#1}}%
      {\@gls@entry@field{#2}{#3}}%
      {\csuse{glsxtrhead#3}{#2}}%
    }%
    {%
      \glsxtrtitleorpdforheading
      {\@glsxtrglossentryother{#2}{#3}{#1}}%
      {\@gls@entry@field{#2}{#3}}%
      {\@gls@entry@field{\NoCaseChange{#2}}{#3}}%
    }%
  }%
}
\newrobustcmd*{\@glsxtrglossentryother}[3]{%
  \glsxtrtitleorpdforheading
  {%
    \glsdoifexists{#1}%

```

```

    {%
      \begingroup
        \protected@edef\glscurrententrylabel{\glsdetoklabel{#1}}%
        \protected@edef\currentglossary{\GlsXtrStandaloneGlossaryType}%
        \ifglshasparent{#1}%
          {\GlsXtrStandaloneSubEntryItem{#1}}%
          {\glsentryitem{#1}}%
          \GlsXtrStandaloneEntryOther{#1}%
        \endgroup
      }%
    }%
    {\@gls@entry@field{#1}{#2}}%
    {#3}%
  }
\newcommand*{\GlsXtrStandaloneEntryOther}[2]{%
  \glstarget{#1}{\glossentrynameother{#1}{#2}}%
}
\ifdef\@printgloss@checkexists
{
  \newcommand*{\printunsrtglossary}{%
    \let\@printgloss@checkexists\@printgloss@checkexists@allowignored
    \ifstar\s@printunsrtglossary\@printunsrtglossary
  }
}
{
  \newcommand*{\printunsrtglossary}{%
    \ifstar\s@printunsrtglossary\@printunsrtglossary
  }
}
\newcommand*{\@printunsrtglossary}[1][ ]{%
  \@printglossary{type=\glsdefaulttype,#1}{\@print@unsrt@glossary}%
}
\newcommand*{\s@printunsrtglossary}[2][ ]{%
  \begingroup
    #2%
    \@printglossary{type=\glsdefaulttype,#1}{\@print@unsrt@glossary}%
  \endgroup
}
\newcommand*{\printunsrtglossaries}{%
  \foralllglossaries{\@glo@type}{\printunsrtglossary[type=\@glo@type]}%
}

\newcommand*{\@print@unsrt@glossary}{%
  \glossarysection[\glossarytoctitle]{\glossarytitle}%
  \glossary preamble
  \glsxtrifemptyglossary{\@glo@type}%
  {%
    \GlossariesExtraWarning{No entries defined in glossary ‘\@glo@type’}%
  }%
  {%

```

```

\key@ifundefined{glossentry}{group}%
{\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle}%
{\let\@gls@getgrouptitle\@glsxtr@unsrt@getgrouptitle}%
\def\@gls@currentlettergroup{}%
\def\@glsxtr@doglossary{%
  \begin{theglossary}%
  \glossaryheader
  \glsresetentrylist
}%
\expandafter\@for\expandafter\glscurrententrylabel\expandafter
:\expandafter=\csname glolist@\@glo@type\endcsname\do{%
\ifdefempty{\glscurrententrylabel}
{}%
{%
  \let\@glsxtr@process\@firstofone
  \let\@printunsrtglossaryskipentry
    \@glsxtr@printunsrtglossaryskipentry
  \printunsrtglossaryentryprocesshook{\glscurrententrylabel}%
  \@glsxtr@process
  {%
    \ifglsxtr@printgloss@groups
    \ifglshasparent{\glscurrententrylabel}{}%
    {%
      \@glsxtr@checkgroup\glscurrententrylabel
      \expandafter\appto\expandafter\@glsxtr@doglossary\expandafter
        {\@glsxtr@groupheading}%
    }%
    \fi
    \protected@eappto\@glsxtr@doglossary{%
      \noexpand\@printunsrt@glossary@handler{\glscurrententrylabel}}%
    }%
  }%
}%
\appto\@glsxtr@doglossary{\end{theglossary}}%
\printunsrtglossarypredoglossary
\@glsxtr@doglossary
}%
\glossarypostamble
}
\newcommand*{\printunsrtinnerglossary}[3][]{%
\begingroup
\def\@glsxtr@printglossopts{#1}%
\def\@glo@type{\glsdefaulttype}%
\setkeys{printgloss}[title,toctitle,style,numberedsection,sort,label]{#1}%
\let\currentglossary\@glo@type
#2%
\@print@unsrt@innerglossary
#3%
\endgroup
}

```

```

\newenvironment{printunsrtglossarywrap}[1][1]{
{
\def\@glsxtr@printglossopts{#1}%
\def\@glo@type{\glsdefaulttype}%
\def\glossarytitle{\csname @glo@type\endcsname @title\endcsname}%
\def\glossarytoctitle{\glossarytitle}%
\let\org@glossarytitle\glossarytitle
\def\@glossarystyle{%
\ifx\@glossary@default@style\relax
\GlossariesWarning{No default glossary style provided \MessageBreak
for the glossary '@glo@type'. \MessageBreak
Using deprecated fallback. \MessageBreak
To fix this set the style with \MessageBreak
\string\setglossarystyle\space or use the \MessageBreak
style key=value option}%
\fi
}%
\def\gls@dotoc@title{\glssettoctitle{\@glo@type}}%
\let\@org@glossaryentrynumbers\glossaryentrynumbers
\@printgloss@setsort
\setkeys{printgloss}{#1}%
\ifglossaryexists*{\@glo@type}%
{
\ifx\glossarytitle\org@glossarytitle
\else
\expandafter\let\csname @glo@type\endcsname
\glossarytitle
\fi
\let\currentglossary\@glo@type
}%
}%
\let\org@glossaryentrynumbers\glossaryentrynumbers
\let\glsnonextpages\@glsnonextpages
\let\glsnextpages\@glsnextpages
\let\nopostdesc\@nopostdesc
\gls@dotoc@title
\@glossarystyle
\let\gls@org@glossaryentryfield\glossentry
\let\gls@org@glossarysubentryfield\subglossentry
\renewcommand{\glossentry}[1]{%
\protected@xdef\glscurrententrylabel{\glsdetoklabel{##1}}%
\gls@org@glossaryentryfield{##1}%
}%
\renewcommand{\subglossentry}[2]{%
\protected@xdef\glscurrententrylabel{\glsdetoklabel{##2}}%
\gls@org@glossarysubentryfield{##1}{##2}%
}%
\@gls@preglossaryhook
\glossarysection[\glossarytoctitle]{\glossarytitle}%
\glossarypreamble

```



```

\begin{theglossary}%
\glossaryheader
\glsresetentrylist
}%
{%
\end{theglossary}%
\glossarypostamble
\global\let\glossaryentrynumbers\org@glossaryentrynumbers
\global\let\warn@noprntglossary\relax
}
\newcommand*{\@print@unsrt@innerglossary}{%
\glsxtrifemptyglossary{\@glo@type}%
{%
\GlossariesExtraWarning{No entries defined in glossary ‘\@glo@type’}%
}%
{%
\key@ifundefined{glossentry}{group}%
{\let\@gls@getgrouptitle\@gls@noidx@getgrouptitle}%
{\let\@gls@getgrouptitle\@glsxtr@unsrt@getgrouptitle}%
\def\@gls@currentlettergroup{ }%
\def\@glsxtr@doglossary{ }%
\expandafter\@for\expandafter\@gls@currententrylabel\expandafter
:\expandafter=\csname glolist@\@glo@type\endcsname\do{%
\ifdefempty{\@gls@currententrylabel}
{ }%
{%
\let\@glsxtr@process\@firstofone
\let\@printunsrtglossaryskipentry
\@glsxtr@printunsrtglossaryskipentry
\@printunsrtglossaryentryprocesshook{\@gls@currententrylabel}%
\@glsxtr@process
{%
\if@glsxtr@printgloss@groups
\ifglshasparent{\@gls@currententrylabel}{ }%
{%
\@glsxtr@checkgroup\@gls@currententrylabel
\expandafter\@appto\expandafter\@glsxtr@doglossary\expandafter
{\@glsxtr@groupheading}%
}%
\fi
\protected@eappto\@glsxtr@doglossary{%
\noexpand\@printunsrt@glossary@handler{\@gls@currententrylabel}}%
}%
}%
\printunsrtglossarypredoglossary
\@glsxtr@doglossary
}%
}
\newcommand*{\@printunsrtglossaryentryprocesshook}[1]{ }

```

```

\newcommand*\printunsrtglossaryskipentry}{%
  \PackageError{glossaries-extra}{\string\printunsrtglossaryskipentry\space
can only be used within \string\printunsrtglossaryentryprocesshook}{}%
}
\newcommand*\@glxstr@printunsrtglossaryskipentry}{%
  \let\glxstr@process@gobble
}
\newcommand*\printunsrtglossarypredoglossary}{%
\newcommand*\@printunsrt@glossary@handler}[1]{%
  \protected@xdef\glscurrententrylabel{#1}%
  \printunsrtglossaryhandler\glscurrententrylabel
}
\newcommand*\printunsrtglossaryhandler}[1]{%
  \glxstrunsrtdo{#1}%
}
\newrobustcmd*\glxstriflabelinlist}[4]{%
  \protected@edef\@glxstr@doiflabelinlist{\noexpand\@glx@ifinlist{#1}{#2}}%
  \@glxstr@doiflabelinlist{#3}{#4}%
}
\newcommand*\print@op@unsrtglossaryunit}[2][1]{%
  \s@printunsrtglossary[type=\glstypedefaulttype,#1]{%
    \printunsrtglossaryunitsetup{#2}%
  }%
}
\newcommand*\printunsrtglossaryunitsetup}[1]{%
  \renewcommand*\printunsrtglossaryhandler}[1]{%
    \glxstrfieldxifinlist{##1}{record.#1}{\csuse{the#1}}
    {\glxstrunsrtdo{##1}}%
    {}%
  }%
  \ifcsundef{theH#1}%
  {%
    \renewcommand*\@glxstrhypernameprefix}{record.#1.\csuse{the#1}.\@gobble}%
  }%
  {%
    \renewcommand*\@glxstrhypernameprefix}{record.#1.\csuse{theH#1}.\@gobble}%
  }%
  \renewcommand*\glossarysection}[2][1]{%
    \appto\glossarypostamble{\glspare\medskip\glspare}%
  }
\newcommand*\print@noop@unsrtglossaryunit}[2][1]{%
  \PackageError{glossaries-extra}{\string\printunsrtglossaryunit\space
requires the record=only or record=alsoindex package option}{}%
}
\newrobustcmd*\@glxstr@unsrt@getgrouptitle}[2]{%
  \protected@edef\@glxstr@titlelabel{\glxstr@grouptitle@#1}%
  \@onelevel@sanitize\@glxstr@titlelabel
  \ifcsdef{\@glxstr@titlelabel}
  {\letcs{#2}{\@glxstr@titlelabel}}%
  {\def#2{#1}}%
}

```

```

}
\newcommand{\glsxtrunsrtdo}{\@glsxtr@noidx@do}
\newcommand*{\glsxtrgroupfield}{group}
\newcommand*{\@glsxtr@checkgroup}[1]{%
  \def\@glsxtr@groupheading{%
    \key@ifundefined{glossentry}{group}%
    {%
      \letcs{\@gls@sort}{glo@\glsdetoklabel{#1}@sort}%
      \expandafter\glo@grabfirst\@gls@sort}{}\@nil
    }%
  }%
  \protected@edef\@glo@thislettergrp{%
    \csuse{glo@\glsdetoklabel{#1}@\glsxtrgroupfield}}%
}%
\ifdefequal{\@glo@thislettergrp}{\@gls@currentlettergroup}%
{}%
{%
  \ifdefempty{\@gls@currentlettergroup}{%
    {\def\@glsxtr@groupheading{\gls@groupskip}}%
    \protected@eappto\@glsxtr@groupheading{%
      \noexpand\gls@groupheading\@expandonce\@glo@thislettergrp}%
    }%
  }%
\let\@gls@currentlettergroup\@glo@thislettergrp
}
\newcommand*{\GlsXtrLocationField}{location}
\newcommand{\@glsxtr@noidx@do}[1]{%
  \ifglsentryexists{#1}%
  {%
    \global\letcs{\@gls@loclist}{glo@\glsdetoklabel{#1}@loclist}%
    \global\letcs{\@gls@location}{glo@\glsdetoklabel{#1}@\GlsXtrLocationField}%
    \gls@level=\numexpr\csuse{glo@\glsdetoklabel{#1}@level}+\@glsxtr@leveloffset\relax
    \ifnum\gls@level>0
      \let\@glsxtr@ifischild\@firstoftwo
    \else
      \let\@glsxtr@ifischild\@secondoftwo
    \fi
    \@glsxtr@ifischild
  }%
  \ifdefvoid{\@gls@location}%
  {%
    \ifdefvoid{\@gls@loclist}%
    {%
      \expandafter\subglossentry\expandafter{\number\gls@level}{#1}{}%
    }%
    {%
      \expandafter\subglossentry\expandafter{\number\gls@level}{#1}%
    }%
    \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
  }%
}

```

```

    }%
  }%
  {%
    \expandafter\subglossentry\expandafter
      {\number\gls@level}{#1}{\glossaryentrynumbers{\@gls@location}}%
  }%
}%
{%
  \ifdefvoid{\@gls@location}%
  {%
    \ifdefvoid{\@gls@loclist}
    {%
      \glossentry{#1}{}%
    }%
    {%
      \glossentry{#1}%
      {%
        \glossaryentrynumbers{\glsnoidxloclist{\@gls@loclist}}%
      }%
    }%
  }%
}%
  {%
    \glossentry{#1}%
    {%
      \glossaryentrynumbers{\@gls@location}%
    }%
  }%
}%
}%
}
\newcount\@glsxtrnewgls@inner
\newcommand*{\@glsxtr@providenewgls}{%
  \protected@write\@auxout{}{\string\providecommand{\string\@glsxtr@newglslike}[2]{}}%
  \let\@glsxtr@providenewgls\relax
}
\newcommand{\@glsxtridentifyglslike}[2]{%
  \ifdefequal\@glsxtr@record@setting\@glsxtr@record@setting@off
  {}%
  {%
    \@glsxtr@providenewgls
    \protected@write\@auxout{}{\string\@glsxtr@newglslike{#1}{\string#2}}%
  }%
}
\newcommand*{\@glsxtrnewgls}[4]{%
  \ifdef{#3}%
  {%
    \PackageError{glossaries-extra}{Command \string#3\space already
defined}{}%
  }%
}

```

```

{%
  \glxstridentifyglslike{#2}{#3}%
  \ifcsdef{@#4like@#2}%
  {%
    \advance\@glxstrnewgls@inner by \@ne
    \def\@glxstrnewgls@innercsname{@#4like\number\@glxstrnewgls@inner @#2}%
  }%
  {\def\@glxstrnewgls@innercsname{@#4like@#2}}%
  \expandafter\newrobustcmd\expandafter*\expandafter
  #3\expandafter{\expandafter\@glshypopt\csname\@glxstrnewgls@innercsname\endcsname}%
  \ifstrempy{#1}%
  {%
    \expandafter\newcommand\expandafter*\csname\@glxstrnewgls@innercsname\endcsname[2][]{%
      \new@ifnextchar [%
        {\csname @#4@\endcsname{##1}{#2##2}}%
        {\csname @#4@\endcsname{##1}{#2##2} []}%
      ]%
    }%
  }%
  {%
    \expandafter\newcommand\expandafter*\csname\@glxstrnewgls@innercsname\endcsname[2][]{%
      \new@ifnextchar [%
        {\csname @#4@\endcsname{#1,##1}{#2##2}}%
        {\csname @#4@\endcsname{#1,##1}{#2##2} []}%
      ]%
    }%
  }%
}
\newrobustcmd*\@glxstrnewgls}[3][]{%
  \@glxstrnewgls{#1}{#2}{#3}{gls}%
}
\newrobustcmd*\@glxstrnewglslike}[6][]{%
  \@glxstrnewgls{#1}{#2}{#3}{gls}%
  \@glxstrnewgls{#1}{#2}{#4}{glspl}%
  \@glxstrnewgls{#1}{#2}{#5}{Gls}%
  \@glxstrnewgls{#1}{#2}{#6}{Glspl}%
}
\newrobustcmd*\@glxstrnewGLSlike}[4][]{%
  \@glxstrnewgls{#1}{#2}{#3}{GLS}%
  \@glxstrnewgls{#1}{#2}{#4}{GLSpl}%
}
\newrobustcmd*\@glxstrnewrgls}[3][]{%
  \@glxstrnewgls{#1}{#2}{#3}{rgls}%
}
\newrobustcmd*\@glxstrnewrglslike}[6][]{%
  \@glxstrnewgls{#1}{#2}{#3}{rgls}%
  \@glxstrnewgls{#1}{#2}{#4}{rglspl}%
  \@glxstrnewgls{#1}{#2}{#5}{rGls}%
  \@glxstrnewgls{#1}{#2}{#6}{rGlspl}%
}
\newrobustcmd*\@glxstrnewrGLSlike}[4][]{%

```

```

    \@glsxtrnewgls{#1}{#2}{#3}{rGLS}%
    \@glsxtrnewgls{#1}{#2}{#4}{rGLSpl}%
}
\newcommand*\GlsXtrTotalRecordCount}[1]{%
  \ifcsdef{glo@glsdetoklabel{#1}@recordcount}%
  {\csname glo@glsdetoklabel{#1}@recordcount\endcsname}%
  {0}%
}
\newcommand*\GlsXtrRecordCount}[2]{%
  \ifcsdef{glo@glsdetoklabel{#1}@recordcount.#2}%
  {\csname glo@glsdetoklabel{#1}@recordcount.#2\endcsname}%
  {0}%
}
\newcommand*\GlsXtrLocationRecordCount}[3]{%
  \ifcsdef{glo@glsdetoklabel{#1}@recordcount.#2.\glsxtrdetoklocation{#3}}%
  {\csname glo@glsdetoklabel{#1}@recordcount.#2.\glsxtrdetoklocation{#3}\endcsname}%
  {0}%
}
\newcommand*\glsxtrdetoklocation}[1]{#1}
\newcommand*\glsxtrenablerecordcount}{%
  \renewcommand*\gls{\rgls}%
  \renewcommand*\Gls{\rGls}%
  \renewcommand*\glspl{\rglspl}%
  \renewcommand*\Glspl{\rGlspl}%
  \renewcommand*\GLS{\rGLS}%
  \renewcommand*\GLSpl{\rGLSpl}%
}
\newcommand*\glsxtrrecordtriggervalue}[1]{%
  \GlsXtrTotalRecordCount{#1}%
}
\newcommand*\GlsXtrSetRecordCountAttribute}[2]{%
  \@for\@glsxtr@cat:=#1\do
  {%
    \ifdefempty{\@glsxtr@cat}{}%
    {%
      \glssetcategoryattribute{\@glsxtr@cat}{recordcount}{#2}%
    }%
  }%
}
\newcommand*\glsxtrifrecordtrigger}[3]{%
  \glsattribute{#1}{recordcount}%
  {%
    \ifnum\glsxtrrecordtriggervalue{#1}>\glsattribute{#1}{recordcount}\relax
    #3%
    \else
    #2%
    \fi
  }%
  {#3}%
}
}

```

```

\newcommand*{\@glsxtr@rglstrigger@record}[3]{%
  \protected@edef\glslabel{\glsdetoklabel{#2}}%
  \let\@gls@link@label\glslabel
  \def\@glsxtr@thevalue{%
  \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
  \def\@glsnumberformat{glstriggerrecordformat}%
  \protected@edef\@gls@counter{\csname glo@\glslabel @counter\endcsname}%
  \protected@edef\@gls@type{\csname glo@\glslabel @type\endcsname}%
  \def\@glsxtr@thevalue{%
  \def\@glsxtr@theHvalue{\@glsxtr@thevalue}%
  \@gls@save@glslocal
  \glsxtrinitwrgloss
  \glslinkpresetkeys
  \setkeys{glslink}{#1}%
  \glslinkpostsetkeys
  \ifdefempty{\@glsxtr@thevalue}%
  {%
    \@gls@saveentrycounter
  }%
  {%
    \let\theHglentrycounter\@glsxtr@thevalue
    \def\theHglentrycounter{\@glsxtr@theHvalue}%
  }%
  \glslinkwcontent
  {%
    \ifglsxtrinitwrglossbefore
      \do@wrglossary{#2}%
    \fi
    #3%
    \ifglsxtrinitwrglossbefore
      \else
        \do@wrglossary{#2}%
      \fi
  }%
  \@gls@restore@glslocal
  \@gls@do@glsunset{#2}%
}
\newcommand*{\glstriggerrecordformat}[1]{%
\newrobustcmd*{\rgls}{\@gls@hyp@opt\@rgls}
\newcommand*{\@rgls}[2][1]{%
  \new@ifnextchar[{\@rgls@{#1}{#2}}{\@rgls@{#1}{#2}[]}%
}
\def\@rgls@#1#2[#3]{%
  \glsxtrifrecordtrigger{#2}%
  {%
    \@glsxtr@rglstrigger@record{#1}{#2}{\rglsformat{#2}{#3}}%
  }%
  {%
    \@gls@{#1}{#2}[#3]%
  }%
}

```

```

}%
\newrobustcmd*{\rglsp1}{\@gls@hyp@opt\@rglsp1}
\newcommand*{\@rglsp1}[2] [] {%
  \new@ifnextchar[{\@rglsp1@{#1}{#2}}{\@rglsp1@{#1}{#2} []}%
}
\def\@rglsp1@#1#2[#3]{%
  \glstriferecordtrigger{#2}%
  {%
    \@glstr@rglstrigger@record{#1}{#2}{\rglsp1format{#2}{#3}}%
  }%
  {%
    \@rglsp1@{#1}{#2}[#3]%
  }%
}%
}%
\newrobustcmd*{\rGls}{\@gls@hyp@opt\@rGls}
\newcommand*{\@rGls}[2] [] {%
  \new@ifnextchar[{\@rGls@{#1}{#2}}{\@rGls@{#1}{#2} []}%
}
\def\@rGls@#1#2[#3]{%
  \glstriferecordtrigger{#2}%
  {%
    \@glstr@rglstrigger@record{#1}{#2}{\rGlsformat{#2}{#3}}%
  }%
  {%
    \@rGls@{#1}{#2}[#3]%
  }%
}%
}%
\newrobustcmd*{\rGlspl}{\@gls@hyp@opt\@rGlspl}
\newcommand*{\@rGlspl}[2] [] {%
  \new@ifnextchar[{\@rGlspl@{#1}{#2}}{\@rGlspl@{#1}{#2} []}%
}
\def\@rGlspl@#1#2[#3]{%
  \glstriferecordtrigger{#2}%
  {%
    \@glstr@rglstrigger@record{#1}{#2}{\rGlsplformat{#2}{#3}}%
  }%
  {%
    \@rGlspl@{#1}{#2}[#3]%
  }%
}%
}%
\newrobustcmd*{\rGLS}{\@gls@hyp@opt\@rGLS}
\newcommand*{\@rGLS}[2] [] {%
  \new@ifnextchar[{\@rGLS@{#1}{#2}}{\@rGLS@{#1}{#2} []}%
}
\def\@rGLS@#1#2[#3]{%
  \glstriferecordtrigger{#2}%
  {%
    \@glstr@rglstrigger@record{#1}{#2}{\rGLSformat{#2}{#3}}%
  }%
  {%
    \@rGLS@{#1}{#2}[#3]%
  }%
}%
}

```



```

        \@GLS@{#1}{#2}[#3]%
    }%
}%
\newrobustcmd*{\rGLSpl}{\@gls@hyp@opt\rGLSpl}
\newcommand*{\@rGLSpl}[2][{}]{%
    \new@ifnextchar[{\@rGLSpl@{#1}{#2}}{\@rGLSpl@{#1}{#2}[{}]}%
}
\def\@rGLSpl@#1#2[#3]{%
    \glsxtrifrecordtrigger{#2}%
    {%
        \@glsxtr@rglstrigger@record{#1}{#2}{\rGLSplformat{#2}{#3}}%
    }%
    {%
        \@GLSpl@{#1}{#2}[#3]%
    }%
}%
\newcommand*{\rglsformat}[2]{%
    \glsifregular{#1}
    {\glsentryfirst{#1}}%
    {\ifglshaslong{#1}{\glsentrylong{#1}}{\glsentryfirst{#1}}#2%
}
\newcommand*{\rglsplformat}[2]{%
    \glsifregular{#1}
    {\glsentryfirstplural{#1}}%
    {\ifglshaslong{#1}{\glsentrylongplural{#1}}{\glsentryfirstplural{#1}}#2%
}
\newcommand*{\rGlsformat}[2]{%
    \glsifregular{#1}
    {\Glsentryfirst{#1}}%
    {\ifglshaslong{#1}{\Glsentrylong{#1}}{\Glsentryfirst{#1}}#2%
}
\newcommand*{\rGlsplformat}[2]{%
    \glsifregular{#1}
    {\Glsentryfirstplural{#1}}%
    {\ifglshaslong{#1}{\Glsentrylongplural{#1}}{\Glsentryfirstplural{#1}}#2%
}
\newcommand*{\rGLSformat}[2]{%
    \expandafter\mfirstucMakeUppercase\expandafter{\rglsformat{#1}{#2}}%
}
\newcommand*{\rGLSplformat}[2]{%
    \expandafter\mfirstucMakeUppercase\expandafter{\rglsplformat{#1}{#2}}%
}
\newcommand{\@glsxtr@do@inc@linkcount}{%
    \glsifattribute{\glslabel}{linkcount}{true}%
    {%
        \ifcsdef{c@glsxtr@linkcount@\glslabel}{%
            {%
                \newcounter{glsxtr@linkcount@\glslabel}%
                \glshasattribute{\glslabel}{linkcountmaster}%
            }%
        }%
    }%
}

```

```

        \begingroup
        \edef\@glo@tmp{\endgroup\noexpand\@addtoreset{glsxtr@linkcount@\glslabel}%
        {glsgetattribute{\glslabel}{linkcountmaster}}}%
        \@glo@tmp
    }%
    {}%
    }%
    \glsxtrinclinkcounter{glsxtr@linkcount@\glslabel}%
    }%
    {}%
}
\newcommand*\glsxtrinclinkcounter}[1]{\stepcounter{#1}}
\newcommand*\GlsXtrLinkCounterValue}[1]{%
\ifcsundef{c@glsxtr@linkcount@#1}{0}{\csname c@glsxtr@linkcount@#1\endcsname}%
}
\newcommand*\GlsXtrTheLinkCounter}[1]{%
\ifcsundef{theglsxtr@linkcount@#1}{0}%
{\csname theglsxtr@linkcount@#1\endcsname}%
}
\newcommand*\GlsXtrIfLinkCounterDef}[3]{%
\ifcsundef{theglsxtr@linkcount@#1}{#3}{#2}%
}
\newcommand*\GlsXtrLinkCounterName}[1]{glsxtr@linkcount@#1}
\newcommand*\GlsXtrEnableLinkCounting}[2][1]{%
\let\glsxtr@inc@linkcount\@glsxtr@do@inc@linkcount
\@for\@glsxtr@label:=#2\do
{%
\glssetcategoryattribute{\@glsxtr@label}{linkcount}{true}%
\ifstrempy{#1}{%
{%
\ifcsundef{c@#1}%
{\@nocounterr{#1}}%
{\glssetcategoryattribute{\@glsxtr@label}{linkcountmaster}{#1}}%
}%
}%
}
}
\@onlypreamble\GlsXtrEnableLinkCounting
\@ifpackageloaded{glossaries-accsupp}
{
\newcommand*\glsaccessname}[1]{%
\glsnameaccessdisplay
{%
\glsentryname{#1}%
}%
{#1}%
}
\newcommand*\Glsaccessname}[1]{%
\glsnameaccessdisplay
{%
\Glsentryname{#1}%
}
}

```

```

}%
{#1}%
}
\newcommand*{\GLSaccessname}[1]{%
  \glsnameaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentryname{#1}}%
  }%
  {#1}%
}
\newcommand*{\glsaccessstext}[1]{%
  \glsstextaccessdisplay
  {%
    \glsentrytext{#1}%
  }%
  {#1}%
}
\newcommand*{\Glsaccessstext}[1]{%
  \glsstextaccessdisplay
  {%
    \Glsentrytext{#1}%
  }%
  {#1}%
}
\newcommand*{\GLSaccessstext}[1]{%
  \glsstextaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentrytext{#1}}%
  }%
  {#1}%
}
\newcommand*{\glsaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \glsentryplural{#1}%
  }%
  {#1}%
}
\newcommand*{\Glsaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \Glsentryplural{#1}%
  }%
  {#1}%
}
\newcommand*{\GLSaccessplural}[1]{%
  \glspluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentryplural{#1}}%
  }%
  {#1}%
}

```

```

    {#1}%
}
\newcommand*\glsaccessfirst}[1]{%
  \glsfirstaccessdisplay
  {%
    \glsentryfirst{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccessfirst}[1]{%
  \glsfirstaccessdisplay
  {%
    \Glsentryfirst{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccessfirst}[1]{%
  \glsfirstaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentryfirst{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccessfirstplural}[1]{%
  \glsfirstpluralaccessdisplay
  {%
    \glsentryfirstplural{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccessfirstplural}[1]{%
  \glsfirstpluralaccessdisplay
  {%
    \Glsentryfirstplural{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccessfirstplural}[1]{%
  \glsfirstpluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentryfirstplural{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccesssymbol}[1]{%
  \glsymbolaccessdisplay
  {%
    \glsentrysymbol{#1}%
  }%
  {#1}%
}

```

```

}
\newcommand*\Glsaccesssymbol}[1]{%
  \glssymbolaccessdisplay
  {%
    \Glsentrysymbol{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccesssymbol}[1]{%
  \glssymbolaccessdisplay
  {%
    \mfirstucMakeUppercase{\Glsentrysymbol{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccesssymbolplural}[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \Glsentrysymbolplural{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccesssymbolplural}[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \Glsentrysymbolplural{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccesssymbolplural}[1]{%
  \glssymbolpluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\Glsentrysymbolplural{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \Glsentrydesc{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \Glsentrydesc{#1}%
  }%
  {#1}%
}
}

```

```

\newcommand*\GLSaccessdesc}[1]{%
  \glsdescriptionaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentrydesc{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccessdescplural}[1]{%
  \glsdescriptionpluralaccessdisplay
  {%
    \glsentrydescplural{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccessdescplural}[1]{%
  \glsdescriptionpluralaccessdisplay
  {%
    \Glsentrydescplural{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccessdescplural}[1]{%
  \glsdescriptionpluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentrydescplural{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccessshort}[1]{%
  \glsshortaccessdisplay
  {%
    \glsentryshort{#1}%
  }%
  {#1}%
}
\newcommand*\Glsaccessshort}[1]{%
  \glsshortaccessdisplay
  {%
    \Glsentryshort{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccessshort}[1]{%
  \glsshortaccessdisplay
  {%
    \mfirstucMakeUppercase{\glsentryshort{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccessshortpl}[1]{%

```

```

\glsshortpluralaccessdisplay
{%
  \glentryshortpl{#1}%
}%
{#1}%
}
\newcommand*\Glsaccessshortpl}[1]{%
  \glsshortpluralaccessdisplay
  {%
    \glentryshortpl{#1}%
  }%
  {#1}%
}
\newcommand*\GLSaccessshortpl}[1]{%
  \glsshortpluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\glentryshortpl{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccesslong}[1]{%
  \glslongaccessdisplay{\glentrylong{#1}}{#1}%
}
\newcommand*\GLSaccesslong}[1]{%
  \glslongaccessdisplay
  {%
    \mfirstucMakeUppercase{\glentrylong{#1}}%
  }%
  {#1}%
}
\newcommand*\glsaccesslongpl}[1]{%
  \glslongpluralaccessdisplay{\glentrylongpl{#1}}{#1}%
}
\newcommand*\GLSaccesslongpl}[1]{%
  \glslongpluralaccessdisplay{\glentrylongpl{#1}}{#1}%
}
\newcommand*\GLSaccesslongpl}[1]{%
  \glslongpluralaccessdisplay
  {%
    \mfirstucMakeUppercase{\glentrylongpl{#1}}%
  }%
  {#1}%
}
\define@key{glsxtrabbrv}{access}{%
  \def\@gls@nameaccess{#1}%
}

```

```

}
\define@key{glsxtrabbrv}{textaccess}{%
  \def\@gls@textaccess{#1}%
}
\define@key{glsxtrabbrv}{pluralaccess}{%
  \def\@gls@pluralaccess{#1}%
}
\define@key{glsxtrabbrv}{firstaccess}{%
  \def\@gls@firstaccess{#1}%
}
\define@key{glsxtrabbrv}{firstpluralaccess}{%
  \def\@gls@firstpluralaccess{#1}%
}
\define@key{glsxtrabbrv}{shortaccess}{%
  \def\@gls@shortaccess{#1}%
}
\define@key{glsxtrabbrv}{shortpluralaccess}{%
  \def\@gls@shortaccesspl{#1}%
}
\define@key{glsxtrabbrv}{longaccess}{%
  \def\@gls@longaccess{#1}%
}
\define@key{glsxtrabbrv}{shortlongaccess}{%
  \def\@gls@longaccesspl{#1}%
}
}
\newcommand*\@gls@initaccesskeys{%
  \def\@gls@nameaccess{}%
  \def\@gls@textaccess{}%
  \def\@gls@pluralaccess{}%
  \def\@gls@firstaccess{}%
  \def\@gls@firstpluralaccess{}%
  \def\@gls@shortaccess{}%
  \def\@gls@shortaccesspl{}%
  \def\@gls@longaccess{}%
  \def\@gls@longaccesspl{}%
}
\newcommand*\@gls@ifaccessattribute@set}[3]{%
  \glsifcategoryattribute{\glscategorylabel}{access#1}{true}%
  {#2}%
  {%
    \glsifcategoryattribute{\glscategorylabel}{access#1}{false}%
    {#3}%
    {%
      \glsifcategoryattribute{\glscategorylabel}{#1}{true}%
      {#2}%
      {#3}%
    }%
  }%
}
\def\glsdefaultshortaccess#1#2{#1 (#2)}

```



```

\newcommand{\glxtrassignactualsetup}{%
  \let\@empty
  \let\emph\@firstofone
  \let\textbf\@firstofone
  \let\textmd\@firstofone
  \let\textit\@firstofone
  \let\textsl\@firstofone
  \let\textsc\@firstofone
  \let\textrm\@firstofone
  \let\textsf\@firstofone
  \let\texttt\@firstofone
}
\ifdef\pdfstringdef
{
  \newcommand{\@gls@assign@actual}{%
    \begingroup
      \glxtrassignactualsetup
      \pdfstringdef\@gls@actualshort{\glxtrorgshort}%
      \pdfstringdef\@gls@actuallong{\glxtrorglong}%
      \pdfstringdef\@gls@actualshortpl{\@gls@shortpl}%
      \pdfstringdef\@gls@actuallongpl{\@gls@longpl}%
      \protected@edef\@gls@tmp{\endgroup
        \def\noexpand\@gls@actualshort{\expandonce\@gls@actualshort}%
        \def\noexpand\@gls@actuallong{\expandonce\@gls@actuallong}%
        \def\noexpand\@gls@actualshortpl{\expandonce\@gls@actualshortpl}%
        \def\noexpand\@gls@actuallongpl{\expandonce\@gls@actuallongpl}%
      }%
      \@gls@tmp
    }
  }
{
  \newcommand{\@gls@assign@actual}{%
    \begingroup
      \glxtrassignactualsetup
      \protected@edef\@gls@tmp{\endgroup
        \def\noexpand\@gls@actualshort{\glxtrorgshort}%
        \def\noexpand\@gls@actuallong{\glxtrorglong}%
        \def\noexpand\@gls@actualshortpl{\@gls@shortpl}%
        \def\noexpand\@gls@actuallongpl{\@gls@longpl}%
      }%
      \@gls@tmp
    }
  }
\newcommand{\@gls@setup@default@access}{%
  \@gls@assign@actual
  \ifdefempty\@gls@shortaccess
  {%
    \@gls@ifaccessattribute@set{insertdots}%
    {%
      \expandafter\@glxtr\insertdots\expandafter\@gls@actualshort\expandafter

```

```

        {\@gls@actualshort}%
    }%
    {}%
    \ifdefempty\@gls@longaccess
    {%
        \protected@edef\@gls@shortaccess{\glsdefaultshortaccess
            {\expandonce\@gls@actuallong}{\expandonce\@gls@actualshort}}%
    }%
    {%
        \protected@edef\@gls@shortaccess{\glsdefaultshortaccess
            {\expandonce\@gls@longaccess}{\expandonce\@gls@actualshort}}%
    }%
    \eappto\ExtraCustomAbbreviationFields{shortaccess={\@gls@shortaccess},}%
    \ifdefempty\@gls@shortaccesspl
    {%
        \@gls@ifaccessattribute@set{aposplural}%
        {%
            \expandafter\def\expandafter\@gls@shortaccesspl\expandafter{%
                \@gls@actualshort'\glsxtrabbrvpluralsuffix}%
        }%
        {%
            \@gls@ifaccessattribute@set{noshortplural}%
            {%
                \let\@gls@shortaccesspl\@gls@shortaccess
            }%
            {%
                \let\@gls@shortaccesspl\@gls@actualshortpl
            }%
        }%
    }%
    \ifdefempty\@gls@longaccesspl
    {%
        \protected@edef\@gls@shortaccesspl{\glsdefaultshortaccess
            {\expandonce\@gls@actuallongpl}{\expandonce\@gls@actualshortpl}}%
    }%
    {%
        \protected@edef\@gls@shortaccesspl{\glsdefaultshortaccess
            {\expandonce\@gls@longaccesspl}{\expandonce\@gls@actualshort}}%
    }%
    \eappto\ExtraCustomAbbreviationFields{shortpluralaccess={\@gls@shortaccesspl},}%
    }%
    {}%
}
{%
    \ifdefempty\@gls@shortaccesspl
    {\let\@gls@shortaccesspl\@gls@shortaccess}%
    {}%
}
\ifdefempty\@gls@nameaccess
{%
    \glsifcategoryattribute{\glscategorylabel}{nameshortaccess}{true}%
}

```

```

    {%
      \eappto\ExtraCustomAbbreviationFields{access={\@gls@shortaccess},}%
    }%
  {}%
}%
{}%
\ifdefempty\@gls@textaccess
{%
  \glsifcategoryattribute{\gls@categorylabel}{textshortaccess}{true}%
  {%
    \eappto\ExtraCustomAbbreviationFields{textaccess={\@gls@shortaccess},}%
  }%
  {}%
}%
{}%
\ifdefempty\@gls@pluralaccess
{%
  \glsifcategoryattribute{\gls@categorylabel}{textshortaccess}{true}%
  {%
    \eappto\ExtraCustomAbbreviationFields{%
      pluralaccess={\@gls@shortaccesspl},%
    }%
  }%
  {}%
}%
{}%
\ifdefempty\@gls@firstaccess
{%
  \glsifcategoryattribute{\gls@categorylabel}{firstshortaccess}{true}%
  {%
    \eappto\ExtraCustomAbbreviationFields{firstaccess={\@gls@shortaccess},}%
  }%
  {}%
}%
{}%
\ifdefempty\@gls@firstpluralaccess
{%
  \glsifcategoryattribute{\gls@categorylabel}{firstshortaccess}{true}%
  {%
    \eappto\ExtraCustomAbbreviationFields{%
      firstpluralaccess={\@gls@shortaccesspl},%
    }%
  }%
  {}%
}%
{}%
}
\newcommand*{\glsxtrprovideaccsuppcmd}[2]{%
  \ifcsundef{glsxtr#1#2accsupp}%
  {\csdef{glsxtr#1#2accsupp}{\gls@shortaccsupp}}%
}

```

```

    {}%
  }
  \newcommand*{\glstrAccSuppAbbrSetNoLongAttrs}[1]{%
    \glsssetcategoryattribute{#1}{nameshortaccess}{true}%
    \glsssetcategoryattribute{#1}{firstshortaccess}{true}%
    \glsssetcategoryattribute{#1}{textshortaccess}{true}%
    \glstrprovideaccsuppcmd{#1}{name}%
    \glstrprovideaccsuppcmd{#1}{first}%
    \glstrprovideaccsuppcmd{#1}{firstpl}%
    \glstrprovideaccsuppcmd{#1}{text}%
    \glstrprovideaccsuppcmd{#1}{plural}%
  }
  \newcommand*{\glstrAccSuppAbbrSetFirstLongAttrs}[1]{%
    \glsssetcategoryattribute{#1}{nameshortaccess}{true}%
    \glsssetcategoryattribute{#1}{textshortaccess}{true}%
    \glstrprovideaccsuppcmd{#1}{name}%
    \glstrprovideaccsuppcmd{#1}{text}%
    \glstrprovideaccsuppcmd{#1}{plural}%
  }
  \newcommand*{\glstrAccSuppAbbrSetTextShortAttrs}[1]{%
    \glsssetcategoryattribute{#1}{textshortaccess}{true}%
    \glstrprovideaccsuppcmd{#1}{text}%
    \glstrprovideaccsuppcmd{#1}{plural}%
  }
  \newcommand*{\glstrAccSuppAbbrSetNameShortAttrs}[1]{%
    \glsssetcategoryattribute{#1}{nameshortaccess}{true}%
    \glstrprovideaccsuppcmd{#1}{name}%
  }
  \newcommand*{\glstrAccSuppAbbrSetNameLongAttrs}[1]{%
    \glsssetcategoryattribute{#1}{firstshortaccess}{true}%
    \glsssetcategoryattribute{#1}{textshortaccess}{true}%
    \glstrprovideaccsuppcmd{#1}{first}%
    \glstrprovideaccsuppcmd{#1}{firstpl}%
    \glstrprovideaccsuppcmd{#1}{text}%
    \glstrprovideaccsuppcmd{#1}{plural}%
  }
}
{
  \newcommand*{\glsaccessname}[1]{\glsentryname{#1}}
  \newcommand*{\Glsaccessname}[1]{\Glsentryname{#1}}
  \newcommand*{\GLSaccessname}[1]{%
    \protect\mfirstucMakeUppercase{\glsentryname{#1}}}
  \newcommand*{\glsaccessstext}[1]{\glsentrytext{#1}}
  \newcommand*{\Glsaccessstext}[1]{\Glsentrytext{#1}}
  \newcommand*{\GLSaccessstext}[1]{%
    \protect\mfirstucMakeUppercase{\glsentrytext{#1}}}
  \newcommand*{\glsaccessplural}[1]{\glsentryplural{#1}}
  \newcommand*{\Glsaccessplural}[1]{\Glsentryplural{#1}}
  \newcommand*{\GLSaccessplural}[1]{%
    \protect\mfirstucMakeUppercase{\glsentryplural{#1}}}
}

```

```

\newcommand*\glsaccessfirst}[1]{\glsentryfirst{#1}}
\newcommand*\Glsaccessfirst}[1]{\Glsentryfirst{#1}}
\newcommand*\GLSaccessfirst}[1]{%
  \protect\mfirstucMakeUppercase{\glsentryfirst{#1}}
\newcommand*\glsaccessfirstplural}[1]{\glsentryfirstplural{#1}}
\newcommand*\Glsaccessfirstplural}[1]{\Glsentryfirstplural{#1}}
\newcommand*\GLSaccessfirstplural}[1]{%
  \protect\mfirstucMakeUppercase{\glsentryfirstplural{#1}}
\newcommand*\glsaccesssymbol}[1]{\glsentrysymbol{#1}}
\newcommand*\Glsaccesssymbol}[1]{\Glsentrysymbol{#1}}
\newcommand*\GLSaccesssymbol}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrysymbol{#1}}
\newcommand*\glsaccesssymbolplural}[1]{\glsentrysymbolplural{#1}}
\newcommand*\Glsaccesssymbolplural}[1]{\Glsentrysymbolplural{#1}}
\newcommand*\GLSaccesssymbolplural}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrysymbolplural{#1}}
\newcommand*\glsaccessdesc}[1]{\glsentrydesc{#1}}
\newcommand*\Glsaccessdesc}[1]{\Glsentrydesc{#1}}
\newcommand*\GLSaccessdesc}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrydesc{#1}}
\newcommand*\glsaccessdescplural}[1]{\glsentrydescplural{#1}}
\newcommand*\Glsaccessdescplural}[1]{\Glsentrydescplural{#1}}
\newcommand*\GLSaccessdescplural}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrydescplural{#1}}
\newcommand*\glsaccessshort}[1]{\glsentryshort{#1}}
\newcommand*\Glsaccessshort}[1]{\Glsentryshort{#1}}
\newcommand*\GLSaccessshort}[1]{%
  \protect\mfirstucMakeUppercase{\glsentryshort{#1}}
\newcommand*\glsaccessshorttpl}[1]{\glsentryshorttpl{#1}}
\newcommand*\Glsaccessshorttpl}[1]{\Glsentryshorttpl{#1}}
\newcommand*\GLSaccessshorttpl}[1]{%
  \protect\mfirstucMakeUppercase{\glsentryshorttpl{#1}}
\newcommand*\glsaccesslong}[1]{\glsentrylong{#1}}
\newcommand*\Glsaccesslong}[1]{\Glsentrylong{#1}}
\newcommand*\GLSaccesslong}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrylong{#1}}
\newcommand*\glsaccesslongpl}[1]{\glsentrylongpl{#1}}
\newcommand*\Glsaccesslongpl}[1]{\Glsentrylongpl{#1}}
\newcommand*\GLSaccesslongpl}[1]{%
  \protect\mfirstucMakeUppercase{\glsentrylongpl{#1}}
\newcommand*\@gls@initaccesskeys}{
\newcommand{\@gls@setup@default@access}{
\newcommand*\glsxtrAccSuppAbbrSetNoLongAttrs}[1]{
\newcommand*\glsxtrAccSuppAbbrSetFirstLongAttrs}[1]{
\newcommand*\glsxtrAccSuppAbbrSetTextShortAttrs}[1]{
\newcommand*\glsxtrAccSuppAbbrSetNameShortAttrs}[1]{
\newcommand*\glsxtrAccSuppAbbrSetNameLongAttrs}[1]{
}
\glsaddstoragekey{category}{general}{\glscategory}
\newcommand{\glsifcategory}[4]{%

```

```

\ifglstfieldeq{#1}{category}{#2}{#3}{#4}%
}
\newcommand*\glstsetcategoryattribute}[3]{%
  \csdef{@glstxtr@categoryattr@#1@#2}{#3}%
}
\newcommand*\glstsetcategoriesattribute}[3]{%
  \@for\@gls@thiscatlabel:=#1\do{%
    \csgdef{@glstxtr@categoryattr@#1@#2}{#3}%
  }%
}
\newcommand*\glstsetcategoriesattributes}[3]{%
  {%
    \@for\@gls@thisattrlabel:=#2\do{%
      \glstsetcategoriesattribute{#1}{\@gls@thisattrlabel}{#3}%
    }%
  }%
}
\newcommand*\glstgetcategoryattribute}[2]{%
  \csuse{@glstxtr@categoryattr@#1@#2}%
}
\newcommand*\glstunsetcategoryattribute}[2]{%
  \csundef{@glstxtr@categoryattr@#1@#2}%
}
\newcommand*\glshascategoryattribute}[4]{%
  \ifcsvoid{@glstxtr@categoryattr@#1@#2}{#4}{#3}%
}
\newcommand*\glstsetattribute}[3]{%
  \glstsetcategoryattribute{\glstcategory{#1}}{#2}{#3}%
}
\newcommand*\glstgetattribute}[2]{%
  \glstgetcategoryattribute{\glstcategory{#1}}{#2}%
}
\newcommand*\glshasattribute}[4]{%
  \ifglstentryexists{#1}%
  {\glshascategoryattribute{\glstcategory{#1}}{#2}{#3}{#4}}%
  {#4}%
}
\newcommand*\glstifcategoryattribute}[5]{%
  \ifcsundef{@glstxtr@categoryattr@#1@#2}%
  {#5}%
  {\ifcsstring{@glstxtr@categoryattr@#1@#2}{#3}{#4}{#5}}%
}
\newcommand*\glstifattribute}[5]{%
  \ifglstentryexists{#1}%
  {\glstifcategoryattribute{\glstcategory{#1}}{#2}{#3}{#4}{#5}}%
  {#5}%
}
\glstsetcategoryattribute{general}{regular}{true}
\glstsetcategoryattribute{acronym}{regular}{true}
\newcommand*\glstsetregularcategory}[1]{%

```

```

\glssetcategoryattribute{#1}{regular}{true}%
}
\newcommand{\glsifregularcategory}[3]{%
  \glsifcategoryattribute{#1}{regular}{true}{#2}{#3}%
}
\newcommand{\glsifnotregularcategory}[3]{%
  \glsifcategoryattribute{#1}{regular}{false}{#2}{#3}%
}
\newcommand{\glsifregular}[3]{%
  \glsifregularcategory{\glscategory{#1}}{#2}{#3}%
}
\newcommand{\glsifnotregular}[3]{%
  \glsifnotregularcategory{\glscategory{#1}}{#2}{#3}%
}
\newcommand{\glsforeachincategory}[5][\@glo@types]{%
  \forallglossaries[#1]{#3}%
  {%
    \forallglsentries[#3]{#4}%
    {%
      \glsifcategory{#4}{#2}{#5}{}%
    }%
  }%
}
\newcommand{\glsforeachwithattribute}[6][\@glo@types]{%
  \forallglossaries[#1]{#4}%
  {%
    \forallglsentries[#4]{#5}%
    {%
      \glsifattribute{#5}{#2}{#3}{#6}{}%
    }%
  }%
}
\ifdef\newterm
{%
  \renewcommand*{\newterm}[2][ ]{%
    \newglossaryentry{#2}%
    {type={index},category=index,name={#2},%
      description={\glsxtrpostdescription\nopostdesc},#1}%
  }
  \glssetcategoryattribute{index}{regular}{true}
  \newcommand*{\glsxtrpostdescindex}{}
}
{}
\ifdef\printsymbols
{%
  \newcommand*{\glsxtrnewsymbol}[3][ ]{%
    \newglossaryentry{#2}{name={#3},sort={#2},type=symbols,category=symbol,#1}%
  }
  \glssetcategoryattribute{symbol}{regular}{true}
  \newcommand*{\glsxtrpostdescsymbol}{}
}

```

```

}
{}
\ifdef\printnumbers
{%
\ifdef\printnumbers
  \newcommand*\glstrnewnumber[3][]{%
    \newglossaryentry{#2}{name={#3},sort={#2},type=numbers,category=number,#1}%
  }
  \glsssetcategoryattribute{number}{regular}{true}
  \newcommand*\glstrpostdescnumber{}
}
{}
\newcommand*\glstrsetcategory[2]{%
  \@for\@glstr@label:=#1\do
  {%
    \glsfieldxdef{\@glstr@label}{category}{#2}%
  }%
}
\newcommand*\glstrsetcategoryforall[2]{%
  \forallglossaries[#1]{\@glstr@type}{%
    \forglssentries[\@glstr@type]{\@glstr@label}%
    {%
      \glsfieldxdef{\@glstr@label}{category}{#2}%
    }%
  }%
}
\newcommand*\glstrfieldtitlecase[2]{%
  \expandafter\glstrfieldtitlecasecs\expandafter
  {\csname glo@\glsdetoklabel{#1}@#2\endcsname}%
}
\ifdef\glscapitalisewords
{
  \newcommand*\glstrfieldtitlecasecs[1]{%
    \expandafter\glscapitalisewords\expandafter{#1}}
}
{
  \newcommand*\glstrfieldtitlecasecs[1]{\xcapitalisewords{#1}}
}
\@ifpackageloaded{glossaries-accsupp}
{
  \renewcommand*\glossentrydesc[1]{%
    \glsdoifexistsorwarn{#1}%
    {%
      \glsssetabbrvfmt{\glscategory{#1}}%
      \glshasattribute{#1}{glossdescfont}%
      {%
        \protected@edef\@glstr@attrval{\glssgetattribute{#1}{glossdescfont}}%
        \ifcsdef{\@glstr@attrval}%
        {%
          \letcs{\@glstr@glossdescfont}{\@glstr@attrval}%
        }%
      }%
    }%
  }%
}

```



```

}%
{%
  \GlossariesExtraWarning{Unknown control sequence name
    '@glxtr@attrval' supplied in glossdescfont attribute
    for entry '#1'. Ignoring}%
  \let\@glxtr@glossdescfont\@firstofone
}%
}%
{\let\@glxtr@glossdescfont\@firstofone}%
\glsifattribute{#1}{glossdesc}{firstuc}%
{%
  \@glxtr@glossdescfont{\Glsaccessdesc{#1}}%
}%
{%
  \glsifattribute{#1}{glossdesc}{title}%
  {%
    \@glxtr@do@titlecaps@warn
    \glsdescriptionaccessdisplay
    {%
      \@glxtr@glossdescfont{\glxtrfieldtitlecase{#1}{desc}}%
    }%
    {#1}%
  }%
  {%
    \@glxtr@glossdescfont{\Glsaccessdesc{#1}}%
  }%
}%
}%
}
}
{
\renewcommand*{\glossentrydesc}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \glsattribute{#1}{glossdescfont}%
    {%
      \protected@edef\@glxtr@attrval{\glsgetattribute{#1}{glossdescfont}}%
      \ifcsdef{\@glxtr@attrval}%
      {%
        \letcs{\@glxtr@glossdescfont}{\@glxtr@attrval}%
      }%
      {%
        \GlossariesExtraWarning{Unknown control sequence name
          '@glxtr@attrval' supplied in glossdescfont attribute
          for entry '#1'. Ignoring}%
        \let\@glxtr@glossdescfont\@firstofone
      }%
    }%
  }%
  {\let\@glxtr@glossdescfont\@firstofone}%
}
}
}

```

```

\glsifattribute{#1}{glossdesc}{firstuc}%
{%
  \@glstr@glossdescfont{\Glsentrydesc{#1}}%
}%
{%
  \glsifattribute{#1}{glossdesc}{title}%
  {%
    \@glstr@do@titlecaps@warn
    \@glstr@glossdescfont{\glstrfieldtitlecase{#1}{desc}}%
  }%
  {%
    \@glstr@glossdescfont{\Glsentrydesc{#1}}%
  }%
}%
}%
}
}
\@ifpackageloaded{glossaries-accsupp}
{
  \renewcommand*{\glossentryname}[1]{%
    \@glstr@ifexistsorwarn{#1}%
    {%
      \glstr@abbrvfmt{\glscategory{#1}}%
      \glshasattribute{#1}{glossnamefont}%
      {%
        \protected@edef\@glstr@attrval{\glstr@attribute{#1}{glossnamefont}}%
        \ifcsdef{\@glstr@attrval}%
        {%
          \letcs{\@glstr@glossnamefont}{\@glstr@attrval}%
        }%
        {%
          \GlossariesExtraWarning{Unknown control sequence name
            '\@glstr@attrval' supplied in glossnamefont attribute
            for entry '#1'. Reverting to default \string\glstr@glossnamefont}%
          \let\@glstr@glossnamefont\glstr@glossnamefont
        }%
      }%
      {\let\@glstr@glossnamefont\glstr@glossnamefont}%
      \glsifattribute{#1}{glossname}{firstuc}%
      {%
        \glstr@glossnamefont
        {%
          \@glstr@glossnamefont{\Glsentryname{#1}}%
        }%
        {#1}%
      }%
      {%
        \glsifattribute{#1}{glossname}{title}%
        {%
          \@glstr@do@titlecaps@warn

```

```

\glsnameaccessdisplay
{%
  \@glsxtr@glossnamefont{\glsxtrfieldtitlecase{#1}{name}}%
}%
{#1}%
}%
{%
\glsifattribute{#1}{glossname}{uc}%
{%
  \glsnameaccessdisplay
  {%
    \letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
    \@glsxtr@glossnamefont{\mfirstucMakeUpperCase{\glo@name}}%
  }%
  {#1}%
}%
}%
{%
  \letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
  \glsnameaccessdisplay
  {%
    \expandafter\@glsxtr@glossnamefont\expandafter{\glo@name}%
  }%
  {#1}%
}%
}%
}%
\glsxtrpostnamehook{#1}%
}%
}
}
{
\renewcommand*{\glossentryname}[1]{%
  \@glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \glschasattribute{#1}{glossnamefont}%
    {%
      \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
      \ifcsdef{\@glsxtr@attrval}%
      {%
        \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
      }%
      {%
        \GlossariesExtraWarning{Unknown control sequence name
          ‘\@glsxtr@attrval’ supplied in glossnamefont attribute
          for entry ‘#1’. Reverting to default \string\glsnamefont}%
        \let\@glsxtr@glossnamefont\glsnamefont
      }%
    }%
  }%
  {\let\@glsxtr@glossnamefont\glsnamefont}%
}
}
}

```

```

\glsifattribute{#1}{glossname}{firstuc}%
{%
  \@glsxtr@glossnamefont{\Glsentryname{#1}}%
}%
{%
  \glsifattribute{#1}{glossname}{title}%
  {%
    \@glsxtr@do@titlecaps@warn
    \@glsxtr@glossnamefont{\glsxtrfieldtitlecase{#1}{name}}%
  }%
  {%
    \glsifattribute{#1}{glossname}{uc}%
    {%
      \letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
      \@glsxtr@glossnamefont{\mfirstucMakeUppercase{\glo@name}}%
    }%
    {%
      \letcs{\glo@name}{glo@\glsdetoklabel{#1}@name}%
      \expandafter\@glsxtr@glossnamefont\expandafter{\glo@name}%
    }%
  }%
}%
\glsxtrpostnamehook{#1}%
}
}
\@ifpackageloaded{glossaries-accsupp}
{
  \renewcommand*{\Glossentryname}[1]{%
    \@glsdoifexistsorwarn{#1}%
    {%
      \glssetabbrvfmt{\glscategory{#1}}%
      \glschasattribute{#1}{glossnamefont}%
      {%
        \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glossnamefont}}%
        \ifcsdef{\@glsxtr@attrval}%
        {%
          \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
        }%
        {%
          \GlossariesExtraWarning{Unknown control sequence name
            '\@glsxtr@attrval' supplied in glossnamefont attribute
            for entry '#1'. Reverting to default \string\glsnamefont}%
          \let\@glsxtr@glossnamefont\glsnamefont
        }%
      }%
      {\let\@glsxtr@glossnamefont\glsnamefont}%
      \glsnameaccessdisplay
      {%
        \@glsxtr@glossnamefont{\Glsentryname{#1}}%
      }%
    }%
  }%
}

```

```

    }%
    {#1}%
    \glstrpostnamehook{#1}%
  }%
}
}
{
\renewcommand*{\Glossentryname}[1]{%
  \@glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \glsattribute{#1}{glossnamefont}%
    {%
      \protected@edef\@glstr@attrval{\glsgetattribute{#1}{glossnamefont}}%
      \ifcsdef{\@glstr@attrval}%
      {%
        \letcs{\@glstr@glossnamefont}{\@glstr@attrval}%
      }%
      {%
        \GlossariesExtraWarning{Unknown control sequence name
          '@@glstr@attrval' supplied in glossnamefont attribute
          for entry '#1'. Reverting to default \string@glsnamefont}%
        \let\@glstr@glossnamefont@glsnamefont
      }%
    }%
    {\let\@glstr@glossnamefont@glsnamefont}%
    \@glstr@glossnamefont{\Glsentryname{#1}}%
    \glstrpostnamehook{#1}%
  }%
}
}
\newcommand*{\glstrpostnamehook}[1]{%
  \let\@glsnumberformat\@glstr@defaultnumberformat
  \glstrdoautoindexname{#1}{indexname}%
  \glsextrapostnamehook{#1}%
  \csuse{glstrpostname@glscategory{#1}}%
}
\newcommand*{\glsextrapostnamehook}[1]{}%
\newcommand*{\glsdefpostname}[2]{%
  \csdef{glstrpostname#1}{#2}%
}
\@ifpackageloaded{glossaries-accsupp}
{
  \newcommand*{\glstr@setaccessdisplay}[1]{%
    \ifcsdef{gls#1accessdisplay}%
    {\letcs\@glstr@accessdisplay{gls#1accessdisplay}}%
    {%
      \protected@edef\@gls@thisval{#1}%
      \@for\@gls@map:=\@gls@keymap\do{%
        \protected@edef\@this@key{\expandafter\@secondoftwo\@gls@map}%
      }%
    }%
  }%
}

```

```

\ifdefequal{\@this@key}{\@gls@thisval}%
{%
  \protected@edef\@gls@thisval{\expandafter\@firstoftwo\@gls@map}%
  \@endfortrue
}%
{}}%
}%
\ifcsdef{gls\@gls@thisval accessdisplay}%
{\letcs\@glsxtr@accessdisplay{gls\@gls@thisval accessdisplay}}%
{\let\@glsxtr@accessdisplay\@firstoftwo}%
}%
}
}
{%
  \newcommand*\@glsxtr@setaccessdisplay}[1]{%
    \let\@glsxtr@accessdisplay\@firstoftwo}
}
\newrobustcmd*\@glossentrynameother}[2]{%
  \@glsdoifexistsorwarn{#1}%
  {%
    \glsxtr@setaccessdisplay{#2}%
    \glssetabbrvfmt{\gls@category{#1}}%
    \gls@hasattribute{#1}{glossnamefont}%
    {%
      \protected@edef\@glsxtr@attrval{\gls@getattribute{#1}{glossnamefont}}%
      \ifcsdef{\@glsxtr@attrval}%
      {%
        \letcs{\@glsxtr@glossnamefont}{\@glsxtr@attrval}%
      }%
      {%
        \GlossariesExtraWarning{Unknown control sequence name
          '\@glsxtr@attrval' supplied in glossnamefont attribute
          for entry '#1'. Reverting to default \string\glsnamefont}%
        \let\@glsxtr@glossnamefont\glsnamefont
      }%
    }%
    {\let\@glsxtr@glossnamefont\glsnamefont}%
    \glsifattribute{#1}{glossname}{firstuc}%
    {%
      \@glsxtr@accessdisplay
      {\@glsxtr@glossnamefont{\@Gls@entry@field{#1}{#2}}}%
      {#1}%
    }%
    {%
      \glsifattribute{#1}{glossname}{title}%
      {%
        \@glsxtr@do@titlecaps@warn
        \@glsxtr@accessdisplay
        {\@glsxtr@glossnamefont{\@glsxtr@field@titlecase{#1}{#2}}}%
        {#1}%
      }%
    }%
  }%
}

```

```

}%
{%
  \glsifattribute{#1}{glossname}{uc}%
  {%
    \letcs{\glo@name}{glo@\glsdetoklabel{#1}@\#2}%
    \@glsxtr@accessdisplay
    {\@glsxtr@glossnamefont{\mfirstucMakeUppercase{\glo@name}}}%
    {#1}%
  }%
  {%
    \letcs{\glo@name}{glo@\glsdetoklabel{#1}@\#2}%
    \@glsxtr@accessdisplay
    {\expandafter\@glsxtr@glossnamefont\expandafter{\glo@name}}%
    {#1}%
  }%
}%
\glsxtrpostnamehook{#1}%
}%
}
\newif\if@glsxtr@format@override
\@glsxtr@format@overridefalse
\@ifpackageloaded{hyperref}
{
  \ifHy@hyperindex
    \newcommand*\GlsXtrEnableIndexFormatOverride}{%
      \@glsxtr@format@overridetrue
      \appto\theindex{\let\glsnumber\@firstofone}%
    }
  \else
    \newcommand*\GlsXtrEnableIndexFormatOverride}{%
      \@glsxtr@format@overridetrue
      \appto\theindex{\let\glsnumber\hyperpage}%
    }
  \fi
}
{
  \newcommand*\GlsXtrEnableIndexFormatOverride}{%
    \@glsxtr@format@overridetrue
  }
}
\@onlypreamble\GlsXtrEnableIndexFormatOverride
\newcommand*\glsxtrdoautoindexname}[2]{%
  \glsasattribute{#1}{#2}%
  {%
    \@glsxtr@autoindex@setname{#1}%
    \protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{#2}}%
    \if@glsxtr@format@override
      \ifx\@glsnumberformat\@glsxtr@defaultnumberformat
        \else

```

```

        \let\@glsxtr@attrval\@glsnumberformat
    \fi
    \fi
    \ifdefstring{\@glsxtr@attrval}{true}%
    {}%
    {\protected@eappto\@glo@name{\@glsxtr@autoindex@encap\@glsxtr@attrval}}%
    \expandafter\glsxtrautoindex\expandafter{\@glo@name}%
    }%
    {}%
}
\newcommand*\glsxtrautoindex{\index}
\newcommand*\glsxtrautoindexesc{%
    \@gls@checkmkidxchars\@glo@sort
    \@glsxtr@autoindex@doextra@esc\@glo@sort
}
\newcommand*\@glsxtr@autoindex@setname}[1]{%
    \protected@edef\@glo@name{\glsxtrautoindexentry{#1}}%
    \glsxtrautoindexassignsort{\@glo@sort}{#1}%
    \glsxtrautoindexesc
    \epreto\@glo@name{\@glo@sort\@glsxtr@autoindex@at}%
}
\newcommand*\glsxtrautoindexentry}[1]{\string\glsentryname{#1}}
\newcommand*\glsxtrautoindexassignsort}[2]{%
    \glsletentryfield{#1}{#2}{sort}%
}
\newcommand*\@glsxtr@autoindex@doextra@esc}[1]{%
    \ifx\@glsxtr@autoindex@esc\@gls@quotechar
    \else
        \def\@gls@checkedmkidx{}%
        \edef\@glsxtr@checkspch{%
            \noexpand\@glsxtr@autoindex@escquote\expandonce{#1}%
            \noexpand\@empty\@glsxtr@autoindex@esc\noexpand\@nnil
            \@glsxtr@autoindex@esc\noexpand\@empty\noexpand\@glsxtr@endescspch}%
        \@glsxtr@checkspch
        \let#1\@gls@checkedmkidx\relax
    \fi
    \ifx\@glsxtr@autoindex@at\@gls@actualchar
    \else
        \def\@gls@checkedmkidx{}%
        \edef\@glsxtr@checkspch{%
            \noexpand\@glsxtr@autoindex@escat\expandonce{#1}%
            \noexpand\@empty\@glsxtr@autoindex@at\noexpand\@nnil
            \@glsxtr@autoindex@at\noexpand\@empty\noexpand\@glsxtr@endescspch}%
        \@glsxtr@checkspch
        \let#1\@gls@checkedmkidx\relax
    \fi
    \ifx\@glsxtr@autoindex@level\@gls@levelchar
    \else
        \def\@gls@checkedmkidx{}%
        \edef\@glsxtr@checkspch{%

```



```

        \noexpand\@glsxtr@autoindex@esclevel\expandonce{#1}%
        \noexpand\@empty\@glsxtr@autoindex@level\noexpand\@nnil
        \@glsxtr@autoindex@level\noexpand\@empty\noexpand\@glsxtr@endescspch}%
    \@glsxtr@checkspch
    \let#1\@gls@checkedmkidx\relax
\fi
\ifx\@glsxtr@autoindex@encap\@gls@encapchar
\else
    \def\@gls@checkedmkidx{%
    \edef\@glsxtr@checkspch{%
        \noexpand\@glsxtr@autoindex@escencap\expandonce{#1}%
        \noexpand\@empty\@glsxtr@autoindex@encap\noexpand\@nnil
        \@glsxtr@autoindex@encap\noexpand\@empty\noexpand\@glsxtr@endescspch}%
    \@glsxtr@checkspch
    \let#1\@gls@checkedmkidx\relax
\fi
}
\newcommand*\@glsxtr@autoindex@at{-}{
\newcommand*\GlsXtrSetActualChar}[1]{%
    \gdef\@glsxtr@autoindex@at{#1}%
    \def\@glsxtr@autoindex@escat##1#1##2#1##3\@glsxtr@endescspch{%
        \@glsxtr@autoindex@escspch{#1}\@glsxtr@autoindex@escat}{##1}{##2}{##3}%
    }%
}
\@onlypreamble\GlsXtrSetActualChar
\makeatother
\GlsXtrSetActualChar{@}
\makeatletter
\newcommand*\@glsxtr@autoindex@encap{-}{
\newcommand*\GlsXtrSetEncapChar}[1]{%
    \gdef\@glsxtr@autoindex@encap{#1}%
    \def\@glsxtr@autoindex@escencap##1#1##2#1##3\@glsxtr@endescspch{%
        \@glsxtr@autoindex@escspch{#1}\@glsxtr@autoindex@escencap}{##1}{##2}{##3}%
    }%
}
\GlsXtrSetEncapChar{|}
\@onlypreamble\GlsXtrSetEncapChar
\newcommand*\@glsxtr@autoindex@level{-}{
\newcommand*\GlsXtrSetLevelChar}[1]{%
    \gdef\@glsxtr@autoindex@level{#1}%
    \def\@glsxtr@autoindex@esclevel##1#1##2#1##3\@glsxtr@endescspch{%
        \@glsxtr@autoindex@escspch{#1}\@glsxtr@autoindex@esclevel}{##1}{##2}{##3}%
    }%
}
\GlsXtrSetLevelChar{!}
\@onlypreamble\GlsXtrSetLevelChar
\newcommand*\@glsxtr@autoindex@esc{-}{
\newcommand*\GlsXtrSetEscChar}[1]{%
    \gdef\@glsxtr@autoindex@esc{#1}%
    \def\@glsxtr@autoindex@escquote##1#1##2#1##3\@glsxtr@endescspch{%

```

```

    \@glsxtr@autoindex@escspch{#1}{\@glsxtr@autoindex@escquote}{##1}{##2}{##3}%
  }%
}
\GlsXtrSetEscChar{"}
\@onlypreamble\GlsXtrSetEscChar
\ifdef\actualchar
{\expandafter\GlsXtrSetActualChar\expandafter{\actualchar}}
{}
\ifdef\quotechar
{\expandafter\GlsXtrSetEscChar\expandafter{\quotechar}}
{}
\ifdef\levelchar
{\expandafter\GlsXtrSetLevelChar\expandafter{\levelchar}}
{}
\ifdef\encapchar
{\expandafter\GlsXtrSetEncapChar\expandafter{\encapchar}}
{}
\def\@glsxtr@gobbleto@endescspch#1\@glsxtr@endescspch{}
\newcommand*{\@glsxtr@autoindex@escspch}[5]{%
  \gls@tmpb=\expandafter{\@gls@checkedmkidx}%
  \toks@={#3}%
  \ifx\@nnil#3\relax
    \def\@glsxtr@checkspch{\@glsxtr@gobbleto@endescspch#5\@glsxtr@endescspch}%
  \else
    \ifx\@nnil#4\relax
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@}%
      \def\@glsxtr@checkspch{\@glsxtr@gobbleto@endescspch
        #4#5\@glsxtr@endescspch}%
    \else
      \edef\@gls@checkedmkidx{\the\@gls@tmpb\the\toks@
        \@glsxtr@autoindex@esc#1}%
      \def\@glsxtr@checkspch{#2#5#1\@nnil#1\@glsxtr@endescspch}%
    \fi
  \fi
  \@glsxtr@checkspch
}
\renewcommand*{\Glossentrydesc}[1]{%
  \glsdoifexistsorwarn{#1}%
  {%
    \glssetabbrvfmt{\glscategory{#1}}%
    \Glsaccessdesc{#1}%
  }%
}
\ifdef\texorpdfstring
{
  \renewcommand*{\glossentrysymbol}[1]{%
    \texorpdfstring{\@glossentrysymbol{#1}}{\glsentrypdfsymbol{#1}}%
  }
}
{

```

```

\renewcommand*{\glossentrysymbol}[1]{\@glossentrysymbol{#1}}
}
\newcommand{\glsentrypdfsymbol}[1]{\glsentrysymbol{#1}}
\newrobustcmd*{\@glossentrysymbol}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\begingroup
\glssetabbrvfmt{\glscategory{#1}}%
\glschasattribute{#1}{glosssymbolfont}%
{%
\protected@edef\@glsxtr@attrval{\glsgetattribute{#1}{glosssymbolfont}}%
\ifcsdef{\@glsxtr@attrval}%
{%
\letcs{\@glsxtr@glosssymbolfont}{\@glsxtr@attrval}%
}%
{%
\GlossariesExtraWarning{Unknown control sequence name
'\@glsxtr@attrval' supplied in glosssymbolfont attribute
for entry '#1'. Ignoring}%
\let\@glsxtr@glosssymbolfont\@firstofone
}%
}%
{\let\@glsxtr@glosssymbolfont\@firstofone}%
\@glsxtr@glosssymbolfont{\glsaccesssymbol{#1}}%
\endgroup
}%
}
\renewcommand*{\Glossentrysymbol}[1]{%
\glsdoifexistsorwarn{#1}%
{%
\glssetabbrvfmt{\glscategory{#1}}%
\Glsaccesssymbol{#1}%
}%
}
\newcommand*{\GlsXtrEnableInitialTagging}{%
\@ifstar\s@glsxtr@enabletagging\@glsxtr@enabletagging
}
\@onlypreamble\GlsXtrEnableInitialTagging
\newcommand*{\s@glsxtr@enabletagging}[2]{%
\undef#2%
\@glsxtr@enabletagging{#1}{#2}%
}
\newcommand*{\@glsxtr@enabletagging}[2]{%
\@for\@glsxtr@cat:=#1\do
{%
\ifdefempty\@glsxtr@cat
}%
{\glssetcategoryattribute{\@glsxtr@cat}{tagging}{true}}%
}%
\newrobustcmd*#2[1]{##1}%

```

```

\def\@glsxtr@taggingcs{#2}%
\renewcommand*\@glsxtr@activate@initialtagging{%
  \let#2\@glsxtr@tag
}%
\ifundef\@gls@preglossaryhook
{\GlossariesExtraWarning{Initial tagging requires at least
  glossaries.sty v4.19 to work correctly}}%
{}%
}
\ifundef\mfu@checkword@do
{
  \newcommand*\mfu@checkword@do}[1]{%
    \ifdefstring{\mfu@checkword@arg}{#1}%
    {%
      \let\@mfu@domakefirstuc\@firstofone
      \listbreak
    }%
  }%
}
\ifundef\mfu@checkword
{
  \newcommand{\@glsxtr@do@titlecaps@warn}{%
    \GlossariesExtraWarning{mfirstuc.sty too old. Title Caps
      support not available}%
    \let\@glsxtr@do@titlecaps@warn\relax
  }
}
{
  \renewcommand*\mfu@checkword}[1]{%
    \def\mfu@checkword@arg{#1}%
    \let\@mfu@domakefirstuc\makefirstuc
    \forlistloop\mfu@checkword@do\@mfu@nocaplist
  }
}
{}% no patch required
\newcommand*\@glsxtr@do@titlecaps@warn{}
\newcommand*\@glsxtr@activate@initialtagging{}
\newrobustcmd*\@glsxtr@tag}[1]{%
  \glsifattribute{\glscurrententrylabel}{tagging}{true}%
  {\glsxtrtagfont{#1}}{#1}%
}
\newcommand*\glsxtrtagfont}[1]{\underline{#1}}
\ifdef\@gls@preglossaryhook
{
  \renewcommand*\@gls@preglossaryhook{%
    \@glsxtr@activate@initialtagging
    \ifundef\@glsxtr@org@postdescription
    {%
      \let\@glsxtr@org@postdescription\glspostdescription
    }
  }
}

```

```

\renewcommand*\glspostdescription}{%
  \ifglsentryexists{\glscurrententrylabel}%
  {%
    \glsxtrpostdescription
    \@glsxtr@org@postdescription
  }%
  {}%
}%
}%
{}%
\glossxtrsetpopts
}%
}
{}
\newcommand*\glsxtrpostdescription}{%
  \csuse{glsxtrpostdesc\glscategory{\glscurrententrylabel}}%
}
\newcommand*\glsxtrpostdescgeneral}{%
\newcommand*\glsxtrpostdescsterm}{%
\newcommand*\glsxtrpostdescacronym}{%
\newcommand*\glsxtrpostdescabbreviation}{%
\newcommand*\glsdefpostdesc}[2]{%
  \csdef{glsxtrpostdesc#1}{#2}%
}
\renewcommand*\glspostlinkhook}{%
  \ifglsentryexists{\glslabel}{\glsxtrpostlinkhook}{%
}
\newcommand*\glsxtrpostlinkhook}{%
  \glsxtrdiscardperiod{\glslabel}%
  {\glsxtrpostlinkendsentence}%
  {\glsxtrifcustomdiscardperiod
  {\glsxtrifperiod{\glsxtrpostlinkendsentence}{\glsxtrpostlink}}%
  {\glsxtrpostlink}%
}%
}
\newcommand*\glsxtrifcustomdiscardperiod}[2]{#2}
\newcommand*\glsxtrpostlink}{%
  \csuse{glsxtrpostlink\glscategory{\glslabel}}%
}
\newcommand*\glsdefpostlink}[2]{%
  \ifthenelse{\equal{#1}{}}{%
    {\PackageError{glossaries-extra}
    {Invalid empty category label in \string\glsdefpostlink}{}}%
    {\csdef{glsxtrpostlink#1}{#2}}%
}
}
\newcommand*\glsxtrpostlinkendsentence}{%
  \ifcsdef{glsxtrpostlink\glscategory{\glslabel}}
  {%
    \csuse{glsxtrpostlink\glscategory{\glslabel}}%
    .\spacefactor\sffcode‘\ . \relax

```

```

}%
{%
  \spacefactor\sfcode'\. \relax
}%
}
\newcommand*\glsxtrpostlinkAddDescOnFirstUse{%
  \glsxtrifwasfirstuse{\space\glsxtrparen{\glsaccessdesc{\glslabel}}}{}%
}
\newcommand*\glsxtrpostlinkAddSymbolOnFirstUse{%
  \glsxtrifwasfirstuse
  {%
    \ifglshassymbol{\glslabel}%
    {\space\glsxtrparen{\glsaccesssymbol{\glslabel}}}%
    {}%
  }%
  {}%
}
\newcommand*\glsxtrpostlinkAddSymbolDescOnFirstUse{%
  \glsxtrifwasfirstuse
  {%
    \space\glsxtrparen
    {%
      \ifglshassymbol{\glslabel}%
      {\glsaccesssymbol{\glslabel}, }%
      {}%
      \glsaccessdesc{\glslabel}%
    }%
  }%
  {}%
}
\newcommand*\glsxtrdiscardperiod}[3]{%
  \glsxtrifwasfirstuse
  {%
    \glsifattribute{#1}{retainfirstuseperiod}{true}%
    {#3}%
    {%
      \glsifattribute{#1}{discardperiod}{true}%
      {%
        \glsifplural
        {%
          \glsifattribute{#1}{pluraldiscardperiod}{true}%
          {\glsxtrifperiod{#2}{#3}}%
          {#3}%
        }%
        {%
          \glsxtrifperiod{#2}{#3}%
        }%
      }%
    }%
  }%
  {#3}%
}

```

```

}%
{%
  \glsifattribute{#1}{discardperiod}{true}%
  {%
    \glsifplural
    {%
      \glsifattribute{#1}{pluraldiscardperiod}{true}%
      {\glsxtrifperiod{#2}{#3}}%
      {#3}%
    }%
    {%
      \glsxtrifperiod{#2}{#3}%
    }%
  }%
  {#3}%
}%
}
}
\newcommand*{\glsxtrifperiod}[1]{\new@ifnextchar.{\@firstoftwo{#1}}}
\newcommand*{\glsxtr@punclist}{.,:;!}
\newcommand*{\glsxtraddpunctuationmark}[1]{\appto\glsxtr@punclist{#1}}
\newcommand*{\glsxtrsetpunctuationmarks}[1]{\def\glsxtr@punclist{#1}}
\newcommand*{\glsxtrifnextpunc}[2]{%
  \def\reserved@a{#1}%
  \def\reserved@b{#2}%
  \futurelet\@glsxpunc@token\glsxtr@ifnextpunc
}
\newcommand*{\glsxtr@ifnextpunc}{%
  \glsxtr@ifpunctoken{\@glsxpunc@token}{\let\reserved@b\reserved@a}{}%
  \reserved@b
}
\newcommand*{\glsxtr@ifpunctoken}[1]{%
  \expandafter\@glsxtr@ifpunctoken\expandafter#1\glsxtr@punclist\@nnil
}
\def\@glsxtr@ifpunctoken#1#2{%
  \let\reserved@d=#2%
  \ifx\reserved@d\@nnil
    \let\glsxtr@next\@glsxtr@notfoundinlist
  \else
    \ifx#1\reserved@d
      \let\glsxtr@next\@glsxtr@foundinlist
    \else
      \let\glsxtr@next\@glsxtr@ifpunctoken
    \fi
  \fi
  \glsxtr@next#1%
}
\def\@glsxtr@foundinlist#1\@nnil{\@firstoftwo}
\def\@glsxtr@notfoundinlist#1{\@secondoftwo}
\newcommand*{\glsxtrdopostpunc}[1]{%
  \glsxtrifnextpunc{\@glsxtr@swaptwo{#1}}{#1}%
}

```

```

}
\newcommand{\@glxtr@swaptwo}[2]{#2#1}
\define@key{glxtrabbrv}{category}{%
\protected@edef\glscategorylabel{#1}%
}
\define@key{glxtrabbrv}{shortplural}{%
\def\@gl@shortpl{#1}%
}
\define@key{glxtrabbrv}{longplural}{%
\def\@gl@longpl{#1}%
}
\newtoks\glsshortpltok
\newtoks\glslongpltok
\newcommand*{\@glxtr@insertdots}[2]{%
\def#1{}%
\@glxtr@insert@dots#1#2\@nnil
}
\newcommand*{\@glxtr@insert@dots}[2]{%
\ifx\@nnil#2\relax
\let\@glxtr@insert@dots@next\@gobble
\else
\ifx\relax#2\relax
\else
\appto#1{#2.}%
\fi
\let\@glxtr@insert@dots@next\@glxtr@insert@dots
\fi
\@glxtr@insert@dots@next#1%
}
\newcommand*{\glxtrwordsep}{\space}
\newcommand*{\glxtrword}[1]{#1}
\newcommand*{\@glxtr@markwordseps}[2]{%
\def#1{}%
\@glxtr@mark@wordseps#1#2 \@nnil
}
\def\@glxtr@mark@wordseps#1#2 #3{%
\ifdefempty{#1}%
{\def#1{\protect\glxtrword{#2}}}%
{\appto#1{\protect\glxtrwordsep\protect\glxtrword{#2}}}%
\ifx\@nnil#3\relax
\let\@glxtr@mark@wordseps@next\relax
\else
\def\@glxtr@mark@wordseps@next{%
\@glxtr@mark@wordseps#1#3}%
\fi
\@glxtr@mark@wordseps@next
}
\newcommand*{\newabbreviation}[4][[]]{%
\glxtr@newabbreviation{#1}{#2}{#3}{#4}%
}

```



```

\newcommand*{\glxtr@newabbreviation}[4]{%
  \glskeylisttok{#1}%
  \glslabeltok{#2}%
  \glsshorttok{#3}%
  \glslongtok{#4}%
  \def\glxtrorgshort{#3}%
  \def\glxtrorglong{#4}%
  \def\ExtraCustomAbbreviationFields{}%
  \@gls@initaccesskeys
  \def\gls@categorylabel{abbreviation}%
  \setkeys*{glxtr@abbrv}[shortplural,longplural]{#1}%
  \ifcsdef{@gls@abbrv@current@{gls@categorylabel}}%
  {%
    \let\@glsxtr@orgwarndep\GlsXtrWarnDeprecatedAbbrStyle
    \let\GlsXtrWarnDeprecatedAbbrStyle\@gobbletwo
    \glxtr@applyabbrvstyle{\csname @gls@abbrv@current@{gls@categorylabel}\endcsname}%
    \let\GlsXtrWarnDeprecatedAbbrStyle\@glsxtr@orgwarndep
  }%
  {%
    \glxtr@applyabbrvstyle{@gls@abbrv@current@{abbreviation}}%
  }%
  \def\@gls@longpl{#4\glspluralsuffix}%
  \let\@gls@default@longpl\@gls@longpl
  \glsifcategoryattribute{gls@categorylabel}{markwords}{true}%
  {%
    \@glsxtr@markwordseps\@gls@long{#4}%
    \expandafter\def\expandafter\@gls@longpl\expandafter
      {\@gls@long\glspluralsuffix}%
    \let\@gls@default@longpl\@gls@longpl
    \expandafter\glslongtok\expandafter{\@gls@long}%
  }%
  {}%
  \glsifcategoryattribute{gls@categorylabel}{markshortwords}{true}%
  {%
    \@glsxtr@markwordseps\@gls@short{#3}%
  }%
  {%
    \glsifcategoryattribute{gls@categorylabel}{insertdots}{true}%
    {%
      \@glsxtr@insertdots\@gls@short{#3}%
      \appto\@gls@short{\@}%
    }%
    {\def\@gls@short{#3}}%
  }%
  \glsifcategoryattribute{gls@categorylabel}{aposplural}{true}%
  {%
    \expandafter\def\expandafter\@gls@shortpl\expandafter{\@gls@short
      '\abbrvpluralsuffix}%
  }%
  {}%

```

```

\glsifcategoryattribute{\glscategorylabel}{noshortplural}{true}%
{%
  \let\@gls@shortpl\@gls@short
}%
{%
  \expandafter\def\expandafter\@gls@shortpl\expandafter{\@gls@short
    \abbrvpluralsuffix}%
}%
}%
\expandafter\glsshorttok\expandafter{\@gls@short}%
\glsxtrnewabbrevpresetkeyhook{#1}{#2}{#3}%
\setkeys*{glsxtrabbrv}[category]{#1}%
  \let\@gls@org@longpl\@gls@longpl
  \let\@gls@org@shortpl\@gls@shortpl
\ifx\@gls@default@longpl\@gls@longpl
\else
  \glsifcategoryattribute{\glscategorylabel}{markwords}{true}%
  {%
    \expandafter\@glsxtr@keywordseps\expandafter\@gls@longpl\expandafter
      {\@gls@longpl}%
  }%
  {}%
\fi
\expandafter\glsshortpltok\expandafter{\@gls@shortpl}%
\expandafter\glslongpltok\expandafter{\@gls@longpl}%
\@gls@setup@default@access
\newabbreviationhook
\protected@edef\@do@newglossaryentry{%
  \noexpand\newglossaryentry{\the\glslabeltok}%
  {%
    type=\glsxtrabbrvtype,%
    category=abbreviation,%
    short={\the\glsshorttok},%
    shortplural={\the\glsshortpltok},%
    long={\the\glslongtok},%
    longplural={\the\glslongpltok},%
    name={\the\glsshorttok},%
    \CustomAbbreviationFields,%
    \ExtraCustomAbbreviationFields
    \the\glskeylisttok
  }%
}%
\@do@newglossaryentry
\@glsxtr@addabbreviationlist{\glsentrytype{\the\glslabeltok}}%
\GlsXtrPostNewAbbreviation
}
\newcommand*{\glsxtrnewabbrevpresetkeyhook}[3]{%
\newcommand*{\GlsXtrPostNewAbbreviation}{%
\newcommand*{\newabbreviationhook}{%
\newcommand*{\CustomAbbreviationFields}{%

```

```

\newcommand*\glstrparen}[1]{(#1)}
\newcommand*\glstrfullformat}[2]{%
  \glsfirstlongfont{\glsaccesslong{#1}}#2\glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont{\glsaccessshort{#1}}}%
}
\newcommand*\Glsxtrfullformat}[2]{%
  \glsfirstlongfont{\Glsaccesslong{#1}}#2\glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont{\glsaccessshort{#1}}}%
}
\newcommand*\glstrfullplformat}[2]{%
  \glsfirstlongfont{\glsaccesslongpl{#1}}#2\glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{#1}}}%
}
\newcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstlongfont{\Glsaccesslongpl{#1}}#2\glstrfullsep{#1}%
  \glstrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{#1}}}%
}
\newcommand*\glstrfullsep}[1]{\space}
\newcommand*\glstrinlinefullformat}{\glstrfullformat}
\newcommand*\Glsxtrinlinefullformat}{\Glsxtrfullformat}
\newcommand*\glstrinlinefullplformat}{\glstrfullplformat}
\newcommand*\Glsxtrinlinefullplformat}{\Glsxtrfullplformat}
\renewcommand*\glsentryfull}[1]{\glstrinlinefullformat{#1}{}}
\renewcommand*\Glsentryfull}[1]{\Glsxtrinlinefullformat{#1}{}}
\renewcommand*\glsentryfullpl}[1]{\glstrinlinefullplformat{#1}{}}
\renewcommand*\Glsentryfullpl}[1]{\Glsxtrinlinefullplformat{#1}{}}
\newcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{#1}}
\newcommand*\glsfirstabbrvdefaultfont}[1]{\glsabbrvdefaultfont{#1}}
\newcommand*\glsabbrvfont}[1]{\glsabbrvdefaultfont{#1}}
\newcommand*\glsabbrvdefaultfont}[1]{#1}
\newcommand*\glslongfont}[1]{\glslongdefaultfont{#1}}
\newcommand*\glslongdefaultfont}[1]{#1}
\newcommand*\glsfirstlongfont}[1]{\glslongfont{#1}}
\newcommand*\glsfirstlongdefaultfont}[1]{\glslongdefaultfont{#1}}
\newcommand*\glstrabbrvpluralsuffix}{\glspluralsuffix}
\newcommand*\abbrvpluralsuffix}{\glstrabbrvpluralsuffix}
\newrobustcmd*\glstrfull}{\@gls@hyp@opt\@ns@glstrfull}
\newcommand*\ns@glstrfull[2][ ]{%
  \new@ifnextchar[{\@glsxtr@full{#1}{#2}}%
    {\@glsxtr@full{#1}{#2}[ ]}%
}
\def\@glsxtr@full#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@firstoftwo
    \let\glsinsert\@empty
  }
}

```

```

\def\glscustomtext{\glxtrinlinefullformat{#2}{#3}}%
\glxtrsetupfulldefs
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newcommand*\glxtrsetupfulldefs{%
\let\glxtrifwasfirstuse\@firstoftwo
}
\newrobustcmd*\Glsxtrfull{\@gls@hyp@opt\ns@Glsxtrfull}
\newcommand*\ns@Glsxtrfull[2] []{%
\new@ifnextchar[{\@Glsxtr@full{#1}{#2}}%
{\@Glsxtr@full{#1}{#2} []}%
}
\def\@Glsxtr@full#1#2[#3]{%
\glsdoifexists{#2}%
{%
\glsssetabbrvfmt{\glscategory{#2}}%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\let\glsifplural\@secondoftwo
\let\glscapscase\@secondofthree
\let\glsinsert\@empty
\def\glscustomtext{\Glsxtrinlinefullformat{#2}{#3}}%
\glxtrsetupfulldefs
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*\GLSxtrfull{\@gls@hyp@opt\ns@GLSxtrfull}
\newcommand*\ns@GLSxtrfull[2] []{%
\new@ifnextchar[{\@GLSxtr@full{#1}{#2}}%
{\@GLSxtr@full{#1}{#2} []}%
}
\def\@GLSxtr@full#1#2[#3]{%
\glsdoifexists{#2}%
{%
\glsssetabbrvfmt{\glscategory{#2}}%
\let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
\let\glsifplural\@secondoftwo
\let\glscapscase\@thirdofthree
\let\glsinsert\@empty
\def\glscustomtext{\mfirstucMakeUppercase{\glxtrinlinefullformat{#2}{#3}}}%
\glxtrsetupfulldefs
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*\glxtrfullpl{\@gls@hyp@opt\ns@glxtrfullpl}
\newcommand*\ns@glxtrfullpl[2] []{%
\new@ifnextchar[{\@glxtr@fullpl{#1}{#2}}%

```

```

        {\@glsxtr@fullpl{#1}{#2} []}%
}
\def\@glsxtr@fullpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\@gls@category{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsifplural\@firstoftwo
    \let\gls@scapscase\@firstofthree
    \let\glsinsert\@empty
    \def\gls@customtext{\@glsxtr@inlinefullplformat{#2}{#3}}%
    \glsxtrsetupfulldefs
    \@gls@link[#1]{#2}{\@csname gls@glstype @entryfmt\endcsname}%
  }%
  \gls@postlinkhook
}
\newrobustcmd*\@Glsxtr@fullpl{\@gls@hyp@opt\ns@Glsxtr@fullpl}
\newcommand*\ns@Glsxtr@fullpl[2] []{%
  \new@ifnextchar[{\@Glsxtr@fullpl{#1}{#2}}%
    {\@Glsxtr@fullpl{#1}{#2} []}%
}
\def\@Glsxtr@fullpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\@gls@category{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsifplural\@firstoftwo
    \let\gls@scapscase\@secondofthree
    \let\glsinsert\@empty
    \def\gls@customtext{\@Glsxtr@inlinefullplformat{#2}{#3}}%
    \glsxtrsetupfulldefs
    \@gls@link[#1]{#2}{\@csname gls@glstype @entryfmt\endcsname}%
  }%
  \gls@postlinkhook
}
\newrobustcmd*\@GLSxtr@fullpl{\@gls@hyp@opt\ns@GLSxtr@fullpl}
\newcommand*\ns@GLSxtr@fullpl[2] []{%
  \new@ifnextchar[{\@GLSxtr@fullpl{#1}{#2}}%
    {\@GLSxtr@fullpl{#1}{#2} []}%
}
\def\@GLSxtr@fullpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsifplural\@firstoftwo
    \let\gls@scapscase\@thirdofthree
    \let\glsinsert\@empty

```

```

\def\glscustomtext{%
  \mfirstucMakeUppercase{\glxtrinlinefullplformat{#2}{#3}}%
  \glxtrsetupfulldefs
  \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\glxtrshort}{\@gls@hyp@opt\@ns@glxtrshort}
\newcommand*{\ns@glxtrshort}[2] [] {%
  \new@ifnextchar[{\@glxtrshort{#1}{#2}}{\@glxtrshort{#1}{#2} []}%
}
\def\@glxtrshort#1#2[#3]{%
  \@glxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@firstofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glsabbrvfont{\glsaccessshort{#2}}\ifglxtrininsertinside#3\fi}%
      \ifglxtrininsertinside\else#3\fi
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\newrobustcmd*{\Glsxtrshort}{\@gls@hyp@opt\@ns@Glsxtrshort}
\newcommand*{\ns@Glsxtrshort}[2] [] {%
  \new@ifnextchar[{\@Glsxtrshort{#1}{#2}}{\@Glsxtrshort{#1}{#2} []}%
}
\def\@Glsxtrshort#1#2[#3]{%
  \@glxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \Glsabbrvfont{\Glsaccessshort{#2}}\ifglxtrininsertinside#3\fi}%
      \ifglxtrininsertinside\else#3\fi
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}

```

```

}
\newrobustcmd*{\GLSxtrshort}{\@gls@hyp@opt\ns@GLSxtrshort}
\newcommand*{\ns@GLSxtrshort}[2] [] {%
  \new@ifnextchar[{\@GLSxtrshort{#1}{#2}}{\@GLSxtrshort{#1}{#2} []}%
}
\def\@GLSxtrshort#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\gls@category{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\gls@capscase\@thirdofthree
    \let\glsinsert\@empty
    \def\gls@customtext{%
      \mfirstucMakeUppercase
      {\gls@abbrvfont{\gls@accessshort{#2}}\ifglsxtrininsertinside#3\fi}%
      \ifglsxtrininsertinside\else#3\fi
    }%
  }%
  \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  \let\glsxtrifwasfirstuse\@secondoftwo
  \let\glsifplural\@secondoftwo
  \let\gls@capscase\@firstofthree
  \let\glsinsert\@empty
  \def\gls@customtext{%
    \gls@longfont{\gls@accesslong{#2}}\ifglsxtrininsertinside#3\fi}%
    \ifglsxtrininsertinside\else#3\fi
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
  }%
  \gls@postlinkhook
}
\newrobustcmd*{\Glsxtrlong}{\@gls@hyp@opt\ns@Glsxtrlong}
\newcommand*{\ns@Glsxtrlong}[2] [] {%
  \new@ifnextchar[{\@Glsxtrlong{#1}{#2}}{\@Glsxtrlong{#1}{#2} []}%
}
\def\@Glsxtrlong#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\gls@capscase\@firstofthree
    \let\glsinsert\@empty
    \def\gls@customtext{%
      \gls@longfont{\gls@accesslong{#2}}\ifglsxtrininsertinside#3\fi}%
      \ifglsxtrininsertinside\else#3\fi
    }%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
  }%
  \gls@postlinkhook
}
\newrobustcmd*{\Glsxtrlong}{\@gls@hyp@opt\ns@Glsxtrlong}
\newcommand*{\ns@Glsxtrlong}[2] [] {%
  \new@ifnextchar[{\@Glsxtrlong{#1}{#2}}{\@Glsxtrlong{#1}{#2} []}%
}

```

```

\def\@GLSxtrlong#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glslongfont{\Glsaccesslong{#2}\ifglsxtrininsertinside#3\fi}%
      \ifglsxtrininsertinside\else#3\fi
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\newrobustcmd*\@GLSxtrlong{\@gls@hyp@opt\ns@GLSxtrlong}
\newcommand*\@ns@GLSxtrlong}[2] []{%
  \new@ifnextchar[{\@GLSxtrlong{#1}{#2}}{\@GLSxtrlong{#1}{#2} []}]%
}
\def\@GLSxtrlong#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@secondoftwo
    \let\glsapsaps\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \mfirstucMakeUppercase
      {\glslongfont{\glsaccesslong{#2}\ifglsxtrininsertinside#3\fi}%
      \ifglsxtrininsertinside\else#3\fi
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\newrobustcmd*\@glsxtrshortpl{\@gls@hyp@opt\ns@glsxtrshortpl}
\newcommand*\@ns@glsxtrshortpl}[2] []{%
  \new@ifnextchar[{\@glsxtrshortpl{#1}{#2}}{\@glsxtrshortpl{#1}{#2} []}]%
}
\def\@glsxtrshortpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
  }%
}

```



```

\let\glxtrifwasfirstuse\@secondoftwo
\let\glsifplural\@firstoftwo
\let\glscapscase\@firstofthree
\let\glsinsert\@empty
\def\glscustomtext{%
  \glsabbrvfont{\glsaccessshortpl{#2}\ifglxtrininsertinside#3\fi}%
  \ifglxtrininsertinside\else#3\fi
}%
\@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}%
\glspostlinkhook
}
\newrobustcmd*{\Glsxtrshortpl}{\@gls@hyp@opt\ns@Glsxtrshortpl}
\newcommand*{\ns@Glsxtrshortpl}[2][]{%
  \new@ifnextchar[{\@Glsxtrshortpl{#1}{#2}}{\@Glsxtrshortpl{#1}{#2}[]}%
}
\def\@Glsxtrshortpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glsssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@secondofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \glsabbrvfont{\Glsaccessshortpl{#2}\ifglxtrininsertinside#3\fi}%
      \ifglxtrininsertinside\else#3\fi
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\newrobustcmd*{\GLSxtrshortpl}{\@gls@hyp@opt\ns@GLSxtrshortpl}
\newcommand*{\ns@GLSxtrshortpl}[2][]{%
  \new@ifnextchar[{\@GLSxtrshortpl{#1}{#2}}{\@GLSxtrshortpl{#1}{#2}[]}%
}
\def\@GLSxtrshortpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \glsssetabbrvfmt{\glscategory{#2}}%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \mfirstucMakeUppercase

```

```

        {\glsabbrvfont{\glsaccessshortpl{#2}\ifglxtrinsertinside#3\fi}%
         \ifglxtrinsertinside\else#3\fi
        }%
    }%
    \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
}
\glspostlinkhook
}
\newrobustcmd*{\glsxtrlongpl}{\@gls@hyp@opt\ns@glsxtrlongpl}
\newcommand*{\ns@glsxtrlongpl}[2] []{%
    \new@ifnextchar[{\@glsxtrlongpl{#1}{#2}}{\@glsxtrlongpl{#1}{#2} []}]%
}
\def\glsxtrlongpl#1#2[#3]{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \glsdoifexists{#2}%
    {%
        \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
        \let\glsxtrifwasfirstuse\@secondoftwo
        \let\glsifplural\@firstoftwo
        \let\glscapscase\@firstofthree
        \let\glsinsert\@empty
        \def\glscustomtext{%
            \glslongfont{\glsaccesslongpl{#2}\ifglxtrinsertinside#3\fi}%
            \ifglxtrinsertinside\else#3\fi
        }%
        \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
    }%
    \glspostlinkhook
}
\newrobustcmd*{\Glsxtrlongpl}{\@gls@hyp@opt\ns@Glsxtrlongpl}
\newcommand*{\ns@Glsxtrlongpl}[2] []{%
    \new@ifnextchar[{\@Glsxtrlongpl{#1}{#2}}{\@Glsxtrlongpl{#1}{#2} []}]%
}
\def\@Glsxtrlongpl#1#2[#3]{%
    \@glsxtr@record{#1}{#2}{glslink}%
    \glsdoifexists{#2}%
    {%
        \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
        \let\glsxtrifwasfirstuse\@secondoftwo
        \let\glsifplural\@firstoftwo
        \let\glscapscase\@secondofthree
        \let\glsinsert\@empty
        \def\glscustomtext{%
            \glslongfont{\Glsaccesslongpl{#2}\ifglxtrinsertinside#3\fi}%
            \ifglxtrinsertinside\else#3\fi
        }%
        \@gls@link[#1]{#2}{\csname gls@\glstype @entryfmt\endcsname}%
    }%
    \glspostlinkhook
}
}

```

```

\newrobustcmd*{\GLSxtrlongpl}{\@gls@hyp@opt\ns@GLSxtrlongpl}
\newcommand*{\ns@GLSxtrlongpl}[2] []{%
  \new@ifnextchar[{\@GLSxtrlongpl{#1}{#2}}{\@GLSxtrlongpl{#1}{#2} []}%
}
\def\@GLSxtrlongpl#1#2[#3]{%
  \@glsxtr@record{#1}{#2}{glslink}%
  \glsdoifexists{#2}%
  {%
    \let\do@gls@link@checkfirsthyper\@gls@link@nocheckfirsthyper
    \let\glsxtrifwasfirstuse\@secondoftwo
    \let\glsifplural\@firstoftwo
    \let\glscapscase\@thirdofthree
    \let\glsinsert\@empty
    \def\glscustomtext{%
      \mfirstucMakeUppercase
      {\glslongfont{\glsaccesslongpl{#2}\ifglsxtrininsertinside#3\fi}%
      \ifglsxtrininsertinside\else#3\fi
    }%
  }%
  \@gls@link[#1]{#2}{\csname gls@\gls@type @entryfmt\endcsname}%
  }%
  \glspostlinkhook
}
\newcommand*{\glssetabbrvfmt}[1]{%
  \ifcsdef{@glsabbrv@current@#1}%
  {\glsxtr@applyabbrvfmt{\csname @glsabbrv@current@#1\endcsname}}%
  {\glsxtr@applyabbrvfmt{\@glsabbrv@current@abbreviation}}%
}
\newrobustcmd*{\glsuseabbrvfont}[2]{\glssetabbrvfmt{#2}\glsabbrvfont{#1}}
\newrobustcmd*{\glsuselongfont}[2]{\glssetabbrvfmt{#2}\glslongfont{#1}}
\newcommand*{\glsxtrgenabbrvfmt}{%
  \ifdefempty\glscustomtext
  {%
    \ifglsused\glslabel
    {%
      \glsifplural
      {%
        \glscapscase
        {%
          \glsxtrsubsequentplfmt{\glslabel}{\glsinsert}%
        }%
        {%
          \Glsxtrsubsequentplfmt{\glslabel}{\glsinsert}%
        }%
        {%
          \mfirstucMakeUppercase
          {\glsxtrsubsequentplfmt{\glslabel}{\glsinsert}}%
        }%
      }%
    }%
  }%
}

```

```

\glscapscase
{%
  \glxtrsubsequentfmt{\glslabel}{\glsinsert}%
}%
{%
  \Glsxtrsubsequentfmt{\glslabel}{\glsinsert}%
}%
{%
  \mfirstucMakeUppercase
  {\glxtrsubsequentfmt{\glslabel}{\glsinsert}}%
}%
}%
{%
  \glsifplural
  {%
    \glscapscase
    {%
      \glxtrfullplformat{\glslabel}{\glsinsert}%
    }%
    {%
      \Glsxtrfullplformat{\glslabel}{\glsinsert}%
    }%
    {%
      \mfirstucMakeUppercase
      {\glxtrfullplformat{\glslabel}{\glsinsert}}%
    }%
  }%
  {%
    \glscapscase
    {%
      \glxtrfullformat{\glslabel}{\glsinsert}%
    }%
    {%
      \Glsxtrfullformat{\glslabel}{\glsinsert}%
    }%
    {%
      \mfirstucMakeUppercase
      {\glxtrfullformat{\glslabel}{\glsinsert}}%
    }%
  }%
  }%
  }%
  {%
    \glscustomtext
  }%
}
\newcommand*{\glxtrsubsequentfmt}[2]{%
  \glsabbrvfont{\glsaccessshort{#1}}\ifglxtrinertinside #2\fi}%
\ifglxtrinertinside \else#2\fi

```

```

}
\let\glsxtrdefaultsubsequentfmt\glsxtrsubsequentfmt
\newcommand*\glsxtrsubsequentplfmt}[2]{%
  \glsabbrvfont{\glsaccessshortpl{#1}\ifglsxtrinertinside #2\fi}%
  \ifglsxtrinertinside \else#2\fi
}
\let\glsxtrdefaultsubsequentplfmt\glsxtrsubsequentplfmt
\newcommand*\Glsxtrsubsequentfmt}[2]{%
  \glsabbrvfont{\Glsaccessshort{#1}\ifglsxtrinertinside #2\fi}%
  \ifglsxtrinertinside \else#2\fi
}
\let\Glsxtrdefaultsubsequentfmt\Glsxtrsubsequentfmt
\newcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glsabbrvfont{\Glsaccessshortpl{#1}\ifglsxtrinertinside #2\fi}%
  \ifglsxtrinertinside \else#2\fi
}
\let\Glsxtrdefaultsubsequentplfmt\Glsxtrsubsequentplfmt
\newcommand*\setabbreviationstyle}[2][abbreviation]{%
  \ifcsundef{@glsabbrv@dispstyle@setup@#2}%
  {%
    \PackageError{glossaries-extra}{Undefined abbreviation style ‘#2’}{}%
  }%
  {%
    \ifcsstring{@glsabbrv@current@#1}{#2}%
    {%
    }%
    {%
      \def@glsxtr@dostylewarn{%
        \glsforeachincategory{#1}{\@gls@type}{\@gls@label}%
        {%
          \def@glsxtr@dostylewarn{\GlossariesWarning{Abbreviation
            style has been switched \MessageBreak
            for category ‘#1’, \MessageBreak
            but there have already been entries \MessageBreak
            defined for this category. Unwanted \MessageBreak
            side-effects may result}}%
          \@endfortrue
        }%
        \glsxtr@dostylewarn
        \csdef{@glsabbrv@current@#1}{#2}%
        \protected@edef\glscategorylabel{#1}%
        \glsxtr@applyabbrvstyle{#2}%
      }%
    }%
  }%
}
\newcommand*\glsxtr@applyabbrvstyle}[1]{%
  \csuse{@glsabbrv@dispstyle@setup@#1}%
  \csuse{@glsabbrv@dispstyle@fmts@#1}%
}
\newcommand*\glsxtr@applyabbrvfmt}[1]{%

```

```

\csuse{@glsabbrv@dispstyle@fmts@#1}%
}
\newcommand*{\newabbreviationstyle}[3]{%
\ifcsdef{@glsabbrv@dispstyle@setup@#1}
{%
\PackageError{glossaries-extra}{Abbreviation style ‘#1’ already
defined}{}%
}%
{%
\csdef{@glsabbrv@dispstyle@setup@#1}{%
\renewcommand*{\GlsXtrPostNewAbbreviation}{}%
#2}%
\csdef{@glsabbrv@dispstyle@fmts@#1}{%
\renewcommand*{\glsxtrinlinefullformat}{\glsxtrfullformat}%
\renewcommand*{\Glsxtrinlinefullformat}{\Glsxtrfullformat}%
\renewcommand*{\glsxtrinlinefullplformat}{\glsxtrfullplformat}%
\renewcommand*{\Glsxtrinlinefullplformat}{\Glsxtrfullplformat}%
\let\glsxtrsubsequentfmt\glsxtrdefaultsubsequentfmt
\let\glsxtrsubsequentplfmt\glsxtrdefaultsubsequentplfmt
\let\Glsxtrsubsequentfmt\Glsxtrdefaultsubsequentfmt
\let\Glsxtrsubsequentplfmt\Glsxtrdefaultsubsequentplfmt
#3}%
}%
}
\newcommand*{\renewabbreviationstyle}[3]{%
\ifcsundef{@glsabbrv@dispstyle@setup@#1}
{%
\PackageError{glossaries-extra}{Abbreviation style ‘#1’ not defined}{}%
}%
{%
\csdef{@glsabbrv@dispstyle@setup@#1}{%
\renewcommand*{\GlsXtrPostNewAbbreviation}{}%
#2}%
\csdef{@glsabbrv@dispstyle@fmts@#1}{%
\renewcommand*{\glsxtrinlinefullformat}{\glsxtrfullformat}%
\renewcommand*{\Glsxtrinlinefullformat}{\Glsxtrfullformat}%
\renewcommand*{\glsxtrinlinefullplformat}{\glsxtrfullplformat}%
\renewcommand*{\Glsxtrinlinefullplformat}{\Glsxtrfullplformat}%
#3}%
}%
}
\newcommand*{\letabbreviationstyle}[2]{%
\csletcs{@glsabbrv@dispstyle@setup@#1}{@glsabbrv@dispstyle@setup@#2}%
\csletcs{@glsabbrv@dispstyle@fmts@#1}{@glsabbrv@dispstyle@fmts@#2}%
}
\newcommand*{\@glsxtr@deprecated@abbrstyle}[2]{%
\csdef{@glsabbrv@dispstyle@setup@#1}{%
\GlsXtrWarnDeprecatedAbbrStyle{#1}{#2}%
\csuse{@glsabbrv@dispstyle@setup@#2}%
}%
}

```

```

\csletcs{@glsabbrv@dispstyle@fmts@#1}{@glsabbrv@dispstyle@fmts@#2}%
}
\newcommand*{\GlsXtrWarnDeprecatedAbbrStyle}[2]{%
\GlossariesExtraWarning{Deprecated abbreviation style name ‘#1’,
use ‘#2’ instead}%
}
\newcommand*{\GlsXtrUseAbbrStyleSetup}[1]{%
\ifcsundef{@glsabbrv@dispstyle@setup@#1}%
{%
\PackageError{glossaries-extra}%
{Unknown abbreviation style definitions ‘#1’-}{%
}%
}%
\csname @glsabbrv@dispstyle@setup@#1\endcsname
}%
}
\newcommand*{\GlsXtrUseAbbrStyleFmts}[1]{%
\ifcsundef{@glsabbrv@dispstyle@fmts@#1}%
{%
\PackageError{glossaries-extra}%
{Unknown abbreviation style formats ‘#1’-}{%
}%
}%
\csname @glsabbrv@dispstyle@fmts@#1\endcsname
}%
}
\newif\ifglsxtrinsertinside
\glsxtrinsertinsidefalse
\newcommand*{\glsxtrlongshortname}{%
\protect\glsabbrvfont{\the\glsshorttok}%
}
\newabbreviationstyle{long-short}%
{%
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongshortname},
sort={\the\glsshorttok},
first={\protect\glsfirstlongfont{\the\glslongtok}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\glsxtrparen{\protect\glsfirstabbrvfont{\the\glsshorttok}}},%
firstplural={\protect\glsfirstlongfont{\the\glslongpltok}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\glsxtrparen{\protect\glsfirstabbrvfont{\the\glsshortpltok}}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}},%
text={\protect\glsabbrvfont{\the\glsshorttok}}},%
description={\the\glslongtok}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}
}

```

```

    }%
    {}%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glstrabbrvpluralsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvdefaultfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstlongfont{\glsaccesslong{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glstrparen{\glsfirstabbrvfont{\glsaccessshort{##1}}}%
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstlongfont{\glsaccesslongpl{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glstrparen{\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstlongfont{\Glsaccesslong{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glstrparen{\glsfirstabbrvfont{\glsaccessshort{##1}}}%
  }%
  \renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstlongfont{\Glsaccesslongpl{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glstrparen{\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
  }%
}
\setabbreviationstyle{long-short}
\newcommand*{\glxtrlongshortdescsort}{%
\expandonce\glxtrorglong\space (\expandonce\glxtrorgshort)%
}
\newcommand*{\glxtrlongshortdescname}{%
  \protect\glslongfont{\the\glslongtok}
  \glstrparen{\protect\glsabbrvfont{\the\glsshorttok}}%
}
\newabbreviationstyle{long-short-desc}%
{%
  \glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongshortdescname},
    sort={\glxtrlongshortdescsort},%
    first={\protect\glsfirstlongfont{\the\glslongtok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glstrparen{\protect\glsfirstabbrvfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlongfont{\the\glslongpltok}%

```



```

\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstabbrvfont{\the\glsshortpltok}}},%
text={\protect\glsabbrvfont{\the\glsshorttok}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glsattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{long-short}%
}
\newcommand*{\glxtrshortlongname}{%
\protect\glsabbrvfont{\the\glsshorttok}%
}
\newabbreviationstyle{short-long}%
{%
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrshortlongname},
sort={\the\glsshorttok},
description={\the\glslongtok},%
first={\protect\glsfirstabbrvfont{\the\glsshorttok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstlongfont{\the\glslongtok}}},%
firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstlongfont{\the\glslongpltok}}},%
text={\protect\glsabbrvfont{\the\glsshorttok}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glsattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glxtrfullformat}[2]{%
\glsfirstabbrvfont{\glsaccessshort{##1}\ifglxtrinsetinside##2\fi}%
}
}
}

```

```

\ifglxtrinsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glfirstabbrvfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glfirstabbrvfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glfirstabbrvfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongfont{\glsaccesslongpl{##1}}}%
}%
}
\newcommand*{\glxtrshortlongdescsort}{\the\glsshorttok}
\newcommand*{\glxtrshortlongdescname}{%
\protect\glsabbrvfont{\the\glsshorttok}
\glxtrparen{\protect\glslongfont{\the\glslongtok}}%
}
\newabbreviationstyle{short-long-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrshortlongdescname},
sort={\glxtrshortlongdescsort},
first={\protect\glfirstabbrvfont{\the\glsshorttok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glfirstlongfont{\the\glslongtok}}},%
firstplural={\protect\glfirstabbrvfont{\the\glsshortpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glfirstlongfont{\the\glslongpltok}}},%
text={\protect\glsabbrvfont{\the\glsshorttok}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}

```

```

\GlsXtrUseAbbrStyleFmts{short-long}%
}
\newcommand*\glsfirstlongfootnotefont}[1]{\glslongfootnotefont{#1}}%
\newcommand*\glslongfootnotefont}[1]{\glslongdefaultfont{#1}}%
\newcommand*\glsxtrabbrvfootnote}[2]{\footnote{#2}}
\newcommand*\glsxtrfootnotename}{%
  \protect\glsabbrvfont{\the\glsshorttok}%
}
\newabbreviationstyle{footnote}%
{%
  \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrfootnotename},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvfont{\the\glsshorttok}%
      \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}%
      \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
    text={\protect\glsabbrvfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
  \renewcommand*\GlsXtrPostNewAbbreviation{%
    \glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
\renewcommand*\abbrvpluralsuffix{\glsxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%

```

```

\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
}
\letabbreviationstyle{short-footnote}{footnote}
\newcommand*{\glsxtrfootnotedesname}{%
  \protect\glsabbrvfont{\the\glsshorttok}%
  \protect\glsxtrfullsep{\the\glslabeltok}%
  \protect\glsxtrparen{\protect\glslongfont{\the\glslongtok}}%
}
\newcommand*{\glsxtrfootnotedesort}{\the\glsshorttok}
\newabbreviationstyle{short-footnote-desc}{%
  {%
    \glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  }
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrfootnotedesname},
    sort={\glsxtrfootnotedesort},
    first={\protect\glsfirstabbrvfont{\the\glsshorttok}%
      \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}}%
  }
}

```

```

\protect\glxtrabbrvfootnote{\the\glslabeltok}%
  {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
text={\protect\glsabbrvfont{\the\glsshorttok}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{\%
\GlsXtrUseAbbrStyleFmts{footnote}%
}
\letabbreviationstyle{footnote-desc}{short-footnote-desc}
\newabbreviationstyle{postfootnote}%
{%
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*\CustomAbbreviationFields}{%
name={\glxtrfootnotename},
sort={\the\glsshorttok},
description={\the\glslongtok},%
first={\protect\glsfirstabbrvfont{\the\glsshorttok}},%
firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}},%
text={\protect\glsabbrvfont{\the\glsshorttok}},%
plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
\glxtrifwasfirstuse
{%
\glxtrdopostpunc{\protect\glxtrabbrvfootnote{\glslabel}%
{\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}}%
}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
\renewcommand*\glxtrsetupfulldefs}{%
\let\glxtrifwasfirstuse\@secondoftwo
}%
}%
{%
\renewcommand*\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%

```

```

\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongfootnotefont{##1}}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
}
\letabbreviationstyle{short-postfootnote}{postfootnote}
\newabbreviationstyle{short-postfootnote-desc}%
{
  \glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrfootnotedesname},
    sort={\glsxtrfootnotedesort},
    first={\protect\glsfirstabbrvfont{\the\glsshorttok}},%
    firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}},%
    text={\protect\glsabbrvfont{\the\glsshorttok}},%
  }
}

```

```

plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtrdopostpunc{\protect\glsxtrabbrvfootnote{\glslabel}%
{\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
}%
{}}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%
\renewcommand*\glsxtrsetupfulldefs){%
\let\glsxtrifwasfirstuse\@secondoftwo
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{postfootnote}%
}
\letabbreviationstyle{postfootnote-desc}{short-postfootnote-desc}
\newcommand*\glsxtrshortnolongname){%
\protect\glsabbrvfont{\the\glsshorttok}%
}
\newabbreviationstyle{short}%
{%
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*\CustomAbbreviationFields){%
name={\glsxtrshortnolongname},
sort={\the\glsshorttok},
first={\protect\glsfirstabbrvfont{\the\glsshorttok}},
firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}},
text={\protect\glsabbrvfont{\the\glsshorttok}},
plural={\protect\glsabbrvfont{\the\glsshortpltok}},
description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
\glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*\abbrvpluralsuffix){\glsxtrabbrvpluralsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrinlinefullformat}[2]{%
\protect\glsfirstabbrvfont{\glsaccessshort{##1}}%
\ifglsxtrinsertinside##2\fi}%

```

```

\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glstlongfont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
\protect\glstfirstabbrvfont{\glssaccessshortpl{##1}}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glstlongfont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\protect\glstfirstabbrvfont{\glssaccessshort{##1}}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glstlongfont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\protect\glstfirstabbrvfont{\glssaccessshortpl{##1}}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glstlongfont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
\glstfirstabbrvfont{\glssaccessshort{##1}}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glstfirstabbrvfont{\glssaccessshortpl{##1}}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glstfirstabbrvfont{\glssaccessshort{##1}}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glstfirstabbrvfont{\glssaccessshortpl{##1}}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
}
\setabbreviationstyle[acronym]{short}
\letabbreviationstyle{short-nolong}{short}
\newabbreviationstyle{short-nolong-noreg}%
{%
\GlsXtrUseAbbrStyleSetup{short-nolong}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%

```



```

}%
{%
  \GlsXtrUseAbbrStyleFmts{short-nolong}%
}
\newcommand*{\glxtrshortdescname}{%
  \protect\glsabbrvfont{\the\glsshorttok}%
  \protect\glxtrfullsep{\the\glslabeltok}%
  \protect\glxtrparen{\protect\glslongfont{\the\glslongtok}}%
}
\newabbreviationstyle{short-desc}%
{%
  \glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortdescname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstabbrvfont{\the\glsshorttok}},
    firstplural={\protect\glsfirstabbrvfont{\the\glsshortpltok}},
    text={\protect\glsabbrvfont{\the\glsshorttok}},
    plural={\protect\glsabbrvfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetAttribute{\the\glslabeltok}{regular}{true}}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvdefaultfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glxtrininlinefullformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%
    \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\glxtrininlinefullplformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
    \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongfont{\glsaccesslongpl{##1}}}%
  }%
  \renewcommand*{\Glsxtrininlinefullformat}[2]{%
    \glsfirstabbrvfont{\Glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%
    \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\Glsxtrininlinefullplformat}[2]{%
    \glsfirstabbrvfont{\Glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
    \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongfont{\glsaccesslongpl{##1}}}%
  }%
  \renewcommand*{\glxtrfullformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%

```

```

        \ifglxtrinsertinside\else##2\fi
    }%
\renewcommand*{\glxtrfullplformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstabbrvfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-nolong-desc}{short-desc}
\newabbreviationstyle{short-nolong-desc-noreg}%
{%
    \GlsXtrUseAbbrStyleSetup{short-nolong-desc}%
    \renewcommand*{\GlsXtrPostNewAbbreviation}{%
        \glshasattribute{\the\glslabeltok}{regular}%
        {%
            \glssetattribute{\the\glslabeltok}{regular}{false}%
        }%
        {}%
    }%
}%
{%
    \GlsXtrUseAbbrStyleFmts{short-nolong-desc}%
}
\newabbreviationstyle{nolong-short}%
{%
    \GlsXtrUseAbbrStyleSetup{short-nolong}%
}%
{%
    \GlsXtrUseAbbrStyleFmts{short-nolong}%
    \renewcommand*{\glxtrinlinefullformat}[2]{%
        \protect\glsfirstlongfont{\glsaccesslong{##1}}%
        \ifglxtrinsertinside##2\fi}%
        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glsfirstabbrvfont{\glsaccessshort{##1}}}%
    }%
    \renewcommand*{\glxtrinlinefullplformat}[2]{%
        \protect\glsfirstlongfont{\glsaccesslongpl{##1}}%
        \ifglxtrinsertinside##2\fi}%
        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
    }%
    \renewcommand*{\Glsxtrinlinefullformat}[2]{%
        \protect\glsfirstlongfont{\glsaccesslong{##1}}%

```

```

        \ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvfont{\Glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\protect\glsfirstlongfont{\Glsaccesslongpl{##1}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvfont{\Glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{nolong-short-noreg}%
{%
\GlsXtrUseAbbrStyleSetup{nolong-short}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{nolong-short}%
}
\newcommand*{\glxtrlongnoshortdescname}{%
\protect\glslongfont{\the\glslongtok}%
}
\newabbreviationstyle{long-desc}%
{%
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrlongnoshortdescname},
sort={\the\glslongtok},
first={\protect\glsfirstlongfont{\the\glslongtok}},
firstplural={\protect\glsfirstlongfont{\the\glslongpltok}},
text={\glslongfont{\the\glslongtok}},
plural={\glslongfont{\the\glslongpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glissetattribute{\the\glslabeltok}{regular}{true}}%
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
\renewcommand*{\glsabrvfont}[1]{\glsabrvdefaultfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvdefaultfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glxtrsubsequentfmt}[2]{%
\glslongfont{\Glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
\ifglxtrinsertinside \else##2\fi

```

```

}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glslongfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \glslongfont{\Glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glslongfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsfirstlongfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsfirstlongfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \glsfirstlongfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \glsfirstlongfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstlongfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstlongfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstlongfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstlongfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}

```

```

\letabbreviationstyle{long-noshort-desc}{long-desc}
\newabbreviationstyle{long-noshort-desc-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-noshort-desc}%
}
\newcommand*{\glsxtrlongnoshortname}{%
  \protect\glsabbrvfont{\the\glsshorttok}%
}
\newabbreviationstyle{long}%
{%
  \glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongnoshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongfont{\the\glslongtok}},
    firstplural={\protect\glsfirstlongfont{\the\glslongpltok}},
    text={\glslongfont{\the\glslongtok}},
    plural={\glslongfont{\the\glslongpltok}},%
    description={\the\glslongtok}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glissetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-desc}%
}
\letabbreviationstyle{long-noshort}{long}
\newabbreviationstyle{long-noshort-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-noshort}%
}

```

```

}
\newcommand*{\glxtrscfont}[1]{\textsc{#1}}
\newcommand*{\glsabbrvscfont}{\glxtrscfont}
\newcommand*{\glxtrfirstscfont}[1]{\glsabbrvscfont{#1}}
\newcommand*{\glsfirstabbrvscfont}{\glxtrfirstscfont}
\newcommand*{\glxtrscsuffix}{\protect\glstextup{\glsxtrabbrvpluralsuffix}}
\newabbreviationstyle{long-short-sc}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvscfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvscfont{\the\glsshortpltok}}},%
    text={\protect\glsabbrvscfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}},%
    description={\the\glslongtok}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtrscsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
  }%
}

```

```

}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-short-sc-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongshortdescname},
    sort={\glsxtrlongshortdescsort},%
    first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvscfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvscfont{\the\glsshortpltok}}},%
    text={\protect\glsabbrvscfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
}
\GlsXtrUseAbbrStyleFmts{long-short-sc}%
}
\newabbreviationstyle{short-sc-long}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortlongname},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvscfont{\the\glsshorttok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongpltok}}},%
    text={\protect\glsabbrvscfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
  }%
}

```

```

    {%
      \glsssetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}
{%
\renewcommand*\{abbrevpluralsuffix}{\glsxtrscsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*\{glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\{glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\{glsxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*\{glsxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\{Glsxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*\{Glsxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
}
\newabbreviationstyle{short-sc-long-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*\{CustomAbbreviationFields}{%
    name={\glsxtrshortlongdescname},
    sort={\glsxtrshortlongdescsort},
    first={\protect\glsfirstabbrvscfont{\the\glsshorttok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongpltok}}},%
    text={\protect\glsabbrvscfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}}%
  }%
}

```



```

\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-sc-long}%
}
\newabbreviationstyle{short-sc}%
{%
  \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortnolongname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstabbrvscfont{\the\glsshorttok}},
    firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}},
    text={\protect\glsabbrvscfont{\the\glsshorttok}},
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}},
    description={\the\glslongtok}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtrscsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glsxtrinlinefullformat}[2]{%
    \protect\glsfirstabbrvscfont{\glsaccessshort{##1}}%
    \ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\glsxtrinlinefullplformat}[2]{%
    \protect\glsfirstabbrvscfont{\glsaccessshortpl{##1}}%
    \ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
  }%
  \renewcommand*{\Glsxtrinlinefullformat}[2]{%
    \protect\glsfirstabbrvscfont{\Glsaccessshort{##1}}%
    \ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\Glsxtrinlinefullplformat}[2]{%

```

```

\protect\glsfirstabbrvscfont{\Glsaccessshortpl{##1}%
  \ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-sc-nolong}{short-sc}
\newabbreviationstyle{short-sc-desc}%
{%
  \glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortdescname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstabbrvscfont{\the\glsshorttok}},
    firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}},
    text={\protect\glsabbrvscfont{\the\glsshorttok}},
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtrscsuffix}%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvscfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvscfont{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glxtrinilinefullformat}[2]{%
    \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongdefaultfont{\Glsaccesslong{##1}}}%
  }%
  \renewcommand*{\glxtrinilinefullplformat}[2]{%
    \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  }%
}

```

```

\glxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
\glsfirstabbrvscfont{\glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glsfirstabbrvscfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstabbrvscfont{\glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstabbrvscfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-sc-nolong-desc}{short-sc-desc}
\newabbreviationstyle{nolong-short-sc}%
{%
\GlsXtrUseAbbrStyleSetup{short-sc-nolong}%
}%
{%
\GlsXtrUseAbbrStyleFmts{short-sc-nolong}%
\renewcommand*{\glxtrinlinefullformat}[2]{%
\protect\glsfirstlongdefaultfont{\glsaccesslong{##1}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
\protect\glsfirstlongdefaultfont{\glsaccesslongpl{##1}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\protect\glsfirstlongdefaultfont{\Glsaccesslong{##1}%

```

```

        \ifglxtrinsertinside##2\fi}%
        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glfirstabbrvscfont{\glsaccessshort{##1}}}%
    }%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
    \protect\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}%
        \ifglxtrinsertinside##2\fi}%
        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glfirstabbrvscfont{\glsaccessshortpl{##1}}}%
    }%
}
\newabbreviationstyle{long-noshort-sc}%
{%
\renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongnoshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongdefaultfont{\the\glslongtok}},
    firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}},
    text={\protect\glslongdefaultfont{\the\glslongtok}},
    plural={\protect\glslongdefaultfont{\the\glslongpltok}},%
    description={\the\glslongtok}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glxtrscsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glfirstabbrvscfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glxtrsubsequentfmt}[2]{%
    \glslongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrsubsequentplfmt}[2]{%
    \glslongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentfmt}[2]{%
    \glslongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
    \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrinlinefullformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
}

```

```

\glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
\glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\glsxtrfullformat}[2]{%
\glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
}
\@glsxtr@deprecated@abbrstyle{long-sc}{long-noshort-sc}
\newabbreviationstyle{long-noshort-sc-desc}%
{%
\GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glsxtrscsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glsxtrsubsequentfmt}[2]{%
\glslongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
\ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*{\glsxtrsubsequentplfmt}[2]{%

```

```

    \glslongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrinsertinside ##2\fi}%
    \ifglsxtrinsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
    \glslongdefaultfont{\Glsaccesslong{##1}\ifglsxtrinsertinside ##2\fi}%
    \ifglsxtrinsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
    \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside ##2\fi}%
    \ifglsxtrinsertinside \else##2\fi
}%
\renewcommand*\glsxtrinelinefullformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrinelinefullplformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\Glsxtrinelinefullformat}[2]{%
    \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\Glsxtrinelinefullplformat}[2]{%
    \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvscfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
    \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
    \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
    \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
}%
}
\@glsxtr@deprecated@abbrstyle{long-desc-sc}{long-noshort-sc-desc}
\newabbreviationstyle{short-sc-footnote}%

```

```

{%
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrfootnotename},
  sort={\the\glsshorttok},
  description={\the\glslongtok},%
  first={\protect\glsfirstabbrvscfont{\the\glsshorttok}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
  {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
  firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
  {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
  text={\protect\glsabbrvscfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvscfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glsattribute{\the\glslabeltok}{regular}%
{%
  \glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glsxtrscsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongfootnotefont{##1}}%
\renewcommand*{\glsxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}

```

```

\protect\glxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrininlinefullformat}[2]{%
  \glsfirstabbrvscfont{\glssaccessshort{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\glxtrininlinefullplformat}[2]{%
  \glsfirstabbrvscfont{\glssaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrininlinefullformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrininlinefullplformat}[2]{%
  \glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{footnote-sc}{short-sc-footnote}
\newabbreviationstyle{short-sc-footnote-desc}%
{%
  \glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrfootnotedesname},
    sort={\glxtrfootnotedesort},
    first={\protect\glsfirstabbrvscfont{\the\glssshorttok}%
      \protect\glxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvscfont{\the\glssshortpltok}%
      \protect\glxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
    text={\protect\glssabbrvscfont{\the\glssshorttok}},%
    plural={\protect\glssabbrvscfont{\the\glssshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsssetAttribute{\the\glslabeltok}{nohyperfirst}{true}%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glsssetAttribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
}
\GlsXtrUseAbbrStyleFmts{short-sc-footnote}%

```



```

}
\newabbreviationstyle{short-sc-postfootnote}%
{%
  \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrfootnotename},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvscfont{\the\glsshorttok}},%
    firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}},%
    text={\protect\glsabbrvscfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glsxtrpostlink\glscategorylabel}{%
      \glsxtrifwasfirstuse
      {%
        \glsxtrdopostpunc{\protect\glsxtrabbrvfootnote{\glslabel}%
          {\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
      }%
    }%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
  \renewcommand*{\glsxtrsetupfulldefs}{%
    \let\glsxtrifwasfirstuse\@secondoftwo
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtrscsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvscfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongfootnotefont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongfootnotefont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstabbrvscfont{\glsaccessshort{##1}\ifglsxtrinertinside##2\fi}%
    \ifglsxtrinertinside\else##2\fi
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstabbrvscfont{\glsaccessshortpl{##1}\ifglsxtrinertinside##2\fi}%
    \ifglsxtrinertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglsxtrinertinside##2\fi}%
    \ifglsxtrinertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullplformat}[2]{%

```

```

\glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrinlinefullformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\Glsaccesslong{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\Glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\Glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstabbrvscfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\Glsaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{postfootnote-sc}{short-sc-postfootnote}
\newabbreviationstyle{short-sc-postfootnote-desc}%
{%
\glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrfootnotedesname},
sort={\glxtrfootnotedesort},
first={\protect\glsfirstabbrvscfont{\the\glsshorttok}},%
firstplural={\protect\glsfirstabbrvscfont{\the\glsshortpltok}},%
text={\protect\glsabbrvscfont{\the\glsshorttok}},%
plural={\protect\glsabbrvscfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
\glxtrifwasfirstuse
{%
\glxtrdopostpunc{\protect\glxtrabbrvfootnote{\glslabel}%
{\glsfirstlongfootnotefont{\gl Sentrylong{\glslabel}}}}%
}%
{}}%
}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glissetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%

```

```

\renewcommand*\glsxtrsetupfulldefs}{%
  \let\glsxtrifwasfirstuse\@secondoftwo
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-sc-postfootnote}%
}
\newcommand*\glsxtrsmfont}[1]{\textsmaller{#1}}
\newcommand*\glsabbrvsmfont{\glsxtrsmfont}
\newcommand*\glsxtrfirstsmfont}[1]{\glsabbrvsmfont{#1}}
\newcommand*\glsfirstabbrvsmfont{\glsxtrfirstsmfont}
\newcommand*\glsxtrsmssuffix{\glsxtrabbrvpluralsuffix}
\newabbreviationstyle{long-short-sm}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*\CustomAbbreviationFields}{%
  name={\glsxtrlongshortname},
  sort={\the\glsshorttok},
  first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstabbrvsmfont{\the\glsshorttok}}},%
  firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstabbrvsmfont{\the\glsshortpltok}}},%
  text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvsmfont{\the\glsshortpltok}},%
  description={\the\glslongtok}}%
\renewcommand*\GlsXtrPostNewAbbreviation}{%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  }%
}%
{%
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrsmssuffix}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrinsetinside##2\fi}%
  \ifglsxtrinsetinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrinsetinside##2\fi}%
  \ifglsxtrinsetinside\else##2\fi\glsxtrfullsep{##1}%

```

```

    \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-short-sm-desc}%
{%
  \glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongshortdescname},
    sort={\glxtrlongshortdescsort},%
    first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstabbrvsmfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstabbrvsmfont{\the\glsshortpltok}}},%
    text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
}
\GlsXtrUseAbbrStyleFmts{long-short-sm}%
}
\newabbreviationstyle{short-sm-long}%
{%
  \glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortlongname},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}}%
  }%
}

```

```

\protect\glxtrfullsep{\the\glslabelltok}%
\glxtrparen{\protect\glfirstlongdefaultfont{\the\glslongpltok}}},%
text={\protect\glabbrvsmfont{\the\glsshorttok}},%
plural={\protect\glabbrvsmfont{\the\glsshortpltok}}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
\glshasattribute{\the\glslabelltok}{regular}%
{%
\glsetattribute{\the\glslabelltok}{regular}{false}%
}%
}%
}%
{%
\renewcommand*\glabbrvfont[1]{\glabbrvsmfont{##1}}%
\renewcommand*\glfirstabbrvfont[1]{\glfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glxtrrmsuffix}%
\renewcommand*\glfirstlongfont[1]{\glfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glxtrfullformat}[2]{%
\glfirstabbrvsmfont{\glaccessshort{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongdefaultfont{\glaccesslong{##1}}}%
}%
\renewcommand*\glxtrfullplformat}[2]{%
\glfirstabbrvsmfont{\glaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongdefaultfont{\glaccesslongpl{##1}}}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
\glfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongdefaultfont{\glaccesslong{##1}}}%
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
\glfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glfirstlongdefaultfont{\glaccesslongpl{##1}}}%
}%
}
\newabbreviationstyle{short-sm-long-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*\CustomAbbreviationFields){%
name={\glxtrshortlongdescname},
sort={\glxtrshortlongdescsort},
first={\protect\glfirstabbrvsmfont{\the\glsshorttok}}%
\protect\glxtrfullsep{\the\glslabelltok}}%
\glxtrparen{\protect\glfirstlongdefaultfont{\the\glslongtok}}},%

```

```

firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}%
\protect\glstrfullsep{\the\glslabeltok}%
\glstrparen{\protect\glsfirstlongdefaultfont{\the\glslongpltok}}},%
text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glsattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{short-sm-long}%
}
\newabbreviationstyle{short-sm}%
{%
\glstrAccSuppAbbrSetNameLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glstrshortnolongname},
sort={\the\glsshorttok},
first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}},
firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}},
text={\protect\glsabbrvsmfont{\the\glsshorttok}},
plural={\protect\glsabbrvsmfont{\the\glsshortpltok}},
description={\the\glslongtok}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}{true}}%
}%
}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glstrsmsuffix}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glstrinlinefullformat[2]{%
\protect\glsfirstabbrvsmfont{\glsaccessshort{##1}}%
\ifglstrinsertinside##2\fi}%
\ifglstrinsertinside\else##2\fi\glstrfullsep{##1}%
\glstrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glstrinlinefullplformat[2]{%
\protect\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}%
\ifglstrinsertinside##2\fi}%
\ifglstrinsertinside\else##2\fi\glstrfullsep{##1}%
\glstrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\glstrinlinefullformat[2]{%

```

```

\protect\glsfirstabbrvsmfont{\Glsaccessshort{##1}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongdefaultfont{\Glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\protect\glsfirstabbrvsmfont{\Glsaccessshortpl{##1}%
\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
\glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-sm-nolong}{short-sm}
\newabbreviationstyle{short-sm-desc}%
{
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrshortdescname},
sort={\the\glsshorttok},
first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}},
firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}},
text={\protect\glsabbrvsmfont{\the\glsshorttok}},
plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabelltok}{regular}{true}}%
}%
{
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glxtrrmsuffix}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glxtrinlinefullformat}[2]{%
\glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%

```

```

        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glsfirstlongdefaultfont{\glaccesslong{##1}}}%
    }%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
    \glsfirstabbrvsmfont{\glaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongdefaultfont{\glaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
    \glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongdefaultfont{\glaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
    \glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstlongdefaultfont{\glaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
    \glsfirstabbrvsmfont{\glaccessshort{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
    \glsfirstabbrvsmfont{\glaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-sm-nolong-desc}{short-sm-desc}
\newabbreviationstyle{nolong-short-sm}%
{%
    \GlsXtrUseAbbrStyleSetup{short-sm-nolong}%
}%
{%
    \GlsXtrUseAbbrStyleFmts{short-sm-nolong}%
\renewcommand*{\glxtrinlinefullformat}[2]{%
    \protect\glsfirstlongdefaultfont{\glaccesslong{##1}%
        \ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstabbrvsmfont{\glaccessshort{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
    \protect\glsfirstlongdefaultfont{\glaccesslongpl{##1}%

```



```

        \ifglxtrinsertinside##2\fi}%
        \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
        \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
    }%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
    \protect\glsfirstlongdefaultfont{\Glsaccesslong{##1}%
        \ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
    \protect\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}%
        \ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-noshort-sm}%
{%
    \glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
    \renewcommand*{\CustomAbbreviationFields}{%
        name={\glsxtrlongnoshortname},
        sort={\the\glsshorttok},
        first={\protect\glsfirstlongdefaultfont{\the\glslongtok}},
        firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}},
        text={\protect\glslongdefaultfont{\the\glslongtok}},
        plural={\protect\glslongdefaultfont{\the\glslongpltok}},%
        description={\the\glslongtok}%
    }%
    \renewcommand*{\GlsXtrPostNewAbbreviation}{%
        \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrsubsequentfmt}[2]{%
    \glslongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
    \glslongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
    \glslongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
}

```

```

\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrinlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrinlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}
\@glsxtr@deprecated@abbrstyle{long-sm}{long-noshort-sm}
\newabbreviationstyle{long-noshort-sm-desc}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
}%
{%
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrmsuffix}%

```

```

\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrininlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\Glsxtrininlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\Glsxtrininlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsmfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%

```

```

\renewcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}
\@glsxtr@deprecated@abbrstyle{long-desc-sm}{long-noshort-sm-desc}
\newabbreviationstyle{short-sm-footnote}%
{%
  \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrfootnotename},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}%
      \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}%
      \protect\glsxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
    text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}}%
  \renewcommand*\GlsXtrPostNewAbbreviation{%
    \glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
}
}
}
\renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
\renewcommand*\abbrvpluralsuffix{\glsxtrrmsuffix}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstabbrvsmfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstabbrvsmfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \protect\glsxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%

```

```

\ifglxtrinsertinside\else##2\fi
\protect\glxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvsmfont{\glssaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
  \protect\glxtrabbrvfootnote{##1}%
  {\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\glxtrinilinefullformat}[2]{%
  \glsfirstabbrvsmfont{\glssaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\glxtrinilinefullplformat}[2]{%
  \glsfirstabbrvsmfont{\glssaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinilinefullformat}[2]{%
  \glsfirstabbrvsmfont{\glssaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinilinefullplformat}[2]{%
  \glsfirstabbrvsmfont{\glssaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glssaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{footnote-sm}{short-sm-footnote}
\newabbreviationstyle{short-sm-footnote-desc}%
{%
  \glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrfootnotedesname},
    sort={\glxtrfootnotedesort},
    first={\protect\glsfirstabbrvsmfont{\the\glssshorttok}%
      \protect\glxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvsmfont{\the\glssshortpltok}%
      \protect\glxtrabbrvfootnote{\the\glslabeltok}%
      {\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
    text={\protect\glssabbrvsmfont{\the\glssshorttok}},%
    plural={\protect\glssabbrvsmfont{\the\glssshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsssetAttribute{\the\glslabeltok}{nohyperfirst}{true}%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%

```

```

        \glsetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
}%
}%
{
    \GlsXtrUseAbbrStyleFmts{short-sm-footnote}%
}
\newabbreviationstyle{short-sm-postfootnote}%
{
    \glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
    \renewcommand*{\CustomAbbreviationFields}{%
        name={\glsxtrfootnotename},
        sort={\the\glsshorttok},
        description={\the\glslongtok},%
        first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}},%
        firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}},%
        text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
        plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}}%
    \renewcommand*{\GlsXtrPostNewAbbreviation}{%
        \csdef{glsxtrpostlink\glscategorylabel}{%
            \glsxtrifwasfirstuse
            {%
                \glsxtrdopostpunc{\protect\glsxtrabbrvfootnote{\glslabel}%
                    {\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
            }%
            {}%
        }%
        \glshasattribute{\the\glslabeltok}{regular}%
        {%
            \glsetattribute{\the\glslabeltok}{regular}{false}%
        }%
        {}%
    }%
    \renewcommand*{\glsxtrsetupfulldefs}{%
        \let\glsxtrifwasfirstuse\@secondoftwo
    }%
}%
{
    \renewcommand*\glsabbrvfont[1]{\glsabbrvsmfont{##1}}%
    \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvsmfont{##1}}%
    \renewcommand*\abbrvpluralsuffix{\glsxtrsmsuffix}%
    \renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
    \renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%
    \renewcommand*\glsxtrfullformat[2]{%
        \glsfirstabbrvsmfont{\glsaccessshort{##1}\ifglsxtrinsetinside##2\fi}%
        \ifglsxtrinsetinside\else##2\fi
    }%
    \renewcommand*\glsxtrfullplformat[2]{%
        \glsfirstabbrvsmfont{\glsaccessshortpl{##1}\ifglsxtrinsetinside##2\fi}%

```

```

    \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glsxtrinelinefullformat}[2]{%
  \glsfirstabbrvsmfont{\glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glsxtrinelinefullplformat}[2]{%
  \glsfirstabbrvsmfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinelinefullformat}[2]{%
  \glsfirstabbrvsmfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinelinefullplformat}[2]{%
  \glsfirstabbrvsmfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{postfootnote-sm}{short-sm-postfootnote}
\newabbreviationstyle{short-sm-postfootnote-desc}%
{%
  \glsxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrfootnotedesname},
    sort={\glsxtrfootnotedesort},
    first={\protect\glsfirstabbrvsmfont{\the\glsshorttok}},%
    firstplural={\protect\glsfirstabbrvsmfont{\the\glsshortpltok}},%
    text={\protect\glsabbrvsmfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvsmfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
      \glsxtrifwasfirstuse
      {%
        \glsxtrdopostpunc{\protect\glsxtrabbrvfootnote{\glslabel}%
          {\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
      }%
    }%
  }%
}

```

```

}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
  \glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
\renewcommand*\glsxtrsetupfulldefs{%
  \let\glsxtrifwasfirstuse\@secondoftwo
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-sm-postfootnote}%
}
\newcommand*\glsabbrvemfont[1]{\emph{#1}}%
\newcommand*\glsfirstabbrvemfont[1]{\glsabbrvemfont{#1}}%
\newcommand*\glsxtremsuffix{\glsxtrabbrvpluralsuffix}
\newcommand*\glsfirstlongemfont[1]{\glslongemfont{#1}}%
\newcommand*\glslongemfont[1]{\emph{#1}}%
\newabbreviationstyle{long-short-em}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrlongshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvemfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
      \protect\glsxtrfullsep{\the\glslabeltok}%
      \glsxtrparen{\protect\glsfirstabbrvemfont{\the\glsshortpltok}}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}},%
    description={\the\glslongtok}}%
  \renewcommand*\GlsXtrPostNewAbbreviation{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glsssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
  \renewcommand*\abbrvpluralsuffix{\glsxtremsuffix}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
  \renewcommand*\glsxtrfullformat[2]{%
    \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrinsetinside##2\fi}%
  }%
}

```



```

\ifglxtrinsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-short-em-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrlongshortdescname},
sort={\glxtrlongshortdescsort},%
first={\protect\glsfirstlongdefaultfont{\the\glslongtok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshorttok}}},%
firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshortpltok}}},%
text={\protect\glsabbrvemfont{\the\glsshorttok}},%
plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetAttribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
\GlsXtrUseAbbrStyleFmts{long-short-em}%
}
\newabbreviationstyle{long-em-short-em}%
{%
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%

```

```

name={\glxtrlongshortname},
sort={\the\glsshorttok},
first={\protect\glsfirstlongemfont{\the\glslongtok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshorttok}}},%
firstplural={\protect\glsfirstlongemfont{\the\glslongpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshortpltok}}},%
text={\protect\glsabbrvemfont{\the\glsshorttok}},%
plural={\protect\glsabbrvemfont{\the\glsshortpltok}},%
description={\protect\glslongemfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
\renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongemfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongemfont{##1}}%
\renewcommand*{\glxtrfullformat}[2]{%
\glsfirstlongemfont{\glsaccesslong{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glsfirstlongemfont{\glsaccesslongpl{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstlongemfont{\glsaccesslong{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstlongemfont{\glsaccesslongpl{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-em-short-em-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel

```

```

\renewcommand*{\CustomAbbreviationFields}{%
  name={\glxtrlongshortdescname},
  sort={\glxtrlongshortdescsort},%
  first={\protect\glsfirstlongemfont{\the\glslongtok}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshorttok}}},%
  firstplural={\protect\glsfirstlongemfont{\the\glslongpltok}%
    \protect\glxtrfullsep{\the\glslabeltok}%
    \glxtrparen{\protect\glsfirstabbrvemfont{\the\glsshortpltok}}},%
  text={\protect\glsabbrvemfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvemfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetAttribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-em-short-em}%
}
\newabbreviationstyle{short-em-long}%
{%
  \glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortlongname},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongpltok}}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glsssetAttribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
}

```

```

\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*{\glsxtrfullformat}[2]{%
  \glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
}
\newabbreviationstyle{short-em-long-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortlongdescname},
    sort={\glsxtrshortlongdescsort},
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}}%
    \glsxtrparen{\protect\glsfirstlongdefaultfont{\the\glslongpltok}}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glsattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{\GlsXtrUseAbbrStyleFmts{short-em-long}}%

```

```

}
\newabbreviationstyle{short-em-long-em}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortlongname},
    sort={\the\glsshorttok},
    description={\protect\glslongemfont{\the\glslongtok}},%
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstlongemfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}}%
    \protect\glsxtrfullsep{\the\glslabeltok}%
    \glsxtrparen{\protect\glsfirstlongemfont{\the\glslongpltok}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtremsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongemfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongemfont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongemfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongemfont{\glsaccesslongpl{##1}}}%
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
    \glsxtrparen{\glsfirstlongemfont{\glsaccesslong{##1}}}%
  }%
  \renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
    \ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
  }%
}

```

```

        \glxtrparen{\glsfirstlongemfont{\glsaccesslongpl{##1}}}%
    }%
}
\newabbreviationstyle{short-em-long-em-desc}%
{%
  \glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortlongdescname},%
    sort={\glxtrshortlongdescsort},%
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstlongemfont{\the\glslongtok}}},%
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}%
      \protect\glxtrfullsep{\the\glslabeltok}%
      \glxtrparen{\protect\glsfirstlongemfont{\the\glslongpltok}}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-em-long-em}%
}
\newabbreviationstyle{short-em}%
{%
  \glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortnolongname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}},
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}},
    text={\protect\glsabbrvemfont{\the\glsshorttok}},
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}},
    description={\the\glslongtok}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glissetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glxtremsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%
  \renewcommand*{\glxtrinlinelinefullformat}[2]{%

```

```

\protect\glsfirstabbrvemfont{\glsaccessshort{##1}%
\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}%
\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\protect\glsfirstabbrvemfont{\Glsaccessshort{##1}%
\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\protect\glsfirstabbrvemfont{\Glsaccessshortpl{##1}%
\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\glsxtrfullformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-em-nolong}{short-em}
\newabbreviationstyle{short-em-desc}%
{
\glsxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrshortdescname},
sort={\the\glsshorttok},
first={\protect\glsfirstabbrvemfont{\the\glsshorttok}},
firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}},
text={\protect\glsabbrvemfont{\the\glsshorttok}},

```

```

plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*\abbrvpluralsuffix{\glsxtremsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrinlinefullformat[2]{%
  \glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glsxtrinlinefullplformat[2]{%
  \glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullformat[2]{%
  \glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslong{##1}}}%
}%
\renewcommand*\Glsxtrinlinefullplformat[2]{%
  \glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat[2]{%
  \glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat[2]{%
  \glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat[2]{%
  \glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullplformat[2]{%
  \glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}
\letabbreviationstyle{short-em-nolong-desc}{short-em-desc}
\newabbreviationstyle{nolong-short-em}%
{%

```



```

\GlsXtrUseAbbrStyleSetup{short-em-nolong}%
}%
{%
\GlsXtrUseAbbrStyleFmts{short-em-nolong}%
\renewcommand*{\glsxtrinlinefullformat}[2]{%
\protect\glsfirstlongdefaultfont{\glsaccesslong{##1}}%
\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
\protect\glsfirstlongdefaultfont{\glsaccesslongpl{##1}}%
\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\protect\glsfirstlongdefaultfont{\Glsaccesslong{##1}}%
\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\protect\glsfirstlongdefaultfont{\Glsaccesslongpl{##1}}%
\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
\glsxtrparen{\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
}
\newabbreviationstyle{long-noshort-em}%
{%
\glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongnoshortname},
sort={\the\glsshorttok},
first={\protect\glsfirstlongdefaultfont{\the\glslongtok}},
firstplural={\protect\glsfirstlongdefaultfont{\the\glslongpltok}},
text={\protect\glslongdefaultfont{\the\glslongtok}},
plural={\protect\glslongdefaultfont{\the\glslongpltok}},%
description={\the\glslongtok}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glsxtremsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongdefaultfont{##1}}%

```

```

\renewcommand*{\glxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
  \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
  \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
  \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
  \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrinelinefullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glxtrinelinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinelinefullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinelinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%

```

```

        \ifglxtrinsertinside\else##2\fi
    }%
}
\@glxtr@deprecated@abbrstyle{long-em}{long-noshort-em}
\newabbreviationstyle{long-em-noshort-em}%
{%
\glxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongnoshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongemfont{\the\glslongtok}},
    firstplural={\protect\glsfirstlongemfont{\the\glslongpltok}},
    text={\protect\glslongemfont{\the\glslongtok}},
    plural={\protect\glslongemfont{\the\glslongpltok}},%
    description={\protect\glslongemfont{\the\glslongtok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glssetattribute{\the\glslabeltok}{regular}{true}}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glxtrremsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongemfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongemfont{##1}}%
\renewcommand*{\glxtrsubsequentfmt}[2]{%
    \glslongemfont{\glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrsubsequentplfmt}[2]{%
    \glslongemfont{\glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentfmt}[2]{%
    \glslongemfont{\Glsaccesslong{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
    \glslongemfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside ##2\fi}%
    \ifglxtrinsertinside \else##2\fi
}%
\renewcommand*{\glxtrinelinefullformat}[2]{%
    \glsfirstlongemfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glxtrinelinefullplformat}[2]{%
    \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
    \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}

```

```

}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstlongemfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstlongemfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\glsxtrfullformat}[2]{%
  \glsfirstlongemfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstlongemfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}
\newabbreviationstyle{long-em-noshort-em-noreg}%
{%
  \glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
  \GlsXtrUseAbbrStyleSetup{long-em-noshort-em}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}%
}
\GlsXtrUseAbbrStyleFmts{long-em-noshort-em}%
}
\newabbreviationstyle{long-noshort-em-desc}%
{%
  \GlsXtrUseAbbrStyleSetup{long-noshort-desc}%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtremsuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
}

```

```

\renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont}[1]{\glsfirstlongdefaultfont{##1}}%
\renewcommand*\glslongfont}[1]{\glslongdefaultfont{##1}}%
\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glslongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrininlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\Glsxtrininlinefullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\Glsxtrininlinefullplformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*\glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*\Glsxtrfullformat}[2]{%
  \glsfirstlongdefaultfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}

```

```

}%
\renewcommand*\Glsxtrfullplformat}[2]{%
  \glsfirstlongdefaultfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
}%
}
\@glsxtr@deprecated@abbrstyle{long-desc-em}{long-noshort-em-desc}
\newabbreviationstyle{long-em-noshort-em-desc}%
{
\renewcommand*\CustomAbbreviationFields{%
  name={\glsxtrlongnoshortdescname},
  sort={\the\glslongtok},
  first={\protect\glsfirstlongemfont{\the\glslongtok}},
  firstplural={\protect\glsfirstlongemfont{\the\glslongpltok}},
  text={\glslongemfont{\the\glslongtok}},
  plural={\glslongemfont{\the\glslongpltok}}%
}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
  \glssetattribute{\the\glslabeltok}{regular}{true}}%
}
{
\renewcommand*\abbrvpluralsuffix{\glsxtremsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongemfont{##1}}%
\renewcommand*\glslongfont[1]{\glslongemfont{##1}}%
\renewcommand*\glsxtrsubsequentfmt}[2]{%
  \glslongemfont{\glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrsubsequentplfmt}[2]{%
  \glslongemfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentfmt}[2]{%
  \glslongemfont{\Glsaccesslong{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\Glsxtrsubsequentplfmt}[2]{%
  \glslongemfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside ##2\fi}%
  \ifglsxtrininsertinside \else##2\fi
}%
\renewcommand*\glsxtrininlinefullformat}[2]{%
  \glsfirstlongemfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*\glsxtrininlinefullplformat}[2]{%
  \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%
}

```

```

    \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstlongemfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstlongemfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\protect\glsfirstabbrvemfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\glxtrfullformat}[2]{%
  \glsfirstlongemfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\glxtrfullplformat}[2]{%
  \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstlongemfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlongemfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi
}%
}
\newabbreviationstyle{long-em-noshort-em-desc-noreg}%
{%
  \GlsXtrUseAbbrStyleSetup{long-em-noshort-em-desc}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
}
\GlsXtrUseAbbrStyleFmts{long-em-noshort-em-desc}%
}
\newabbreviationstyle{short-em-footnote}%
{%
  \glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrfootnotename},
    sort={\the\glsshorttok},
    description={\the\glslongtok},%
  }%
}

```

```

first={\protect\glsfirstabbrvemfont{\the\glsshorttok}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}%
\protect\glsxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
text={\protect\glsabbrvemfont{\the\glsshorttok}},%
plural={\protect\glsabbrvemfont{\the\glsshortpltok}}%
\renewcommand*\GlsXtrPostNewAbbreviation){%
\glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\renewcommand*\abbrvpluralsuffix{\glsxtremsuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvemfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*\glslongfont[1]{\glslongfootnotefont{##1}}%
\renewcommand*\glsxtrfullformat[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
\glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
\glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
\glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
\protect\glsxtrabbrvfootnote{##1}%
{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*\glsxtrinlinefullformat[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi\glsxtrfullsep{##1}%

```



```

\glxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
\ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
\glxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{footnote-em}{short-em-footnote}
\newabbreviationstyle{short-em-footnote-desc}%
{%
\glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrfootnotedesname},
sort={\glxtrfootnotedesort},
first={\protect\glsfirstabbrvemfont{\the\glsshorttok}%
\protect\glxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongtok}}},%
firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}%
\protect\glxtrabbrvfootnote{\the\glslabeltok}%
{\protect\glsfirstlongfootnotefont{\the\glslongpltok}}},%
text={\protect\glsabbrvemfont{\the\glsshorttok}},%
plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glssetattribute{\the\glslabeltok}{nohyperfirst}{true}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%
\GlsXtrUseAbbrStyleFmts{short-em-footnote}%
}
\newabbreviationstyle{short-em-postfootnote}%
{%
\glxtrAccSuppAbbrSetNoLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrfootnotename},

```

```

sort={\the\glsshorttok},
description={\the\glslongtok},%
first={\protect\glsfirstabbrvemfont{\the\glsshorttok}},%
firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}},%
text={\protect\glsabbrvemfont{\the\glsshorttok}},%
plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\cdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtrdopostpunc{\protect\glsxtrabbrvfootnote{\glslabel}%
{\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
}%
{}}%
}%
\glsasattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%
\renewcommand*{\glsxtrsetupfulldefs}{%
\let\glsxtrifwasfirstuse\@secondoftwo
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glsxtremsuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvemfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvemfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongfootnotefont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslongfootnotefont{##1}}%
\renewcommand*{\glsxtrfullformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\glsxtrinelinefullformat}[2]{%
\glsfirstabbrvemfont{\glsaccessshort{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi\glsxtrfullsep{##1}%
}

```

```

    \glxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\glxtrinlinefullplformat}[2]{%
  \glsfirstabbrvemfont{\glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvemfont{\Glsaccessshort{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glsaccesslong{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvemfont{\Glsaccessshortpl{##1}\ifglxtrinsertinside##2\fi}%
  \ifglxtrinsertinside\else##2\fi\glxtrfullsep{##1}%
  \glxtrparen{\glsfirstlongfootnotefont{\glsaccesslongpl{##1}}}%
}%
}
\@glxtr@deprecated@abbrstyle{postfootnote-em}{short-em-postfootnote}
\newabbreviationstyle{short-em-postfootnote-desc}%
{%
  \glxtrAccSuppAbbrSetNameLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrfootnotedesname},
    sort={\glxtrfootnotedesort},
    first={\protect\glsfirstabbrvemfont{\the\glsshorttok}},%
    firstplural={\protect\glsfirstabbrvemfont{\the\glsshortpltok}},%
    text={\protect\glsabbrvemfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvemfont{\the\glsshortpltok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
      \glxtrifwasfirstuse
      {%
        \glxtrdopostpunc{\protect\glxtrabbrvfootnote{\glslabel}%
          {\glsfirstlongfootnotefont{\glsentrylong{\glslabel}}}}%
      }%
    }%
    \glsasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
  \renewcommand*{\glxtrsetupfulldefs}{%
    \let\glxtrifwasfirstuse\@secondoftwo
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{short-em-postfootnote}%
}

```

```

}
\newcommand*\glxtruserfield}{useri}
\ifdef\glscurrentfieldvalue
{
  \newcommand*\glxtruserparen}[2]{%
    \glxtrfullsep{#2}%
    \glxtrparen
    {#1\ifglshasfield{\glxtruserfield}{#2}{, \glscurrentfieldvalue}{}}%
  }
}
{
  \newcommand*\glxtruserparen}[2]{%
    \glxtrfullsep{#2}%
    \glxtrparen
    {#1\ifglshasfield{\glxtruserfield}{#2}{, \@glo@thisvalue}{}}%
  }
}
\newcommand*\glsabbrvuserfont}[1]{\glsabbrvdefaultfont{#1}}
\newcommand*\glsfirstabbrvuserfont}[1]{\glsabbrvuserfont{#1}}
\newcommand*\glslonguserfont}[1]{\glslongdefaultfont{#1}}
\newcommand*\glsfirstlonguserfont}[1]{\glslonguserfont{#1}}
\newcommand*\glxtrusersuffix}{\glxtrabbrvpluralsuffix}
\newcommand*\glsuserdescription}[2]{\glslonguserfont{#1}}
\newabbreviationstyle{long-short-user}%
{%
  \glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*\CustomAbbreviationFields{%
    name={\glxtrlongshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlonguserfont{\the\glslongtok}}%
    \protect\glxtruserparen{\protect\glsfirstabbrvuserfont{\the\glsshorttok}}%
    {\the\glslabeltok}},%
    firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}}%
    \protect\glxtruserparen
    {\protect\glsfirstabbrvuserfont{\the\glsshortpltok}}{\the\glslabeltok}},%
    text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvuserfont{\the\glsshortpltok}},%
    description={\protect\glsuserdescription{\the\glslongtok}}%
    {\the\glslabeltok}}%
  \renewcommand*\GlsXtrPostNewAbbreviation}{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \renewcommand*\abbrvpluralsuffix}{\glxtrusersuffix}%
  \renewcommand*\glsabbrvfont}[1]{\glsabbrvuserfont{##1}}%

```

```

\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslonguserfont{##1}}%
\renewcommand*{\glsxtrfullformat}[2]{%
  \glsfirstlonguserfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshort{##1}}}{##1}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
  \glsfirstlonguserfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshortpl{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
  \glsfirstlonguserfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshort{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
  \glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
  \ifglsxtrininsertinside\else##2\fi
  \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshortpl{##1}}}{##1}%
}%
}
\newabbreviationstyle{long-postshort-user}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrlongshortname},
  sort={\the\glsshorttok},
  first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
  firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
  text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvuserfont{\the\glsshortpltok}},%
  description={\protect\glsuserdescription{\the\glslongtok}%
    {\the\glslabeltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \csdef{glsxtrpostlink\glscategorylabel}{%
    \glsxtrifwasfirstuse
    {%
      \glsxtruserparen
        {\glsfirstabbrvuserfont{\glsentryshort{\glslabel}}}%
        {\glslabel}%
    }%
  }%
  }%
\glsattribute{\the\glslabeltok}{regular}%
{%
  \glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}

```

```

    }%
  }%
}%
{
  \renewcommand*\abbrvpluralsuffix{\glxtrusersuffix}%
  \renewcommand*\glsabbrvfont}[1]{\glsabbrvuserfont{##1}}%
  \renewcommand*\glsfirstabbrvfont}[1]{\glsfirstabbrvuserfont{##1}}%
  \renewcommand*\glsfirstlongfont}[1]{\glsfirstlonguserfont{##1}}%
  \renewcommand*\glslongfont}[1]{\glslonguserfont{##1}}%
  \renewcommand*\glsxtrfullformat}[2]{%
    \glsfirstlonguserfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
  }%
  \renewcommand*\glsxtrfullplformat}[2]{%
    \glsfirstlonguserfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
  }%
  \renewcommand*\Glsxtrfullformat}[2]{%
    \glsfirstlonguserfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
  }%
  \renewcommand*\Glsxtrfullplformat}[2]{%
    \glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
  }%
  \renewcommand*\glsxtrinlinefullformat}[2]{%
    \glsfirstlonguserfont{\glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
    \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshort{##1}}}{##1}%
  }%
  \renewcommand*\glsxtrinlinefullplformat}[2]{%
    \glsfirstlonguserfont{\glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
    \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshortpl{##1}}}{##1}%
  }%
  \renewcommand*\Glsxtrinlinefullformat}[2]{%
    \glsfirstlonguserfont{\Glsaccesslong{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
    \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshort{##1}}}{##1}%
  }%
  \renewcommand*\Glsxtrinlinefullplformat}[2]{%
    \glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglxtrinsertinside##2\fi}%
    \ifglxtrinsertinside\else##2\fi
    \glsxtruserparen{\glsfirstabbrvuserfont{\glsaccessshortpl{##1}}}{##1}%
  }%
}
\newcommand*\glsabbrvscuserfont{\glsabbrvscfont}%
\newcommand*\glsfirstabbrvscuserfont{\glsabbrvscuserfont}%
\newcommand*\glsxtrscusersuffix{\glsxtrscsuffix}
\newcommand*\glsxtrlongshortscusername{%

```

```

\protect\glsabbrvscuserfont{\the\glsshorttok}%
}
\newabbreviationstyle{long-postshort-sc-user}%
{%
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongshortscusername},
sort={\the\glsshorttok},
first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
text={\protect\glsabbrvscuserfont{\the\glsshorttok}},%
plural={\protect\glsabbrvscuserfont{\the\glsshortpltok}},%
description={\protect\glsuserdescription{\the\glslongtok}%
{\the\glslabeltok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtruserparen
{\glsfirstabbrvscuserfont{\glsentryshort{\glslabel}}}%
{\glslabel}}%
}%
{}}%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}}%
}%
}%
\renewcommand*{\abbrvpluralsuffix}{\glsxtrscusersuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvscuserfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvscuserfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslonguserfont{##1}}%
\renewcommand*{\glsxtrfullformat}[2]{%
\glsfirstlonguserfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsfirstlonguserfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsfirstlonguserfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
\ifglsxtrininsertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%

```

```

\glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
}%
\renewcommand*{\glsxtrinlinefullformat}[2]{%
\glsfirstlonguserfont{\Glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
\glsxtruserparen{\glsfirstabbrvcuserfont{\Glsaccessshort{##1}}}{##1}%
}%
\renewcommand*{\glsxtrinlinefullplformat}[2]{%
\glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
\glsxtruserparen{\glsfirstabbrvcuserfont{\Glsaccessshortpl{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstlonguserfont{\Glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
\glsxtruserparen{\glsfirstabbrvcuserfont{\Glsaccessshort{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstlonguserfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
\ifglsxtrinsertinside\else##2\fi
\glsxtruserparen{\glsfirstabbrvcuserfont{\Glsaccessshortpl{##1}}}{##1}%
}%
}
\newcommand*{\glsxtrlongshortuserdescname}{%
\protect\glslonguserfont{\the\glslongtok}%
\protect\glsxtruserparen
{\protect\glsabbrvuserfont{\the\glsshorttok}}{\the\glslabeltok}%
}
\newabbreviationstyle{long-postshort-user-desc}%
{%
\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongshortuserdescname},
sort={\the\glslongtok},
first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
plural={\protect\glsabbrvuserfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glsxtrpostlink\glscategorylabel}{%
\glsxtrifwasfirstuse
{%
\glsxtruserparen
{\glsfirstabbrvuserfont{\glsentryshort{\glslabel}}}%
{\glslabel}%
}%
}%
}%
}

```



```

\glshasattribute{\the\glslabeltok}{regular}%
{%
  \glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-postshort-user}%
}
\newcommand*{\glsxtrlongshortscuserdescname}{%
  \protect\glslonguserfont{\the\glslongtok}%
  \protect\glxtruserparen
  {\protect\glsabbrvscuserfont{\the\glsshorttok}}{\the\glslabeltok}%
}
\newabbreviationstyle{long-postshort-sc-user-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrlongshortscuserdescname},
    sort={\the\glslongtok},
    first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
    text={\protect\glsabbrvscuserfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvscuserfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glsxtrpostlink\glscategorylabel}{%
      \glxtrifwasfirstuse
      {%
        \glxtruserparen
        {\glsfirstabbrvscuserfont{\glsentryshort{\glslabel}}}%
        {\glslabel}%
      }%
    }%
  }%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  {}%
}%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-postshort-sc-user}%
}
\newabbreviationstyle{short-postlong-user}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%

```

```

name={\glxtrshortlongname},
sort={\the\glsshorttok},
first={\protect\glstfirstlonguserfont{\the\glslongtok}},%
firstplural={\protect\glstfirstlonguserfont{\the\glslongpltok}},%
text={\protect\glstabbrvuserfont{\the\glsshorttok}},%
plural={\protect\glstabbrvuserfont{\the\glsshortpltok}},%
description={\protect\glstuserdescription{\the\glslongtok}%
{\the\glstlabeltok}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glstxtrpostlink\glstcategorylabel}{%
\glstxtrifwasfirstuse
{%
\glstxtruserparen
{\glstfirstlonguserfont{\glstentrylong{\glstlabel}}}%
{\glstlabel}}%
}%
}%
\glsthasattribute{\the\glstlabeltok}{regular}%
{%
\glstsetattribute{\the\glstlabeltok}{regular}{false}%
}%
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glstxtrusersuffix}%
\renewcommand*{\glstabbrvfont}[1]{\glstabbrvuserfont{##1}}%
\renewcommand*{\glstfirstabbrvfont}[1]{\glstfirstabbrvuserfont{##1}}%
\renewcommand*{\glstfirstlongfont}[1]{\glstfirstlonguserfont{##1}}%
\renewcommand*{\glstlongfont}[1]{\glstlonguserfont{##1}}%
\renewcommand*{\glstxtrfullformat}[2]{%
\glstfirstabbrvuserfont{\glstaccessshort{##1}\ifglstxtrinertinside##2\fi}%
\ifglstxtrinertinside\else##2\fi
}%
\renewcommand*{\glstxtrfullplformat}[2]{%
\glstfirstabbrvuserfont{\glstaccessshortpl{##1}\ifglstxtrinertinside##2\fi}%
\ifglstxtrinertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glstfirstabbrvuserfont{\glstaccessshort{##1}\ifglstxtrinertinside##2\fi}%
\ifglstxtrinertinside\else##2\fi
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glstfirstabbrvuserfont{\glstaccessshortpl{##1}\ifglstxtrinertinside##2\fi}%
\ifglstxtrinertinside\else##2\fi
}%
\renewcommand*{\glstxtrinlinefullformat}[2]{%
\glstfirstabbrvuserfont{\glstaccessshort{##1}\ifglstxtrinertinside##2\fi}%
\ifglstxtrinertinside\else##2\fi
}

```

```

    \glxtruserparen{\glsfirstlonguserfont{\glsaccesslong{##1}}}{##1}%
}%
\renewcommand*{\glxtrininlinefullplformat}[2]{%
  \glsfirstabbrvuserfont{\glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi
  \glxtruserparen{\glsfirstlonguserfont{\glsaccesslongpl{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrininlinefullformat}[2]{%
  \glsfirstabbrvuserfont{\Glsaccessshort{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi
  \glxtruserparen{\glsfirstlonguserfont{\glsaccesslong{##1}}}{##1}%
}%
\renewcommand*{\Glsxtrininlinefullplformat}[2]{%
  \glsfirstabbrvuserfont{\Glsaccessshortpl{##1}\ifglxtrininsertinside##2\fi}%
  \ifglxtrininsertinside\else##2\fi
  \glxtruserparen{\glsfirstlonguserfont{\glsaccesslongpl{##1}}}{##1}%
}%
}
\newcommand*{\glxtrshortlonguserdescname}{%
  \protect\glsabbrvuserfont{\the\glsshorttok}%
  \protect\glxtruserparen
    {\protect\glslonguserfont{\the\glslongpltok}}%
    {\the\glslabeltok}%
}
\newabbreviationstyle{short-postlong-user-desc}%
{%
  \glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortlonguserdescname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlonguserfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonguserfont{\the\glslongpltok}},%
    text={\protect\glsabbrvuserfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvuserfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
      \glxtrifwasfirstuse
      {%
        \glxtruserparen
          {\glsfirstlonguserfont{\glsentrylong{\glslabel}}}%
          {\glslabel}%
        }%
      }%
    }%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
  }%
}

```

```

    }%
  }%
  {%
    \GlsXtrUseAbbrStyleFmts{short-postlong-user}%
  }
  \newabbreviationstyle{long-short-user-desc}%
  {%
    \glsextrAccSuppAbbrSetTextShortAttrs\glscategorylabel
    \renewcommand*{\CustomAbbreviationFields}{%
      name={\glsextrlongshortuserdescname},
      sort={\glsextrlongshortdescsort},%
      first={\protect\glsextrfirstlonguserfont{\the\glslongtok}}%
        \protect\glsextruserparen{\protect\glsextrfirstabbrvuserfont{\the\glsshorttok}}}%
        {\the\glslabeltok}},%
      firstplural={\protect\glsextrfirstlonguserfont{\the\glslongpltok}}%
        \protect\glsextruserparen
        {\protect\glsextrfirstabbrvuserfont{\the\glsshortpltok}}{\the\glslabeltok}},%
      text={\protect\glsextrabbrvfont{\the\glsshorttok}},%
      plural={\protect\glsextrabbrvfont{\the\glsshortpltok}}}%
    }%
    \renewcommand*{\GlsXtrPostNewAbbreviation}{%
      \glshasattribute{\the\glslabeltok}{regular}%
      {%
        \glissetattribute{\the\glslabeltok}{regular}{false}%
      }%
      {}%
    }%
  }%
  }%
  {%
    \GlsXtrUseAbbrStyleFmts{long-short-user}%
  }
  \newabbreviationstyle{short-long-user}%
  {%
    \glsextrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
    \renewcommand*{\CustomAbbreviationFields}{%
      name={\glsextrshortlongname},
      sort={\the\glsshorttok},
      description={\protect\glsextruserdescription{\the\glslongtok}}%
        {\the\glslabeltok}},%
      first={\protect\glsextrfirstabbrvuserfont{\the\glsshorttok}}%
        \protect\glsextruserparen{\protect\glsextrfirstlonguserfont{\the\glslongtok}}}%
        {\the\glslabeltok}},%
      firstplural={\protect\glsextrfirstabbrvuserfont{\the\glsshortpltok}}%
        \protect\glsextruserparen{\protect\glsextrfirstlonguserfont{\the\glslongpltok}}}%
        {\the\glslabeltok}},%
      text={\protect\glsextrabbrvuserfont{\the\glsshorttok}},%
      plural={\protect\glsextrabbrvuserfont{\the\glsshortpltok}}}%
    \renewcommand*{\GlsXtrPostNewAbbreviation}{%
      \glshasattribute{\the\glslabeltok}{regular}%
      {%

```

```

        \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
}%
}%
{
\renewcommand*\abbrevpluralsuffix{\glstrusersuffix}%
\renewcommand*\glsabbrvfont[1]{\glsabbrvuserfont{##1}}%
\renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvuserfont{##1}}%
\renewcommand*\glsfirstlongfont[1]{\glsfirstlonguserfont{##1}}%
\renewcommand*\glslongfont[1]{\glslonguserfont{##1}}%
\renewcommand*\glsxtrfullformat[2]{%
    \glsfirstabbrvuserfont{\glsaccessshort{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi
    \glstruserparen{\glsfirstlonguserfont{\glsaccesslong{##1}}}{##1}%
}%
\renewcommand*\glsxtrfullplformat[2]{%
    \glsfirstabbrvuserfont{\glsaccessshortpl{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi
    \glstruserparen{\glsfirstlonguserfont{\glsaccesslongpl{##1}}}{##1}%
}%
\renewcommand*\Glsxtrfullformat[2]{%
    \glsfirstabbrvuserfont{\Glsaccessshort{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi
    \glstruserparen{\glsfirstlonguserfont{\glsaccesslong{##1}}}{##1}%
}%
\renewcommand*\Glsxtrfullplformat[2]{%
    \glsfirstabbrvuserfont{\Glsaccessshortpl{##1}\ifglstrinsertinside##2\fi}%
    \ifglstrinsertinside\else##2\fi
    \glstruserparen{\glsfirstlonguserfont{\glsaccesslongpl{##1}}}{##1}%
}%
}
\newabbreviationstyle{short-long-user-desc}%
{
\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrshortlonguserdescname},
    sort={\glsxtrshortlongdescsort},%
    first={\protect\glsfirstabbrvuserfont{\the\glsshorttok}%
        \protect\glstruserparen{\protect\glsfirstlonguserfont{\the\glslongtok}}%
        {\the\glslabeltok}},%
    firstplural={\protect\glsfirstabbrvuserfont{\the\glsshortpltok}%
        \protect\glstruserparen{\protect\glsfirstlonguserfont{\the\glslongpltok}}%
        {\the\glslabeltok}},%
    text={\protect\glsabbrvfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvfont{\the\glsshortpltok}}%
}%
\renewcommand*\GlsXtrPostNewAbbreviation{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {

```

```

        \glsssetAttribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
}%
}%
{\%
\GlsXtrUseAbbrStyleFmts{short-long-user}%
}
\newrobustcmd*{\glsxtrifhyphenstart}[3]{%
\ifx\glsinsert#1\relax
\expandafter\@glsxtrifhyphenstart#1\relax\relax
\@end@glsxtrifhyphenstart{#2}{#3}%
\else
\@glsxtrifhyphenstart#1\relax\relax\@end@glsxtrifhyphenstart{#2}{#3}%
\fi
}
\def\@glsxtrifhyphenstart#1#2\@end@glsxtrifhyphenstart#3#4{%
\ifx-#1\relax#3\else #4\fi
}
\newcommand*{\glsxtrlonghyphenshort}[4]{%
{\%
\glsxtrifhyphenstart{#4}{\def\glsxtrwordsep{-}}{}}%
\glsfirstlonghyphenfont{#2\ifglsxtrininsertinside{#4}\fi}%
\ifglsxtrininsertinside\else{#4}\fi
\glsxtrfullsep{#1}%
\glsxtrparen{\glsfirstabbrvhyphenfont{#3\ifglsxtrininsertinside{#4}\fi}%
\ifglsxtrininsertinside\else{#4}\fi}%
}%
}
\newcommand*{\glsabbrvhyphenfont}{\glsabbrvdefaultfont}%
\newcommand*{\glsfirstabbrvhyphenfont}{\glsabbrvhyphenfont}%
\newcommand*{\glslonghyphenfont}{\glslongdefaultfont}%
\newcommand*{\glsfirstlonghyphenfont}{\glsfirstlonghyphenfont}%
\newcommand*{\glsxtrhyphensuffix}{\glsxtrabbrvpluralsuffix}
\newabbreviationstyle{long-hyphen-short-hyphen}%
{\%
\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongshortname},
sort={\the\glsshorttok},
first={\protect\glsfirstlonghyphenfont{\the\glslongtok}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\glsxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}}},%
firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}%
\protect\glsxtrfullsep{\the\glslabeltok}%
\glsxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}}},%
text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}},%
description={\protect\glsfirstlonghyphenfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%

```

```

\glsattribute{\the\glslabeltok}{regular}%
{%
  \glssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%
  \renewcommand*\{abbrvpluralsuffix\}{\glxtrhyphensuffix}%
  \renewcommand*\{glsabbrvfont}[1]{\glsabbrvhyphenfont{##1}}%
  \renewcommand*\{glsfirstabbrvfont}[1]{\glsfirstabbrvhyphenfont{##1}}%
  \renewcommand*\{glsfirstlongfont}[1]{\glsfirstlonghyphenfont{##1}}%
  \renewcommand*\{glslongfont}[1]{\glslonghyphenfont{##1}}%
  \renewcommand*\{glxtrfullformat}[2]{%
    \glxtrlonghyphenshort{##1}{\glsaccesslong{##1}}{\glsaccessshort{##1}}{##2}%
  }%
  \renewcommand*\{glxtrfullplformat}[2]{%
    \glxtrlonghyphenshort{##1}{\glsaccesslongpl{##1}}%
    {\glsaccessshortpl{##1}}{##2}%
  }%
  \renewcommand*\{Glsxtrfullformat}[2]{%
    \glxtrlonghyphenshort{##1}{\Glsaccesslong{##1}}{\glsaccessshort{##1}}{##2}%
  }%
  \renewcommand*\{Glsxtrfullplformat}[2]{%
    \glxtrlonghyphenshort{##1}{\Glsaccesslongpl{##1}}%
    {\glsaccessshortpl{##1}}{##2}%
  }%
}
\newabbreviationstyle{long-hyphen-short-hyphen-desc}%
{%
  \glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*\{CustomAbbreviationFields\}{%
    name={\glxtrlongshortdescname},
    sort={\glxtrlongshortdescsort},
    first={\protect\glsfirstlonghyphenfont{\the\glslongtok}}%
    \protect\glxtrfullsep{\the\glslabeltok}}%
    \glxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}}},%
    firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}}%
    \protect\glxtrfullsep{\the\glslabeltok}}%
    \glxtrparen{\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}}},%
    text={\protect\glsabbrvhyphenfont{\the\glsshorttok}}},%
    plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}}%
  }%
  \renewcommand*\{GlsXtrPostNewAbbreviation\}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}

```

```

}%
{%
  \GlsXtrUseAbbrStyleFmts{long-hyphen-short-hyphen}%
}
\newcommand*\glsxtrlonghyphennoshort}[3]{%
  {%
    \glsxtrifhyphenstart{#3}{\def\glsxtrwordsep{-}}{}%
    \glsfirstlonghyphenfont{#2\ifglsxtrininsertinside{#3}\fi}%
    \ifglsxtrininsertinside\else{#3}\fi
  }%
}
\newabbreviationstyle{long-hyphen-noshort-desc-noreg}%
{%
  \renewcommand*\CustomAbbreviationFields{%
    name={\glsxtrlongnoshortdescname},
    sort={\expandonce\glsxtrorglong},
    first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
    text={\protect\glslonghyphenfont{\the\glslongtok}},%
    plural={\protect\glslonghyphenfont{\the\glslongpltok}}%
  }%
  \renewcommand*\GlsXtrPostNewAbbreviation{%
    \glshasattribute{\the\glslabeltok}{regular}%
    {%
      \glissetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-hyphen-short-hyphen}%
  \renewcommand*\abbrvpluralsuffix{\glsxtrabbrvpluralsuffix}%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvdefaultfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvdefaultfont{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlonghyphenfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslonghyphenfont{##1}}%
  \renewcommand*\glsxtrsubsequentfmt}[2]{%
    \glsxtrlonghyphennoshort{##1}{\glsaccesslong{##1}}{##2}%
  }%
  \renewcommand*\glsxtrsubsequentplfmt}[2]{%
    \glsxtrlonghyphennoshort{##1}{\glsaccesslongpl{##1}}{##2}%
  }%
  \renewcommand*\Glsxtrsubsequentfmt}[2]{%
    \glsxtrlonghyphennoshort{##1}{\Glsaccesslong{##1}}{##2}%
  }%
  \renewcommand*\Glsxtrsubsequentplfmt}[2]{%
    \glsxtrlonghyphennoshort{##1}{\Glsaccesslongpl{##1}}{##2}%
  }%
  \renewcommand*\glsxtrinlinefullformat}[2]{%
    \glsxtrlonghyphennoshort{##1}{\glsaccesslong{##1}}{##2}%
  }%
}

```



```

\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\glsxtrininlinefullplformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\glsaccesslongpl{##1}}{##2}%
\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrininlinefullformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\Glsaccesslong{##1}}{##2}%
\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshort{##1}}}%
}%
\renewcommand*{\Glsxtrininlinefullplformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\Glsaccesslongpl{##1}}{##2}%
\glsxtrfullsep{##1}%
\glsxtrparen{\protect\glsfirstabbrvfont{\glsaccessshortpl{##1}}}%
}%
\renewcommand*{\glsxtrfullformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\glsaccesslong{##1}}{##2}%
}%
\renewcommand*{\glsxtrfullplformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\glsaccesslongpl{##1}}{##2}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\Glsaccesslong{##1}}{##2}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glsxtrlonghyphennohshort{##1}{\Glsaccesslongpl{##1}}{##2}%
}%
}
\newabbreviationstyle{long-hyphen-noshort-noreg}%
{%
\glsxtrAccSuppAbbrSetNameShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrlongnoshortname},
sort={\the\glsshorttok},
first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
text={\protect\glslonghyphenfont{\the\glslongtok}},%
plural={\protect\glslonghyphenfont{\the\glslongpltok}},%
description={\the\glslongtok}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}

```

```

}%
{%
  \GlsXtrUseAbbrStyleFmts{long-hyphen-noshort-desc-noreg}%
}
\newcommand*{\glxtrlonghyphen}[3]{%
  {%
    \glxtrifhyphenstart{#3}{\def\glxtrwordsep{-}}{%
      \glsfirstlonghyphenfont{#1}%
    }%
  }%
}
\newcommand*{\glxtrposthyphenshort}[2]{%
  {%
    \glxtrifhyphenstart{#2}{\def\glxtrwordsep{-}}{%
      \ifglxtrininsertinside{\glsfirstlonghyphenfont{#2}}\else{#2}\fi
      \glxtrfullsep{#1}%
      \glxtrparen
      {\glsfirstabbrvhyphenfont{\glsentryshort{#1}}\ifglxtrininsertinside{#2}\fi}%
      \ifglxtrininsertinside\else{#2}\fi
    }%
  }%
}
\newcommand*{\glxtrposthyphensubsequent}[2]{%
  \glsabbrvfont{\ifglxtrininsertinside {#2}\fi}%
  \ifglxtrininsertinside \else{#2}\fi
}
\newabbreviationstyle{long-hyphen-postshort-hyphen}%
{%
  \glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongshortname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
    text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}},%
    description={\protect\glslonghyphenfont{\the\glslongtok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
      \glxtrifwasfirstuse
      {%
        \glxtrposthyphenshort{\glslabel}{\glsinsert}%
      }%
      {%
        \glxtrposthyphensubsequent{\glslabel}{\glsinsert}%
      }%
    }%
  }%
  \glshasattribute{\the\glslabeltok}{regular}%
  {%
    \glissetattribute{\the\glslabeltok}{regular}{false}%
  }%
}

```

```

    {}%
  }%
}%
{
  \renewcommand*\abbrvpluralsuffix{\glstrabbrvpluralsuffix}%
  \renewcommand*\glsabbrvfont[1]{\glsabbrvhyphenfont{##1}}%
  \renewcommand*\glsfirstabbrvfont[1]{\glsfirstabbrvhyphenfont{##1}}%
  \renewcommand*\glsfirstlongfont[1]{\glsfirstlonghyphenfont{##1}}%
  \renewcommand*\glslongfont[1]{\glslonghyphenfont{##1}}%
  \renewcommand*\glstrsubsequentfmt[2]{%
    \glsabbrvfont{\glsaccessshort{##1}}%
  }%
  \renewcommand*\glstrsubsequentplfmt[2]{%
    \glsabbrvfont{\glsaccessshortpl{##1}}%
  }%
  \renewcommand*\Glsstrsubsequentfmt[2]{%
    \glsabbrvfont{\Glsaccessshort{##1}}%
  }%
  \renewcommand*\Glsstrsubsequentplfmt[2]{%
    \glsabbrvfont{\Glsaccessshortpl{##1}}%
  }%
  \renewcommand*\glstrfullformat[2]{%
    \glstrlonghyphen{\glsaccesslong{##1}}{##1}{##2}%
  }%
  \renewcommand*\glstrfullplformat[2]{%
    \glstrlonghyphen{\glsaccesslongpl{##1}}{##1}{##2}%
  }%
  \renewcommand*\Glsstrfullformat[2]{%
    \glstrlonghyphen{\Glsaccesslong{##1}}{##1}{##2}%
  }%
  \renewcommand*\Glsstrfullplformat[2]{%
    \glstrlonghyphen{\Glsaccesslongpl{##1}}{##1}{##2}%
  }%
  \renewcommand*\glstrinlinefullformat[2]{%
    \glsfirstlonghyphenfont{\glsaccesslong{##1}}%
    \ifglstrinsertinside{##2}\fi}%
    \ifglstrinsertinside \else{##2}\fi
  }%
  \renewcommand*\glstrinlinefullplformat[2]{%
    \glsfirstlonghyphenfont{\glsaccesslongpl{##1}}%
    \ifglstrinsertinside{##2}\fi}%
    \ifglstrinsertinside \else{##2}\fi
  }%
  \renewcommand*\Glsstrinlinefullformat[2]{%
    \glsfirstlonghyphenfont{\Glsaccesslong{##1}}%
    \ifglstrinsertinside{##2}\fi}%
    \ifglstrinsertinside \else{##2}\fi
  }%
  \renewcommand*\Glsstrinlinefullplformat[2]{%
    \glsfirstlonghyphenfont{\Glsaccesslongpl{##1}}%

```

```

        \ifglxtrinsertinside{##2}\fi}%
        \ifglxtrinsertinside \else{##2}\fi
    }%
}
\newabbreviationstyle{long-hyphen-postshort-hyphen-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrlongshortdescname},
    sort={\glxtrlongshortdescsort},%
    first={\protect\glsfirstlonghyphenfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlonghyphenfont{\the\glslongpltok}},%
    text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
    \glxtrifwasfirstuse
    {%
        \glxtrposthyphenshort{\glslabel}{\glsinsert}%
    }%
    {%
        \glxtrposthyphensubsequent{\glslabel}{\glsinsert}%
    }%
}%
\glsattribute{\the\glslabeltok}{regular}%
{%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%
\GlsXtrUseAbbrStyleFmts{long-hyphen-postshort-hyphen}%
}
\newcommand*{\glxtrshorthyphenlong}[4]{%
{%
    \glxtrifhyphenstart{#4}{\def\glxtrwordsep{-}}{%
        \glsfirstabbrvhyphenfont{#2\ifglxtrinsertinside{#4}\fi}%
        \ifglxtrinsertinside\else{#4}\fi
        \glxtrfullsep{#1}%
        \glxtrparen{\glsfirstlonghyphenfont{#3\ifglxtrinsertinside{#4}\fi}%
            \ifglxtrinsertinside\else{#4}\fi}%
    }%
}
}
\newabbreviationstyle{short-hyphen-long-hyphen}%
{%
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
    name={\glxtrshortlongname},

```

```

sort={\the\glsshorttok},
first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongtok}}},%
firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongpltok}}},%
text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}},%
description={\protect\glslonghyphenfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\renewcommand*{\abbrvpluralsuffix}{\glxtrhyphensuffix}%
\renewcommand*{\glsabbrvfont}[1]{\glsabbrvhyphenfont{##1}}%
\renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvhyphenfont{##1}}%
\renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonghyphenfont{##1}}%
\renewcommand*{\glslongfont}[1]{\glslonghyphenfont{##1}}%
\renewcommand*{\glxtrfullformat}[2]{%
\glxtrshorthyphenlong{##1}{\glsaccessshort{##1}}{\glsaccesslong{##1}}{##2}%
}%
\renewcommand*{\glxtrfullplformat}[2]{%
\glxtrshorthyphenlong{##1}%
{\glsaccessshortpl{##1}}{\glsaccesslongpl{##1}}{##2}%
}%
\renewcommand*{\Glsxtrfullformat}[2]{%
\glxtrshorthyphenlong{##1}{\glsaccessshort{##1}}{\Glsaccesslong{##1}}{##2}%
}%
\renewcommand*{\Glsxtrfullplformat}[2]{%
\glxtrshorthyphenlong{##1}%
{\glsaccessshortpl{##1}}{\Glsaccesslongpl{##1}}{##2}%
}%
}
\newabbreviationstyle{short-hyphen-long-hyphen-desc}%
{%
\glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glsxtrshortlongdescname},
sort={\glsxtrshortlongdescsort},
first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}%
\protect\glxtrfullsep{\the\glslabeltok}%
\glxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongtok}}},%
firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}%
\protect\glxtrfullsep{\the\glslabeltok}%

```

```

\glxtrparen{\protect\glsfirstlonghyphenfont{\the\glslongpltok}}},%
text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glsattribute{\the\glslabeltok}{regular}%
{%
\glssetattribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
{%
\GlsXtrUseAbbrStyleFmts{short-hyphen-long-hyphen}%
}
\newcommand*{\glxtrshorthyphen}[3]{%
{%
\glxtrifhyphenstart{#3}{\def\glxtrwordsep{-}}{%
\glsfirstabbrvhyphenfont{#1}%
}%
}
\newcommand*{\glxtrposthyphenlong}[2]{%
{%
\glxtrifhyphenstart{#2}{\def\glxtrwordsep{-}}{%
\ifglxtrininsertinside{\glsfirstabbrvhyphenfont{#2}}\else{#2}\fi
\glxtrfullsep{#1}%
\glxtrparen
{\glsfirstlonghyphenfont{\glsentrylong{#1}}\ifglxtrininsertinside{#2}\fi}
\ifglxtrininsertinside\else{#2}\fi
}%
}%
}
\newabbreviationstyle{short-hyphen-postlong-hyphen}%
{%
\glxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtrshortlongname},
sort={\the\glsshorttok},
first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}},%
firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}},%
text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}},%
description={\protect\glsfirstlonghyphenfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\csdef{glxtrpostlink\glscategorylabel}{%
\glxtrifwasfirstuse
{%
\glxtrposthyphenlong{\glslabel}{\glsinsert}%
}%
}%
}

```

```

        \glxtrposthyphensubsequent{\glslabel}{\glsinsert}%
    }%
}%
\glshasattribute{\the\glslabeltok}{regular}%
{%
    \glsssetattribute{\the\glslabeltok}{regular}{false}%
}%
{}%
}%
}%
{%
    \renewcommand*{\abbrvpluralsuffix}{\glxtrabbrvpluralsuffix}%
    \renewcommand*{\glsabbrvfont}[1]{\glsabbrvhyphenfont{##1}}%
    \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvhyphenfont{##1}}%
    \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlonghyphenfont{##1}}%
    \renewcommand*{\glslongfont}[1]{\glslonghyphenfont{##1}}%
    \renewcommand*{\glxtrsubsequentfmt}[2]{%
        \glsabbrvfont{\glsaccessshort{##1}}%
    }%
    \renewcommand*{\glxtrsubsequentplfmt}[2]{%
        \glsabbrvfont{\glsaccessshortpl{##1}}%
    }%
    \renewcommand*{\Glsxtrsubsequentfmt}[2]{%
        \glsabbrvfont{\Glsaccessshort{##1}}%
    }%
    \renewcommand*{\Glsxtrsubsequentplfmt}[2]{%
        \glsabbrvfont{\Glsaccessshortpl{##1}}%
    }%
    \renewcommand*{\glxtrfullformat}[2]{%
        \glxtrshorthyphen{\glsaccessshort{##1}}{##1}{##2}%
    }%
    \renewcommand*{\glxtrfullplformat}[2]{%
        \glxtrshorthyphen{\glsaccessshortpl{##1}}{##1}{##2}%
    }%
    \renewcommand*{\Glsxtrfullformat}[2]{%
        \glxtrshorthyphen{\Glsaccessshort{##1}}{##1}{##2}%
    }%
    \renewcommand*{\Glsxtrfullplformat}[2]{%
        \glxtrshorthyphen{\Glsaccessshortpl{##1}}{##1}{##2}%
    }%
    \renewcommand*{\glxtrinilinefullformat}[2]{%
        \glsfirstabbrvhyphenfont{\glsaccessshort{##1}}%
        \ifglxtrininsertinside{##2}\fi}%
        \ifglxtrininsertinside \else{##2}\fi
    }%
    \renewcommand*{\glxtrinilinefullplformat}[2]{%
        \glsfirstabbrvhyphenfont{\glsaccessshortpl{##1}}%
        \ifglxtrininsertinside{##2}\fi}%
        \ifglxtrininsertinside \else{##2}\fi
    }%

```

```

\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstabbrvhyphenfont{\Glsaccessshort{##1}}%
  \ifglxtrinsertinside{##2}\fi}%
\ifglxtrinsertinside \else{##2}\fi
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstabbrvhyphenfont{\Glsaccessshortpl{##1}}%
  \ifglxtrinsertinside{##2}\fi}%
\ifglxtrinsertinside \else{##2}\fi
}%
}
\newabbreviationstyle{short-hyphen-postlong-hyphen-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrshortlongdescname},
    sort={\glsxtrshortlongdescsort},%
    first={\protect\glsfirstabbrvhyphenfont{\the\glsshorttok}},%
    firstplural={\protect\glsfirstabbrvhyphenfont{\the\glsshortpltok}},%
    text={\protect\glsabbrvhyphenfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvhyphenfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \csdef{glxtrpostlink\glscategorylabel}{%
      \glxtrifwasfirstuse
      {%
        \glxtrposthyphenlong{\glslabel}{\glsinsert}}%
      }%
      {%
        \glxtrposthyphensubsequent{\glslabel}{\glsinsert}}%
      }%
    }%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
}%
\GlsXtrUseAbbrStyleFmts{short-hyphen-postlong-hyphen}%
}
\newcommand*{\glsabbrvonlyfont}{\glsabbrvdefaultfont}%
\newcommand*{\glsfirstabbrvonlyfont}{\glsabbrvonlyfont}%
\newcommand*{\glslongonlyfont}{\glslongdefaultfont}%
\newcommand*{\glsfirstlongonlyfont}{\glslongonlyfont}%
\newcommand*{\glsxtronlysuffix}{\glsxtrabbrvpluralsuffix}%
\newcommand*{\glsxtronlyname}{%
  \protect\glsabbrvonlyfont{\the\glsshorttok}}%
}

```



```

\newabbreviationstyle{long-only-short-only}%
{%
  \glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtronlyname},
    sort={\the\glsshorttok},
    first={\protect\glsfirstlongonlyfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlongonlyfont{\the\glslongpltok}},%
    text={\protect\glsabbrvonlyfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvonlyfont{\the\glshortpltok}},%
    description={\protect\glslongonlyfont{\the\glslongtok}}}%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtronlysuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvonlyfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvonlyfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongonlyfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongonlyfont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstlongonlyfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstlongonlyfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\glsxtrinlinefullformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvonlyfont{\glsaccessshort{##1}}}%
  }%
  \renewcommand*{\glsxtrinlinefullplformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
}

```

```

\glxtrfullsep{##1}%
\glxtrparen{\protect\glsfirstabbrvonlyfont{\glssaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
\glsfirstlongonlyfont{\Glsaccesslong{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\protect\glsfirstabbrvonlyfont{\glssaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
\glsfirstlongonlyfont{\Glsaccesslongpl{##1}\ifglxtrininsertinside##2\fi}%
\ifglxtrininsertinside\else##2\fi
\glxtrfullsep{##1}%
\glxtrparen{\protect\glsfirstabbrvonlyfont{\Glsaccessshortpl{##1}}}%
}%
}
\newcommand*{\glxtronlydescsort}{\the\glslongtok}
\newcommand*{\glxtronlydescname}{%
\protect\glslongfont{\the\glslongtok}%
}
\newabbreviationstyle{long-only-short-only-desc}%
{%
\glxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
name={\glxtronlydescname},
sort={\glxtronlydescsort},%
first={\protect\glsfirstlongonlyfont{\the\glslongtok}},%
firstplural={\protect\glsfirstlongonlyfont{\the\glslongpltok}},%
text={\protect\glssabbrvonlyfont{\the\glssshorttok}},%
plural={\protect\glssabbrvonlyfont{\the\glssshortpltok}}%
}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
\glshasattribute{\the\glslabeltok}{regular}%
{%
\glsssetAttribute{\the\glslabeltok}{regular}{false}%
}%
}%
}%
}%
\GlsXtrUseAbbrStyleFmts{long-only-short-only}%
}
\newcommand*{\glssabbrvsconlyfont}{\glssabbrvscfont}%
\newcommand*{\glsfirstabbrvsconlyfont}{\glssabbrvsconlyfont}%
\newcommand*{\glsxtrsconlysuffix}{\glsxtrscsuffix}
\newcommand*{\glsxtrsconlyname}{%
\protect\glssabbrvsconlyfont{\the\glssshorttok}%
}
\newabbreviationstyle{long-only-short-sc-only}%
{%

```

```

\glsxtrAccSuppAbbrSetFirstLongAttrs\glscategorylabel
\renewcommand*{\CustomAbbreviationFields}{%
  name={\glsxtrsconlyname},
  sort={\the\glsshorttok},
  first={\protect\glsfirstlongonlyfont{\the\glslongtok}},%
  firstplural={\protect\glsfirstlongonlyfont{\the\glslongpltok}},%
  text={\protect\glsabbrvsconlyfont{\the\glsshorttok}},%
  plural={\protect\glsabbrvsconlyfont{\the\glsshortpltok}},%
  description={\protect\glslongonlyfont{\the\glslongtok}}}%
\renewcommand*{\GlsXtrPostNewAbbreviation}{%
  \glsattribute{\the\glslabeltok}{regular}%
  {%
    \glssetattribute{\the\glslabeltok}{regular}{false}%
  }%
  }%
}%
{%
  \renewcommand*{\abbrvpluralsuffix}{\glsxtrsconlysuffix}%
  \renewcommand*{\glsabbrvfont}[1]{\glsabbrvsconlyfont{##1}}%
  \renewcommand*{\glsfirstabbrvfont}[1]{\glsfirstabbrvsconlyfont{##1}}%
  \renewcommand*{\glsfirstlongfont}[1]{\glsfirstlongonlyfont{##1}}%
  \renewcommand*{\glslongfont}[1]{\glslongonlyfont{##1}}%
  \renewcommand*{\glsxtrfullformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\glsxtrfullplformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullformat}[2]{%
    \glsfirstlongonlyfont{\Glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\Glsxtrfullplformat}[2]{%
    \glsfirstlongonlyfont{\Glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
  }%
  \renewcommand*{\glsxtrinlinefullformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslong{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvsconlyfont{\glsaccessshort{##1}}}%
  }%
  \renewcommand*{\glsxtrinlinefullplformat}[2]{%
    \glsfirstlongonlyfont{\glsaccesslongpl{##1}\ifglsxtrininsertinside##2\fi}%
    \ifglsxtrininsertinside\else##2\fi
    \glsxtrfullsep{##1}%
    \glsxtrparen{\protect\glsfirstabbrvsconlyfont{\glsaccessshortpl{##1}}}%
  }%
}

```

```

}%
\renewcommand*{\Glsxtrinlinefullformat}[2]{%
  \glsfirstlongonlyfont{\Glsaccesslong{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsonlyfont{\Glsaccessshortpl{##1}}}%
}%
\renewcommand*{\Glsxtrinlinefullplformat}[2]{%
  \glsfirstlongonlyfont{\Glsaccesslongpl{##1}\ifglsxtrinsertinside##2\fi}%
  \ifglsxtrinsertinside\else##2\fi
  \glsxtrfullsep{##1}%
  \glsxtrparen{\protect\glsfirstabbrvsonlyfont{\Glsaccessshortpl{##1}}}%
}%
}
\newcommand*{\glsxtrsconlydescsort}{\glsxtronlydescsort}
\newcommand*{\glsxtrsconlydescname}{\glsxtronlydescname}
\newabbreviationstyle{long-only-short-sc-only-desc}%
{%
  \glsxtrAccSuppAbbrSetTextShortAttrs\glscategorylabel
  \renewcommand*{\CustomAbbreviationFields}{%
    name={\glsxtrsconlydescname},
    sort={\glsxtrsconlydescsort},%
    first={\protect\glsfirstlongonlyfont{\the\glslongtok}},%
    firstplural={\protect\glsfirstlongonlyfont{\the\glslongpltok}},%
    text={\protect\glsabbrvsonlyfont{\the\glsshorttok}},%
    plural={\protect\glsabbrvsonlyfont{\the\glsshortpltok}}%
  }%
  \renewcommand*{\GlsXtrPostNewAbbreviation}{%
    \glsattribute{\the\glslabeltok}{regular}%
    {%
      \glssetattribute{\the\glslabeltok}{regular}{false}%
    }%
    {}%
  }%
}%
{%
  \GlsXtrUseAbbrStyleFmts{long-only-short-sc-only}%
}
\let\@glsxtr@org@markright\markright
\renewcommand*{\markright}[1]{%
  \glsxtrmarkhook
  \@glsxtr@org@markright{\@glsxtrinmark#1\@glsxtrnotinmark}%
  \glsxtrrestoremarkhook
}
\let\@glsxtr@org@markboth\markboth
\renewcommand*{\markboth}[2]{%
  \glsxtrmarkhook
  \@glsxtr@org@markboth
  {\@glsxtrinmark#1\@glsxtrnotinmark}%
  {\@glsxtrinmark#2\@glsxtrnotinmark}%
}

```

```

\glxtrrestoremarkhook
}
\let\@glxtr@org@@starttoc\@starttoc
\renewcommand*\@starttoc}[1]{%
\glxtrmarkhook
\@glxtrinmark
\@glxtr@org@@starttoc{#1}%
\@glxtrnotinmark
\glxtrrestoremarkhook
}
\newcommand*\glxtrRevertMarks}{%
\let\markright\@glxtr@org@markright
\let\markboth\@glxtr@org@markboth
\let\@starttoc\@glxtr@org@@starttoc
}
\newcommand*\glxtrRevertTocMarks}{%
\let\@starttoc\@glxtr@org@@starttoc
}
\newcommand*\glxtrifinmark}[2]{#2}
\newrobustcmd*\@glxtrinmark}{%
\let\glxtrifinmark\@firstoftwo
}
\newrobustcmd*\@glxtrnotinmark}{%
\let\glxtrifinmark\@secondoftwo
}
\ifdef\texorpdfstring
{
\newcommand*\glxtrtitleorpdforheading}[3]{\texorpdfstring{#1}{#2}}
}
{
\newcommand*\glxtrtitleorpdforheading}[3]{#1}
}
\newcommand*\glxtrmarkhook}{%
\let\@glxtr@org@MakeUppercase\MakeUppercase
\let\@glxtr@org@glxtrtitleorpdforheading\glxtrtitleorpdforheading
\let\@glxtr@org@glxtrtitleshort\glxtrtitleshort
\let\@glxtr@org@glxtrtitleshortpl\glxtrtitleshortpl
\let\@glxtr@org@Glsxtrtitleshort\Glsxtrtitleshort
\let\@glxtr@org@Glsxtrtitleshortpl\Glsxtrtitleshortpl
\let\@glxtr@org@glxtrtitlename\glxtrtitlename
\let\@glxtr@org@Glsxtrtitlename\Glsxtrtitlename
\let\@glxtr@org@glxtrtitletext\glxtrtitletext
\let\@glxtr@org@Glsxtrtitletext\Glsxtrtitletext
\let\@glxtr@org@glxtrtitleplural\glxtrtitleplural
\let\@glxtr@org@Glsxtrtitleplural\Glsxtrtitleplural
\let\@glxtr@org@glxtrtitlefirst\glxtrtitlefirst
\let\@glxtr@org@Glsxtrtitlefirst\Glsxtrtitlefirst
\let\@glxtr@org@glxtrtitlefirstplural\glxtrtitlefirstplural
\let\@glxtr@org@Glsxtrtitlefirstplural\Glsxtrtitlefirstplural
\let\@glxtr@org@glxtrtitlelong\glxtrtitlelong

```

```

\let\@glsxtr@org@glsxtrtitlelongpl\glsxtrtitlelongpl
\let\@glsxtr@org@Glsxtrtitlelong\Glsxtrtitlelong
\let\@glsxtr@org@Glsxtrtitlelongpl\Glsxtrtitlelongpl
\let\@glsxtr@org@glsxtrtitlefull\glsxtrtitlefull
\let\@glsxtr@org@glsxtrtitlefullpl\glsxtrtitlefullpl
\let\@glsxtr@org@Glsxtrtitlefull\Glsxtrtitlefull
\let\@glsxtr@org@Glsxtrtitlefullpl\Glsxtrtitlefullpl
\let\glsxtrifinmark\@firstoftwo
\let\MakeUppercase\MakeTextUppercase
\let\glsxtrtitleorpdforheading\@thirdofthree
\let\glsxtrtitleshort\glsxtrheadshort
\let\glsxtrtitleshortpl\glsxtrheadshortpl
\let\Glsxtrtitleshort\Glsxtrheadshort
\let\Glsxtrtitleshortpl\Glsxtrheadshortpl
\let\glsxtrtitlename\glsxtrheadname
\let\Glsxtrtitlename\Glsxtrheadname
\let\glsxtrtitletext\glsxtrheadtext
\let\Glsxtrtitletext\Glsxtrheadtext
\let\glsxtrtitleplural\glsxtrheadplural
\let\Glsxtrtitleplural\Glsxtrheadplural
\let\glsxtrtitlefirst\glsxtrheadfirst
\let\Glsxtrtitlefirst\Glsxtrheadfirst
\let\glsxtrtitlefirstplural\glsxtrheadfirstplural
\let\Glsxtrtitlefirstplural\Glsxtrheadfirstplural
\let\glsxtrtitlelong\glsxtrheadlong
\let\glsxtrtitlelongpl\glsxtrheadlongpl
\let\Glsxtrtitlelong\Glsxtrheadlong
\let\Glsxtrtitlelongpl\Glsxtrheadlongpl
\let\glsxtrtitlefull\glsxtrheadfull
\let\glsxtrtitlefullpl\glsxtrheadfullpl
\let\Glsxtrtitlefull\Glsxtrheadfull
\let\Glsxtrtitlefullpl\Glsxtrheadfullpl
}
\newcommand*{\glsxtrrestoremarkhook}{%
\let\glsxtrifinmark\@secondoftwo
\let\MakeUppercase\@glsxtr@org@MakeUppercase
\let\glsxtrtitleorpdforheading\@glsxtr@org@glsxtrtitleorpdforheading
\let\glsxtrtitleshort\@glsxtr@org@glsxtrtitleshort
\let\glsxtrtitleshortpl\@glsxtr@org@glsxtrtitleshortpl
\let\Glsxtrtitleshort\@glsxtr@org@Glsxtrtitleshort
\let\Glsxtrtitleshortpl\@glsxtr@org@Glsxtrtitleshortpl
\let\glsxtrtitlename\@glsxtr@org@glsxtrtitlename
\let\Glsxtrtitlename\@glsxtr@org@Glsxtrtitlename
\let\glsxtrtitletext\@glsxtr@org@glsxtrtitletext
\let\Glsxtrtitletext\@glsxtr@org@Glsxtrtitletext
\let\glsxtrtitleplural\@glsxtr@org@glsxtrtitleplural
\let\Glsxtrtitleplural\@glsxtr@org@Glsxtrtitleplural
\let\glsxtrtitlefirst\@glsxtr@org@glsxtrtitlefirst
\let\Glsxtrtitlefirst\@glsxtr@org@Glsxtrtitlefirst
\let\glsxtrtitlefirstplural\@glsxtr@org@glsxtrtitlefirstplural

```

```

\let\Glsxtrtitlefirstplural\@glsxtr@org@Glsxtrtitlefirstplural
\let\glsxtrtitlelong\@glsxtr@org@glsxtrtitlelong
\let\glsxtrtitlelongpl\@glsxtr@org@glsxtrtitlelongpl
\let\Glsxtrtitlelong\@glsxtr@org@Glsxtrtitlelong
\let\Glsxtrtitlelongpl\@glsxtr@org@Glsxtrtitlelongpl
\let\glsxtrtitlefull\@glsxtr@org@glsxtrtitlefull
\let\glsxtrtitlefullpl\@glsxtr@org@glsxtrtitlefullpl
\let\Glsxtrtitlefull\@glsxtr@org@Glsxtrtitlefull
\let\Glsxtrtitlefullpl\@glsxtr@org@Glsxtrtitlefullpl
}
\newcommand*{\glsxtrheadshort}[1]{%
\protect\NoCaseChange
{%
\glsifattribute{#1}{headuc}{true}%
{%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
{%
\glsxtrshort[noindex,hyper=false]{#1}[]%
}%
}%
}
\newrobustcmd*{\glsxtrtitleshort}[1]{%
\glsxtrshort[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadshortpl}[1]{%
\protect\NoCaseChange
{%
\glsifattribute{#1}{headuc}{true}%
{%
\Glsxtrshortpl[noindex,hyper=false]{#1}[]%
}%
{%
\glsxtrshortpl[noindex,hyper=false]{#1}[]%
}%
}%
}
\newrobustcmd*{\glsxtrtitleshortpl}[1]{%
\glsxtrshortpl[noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadshort}[1]{%
\protect\NoCaseChange
{%
\glsifattribute{#1}{headuc}{true}%
{%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
{%
\Glsxtrshort[noindex,hyper=false]{#1}[]%
}%
}

```

```

}%
}
\newrobustcmd*{\Glsxtrtitleshort}[1]{%
  \Glsxtrshort [noindex,hyper=false]{#1} []%
}
\newrobustcmd*{\Glsxtrtitleshort}[1]{%
  \Glsxtrshort [noindex,hyper=false]{#1} []%
}
\newcommand*{\Glsxtrheadshortpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsxtrshortpl [noindex,hyper=false]{#1} []%
    }%
    {%
      \Glsxtrshortpl [noindex,hyper=false]{#1} []%
    }%
  }%
}
\newrobustcmd*{\Glsxtrtitleshortpl}[1]{%
  \Glsxtrshortpl [noindex,hyper=false]{#1} []%
}
\newrobustcmd*{\Glsxtrtitleshortpl}[1]{%
  \Glsxtrshortpl [noindex,hyper=false]{#1} []%
}
\newcommand*{\glsxtrheadname}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsname [noindex,hyper=false]{#1} []%
    }%
    {%
      \glsname [noindex,hyper=false]{#1} []%
    }%
  }%
}
\newrobustcmd*{\glsxtrtitlename}[1]{%
  \glsname [noindex,hyper=false]{#1} []%
}
\newcommand*{\Glsxtrheadname}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsname [noindex,hyper=false]{#1} []%
    }%
    {%
      \Glsname [noindex,hyper=false]{#1} []%
    }%
  }%
}

```



```

    }%
  }%
}
\newrobustcmd*{\GLsxtrtitlename}[1]{%
  \GLsname [noindex,hyper=false]{#1} []%
}
\newrobustcmd*{\GLSxtrtitlename}[1]{%
  \GLSname [noindex,hyper=false]{#1} []%
}
\newcommand*{\glsxtrheadtext}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLStext [noindex,hyper=false]{#1} []%
    }%
    {%
      \glstext [noindex,hyper=false]{#1} []%
    }%
  }%
}%
}
\newrobustcmd*{\glsxtrtitletext}[1]{%
  \glstext [noindex,hyper=false]{#1} []%
}
\newcommand*{\GLsxtrheadtext}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLStext [noindex,hyper=false]{#1} []%
    }%
    {%
      \Glstext [noindex,hyper=false]{#1} []%
    }%
  }%
}%
}
\newrobustcmd*{\GLsxtrtitletext}[1]{%
  \Glstext [noindex,hyper=false]{#1} []%
}
\newrobustcmd*{\GLSxtrtitletext}[1]{%
  \GLStext [noindex,hyper=false]{#1} []%
}
\newcommand*{\glsxtrheadplural}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSplural [noindex,hyper=false]{#1} []%
    }%
    {%
      \GLSplural [noindex,hyper=false]{#1} []%
    }%
  }%
}%
}

```

```

        \glsplural [noindex,hyper=false]{#1} []%
    }%
}
}
\newrobustcmd*\glsxtrtitleplural}[1]{%
    \glsplural [noindex,hyper=false]{#1} []%
}
\newcommand*\Glsxtrheadplural}[1]{%
    \protect\NoCaseChange
    {%
        \glsifattribute{#1}{headuc}{true}%
        {%
            \GLSplural [noindex,hyper=false]{#1} []%
        }%
        {%
            \Glsplural [noindex,hyper=false]{#1} []%
        }%
    }%
}
}
\newrobustcmd*\Glsxtrtitleplural}[1]{%
    \GLSplural [noindex,hyper=false]{#1} []%
}
\newrobustcmd*\GLSxtrtitleplural}[1]{%
    \GLSplural [noindex,hyper=false]{#1} []%
}
}
\newcommand*\glsxtrheadfirst}[1]{%
    \protect\NoCaseChange
    {%
        \glsifattribute{#1}{headuc}{true}%
        {%
            \GLSfirst [noindex,hyper=false]{#1} []%
        }%
        {%
            \glsfirst [noindex,hyper=false]{#1} []%
        }%
    }%
}
}
\newrobustcmd*\glsxtrtitlefirst}[1]{%
    \glsfirst [noindex,hyper=false]{#1} []%
}
}
\newcommand*\Glsxtrheadfirst}[1]{%
    \protect\NoCaseChange
    {%
        \glsifattribute{#1}{headuc}{true}%
        {%
            \GLSfirst [noindex,hyper=false]{#1} []%
        }%
        {%
            \Glsfirst [noindex,hyper=false]{#1} []%
        }%
    }%
}
}

```

```

}%
}
\newrobustcmd*{\Glsxtrtitlefirst}[1]{%
  \Glsfirst[noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\GLSxtrtitlefirst}[1]{%
  \GLSfirst[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadfirstplural}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSfirstplural[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsfirstplural[noindex,hyper=false]{#1}[]%
    }%
  }%
}
\newrobustcmd*{\glsxtrtitlefirstplural}[1]{%
  \glsfirstplural[noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadfirstplural}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSfirstplural[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsfirstplural[noindex,hyper=false]{#1}[]%
    }%
  }%
}
\newrobustcmd*{\Glsxtrtitlefirstplural}[1]{%
  \Glsfirstplural[noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\GLSxtrtitlefirstplural}[1]{%
  \GLSfirstplural[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadlong}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSxtrlong[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsxtrlong[noindex,hyper=false]{#1}[]%
    }%
  }%
}

```

```

    }%
  }%
}
\newrobustcmd*{\glsxtrtitlelong}[1]{%
  \glsxtrlong[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadlongpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
  }%
}%
}
\newrobustcmd*{\glsxtrtitlelongpl}[1]{%
  \glsxtrlongpl[noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadlong}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSxtrlong[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsxtrlong[noindex,hyper=false]{#1}[]%
    }%
  }%
}%
}
\newrobustcmd*{\Glsxtrtitlelong}[1]{%
  \Glsxtrlong[noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\GLSxtrtitlelong}[1]{%
  \GLSxtrlong[noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadlongpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \GLSxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsxtrlongpl[noindex,hyper=false]{#1}[]%
    }%
  }%
}%
}

```

```

}
\newrobustcmd*{\Glsxtrtitlelongpl}[1]{%
  \Glsxtrlongpl[noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\Glsxtrtitlelongpl}[1]{%
  \Glsxtrlongpl[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadfull}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsxtrfull[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsxtrfull[noindex,hyper=false]{#1}[]%
    }%
  }%
}
\newrobustcmd*{\glsxtrtitlefull}[1]{%
  \glsxtrfull[noindex,hyper=false]{#1}[]%
}
\newcommand*{\glsxtrheadfullpl}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsxtrfullpl[noindex,hyper=false]{#1}[]%
    }%
    {%
      \glsxtrfullpl[noindex,hyper=false]{#1}[]%
    }%
  }%
}
\newrobustcmd*{\glsxtrtitlefullpl}[1]{%
  \glsxtrfullpl[noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadfull}[1]{%
  \protect\NoCaseChange
  {%
    \glsifattribute{#1}{headuc}{true}%
    {%
      \Glsxtrfull[noindex,hyper=false]{#1}[]%
    }%
    {%
      \Glsxtrfull[noindex,hyper=false]{#1}[]%
    }%
  }%
}
\newrobustcmd*{\Glsxtrtitlefull}[1]{%

```

```

\Glsxtrfull [noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\Glsxtrtitlefull}[1]{%
\Glsxtrfull [noindex,hyper=false]{#1}[]%
}
\newcommand*{\Glsxtrheadfullpl}[1]{%
\protect\NoCaseChange
{%
\glsifattribute{#1}{headuc}{true}%
{%
\Glsxtrfullpl [noindex,hyper=false]{#1}[]%
}%
{%
\Glsxtrfullpl [noindex,hyper=false]{#1}[]%
}%
}%
}
\newrobustcmd*{\Glsxtrtitlefullpl}[1]{%
\Glsxtrfullpl [noindex,hyper=false]{#1}[]%
}
\newrobustcmd*{\Glsxtrtitlefullpl}[1]{%
\Glsxtrfullpl [noindex,hyper=false]{#1}[]%
}
\ifdef\texorpdfstring
{
\newcommand*{\glsfmtshort}[1]{%
\texorpdfstring
{\glsxtrtitleshort{#1}}%
{\glsentryshort{#1}}%
}
}
{
\newcommand*{\glsfmtshort}[1]{%
\glsxtrtitleshort{#1}}
}
\ifdef\texorpdfstring
{
\newcommand*{\glsfmtshortpl}[1]{%
\texorpdfstring
{\glsxtrtitleshortpl{#1}}%
{\glsentryshortpl{#1}}%
}
}
{
\newcommand*{\glsfmtshortpl}[1]{%
\glsxtrtitleshortpl{#1}}
}
\ifdef\texorpdfstring
{
\newcommand*{\Glsfmtshort}[1]{%

```

```

    \texorpdfstring
      {\Glsxtrtitleshort{#1}}%
      {\glsentryshort{#1}}%
  }
}
{
  \newcommand*{\Glsfmtshort}[1]{%
    \Glsxtrtitleshort{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\Glsfmtshortpl}[1]{%
    \texorpdfstring
      {\Glsxtrtitleshortpl{#1}}%
      {\glsentryshortpl{#1}}%
  }
}
{
  \newcommand*{\Glsfmtshortpl}[1]{%
    \Glsxtrtitleshortpl{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\glsfmtname}[1]{%
    \texorpdfstring
      {\glsxtrtitlename{#1}}%
      {\glsentryname{#1}}%
  }
}
{
  \newcommand*{\glsfmtname}[1]{%
    \glsxtrtitlename{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\Glsfmtname}[1]{%
    \texorpdfstring
      {\Glsxtrtitlename{#1}}%
      {\glsentryname{#1}}%
  }
}
{
  \newcommand*{\Glsfmtname}[1]{%
    \Glsxtrtitlename{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\GLSfmtname}[1]{%
    \texorpdfstring
      {\GLSxtrtitlename{#1}}%

```

```

        {\glsentryname{#1}}%
    }
}
{
  \newcommand*{\GLSfmtname}[1]{%
    \GLSxtrtitlename{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\glsfmttext}[1]{%
    \texorpdfstring
    {\glsxtrtitletext{#1}}%
    {\glsentrytext{#1}}%
  }
}
{
  \newcommand*{\glsfmttext}[1]{%
    \glsxtrtitletext{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\Glsfmttext}[1]{%
    \texorpdfstring
    {\GLSxtrtitletext{#1}}%
    {\glsentrytext{#1}}%
  }
}
{
  \newcommand*{\Glsfmttext}[1]{%
    \GLSxtrtitletext{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\GLSfmttext}[1]{%
    \texorpdfstring
    {\GLSxtrtitletext{#1}}%
    {\glsentrytext{#1}}%
  }
}
{
  \newcommand*{\GLSfmttext}[1]{%
    \GLSxtrtitletext{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*{\glsfmtplural}[1]{%
    \texorpdfstring
    {\glsxtrtitleplural{#1}}%
    {\glsentryplural{#1}}%
  }
}

```



```

}
{
  \newcommand*\glsfmtplural}[1]{%
    \glstrtitleplural{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\Glsfmtplural}[1]{%
    \texorpdfstring
    {\Glsxtrtitleplural{#1}}%
    {\glsentryplural{#1}}%
  }
}
{
  \newcommand*\Glsfmtplural}[1]{%
    \Glsxtrtitleplural{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmtplural}[1]{%
    \texorpdfstring
    {\GLSxtrtitleplural{#1}}%
    {\glsentryplural{#1}}%
  }
}
{
  \newcommand*\GLSfmtplural}[1]{%
    \GLSxtrtitleplural{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\glsfmtfirst}[1]{%
    \texorpdfstring
    {\glsxtrtitlefirst{#1}}%
    {\glsentryfirst{#1}}%
  }
}
{
  \newcommand*\glsfmtfirst}[1]{%
    \glstrtitlefirst{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\Glsfmtfirst}[1]{%
    \texorpdfstring
    {\Glsxtrtitlefirst{#1}}%
    {\glsentryfirst{#1}}%
  }
}
{

```

```

\newcommand*\GLsfmtfirst}[1]{%
  \GLsxrtrtitlefirst{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmtfirst}[1]{%
    \texorpdfstring
    {\GLSxrtrtitlefirst{#1}}%
    {\glsentryfirst{#1}}%
  }
}
{
  \newcommand*\GLSfmtfirst}[1]{%
    \GLsxrtrtitlefirst{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\glsfmtfirstpl}[1]{%
    \texorpdfstring
    {\glsxrtrtitlefirstplural{#1}}%
    {\glsentryfirstplural{#1}}%
  }
}
{
  \newcommand*\glsfmtfirstpl}[1]{%
    \glsxrtrtitlefirstplural{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLsfmtfirstpl}[1]{%
    \texorpdfstring
    {\GLsxrtrtitlefirstplural{#1}}%
    {\glsentryfirstplural{#1}}%
  }
}
{
  \newcommand*\GLsfmtfirstpl}[1]{%
    \GLsxrtrtitlefirstplural{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmtfirstpl}[1]{%
    \texorpdfstring
    {\GLSxrtrtitlefirstplural{#1}}%
    {\glsentryfirstplural{#1}}%
  }
}
{
  \newcommand*\GLSfmtfirstpl}[1]{%
    \GLSxrtrtitlefirstplural{#1}}
}

```

```

}
\ifdef\texorpdfstring
{
  \newcommand*\glsfmlong}[1]{%
    \texorpdfstring
    {\glsxtrtitlelong{#1}}%
    {\glsentrylong{#1}}%
  }
}
{
  \newcommand*\glsfmlong}[1]{%
    \glsxtrtitlelong{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\Glsfmlong}[1]{%
    \texorpdfstring
    {\Glsxtrtitlelong{#1}}%
    {\glsentrylong{#1}}%
  }
}
{
  \newcommand*\Glsfmlong}[1]{%
    \Glsxtrtitlelong{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmlong}[1]{%
    \texorpdfstring
    {\GLSxtrtitlelong{#1}}%
    {\glsentrylong{#1}}%
  }
}
{
  \newcommand*\GLSfmlong}[1]{%
    \GLSxtrtitlelong{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\glsfmlongpl}[1]{%
    \texorpdfstring
    {\glsxtrtitlelongpl{#1}}%
    {\glsentrylongpl{#1}}%
  }
}
{
  \newcommand*\glsfmlongpl}[1]{%
    \glsxtrtitlelongpl{#1}}
}
\ifdef\texorpdfstring

```

```

{
  \newcommand*\Glsfmtlongpl}[1]{%
    \texorpdfstring
    {\Glsxtrtitlelongpl{#1}}%
    {\glsentrylongpl{#1}}%
  }
}
{
  \newcommand*\Glsfmtlongpl}[1]{%
    \Glsxtrtitlelongpl{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmtlongpl}[1]{%
    \texorpdfstring
    {\GLSxtrtitlelongpl{#1}}%
    {\glsentrylongpl{#1}}%
  }
}
{
  \newcommand*\GLSfmtlongpl}[1]{%
    \GLSxtrtitlelongpl{#1}}
}
\newcommand*\glsdpdffmtfull}[1]{\glsentrylong{#1} (\glsentryshort{#1})}%
\newcommand*\glsdpdffmtfullpl}[1]{\glsentrylongpl{#1} (\glsentryshortpl{#1})}%
\ifdef\texorpdfstring
{
  \newcommand*\glsfmtfull}[1]{%
    \texorpdfstring
    {\glsxtrtitlefull{#1}}%
    {\glsdpdffmtfull{#1}}%
  }
}
{
  \newcommand*\glsfmtfull}[1]{%
    \glsxtrtitlefull{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\Glsfmtfull}[1]{%
    \texorpdfstring
    {\Glsxtrtitlefull{#1}}%
    {\glsdpdffmtfull{#1}{}}%
  }
}
{
  \newcommand*\Glsfmtfull}[1]{%
    \Glsxtrtitlefull{#1}}
}
\ifdef\texorpdfstring

```

```

{
  \newcommand*\GLSfmtfull}[1]{%
    \texorpdfstring
    {\GLSxtrtitlefull{#1}}%
    {\glspdffmtfull{#1}}%
  }
}
{
  \newcommand*\GLSfmtfull}[1]{%
    \GLSxtrtitlefull{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\glsfmtfullpl}[1]{%
    \texorpdfstring
    {\glsxtrtitlefullpl{#1}}%
    {\glspdffmtfullpl{#1}}%
  }
}
{
  \newcommand*\glsfmtfullpl}[1]{%
    \glsxtrtitlefullpl{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\Glsfmtfullpl}[1]{%
    \texorpdfstring
    {\Glsxtrtitlefullpl{#1}}%
    {\glspdffmtfullpl{#1}{}}%
  }
}
{
  \newcommand*\Glsfmtfullpl}[1]{%
    \Glsxtrtitlefullpl{#1}}
}
\ifdef\texorpdfstring
{
  \newcommand*\GLSfmtfullpl}[1]{%
    \texorpdfstring
    {\GLSxtrtitlefullpl{#1}}%
    {\glspdffmtfullpl{#1}{}}%
  }
}
{
  \newcommand*\GLSfmtfullpl}[1]{%
    \GLSxtrtitlefullpl{#1}}
}
\newcommand*\multiglossaryentrysetup}[1]{\setkeys{glsxtrcombined}{#1}}
\newcommand*\@gls@combined@indexmain}{1}
\define@choicekey{glsxtrcombined}{indexmain}%

```

```

[\@gls@combined@indexmain@val\@gls@combined@indexmain]
{false,true,first}[true]{}
\newcommand*\@gls@combined@indexothers}{2}
\define@choicekey{glsxtrcombined}{indexothers}%
[\@gls@combined@indexothers@val\@gls@combined@indexothers]
{false,true,first}[true]{}
\newcommand*\@gls@combined@hyper}{3}
\define@choicekey{glsxtrcombined}{hyper}%
[\@gls@combined@hyper@val\@gls@combined@hyper]
{none,allmain,mainonly,individual,otheronly,notmainfirst,nototherfirst,notfirst}{}
\newcommand*\@gls@combined@encapmain}{glsnumberformat}
\define@key{glsxtrcombined}{encapmain}{%
\renewcommand*\@gls@combined@encapmain}{#1}%
}
\newcommand*\@gls@combined@encapothers}{glsnumberformat}
\define@key{glsxtrcombined}{encapothers}{%
\renewcommand*\@gls@combined@encapothers}{#1}%
}
\newcommand*\@gls@combined@textformat}{@firstofone}
\define@key{glsxtrcombined}{textformat}{%
\renewcommand*\@gls@combined@textformat}{#1}%
}
\newcommand*\@gls@combined@category}{%
\define@key{glsxtrcombined}{category}{%
\renewcommand*\@gls@combined@category}{#1}%
}
\define@key{glsxtrcombinedpreopts}{category}{%
\renewcommand*\@gls@combined@category}{#1}%
}
\newcommand*\@gls@combined@mglsopts}{%
\define@key{glsxtrcombined}{mglsopts}{%
\renewcommand*\@gls@combined@mglsopts}{#1}%
}
\define@key{glsxtrcombinedpreopts}{mglsopts}{%
\@gls@combined@mglsopts@do
{%
\renewcommand*\@gls@combined@mglsopts}{#1}%
}%
}
\newcommand*\@gls@combined@mglsopts@do}[1]{#1}
\newcommand*\mglsoptions@disable@mglsopts}{%
\let\@gls@combined@mglsopts@do\@gls@combined@mglsopts@do@not
}
\newcommand*\mglsoptions@enable@mglsopts}{%
\let\@gls@combined@mglsopts@do\@firstofone
}
\newcommand*\@gls@combined@mglsopts@do@not}[1]{%
\PackageError{glossaries-extra}{‘mglsopts’ key not permitted inside
’setup’ value}{%
}
}

```

```

\newcommand*\@gls@combined@firstprefix-{}
\define@key{glsxtrcombined}{firstprefix}{%
  \renewcommand*\@gls@combined@firstprefix-#{#1}%
}
\newcommand*\@gls@combined@usedprefix-{}
\define@key{glsxtrcombined}{usedprefix}{%
  \renewcommand*\@gls@combined@usedprefix-#{#1}%
}
\newcommand*\@gls@combined@firstsuffix-{}
\define@key{glsxtrcombined}{firstsuffix}{%
  \renewcommand*\@gls@combined@firstsuffix-#{#1}%
}
\newcommand*\@gls@combined@usedsuffix-{}
\define@key{glsxtrcombined}{usedsuffix}{%
  \renewcommand*\@gls@combined@usedsuffix-#{#1}%
}
\define@boolkey{glsxtrcombined}{firstskipmain}[true]{}
\KV@glsxtrcombined@firstskipmainfalse
\define@boolkey{glsxtrcombined}{firstskipothers}[true]{}
\KV@glsxtrcombined@firstskipothersfalse
\define@boolkey{glsxtrcombined}{usedskipmain}[true]{}
\KV@glsxtrcombined@usedskipmainfalse
\define@boolkey{glsxtrcombined}{usedskipothers}[true]{}
\KV@glsxtrcombined@usedskipothersfalse
\newcommand*\@gls@combined@postlinks@nr-{}{0}
\define@choicekey{glsxtrcombined}{postlinks}{%
  [\@gls@combined@postlinks@val\@gls@combined@postlinks@nr]
  {none,all,notlast,mainnotlast,mainonly,othernotlast,otheronly}}{}
\newcommand*\@gls@combined@mpostlink@nr-{}{1}
\define@choicekey{glsxtrcombined}{mpostlink}{%
  [\@gls@combined@mpostlink@val\@gls@combined@mpostlink@nr]
  {false,true,firstonly,usedonly}[true]{}
}
\newcommand*\@gls@combined@mpostlinkelement@nr-{}{0}
\define@choicekey{glsxtrcombined}{mpostlinkelement}{%
  [\@gls@combined@mpostlinkelement@val\@gls@combined@mpostlinkelement@nr]
  {last,main,custom}}{}
\newcommand*\@glsxtrifmulti}[3]{\ifcsdef{@gls@combined@#1@main}-{#2}-{#3}}
\newcommand*\@glsxtrmultimain}[1]{\csuse{@gls@combined@#1@main}}
\newcommand*\@glsxtrmultilist}[1]{\csuse{@gls@combined@#1@list}}
\newcommand*\@glsxtrmultitotalelements}[1]{\csuse{@gls@combined@#1@total}}
\newcommand*\@glsxtrmultimainindex}[1]{\csuse{@gls@combined@#1@mainindex}}
\newcommand*\@glsxtrmultilastotherindex}[1]{\csuse{@gls@combined@#1@lastotherindex}}
\newif\ifmultiglossaryentryglobal
\multiglossaryentryglobalfalse
\newcount\mglselementindex
\newrobustcmd{\multiglossaryentry}[1][[]]{%
  \def\@gls@combined@current@opts-#{#1}%
  \ifnum\@glsxtr@docdefval=1\relax
    \let\@multi@glossentry@donext\@defmultiglossaryentry
  \else

```

```

\let\@multi@glossentry@donext\@multiglossaryentry
\fi
\@multi@glossentry@donext
}
\newcommand*\@multiglossaryentry}[1]{%
\def\@gls@combined@current@label{#1}%
\@multi@glossaryentry
}
\newcommand*\@multi@glossaryentry}[2][ ]{%
\ifcsdef{\@gls@combined@\@gls@combined@current@label @main}%
{\PackageError{glossaries-extra}%
{Multi-entry label ‘\@gls@combined@current@label’ already defined}%
{}}%
}%
{%
\@multi@glossary@entry{#1}{#2}%
}%
}
\newcommand*\@defmultiglossaryentry}[1]{%
\def\@gls@combined@current@label{#1}%
\@def@multi@glossaryentry
}
\newcommand*\@def@multi@glossaryentry}[2][ ]{%
\let\@def@multi@glossaryentry@do\@multi@glossary@entry
\ifundef\@glsxtr@docdefs@multilist
{%
\gdef\@glsxtr@docdefs@multilist{%
\listxadd
{\@glsxtr@docdefs@multilist}{\expandonce\@gls@combined@current@label}%
}%
{%
\xifinlist{\@gls@combined@current@label}{\@glsxtr@docdefs@multilist}%
{%
\PackageError{glossaries-extra}%
{Multi-entry label ‘\@gls@combined@current@label’ already defined}%
{}}%
\let\@def@multi@glossaryentry@do\@gobbletwo
}%
{%
\listxadd
{\@glsxtr@docdefs@multilist}{\expandonce\@gls@combined@current@label}%
}%
}%
\@def@multi@glossaryentry@do{#1}{#2}%
}
\newcommand*\@multi@glossary@doifexists{\glsdoifexists}
\newrobustcmd{\providemultiglossaryentry}[2][ ]{%
\def\@gls@combined@current@opts{#1}%
\def\@gls@combined@current@label{#2}%
\ifcsdef{\@gls@combined@\@gls@combined@current@label @main}%

```



```

{\def\@multi@glossentry@donext{\@provide@multi@glossaryentry@noop}}%
{%
  \ifnum\@glsextr@docdefval=1\relax
    \def\@multi@glossentry@donext{\@def@multi@glossaryentry}%
  \else
    \def\@multi@glossentry@donext{\@multi@glossaryentry}%
  \fi
}%
\@multi@glossentry@donext
}
\newcommand*{\@provide@multi@glossaryentry@noop}[2] [] {}
\newcommand*{\@multi@glossaryentry@list}{}
\newcommand*{\@multi@glossary@entry}[2]{%
  \protected@edef\@gls@combined@current@main{#1}%
  \protected@edef\@gls@combined@current@list{#2}%
  \mglselementindex=0\relax
  \@for\@gls@tmp:=\@gls@combined@current@list\do{%
    \advance\mglselementindex by 1\relax
    \@multi@glossary@doifexists{\@gls@tmp}{%
      \let\@gls@combined@finalitem\@gls@tmp
      \ifdefined\@gls@combined@current@main
        {%
          \ifx\@gls@combined@current@main\@gls@tmp
            \ifmultiglossaryentryglobal
              \global\cslet{\@gls@combined@\@gls@combined@current@label @main}%
                \@gls@combined@current@main
              \csxdef{\@gls@combined@\@gls@combined@current@label @mainindex}%
                {\the\mglselementindex}%
            \else
              \cslet{\@gls@combined@\@gls@combined@current@label @main}%
                \@gls@combined@current@main
              \csedef{\@gls@combined@\@gls@combined@current@label @mainindex}%
                {\the\mglselementindex}%
            \fi
          \else
            \ifmultiglossaryentryglobal
              \csxdef{\@gls@combined@\@gls@combined@current@label @lastotherindex}%
                {\the\mglselementindex}%
            \else
              \csedef{\@gls@combined@\@gls@combined@current@label @lastotherindex}%
                {\the\mglselementindex}%
            \fi
          \fi
        }%
      }%
    }%
  \ifmultiglossaryentryglobal
    \csxdef{\@gls@combined@\@gls@combined@current@label @total}%
      {\the\mglselementindex}%
  \else

```

```

\csedef{@gls@combined@\@gls@combined@current@label @total}%
  {\the\mglselementindex}%
\fi
\ifnum\mglselementindex<2\relax
  \PackageError{glossaries-extra}{At least 2 labels required in
    multi-entry element list (\number\mglselementindex\space found)}{}%
\else
  \ifdefined@gls@combined@current@main
    {}%
  {%
    \ifcsundef{@gls@combined@\@gls@combined@current@label @main}%
      {\PackageError{glossaries-extra}
        {Main element '\@gls@combined@current@main' not found in list}%
        {The final element '\@gls@combined@finalitem' will be used instead}}
      \let@gls@combined@current@main\@empty
    }%
  {}%
}%
\ifdefined@gls@combined@current@main
  {%
    \ifmultiglossaryentryglobal
      \global\cslet{@gls@combined@\@gls@combined@current@label @main}%
        \@gls@combined@finalitem
      \global\csletcs{@gls@combined@\@gls@combined@current@label @mainindex}%
        {@gls@combined@\@gls@combined@current@label @total}%
      \csxdef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
        {\the\numexpr\mglselementindex-1 }%
    \else
      \cslet{@gls@combined@\@gls@combined@current@label @main}%
        \@gls@combined@finalitem
      \csletcs{@gls@combined@\@gls@combined@current@label @mainindex}%
        {@gls@combined@\@gls@combined@current@label @total}%
      \csedef{@gls@combined@\@gls@combined@current@label @lastotherindex}%
        {\the\numexpr\mglselementindex-1 }%
    \fi
  }%
{}%
\ifmultiglossaryentryglobal
  \global\cslet{@gls@combined@\@gls@combined@current@label @list}%
    \@gls@combined@currentlist
  \protected\csxdef{@gls@combined@\@gls@combined@current@label @options}%
    {@gls@combined@current@opts}%
  \expandafter\@ifdefinable
    \csname if@gls@combined@\@gls@combined@current@label @flag\endcsname
    {\expandafter\global\expandafter
      \newif\csname if@gls@combined@\@gls@combined@current@label @flag\endcsname}%
  \expandafter\global
    \csname @gls@combined@\@gls@combined@current@label @flagfalse\endcsname
\else
  \cslet{@gls@combined@\@gls@combined@current@label @list}%

```

```

        \@gls@combined@currentlist
        \protected@csedef{\@gls@combined@\@gls@combined@current@label @options}%
        {\@gls@combined@current@opts}%
        \newboolean{\@gls@combined@\@gls@combined@current@label @flag}%
        \csname @gls@combined@\@gls@combined@current@label @flagfalse\endcsname
    \fi
\fi
\writemultiglossentry
{\@gls@combined@current@opts}{\@gls@combined@current@label}%
{\csuse{\@gls@combined@\@gls@combined@current@label @main}}{#2}%
\ifmultiglossaryentryglobal
\ifdefempty\@multi@glossaryentry@list
{\let\@multi@glossaryentry@list\@gls@combined@current@label}%
{%
\ea\pppto\@multi@glossaryentry@list{\,\expandonce\@gls@combined@current@label}%
}%
\else
\ifdefempty\@multi@glossaryentry@list
{\global\let\@multi@glossaryentry@list\@gls@combined@current@label}%
{%
\xappto\@multi@glossaryentry@list{\,\expandonce\@gls@combined@current@label}%
}%
\fi
}
}
\newcommand*{\@glsxtr@multientry}[4]{%
\ifnum\@glsxtr@docdefval=1\relax
\begin{group}
\def\@gls@combined@current@opts{#1}%
\def\@gls@combined@current@label{#2}%
\let\@multi@glossary@doifexists\@secondoftwo
\let\writemultiglossentry\@gobblefour
\multiglossaryentryglobaltrue
\@multi@glossary@entry{#3}{#4}%
\end{group}
\fi
}
\newcommand*{\writemultiglossentry}[4]{%
\protected@write\@auxout{}{\string\@glsxtr@multientry{#1}{#2}{#3}{#4}}%
}
\newcommand*{\ifmglsused}[3]{%
\ifbool{\@gls@combined@#1@flag}{#2}{#3}%
}
\newcommand*{\mglsunset}[1]{%
\gls@ifnotmeasuring
{%
\glsxtrifmulti{#1}{\@mglsunset{#1}}%
{%
\glsxtrundefaction{Multi entry ‘#1’ hasn’t been defined}%
{You need to define ‘#1’ with \string\multiglossaryentry}%
}%
}

```

```

}%
}
\newcommand*{\@mglsunset}[1]{%
\expandafter\global\csname @gls@combined@#1@flagtrue\endcsname
}
\newcommand*{\mglsreset}[1]{%
\gls@ifnotmeasuring
{%
\glstrifmulti{#1}{\@mglsreset{#1}}%
{%
\glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
{You need to define ‘#1’ with \string\multiglossaryentry}%
}%
}%
}
\newcommand*{\@mglsreset}[1]{%
\expandafter\global\csname @gls@combined@#1@flagfalse\endcsname
}
\newcommand*{\mglslocalunset}[1]{%
\gls@ifnotmeasuring
{%
\glstrifmulti{#1}{\@mglslocalunset{#1}}%
{%
\glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
{You need to define ‘#1’ with \string\multiglossaryentry}%
}%
}%
}
\newcommand*{\@mglslocalunset}[1]{%
\csname @gls@combined@#1@flagtrue\endcsname
}
\newcommand*{\mglslocalreset}[1]{%
\gls@ifnotmeasuring
{%
\glstrifmulti{#1}{\@mglslocalreset{#1}}%
{%
\glstrundefaction{Multi entry ‘#1’ hasn’t been defined}%
{You need to define ‘#1’ with \string\multiglossaryentry}%
}%
}%
}
\newcommand*{\@mglslocalreset}[1]{%
\csname @gls@combined@#1@flagfalse\endcsname
}
\newcommand*{\mglsunsetall}{%
\@for\@mgls@thislabel:=\@multi@glossaryentry@list\do{\mglsunset\@mgls@thislabel}%
}%
\newcommand*{\mglsresetall}{%
\@for\@mgls@thislabel:=\@multi@glossaryentry@list\do{\mglsreset\@mgls@thislabel}%
}%

```

```

\newrobustcmd{\mglSetMain}[2]{%
  \ifcsundef{@gls@combined@#1@main}%
  {\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
  {%
    \protected@edef\@gls@combined@current@main{#2}%
    \letcs\@gls@combined@currentlist{\@gls@combined@#1@list}%
    \mglselementindex=0\relax
    \count@=0\relax
    \for\@gls@tmp:=\@gls@combined@currentlist\do{%
      \advance\mglselementindex by 1\relax
      \ifx\@gls@combined@current@main\@gls@tmp
        \count@=\mglselementindex\relax
        \let\@gls@combined@finalitem\@gls@tmp
        \ifmultiglossaryentryglobal
          \global\cslet{\@gls@combined@#1@main}\@gls@combined@current@main
          \csxdef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
        \else
          \cslet{\@gls@combined@#1@main}\@gls@combined@current@main
          \csedef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
        \fi
      \else
        \ifmultiglossaryentryglobal
          \csxdef{\@gls@combined@#1@lastotherindex}{\the\mglselementindex}%
        \else
          \csedef{\@gls@combined@#1@lastotherindex}{\the\mglselementindex}%
        \fi
      \fi
    }%
    \ifnum\count@=0\relax
      \PackageError{glossaries-extra}{Label ‘#2’ is not in ‘#1’ set
        (\@gls@combined@currentlist)}{}}%
    \ifmultiglossaryentryglobal
      \global\cslet{\@gls@combined@#1@main}\@gls@combined@finalitem
      \csxdef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
      \csxdef{\@gls@combined@#1@lastotherindex}{%
        \number\numexpr\mglselementindex-1 }%
    \else
      \cslet{\@gls@combined@#1@main}\@gls@combined@finalitem
      \csedef{\@gls@combined@#1@mainindex}{\the\mglselementindex}%
      \csedef{\@gls@combined@#1@lastotherindex}{%
        \number\numexpr\mglselementindex-1 }%
    \fi
  \fi
}%
}
\newrobustcmd{\mglSetOptions}[2]{%
  \ifcsundef{@gls@combined@#1@main}%
  {\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
  {%
    \csdef{\@gls@combined@#1@options}{#2}%

```

```

    }%
  }
\newrobustcmd{\mglsAddOptions}[2]{%
  \ifcsundef{@gls@combined@#1@main}%
  {\PackageError{glossaries-extra}{Multi-entry label ‘#1’ not defined}{}}%
  {%
    \ifcseempty{@gls@combined@#1@options}%
    {\csdef{@gls@combined@#1@options}{#2}}%
    {\csappto{@gls@combined@#1@options}{, #2}}%
  }%
}
}
\newcommand*{@mgls@all}{}
\define@key{mgls}{all}{\renewcommand*{@mgls@all}{#1}}
\newcommand*{@mgls@main}{}
\define@key{mgls}{main}{\renewcommand*{@mgls@main}{#1}}
\newcommand*{@mgls@others}{}
\define@key{mgls}{others}{\renewcommand*{@mgls@others}{#1}}
\newcommand*{@mgls@setup}{}
\define@key{mgls}{setup}{%
  \@mgls@setup@do{\renewcommand*{@mgls@setup}{#1}}%
}
\newcommand*{@mgls@setup@do}[1]{#1}
\newcommand*{@mgls@setup@do@not}[1]{%
  \PackageError{glossaries-extra}{{‘setup’ key not permitted inside
‘mglsopts’ value}{}}%
}
\newcommand*{\mgls@disable@setup}{%
  \let\@mgls@setup@do\@mgls@setup@do@not
}
\newcommand*{\mgls@enable@setup}{%
  \let\@mgls@setup@do\@firstofone
}
\newcommand\@mgls@unsetaction{0}
\define@choicekey{mgls}{multiunset}[\@mgls@unsetaction@val\@mgls@unsetaction]%
{global,local,none}{}
\define@boolkey{mgls}{presetlocal}[true]{}
\KV@mgls@presetlocalfalse
\newcommand*{@mgls@hyper}{}
\define@choicekey{mgls}{hyper}[\@mgls@hyper@val\@mgls@hyper@nr]{true,false}[true]%
{%
  \renewcommand*{@mgls@hyper}{hyper=#1}%
  \ifnum\@mgls@hyper@nr=1\relax
    \let\@mgls@hyperlink\@secondoftwo
  \else
    \let\@mgls@hyperlink\@@mgls@hyperlink
  \fi
}
\newcommand*{@@mgls@hyperlink}[2]{%
  \ifx\@glslink\glsdonohyperlink
    #2%

```

```

\else
  \glsxtr@org@dohyperlink{\glolinkprefix#1}{#2}%
\fi
}
\let\@mgls@hyperlink\@mgls@hyperlink
\newcommand*{\mglsforelements}[3]{%
  \expandafter\@for\expandafter#2\expandafter:\expandafter
  =\csname @gls@combined@#1@list\endcsname\do{#3}%
}
\newcommand*{\mglsforotherelements}[3]{%
  \expandafter\@for\expandafter#2\expandafter:\expandafter
  =\csname @gls@combined@#1@list\endcsname\do
  {\expandafter\ifdefequal\csname @gls@combined@#1@main\endcsname{#2}-{#3}}%
}
\newcommand*{\mglsunsetothers}[1]{%
  \mglsforotherelements{#1}{\@gls@tmp}{\glsunset{\@gls@tmp}}%
}
\newcommand*{\mglslocalunsetothers}[1]{%
  \mglsforotherelements{#1}{\@gls@tmp}{\glslocalunset{\@gls@tmp}}%
}
\newcommand*{\mglselementreset}[1]{%
  \ifKV@mgls@presetlocal
  \glslocalreset{#1}%
  \else
  \glsreset{#1}%
  \fi
}
\newcommand*{\mglselementunset}[1]{%
  \ifKV@mgls@presetlocal
  \glslocalunset{#1}%
  \else
  \glsunset{#1}%
  \fi
}
\newcommand*{\@mgls@resetall}{}
\define@choicekey{mgls}{resetall}%
[\@mgls@resetall@val\@mgls@resetall@nr]{false,true}[true]%
{%
  \ifcase\@mgls@resetall@nr\relax
  \renewcommand*{\@mgls@resetall}{}%
  \or
  \renewcommand*{\@mgls@resetall}{%
    \@for\@gls@resetlabel:=\mglscurrentlist\do{\mglselementreset\@gls@resetlabel}}%
  \renewcommand*{\@mgls@unsetall}{}%
  \fi
}
\newcommand*{\@mgls@resetmain}{}
\define@choicekey{mgls}{resetmain}
[\@mgls@resetmain@val\@mgls@resetmain@nr]{false,true}[true]%
{%

```

```

\ifcase\@mgl@resetmain@nr\relax
  \renewcommand*\@mgl@resetmain}{}%
\or
  \renewcommand*\@mgl@resetmain}{\mglselementreset\mglscurrentmainlabel}%
  \renewcommand*\@mgl@unsetmain}{}%
\fi
}
\newcommand*\@mgl@resetothers{}
\define@choicekey{mgl}{resetothers}
[\@mgl@resetothers@val\@mgl@resetothers@nr]{false,true}[true]%
{
\ifcase\@mgl@resetothers@nr\relax
  \renewcommand*\@mgl@resetothers}{}%
\or
  \renewcommand*\@mgl@resetothers}{%
    \@for\@gls@resetlabel:=\mglscurrentlist\do{%
      \ifx\@gls@resetlabel\mglscurrentmainlabel
        \else
          \mglselementreset\@gls@resetlabel
        \fi
      }%
    }%
  \renewcommand*\@mgl@unsetothers}{}%
\fi
}
\newcommand*\@mgl@unsetall{}
\define@choicekey{mgl}{unsetall}%
[\@mgl@unsetall@val\@mgl@unsetall@nr]{false,true}[true]%
{
\ifcase\@mgl@unsetall@nr\relax
  \renewcommand*\@mgl@unsetall}{}%
\or
  \renewcommand*\@mgl@unsetall}{%
    \@for\@gls@unsetlabel:=\mglscurrentlist\do{\mglselementunset\@gls@unsetlabel}}%
  \renewcommand*\@mgl@resetall}{}%
\fi
}
\newcommand*\@mgl@unsetmain{}
\define@choicekey{mgl}{unsetmain}
[\@mgl@unsetmain@val\@mgl@unsetmain@nr]{false,true}[true]%
{
\ifcase\@mgl@unsetmain@nr\relax
  \renewcommand*\@mgl@unsetmain}{}%
\or
  \renewcommand*\@mgl@unsetmain}{\mglselementunset\mglscurrentmainlabel}%
  \renewcommand*\@mgl@resetmain}{}%
\fi
}
\newcommand*\@mgl@unsetothers{}
\define@choicekey{mgl}{unsetothers}

```



```

[\@mgl@unsetothers@val\@mgl@unsetothers@nr]{false,true}[true]%
{%
  \ifcase\@mgl@unsetothers@nr\relax
    \renewcommand*\@mgl@unsetothers}{}%
  \or
    \renewcommand*\@mgl@unsetothers}{%
      \@for\@gls@unsetLabel:=\mgl@currentlist\do{%
        \ifx\@gls@unsetLabel\mgl@currentmainlabel
          \else
            \mgl@elementunset\@gls@unsetLabel
          \fi
        }%
      }%
    \renewcommand*\@mgl@resetothers}{}%
  \fi
}
\newcommand{\gls@xtr@setup@docurrent}{%
  \ifx\mgl@currentlabel\mgl@currentmainlabel
    \mgl@sis@firstuse
    {%
      \ifKV@gls@xtr@combined@firstskipmain
        \let\@mgl@do@current@element\@gobble
      \else
        \let\@mgl@do@current@element\@firstofone
      \fi
    }%
    {%
      \ifKV@gls@xtr@combined@usedskipmain
        \let\@mgl@do@current@element\@gobble
      \else
        \let\@mgl@do@current@element\@firstofone
      \fi
    }%
  \else
    \mgl@sis@firstuse
    {%
      \ifKV@gls@xtr@combined@firstskipothers
        \let\@mgl@do@current@element\@gobble
      \else
        \let\@mgl@do@current@element\@firstofone
      \fi
    }%
    {%
      \ifKV@gls@xtr@combined@usedskipothers
        \let\@mgl@do@current@element\@gobble
      \else
        \let\@mgl@do@current@element\@firstofone
      \fi
    }%
  \fi
}

```

```

}
\newcommand*{\glxtr@mglsc@checklastelement}[2]{%
  \ifbool{KV@glxtrcombined@#1skipmain}%
  {%
    \ifbool{KV@glxtrcombined@#1skipothers}%
    {%
      }%
    }%
    {%
      \ifnum\mglselementindex=\glxtrmultilasttootherindex{#2}\relax
      \let\mglsiflast\@firstoftwo
      \else
      \let\mglsiflast\@secondoftwo
      \fi
    }%
  }%
}%
\ifbool{KV@glxtrcombined@#1skipothers}%
{%
  \ifnum\mglselementindex=\glxtrmultimainindex{#2}\relax
  \let\mglsiflast\@firstoftwo
  \else
  \let\mglsiflast\@secondoftwo
  \fi
  }%
  }%
  \let\mglsiflast\@secondoftwo
  }%
}%
}
\newcommand{\glxtr@mglswarnallskipped}[3]{%
  \GlossariesExtraWarning{#1}%
  #3{#2}%
}
\newcommand*{\glxtr@mglsc@applyopts}[1]{%
  \edef\@mglsc@dooptions{\noexpand\setkeys*{mglsc}{\expandonce#1}}%
  \@mglsc@dooptions
  \ifdefvoid\XKV@rm{}{\eappto\@mglsc@all{,\expandonce\XKV@rm}}%
  \ifdefvoid\@mglsc@setup
  {}%
  {%
    \edef\@mglsc@dooptions{%
      \noexpand\setkeys*{glxtrcombinedpreopts}{\expandonce\@mglsc@setup}}%
    \mglsc@disable@mglsopts
    \@mglsc@dooptions
    \mglsc@enable@mglsopts
    \ifx\@mglsc@setuptoptions\@empty
    \let\@mglsc@setuptoptions\XKV@rm
    \else
    \eappto\@mglsc@setuptoptions{,\expandonce\XKV@rm}%
    \fi
  }%
}

```

```

}%
\@mgls@resetall
\@mgls@unsetall
\@mgls@resetmain
\@mgls@unsetmain
\@mgls@resetothers
\@mgls@unsetothers
\let\@mgls@resetall\@empty
\let\@mgls@resetmain\@empty
\let\@mgls@resetothers\@empty
\let\@mgls@unsetall\@empty
\let\@mgls@unsetmain\@empty
\let\@mgls@unsetothers\@empty
\ifmglsused\mglscurrentmultilabel
{\let\mglsisfirstuse\@secondoftwo}%
{\let\mglsisfirstuse\@firstoftwo}%
}
\providecommand{\@firstofthree}[3]{#1}
\providecommand{\@secondofthree}[3]{#2}
\providecommand{\@thirdofthree}[3]{#3}
\newcommand*\@glsxtr@mgls@inner}[7]{%
\let\mglslastmainlabel\@empty
\let\mglsiflastmainwasfirstuse\@firstoftwo
\let\mglsiflastmainwasplural\@secondoftwo
\let\mglsiflastmaincapscase\@firstofthree
\let\mglsiflastmainwasskipped\@firstoftwo
\bgroup
\ifcsundef{@gls@combined@#2@main}%
{%
\glsxtrundefaction{Multi entry ‘#2’ hasn’t been defined}%
{You need to define ‘#2’ with \string\multiglossaryentry}%
\gdef\@mgls@post@hookdefs{%
\protected@edef\mglslastmultilabel{#2}%
\let\mglswasfirstuse\@firstoftwo
\let\mglslastcategory\@empty
\let\mglsiflastelementwasskipped\@firstoftwo
\let\mglsiflastelementwasfirstuse\@firstoftwo
\let\mglsiflastelementwasplural\@secondoftwo
\let\mglsiflastelementcapscase\@firstofthree
\let\mglslastelementlabel\@empty
\let\mgls@do@postlinkhook\relax
}%
}%
}%
{%
\protected@edef\mglscurrentmultilabel{#2}%
\letcs\mglscurrentmainlabel{@gls@combined@#2@main}%
\letcs\mglscurrentlist{@gls@combined@#2@list}%
\letcs\mglscurrentoptions{@gls@combined@#2@options}%
\ifmglsused\mglscurrentmultilabel
{\let\mglsisfirstuse\@secondoftwo}%
}

```

```

{\let\mglsisfirstuse\@firstoftwo}%
\edef\@mgl@doptions{%
  \noexpand\setkeys*{glsxtrcombinedpreopts}{\expandonce\mglscurrentoptions}}%
@mgl@doptions
\let\@mgl@setuptoptions\XKV@rm
@mgl@disable@setup
\ifdefvoid\@gls@combined@mglsopts
{}%
{glsxtr@mgl@applyopts\@gls@combined@mglsopts}%
@mgl@enable@setup
\ifstrempy{#1}{\def\@mgl@options{#1}glsxtr@mgl@applyopts\@mgl@options}%
\ifx\@gls@combined@category\empty
\else
  glshascategoryattribute{\@gls@combined@category}{multioptions}%
  {%
    \letcs\@mgl@attroptions{\@glsxtr@categoryattr@\@gls@combined@category
      @multioptions}%
    \let\@gls@combined@mglsopts\@empty
    \edef\@mgl@doptions{%
      \noexpand\setkeys*{glsxtrcombinedpreopts}{\expandonce\@mgl@attroptions}}%
    @mgl@doptions
    \eappto\@mgl@setuptoptions{,\expandonce\XKV@rm}%
    \ifx\@gls@combined@mglsopts\@empty
    \else
      \let\@mgl@setup\@empty
      @mgl@disable@setup
      glsxtr@mgl@applyopts\@gls@combined@mglsopts
      @mgl@enable@setup
    \fi
  }%
  {}%
\fi
\edef\@mgl@doptions{%
  \noexpand\setkeys{glsxtrcombined}{\expandonce\@mgl@setuptoptions}}%
@mgl@doptions
\let\mglscurrentcategory\@gls@combined@category
\ifnum\@gls@combined@hyper=1\relax
  \def\@mgl@combinedlink{\@mgl@hyperlink{\mglscurrentmainlabel}}%
\else
  \def\@mgl@combinedlink{\@firstofone}%
\fi
\def\@gls@combined@encapsulator##1{%
  @mgl@combinedlink{csuse{\@gls@combined@textformat}{##1}}%
\let\@mgl@do@current@element\@firstofone
@mglsisfirstuse
{%
  \ifKVglsxtrcombined@firstskipmain
  \ifKVglsxtrcombined@firstskipothers
    \let\@gls@org@combined@encapsulator\@gls@combined@encapsulator
    \def\@gls@combined@encapsulator##1{%

```

```

        \glstrmglsWarnAllSkipped{All elements skipped for
        first use of multi-entry '#2'#{#3}%
        {\@gls@org@combined@encapsulator}%
    }%
    \let\@mgl@do@current@element\@gobble
\fi
\fi
}%
{%
\ifKV@glstrm@combined@usedskipmain
\ifKV@glstrm@combined@usedskipothers
\let\@gls@org@combined@encapsulator\@gls@combined@encapsulator
\def\@gls@combined@encapsulator##1{%
\glstrmglsWarnAllSkipped{All elements skipped for
subsequent use of multi-entry '#2'#{#3}%
{\@gls@org@combined@encapsulator}%
}%
\let\@mgl@do@current@element\@gobble
\fi
\fi
}%
\mgl@sis@first@use
{%
\let\mgl@current@prefix\@gls@combined@first@prefix
\let\mgl@current@suffix\@gls@combined@first@suffix
}%
{%
\let\mgl@current@prefix\@gls@combined@used@prefix
\let\mgl@current@suffix\@gls@combined@used@suffix
}%
\xdef\@mgl@post@hook@defs{%
\noexpand\def\noexpand\mgl@last@multilabel{\expandonce\mgl@current@multilabel}%
\noexpand\def\noexpand\mgl@last@category{\mgl@current@category}%
}%
\ifx\@mgl@do@current@element\@gobble
\gappto\@mgl@post@hook@defs{%
\let\mgl@sif@last@elements@skipped\@firstoftwo
\let\mgl@last@element@label\@empty
\let\mgl@sif@last@element@was@first@use\@firstoftwo
\let\mgl@sif@last@element@was@plural\@secondoftwo
\let\mgl@sif@last@element@caps@case\@firstofthree
}%
\fi
\mgl@sis@first@use
{%
\gappto\@mgl@post@hook@defs{\let\mgl@was@first@use\@firstoftwo}%
\ifcase\@gls@combined@m@post@link@nr\relax
\gappto\@mgl@post@hook@defs{\let\mgl@do@post@link@hook\relax}%
\or
\ifcase\@gls@combined@m@post@link@element@nr\relax

```

```

        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastelementpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastmainpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglscustompostlinkhook}%
    \fi
\or
\ifcase\@gls@combined@mpostlinkelement@nr\relax
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastelementpostlinkhook}%
\or
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastmainpostlinkhook}%
\or
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglscustompostlinkhook}%
\fi
\or
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\relax}%
\fi
}%
{%
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\relax}%
\ifcase\@gls@combined@mpostlink@nr\relax
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\relax}%
\or
    \ifcase\@gls@combined@mpostlinkelement@nr\relax
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastelementpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastmainpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglscustompostlinkhook}%
    \fi
\or
    \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\relax}%
\or
    \ifcase\@gls@combined@mpostlinkelement@nr\relax
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastelementpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglslastmainpostlinkhook}%
    \or
        \gappto@mglspost@hookdefs{\let\mgls@do@postlinkhook\mglscustompostlinkhook}%
    \fi
\fi
}%
\let\mgls@org@postlinkhook\glspostlinkhook
\mglsprefix
\let\mglslastelementlabel\@empty
\@gls@combined@encapsulator
{%
    \def\@mgls@previouslabel{}%
    \mgls@elementindex=0\relax
    \@for\mgls@currentlabel:=\mgls@currentlist\do{%

```

```

\advance\mglselementindex by 1\relax
\glstr@setup@docurrent
\ifx\@xfor@nextelement\@nnil
  \let\mglsiflast\@firstoftwo
\else
  \let\mglsiflast\@secondoftwo
  \mglsisfirstuse
  {%
    \glstr@mgl@checklastelement{first}{#2}%
  }%
  {%
    \glstr@mgl@checklastelement{used}{#2}%
  }%
\fi
\ifcase\@gls@combined@postlinks@nr\relax
  \let\glspostlinkhook\relax
\or
  \let\glspostlinkhook\mgls@org@postlinkhook
\or
  \mglsiflast
  {%
    \let\glspostlinkhook\relax
  }%
  {%
    \let\glspostlinkhook\mgls@org@postlinkhook
  }%
\or
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \mglsiflast
    {%
      \let\glspostlinkhook\relax
    }%
    {%
      \let\glspostlinkhook\mgls@org@postlinkhook
    }%
  \else
    \let\glspostlinkhook\relax
  \fi
\or
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\mgls@org@postlinkhook
  \else
    \let\glspostlinkhook\relax
  \fi
\or
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\relax
  \else
    \mglsiflast
    {%

```

```

        \let\glspostlinkhook\relax
    }%
    {%
        \let\glspostlinkhook\mgls@org@postlinkhook
    }%
\fi
\or
\ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\glspostlinkhook\relax
\else
    \let\glspostlinkhook\mgls@org@postlinkhook
\fi
\fi
\mglsiflast
{%
    \xappto\@mgls@post@hookdefs{%
        \noexpand\def\noexpand\mglslastelementlabel
            {\expandonce\mglscurrentlabel}}%
}%
{}%
\@mgls@do@current@element
{%
    \mglselementprehook
    \GlsXtrIfUnusedOrUndefined{\mglscurrentlabel}%
    {\let\@mgls@current@iffirstuse\@firstoftwo}%
    {\let\@mgls@current@iffirstuse\@secondoftwo}%
    \ifx\mglscurrentlabel\mglscurrentmainlabel
        \edef\@mgls@current@options{format=\@gls@combined@encapmain}%
        \ifcase\@gls@combined@indexmain
            \appto\@mgls@current@options{,noindex}%
        \or
            \appto\@mgls@current@options{,noindex=false}%
        \or
            \@mgls@current@iffirstuse
            {\appto\@mgls@current@options{,noindex=false}}%
            {\appto\@mgls@current@options{,noindex}}%
        \fi
        \ifcase\@gls@combined@hyper\relax
            \appto\@mgls@current@options{,hyper=false}% none
        \or
            \appto\@mgls@current@options{,hyper=false}% allmain
        \or
            \eappto\@mgls@current@options{,\@mgls@hyper}% mainonly
        \or
            \eappto\@mgls@current@options{,\@mgls@hyper}% individual
        \or
            \appto\@mgls@current@options{,hyper=false}% otheronly
        \or
            \mglsisfirstuse
        {%

```



```

\appto\@mgl@current@options{,hyper=false}% notmainfirst
}%
{%
\eappto\@mgl@current@options{,\@mgl@hyper}% notmainfirst
}%
\or
\appto\@mgl@current@options{,\@mgl@hyper}% nototherfirst
\or
\mgl@sis@first@use
{%
\appto\@mgl@current@options{,hyper=false}% notfirst
}%
{%
\eappto\@mgl@current@options{,\@mgl@hyper}% notfirst
}%
\fi
\appto\@mgl@current@options{,\@mgl@all,\@mgl@main}%
\else
\edef\@mgl@current@options{format=\@gls@combined@encapothers}%
\ifcase\@gls@combined@indexothers\relax
\appto\@mgl@current@options{,noindex}%
\or
\appto\@mgl@current@options{,noindex=false}%
\or
\@mgl@current@if@first@use
{\appto\@mgl@current@options{,noindex=false}}%
{\appto\@mgl@current@options{,noindex}}%
\fi
\ifcase\@gls@combined@hyper\relax
\appto\@mgl@current@options{,hyper=false}% none
\or
\appto\@mgl@current@options{,hyper=false}% allmain
\or
\appto\@mgl@current@options{,hyper=false}% mainonly
\or
\eappto\@mgl@current@options{,\@mgl@hyper}% individual
\or
\eappto\@mgl@current@options{,\@mgl@hyper}% otheronly
\or
\eappto\@mgl@current@options{,\@mgl@hyper}% notmainfirst
\or
\mgl@sis@first@use
{%
\appto\@mgl@current@options{,hyper=false}% nototherfirst
}%
{%
\eappto\@mgl@current@options{,\@mgl@hyper}% nototherfirst
}%
\or
\mgl@sis@first@use

```

```

    {%
      \appto\@mglscurrent@options{,hyper=false}% notfirst
    }%
    {%
      \eappto\@mglscurrent@options{,\@mglshyper}% notfirst
    }%
  \fi
  \eappto\@mglscurrent@options{,\@mglscall,\@mglsothers}%
\fi
\ifx\@mglspreviouslabel\empty
\ifx\mglscurrentlabel\mglscurrentmainlabel
  \let\@mglscs#6\relax
\else
  \let\@mglscs#4\relax
\fi
\else
  \@mglsprevious@iffirstuse
  {%
    \@mglscurrent@iffirstuse
    {\glscombinedfirstsepfirst{\@mglspreviouslabel}{\mglscurrentlabel}}%
    {\glscombinedfirstsep{\@mglspreviouslabel}{\mglscurrentlabel}}%
  }%
  {%
    \@mglscurrent@iffirstuse
    {\glscombinedsepfirst{\@mglspreviouslabel}{\mglscurrentlabel}}%
    {\glscombinedsep{\@mglspreviouslabel}{\mglscurrentlabel}}%
  }%
  \ifx\mglscurrentlabel\mglscurrentmainlabel
    \let\@mglscs#7\relax
  \else
    \let\@mglscs#5\relax
  \fi
\fi
\mglciflast
{\expandafter\@mglscs\expandafter{\@mglscurrent@options}{\mglscurrentlabel}[#3]}%
{\expandafter\@mglscs\expandafter{\@mglscurrent@options}{\mglscurrentlabel}[]}%
\ifx\mglscurrentlabel\mglscurrentmainlabel
\zappto\@mglspost@hookdefs{%
  \noexpand\def\noexpand\mglslastmainlabel
    {\expandonce\mglscurrentmainlabel}%
}%
\glstrifwasfirstuse
{%
  \gappto\@mglspost@hookdefs{\let\mglciflastmainwasfirstuse\@firstoftwo}%
}%
{%
  \gappto\@mglspost@hookdefs{\let\mglciflastmainwasfirstuse\@secondoftwo}%
}%
\glcifplural
{%

```

```

    \gappto@mglspost@hookdefs{\let\mglsiflastmainwasplural\@firstoftwo}%
  }%
  {%
    \gappto@mglspost@hookdefs{\let\mglsiflastmainwasplural\@secondoftwo}%
  }%
  \glscapscase
  {%
    \gappto@mglspost@hookdefs{%
      \let\mglsiflastmaincapscase\@firstofthree
    }%
  }%
  {%
    \gappto@mglspost@hookdefs{%
      \let\mglsiflastmaincapscase\@secondofthree
    }%
  }%
  {%
    \gappto@mglspost@hookdefs{%
      \let\mglsiflastmaincapscase\@thirdofthree
    }%
  }%
  \fi
  \let@mglspreviouslabel\mglscurrentlabel
  \let@mglsprevious@iffirstuse@mglscurrent@iffirstuse
}%
  \mglselementposthook
}%
\ifx\mglslastmainlabel\@empty
  \gappto@mglspost@hookdefs{\let\mglsiflastmainskipped\@firstoftwo}%
\else
  \gappto@mglspost@hookdefs{\let\mglsiflastmainskipped\@secondoftwo}%
\fi
\ifx@mglscurrent@element\@gobble
  \gappto@mglspost@hookdefs{\let\mglsiflastelementskipped\@firstoftwo}%
\else
  \gappto@mglspost@hookdefs{\let\mglsiflastelementskipped\@secondoftwo}%
\fi
\glstrifwasfirstuse
{%
  \gappto@mglspost@hookdefs{\let\mglsiflastelementwasfirstuse\@firstoftwo}%
}%
{%
  \gappto@mglspost@hookdefs{\let\mglsiflastelementwasfirstuse\@secondoftwo}%
}%
\glsifplural
{%
  \gappto@mglspost@hookdefs{\let\mglsiflastelementwasplural\@firstoftwo}%
}%
{%
  \gappto@mglspost@hookdefs{\let\mglsiflastelementwasplural\@secondoftwo}%
}

```

```

}%
\glscapscase
{%
  \gappto\@mgls@post@hookdefs{%
    \let\mglsiflastelementcapscase\@firstofthree
  }%
}%
{%
  \gappto\@mgls@post@hookdefs{%
    \let\mglsiflastelementcapscase\@secondofthree
  }%
}%
{%
  \gappto\@mgls@post@hookdefs{%
    \let\mglsiflastelementcapscase\@thirdofthree
  }%
}%
}%
\@mgls@post@hookdefs
\mglsuffix
\ifcase\@mgls@unsetaction\relax
  \xappto\@mgls@post@hookdefs{%
    \noexpand\mglsunset{\expandonce\mglscurrentmultilabel}}%
\or
  \xappto\@mgls@post@hookdefs{%
    \noexpand\mglslocalunset{\expandonce\mglscurrentmultilabel}}%
\fi
}%
\glxtrmglswrite{#2}%
\egroup
\@mgls@post@hookdefs
\mgls@do@postlinkhook
}
\newcommand*\@mglscustompostlinkhook{}
\newcommand*\@mglslastelementpostlinkhook{%
\let\glxtrifwasfirstuse\mglsiflastelementwasfirstuse
\let\glsifplural\mglsiflastelementwasplural
\let\glscapscase\mglsiflastelementcapscase
\let\glslabel\mglslastelementlabel
\glspostlinkhook
}
\newcommand*\@mglslastmainpostlinkhook{%
\let\glxtrifwasfirstuse\mglsiflastmainwasfirstuse
\let\glsifplural\mglsiflastmainwasplural
\let\glscapscase\mglsiflastmaincapscase
\let\glslabel\mglslastmainlabel
\glspostlinkhook
}
\newcommand*\@mglsdefcategoryprefix}[2]{%
\csdef{mglsprefix@#1}{#2}%

```

```

}
\newcommand*{\mglshascategoryprefix}[3]{%
\ifcsdef{mglsprefix@#1}{#2}{#3}%
}
\newcommand*{\mglsecategoryprefix}[1]{%
\suse{mglsprefix@#1}%
}
\newcommand*{\mglsprefix}{%
\ifdefempty\mglscurrentcategory
{\mglscurrentprefix}%
{%
\mglshascategoryprefix{\mglscurrentcategory}%
{\mglsecategoryprefix{\mglscurrentcategory}}%
{\mglscurrentprefix}%
}%
}
\newcommand*{\mgldefcategorysuffix}[2]{%
\csdef{mglssuffix@#1}{#2}%
}
\newcommand*{\mglshascategorysuffix}[3]{%
\ifcsdef{mglssuffix@#1}{#2}{#3}%
}
\newcommand*{\mglsecategorysuffix}[1]{%
\suse{mglssuffix@#1}%
}
\newcommand*{\mglssuffix}{%
\ifdefempty\mglscurrentcategory
{\ifdefempty\mglscurrentsuffix}{\space(\mglscurrentsuffix)}}%
{%
\mglshascategorysuffix{\mglscurrentcategory}%
{\mglsecategorysuffix{\mglscurrentcategory}}%
{\ifdefempty\mglscurrentsuffix}{\space(\mglscurrentsuffix)}}%
}%
}
\newcommand*{\mglselementprehook}{%}
\newcommand*{\mglselementposthook}{%}
\newcommand*{\glscombinedsep}[2]{%
\glsattribute{#1}{combinedsep}%
{\glsgetattribute{#1}{combinedsep}}%
{ }%
}
\newcommand*{\glscombinedfirstsepfirst}[2]{%
\glsattribute{#1}{combinedfirstsepfirst}%
{\glsgetattribute{#1}{combinedfirstsepfirst}}%
{\glscombinedsep{#1}{#2}}%
}
\newcommand*{\glscombinedfirstsep}[2]{%
\glsattribute{#1}{combinedfirstsep}%
{\glsgetattribute{#1}{combinedfirstsep}}%
{\glscombinedsep{#1}{#2}}%
}

```

```

}
\newcommand*\glscombinedsepfirst}[2]{%
  \glsattribute{#1}{combinedsepfirst}%
  {\glsgetattribute{#1}{combinedsepfirst}}%
  {\glscombinedsep{#1}{#2}}%
}
\newcommand*\glssetcombinedsepabbrvnbsp}{%
\renewcommand*\glscombinedsep}[2]{%
  \glsattribute{##1}{combinedsep}%
  {\glsgetattribute{##1}{combinedsep}}%
  {\ifhasshort{##1}{~}{ }}%
}%
\renewcommand*\glscombinedsepfirst}[2]{%
  \glsattribute{##1}{combinedsepfirst}%
  {\glsgetattribute{##1}{combinedsepfirst}}%
  {\ifhasshort{##1}{~}{ }}%
}%
\renewcommand*\glscombinedfirstsep}[2]{%
  \glsattribute{##1}{combinedfirstsep}%
  {\glsgetattribute{##1}{combinedfirstsep}}%
  { }%
}%
\renewcommand*\glscombinedfirstsepfirst}[2]{%
  \glsattribute{##1}{combinedfirstsepfirst}%
  {\glsgetattribute{##1}{combinedfirstsepfirst}}%
  { }%
}%
}
\newcommand*\glssetcombinedsepabbrvnone}{%
\renewcommand*\glscombinedsep}[2]{%
  \glsattribute{##1}{combinedsep}%
  {\glsgetattribute{##1}{combinedsep}}%
  {\ifhasshort{##1}{~}{\ifhasshort{##2}{~}{ }}}%
}%
\renewcommand*\glscombinedsepfirst}[2]{%
  \glsattribute{##1}{combinedsepfirst}%
  {\glsgetattribute{##1}{combinedsepfirst}}%
  {\ifhasshort{##1}{~}{ }}%
}%
\renewcommand*\glscombinedfirstsep}[2]{%
  \glsattribute{##1}{combinedfirstsep}%
  {\glsgetattribute{##1}{combinedfirstsep}}%
  {\ifhasshort{##2}{~}{ }}%
}%
\renewcommand*\glscombinedfirstsepfirst}[2]{%
  \glsattribute{##1}{combinedfirstsepfirst}%
  {\glsgetattribute{##1}{combinedfirstsepfirst}}%
  { }%
}%
}

```

```

\newcommand*\glssetcombinedsepnarrow}[2]{%
\renewcommand*\glscombinedsep}[2]{%
\glsattribute{##1}{combinedsep}%
{\glsgetattribute{##1}{combinedsep}}%
{%
\ifhasshort{##1}%
{\settowidth{\dimen@}{\glsentryshort{##1}}}%
{\settowidth{\dimen@}{\glsentrytext{##1}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\ifhasshort{##2}%
{\settowidth{\dimen@}{\glsentryshort{##2}}}%
{\settowidth{\dimen@}{\glsentrytext{##2}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\space
\fi
\fi
}%
}%
\renewcommand*\glscombinedsepfirst}[2]{%
\glsattribute{##1}{combinedsepfirst}%
{\glsgetattribute{##1}{combinedsepfirst}}%
{%
\ifhasshort{##1}%
{\settowidth{\dimen@}{\glsentryshort{##1}}}%
{\settowidth{\dimen@}{\glsentrytext{##1}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\ifhaslong{##2}%
{\settowidth{\dimen@}{\glsentrylong{##2}}}%
{\settowidth{\dimen@}{\glsentryfirst{##2}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\space
\fi
\fi
}%
}%
\renewcommand*\glscombinedfirstsep}[2]{%
\glsattribute{##1}{combinedfirstsep}%
{\glsgetattribute{##1}{combinedfirstsep}}%
{%
\ifhaslong{##1}%
{\settowidth{\dimen@}{\glsentrylong{##1}}}%
{\settowidth{\dimen@}{\glsentryfirst{##1}}}%

```

```

\ifdim\dimen@<#1\relax
#2%
\else
\ifhasshort{##2}%
{\settowidth{\dimen@}{\glsentryshort{##2}}}%
{\settowidth{\dimen@}{\glsentrytext{##2}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\space
\fi
\fi
}%
}%
\renewcommand*{\glscombinedfirstsepfirst}[2]{%
\glsasattribute{##1}{combinedfirstsepfirst}%
{\glsgetattribute{##1}{combinedfirstsepfirst}}%
{%
\ifhaslong{##1}%
{\settowidth{\dimen@}{\glsentrylong{##1}}}%
{\settowidth{\dimen@}{\glsentryfirst{##1}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\ifhaslong{##2}%
{\settowidth{\dimen@}{\glsentrylong{##2}}}%
{\settowidth{\dimen@}{\glsentryfirst{##2}}}%
\ifdim\dimen@<#1\relax
#2%
\else
\space
\fi
\fi
}%
}%
}
\newcommand{\glsxtrmglswrite}[1]{%
\ifx\@glsxtr@record@setting\@glsxtr@record@setting@off
\else
\protected@edef\@glsxtr@mglslabel{##1}%
\ifdef\@glsxtr@mglssreflist
{%
\expandafter\DTLifinlist\expandafter{\@glsxtr@mglslabel}%
{\@glsxtr@mglssreflist}{}%
{%
\xappto\@glsxtr@mglssreflist{,\expandonce\@glsxtr@mglslabel}%
\if@mglswriteseparaterefs
\protected@write\@auxout{}{\string\@glsxtr@mglssrefs{##1}}%
\fi
}%
}%
}

```



```

}%
{%
  \global\let\@glxstr@mglrefslist\@glxstr@mglslabel
  \if@mgl@writesepraterefs
    \protected@write\@auxout{}\string\@glxstr@mglrefs{#1}}%
  \else
    \AtEndDocument{\immediate\protected@write\@auxout{}%
      {\string\@glxstr@mglrefs{\@glxstr@mglrefslist}}}%
  \fi
  \mgl@disable@writeseprateref@cond
}%
\fi
}
\newcommand{\@glxstr@mglrefs}[1]{}
\newif\if@mgl@writesepraterefs \mgl@writesepraterefsfalse
\newcommand{\mglWriteSeparateRefsTrue}{\global\@mgl@writesepraterefstrue}
\newcommand{\mglWriteSeparateRefsFalse}{\global\@mgl@writesepraterefsfalse}
\newcommand*{\@mgl@disable@writeseprateref@cond}{%
  \gdef\mglWriteSeparateRefsTrue{\PackageError{glossaries-extra}%
    {Too late to use \string\mglWriteSeparateRefsTrue}%
    {\string\mglWriteSeparateRefsTrue\space can only be used before
    the first instance of any \string\mgl-like command}}%
  \gdef\mglWriteSeparateRefsFalse{\PackageError{glossaries-extra}%
    {Too late to use \string\mglWriteSeparateRefsFalse}%
    {\string\mglWriteSeparateRefsFalse\space can only be used before
    the first instance of any \string\mgl-like command}}%
}
\newcommand{\glxstr@newmgl}[5]{%
  \edef\@glxsr@newmgl@do{%
    \noexpand\newrobustcmd*{\expandonce{\csname #1\endcsname}}%
    {\noexpand\@gl@hyp@opt\expandonce{\csname ns@glxstr@#1\endcsname}}%
    \noexpand\newcommand*{\expandonce{\csname ns@glxstr@#1\endcsname}}[2][]{%
    \noexpand\new@ifnextchar [%
      {\expandonce{\csname glxstr@#1\endcsname}{###1}{###2}}%
      {\expandonce{\csname glxstr@#1\endcsname}{###1}{###2}[]}%
    ]%
    \noexpand\def\expandonce{\csname glxstr@#1\endcsname}###1###2[###3]{%
    \noexpand\def\noexpand\glxstrcurrentmglscsname{#1}%
    \noexpand\glxstr@mgl@inner{###1}{###2}{###3}%
    {\noexpand#2}{\noexpand#3}{\noexpand#4}{\noexpand#5}%
    }%
  }%
}
\@glxsr@newmgl@do
\ifx\@glxstr@record@setting\@glxstr@record@setting@off
\else
  \ifdef\@glxstr@mgl@likelist
    {\xappto\@glxstr@mgl@likelist{, #1}}%
    {%
      \gdef\@glxstr@mgl@likelist{#1}%
      \AtEndDocument{\immediate\protected@write\@auxout{}%

```

```

        {\string\@glsxtr@mglsllike{\@glsxtr@mglslikelist}}}%
    }%
\fi
}
\newcommand*{\@glsxtr@mglsllike}[1]{%
\newcommand*{\GlsXtrMglsOrGls}[2]{%
  \def\@glsxtr@mglsl@or@gls@mcs{#1}%
  \def\@glsxtr@mglsl@or@gls@gcs{#2}%
  \@ifstar{\s@GlsXtrMglsOrGls}%
  {%
    \@ifnextchar+{\PLUS\@firstoftwo{\p@GlsXtrMglsOrGls}}%
    {%
      \ifdefempty\@gls@alt@hyp@opt@char\@GlsXtrMglsOrGls\alt@GlsXtrMglsOrGls
    }%
  }%
}
\newcommand*{\alt@GlsXtrMglsOrGls}{%
  \expandafter\@ifnextchar\@gls@alt@hyp@opt@char
  {\@firstoftwo{\@alt@GlsXtrMglsOrGls}}{\@GlsXtrMglsOrGls}%
}
\newcommand*{\@GlsXtrMglsOrGls}[2][ ]{%
  \glsxtrifmulti{#2}%
  {\@glsxtr@mglsl@or@gls@mcs[ #1]{#2}}%
  {\@glsxtr@mglsl@or@gls@gcs[ #1]{#2}}%
}
\newcommand*{\s@GlsXtrMglsOrGls}[2][ ]{%
  \glsxtrifmulti{#2}%
  {\@glsxtr@mglsl@or@gls@mcs* [ #1]{#2}}%
  {\@glsxtr@mglsl@or@gls@gcs* [ #1]{#2}}%
}
\newcommand*{\p@GlsXtrMglsOrGls}[2][ ]{%
  \glsxtrifmulti{#2}%
  {\@glsxtr@mglsl@or@gls@mcs+ [ #1]{#2}}%
  {\@glsxtr@mglsl@or@gls@gcs+ [ #1]{#2}}%
}
\newcommand*{\@alt@GlsXtrMglsOrGls}[2][ ]{%
  \glsxtrifmulti{#2}%
  {\expandafter\@glsxtr@mglsl@or@gls@mcs\@gls@alt@hyp@opt@char [ #1]{#2}}%
  {\expandafter\@glsxtr@mglsl@or@gls@gcs\@gls@alt@hyp@opt@char [ #1]{#2}}%
}
\glsxtr@newmgls{mgls}{\@gls@}{\@gls@}{\@gls@}{\@gls@}%
\glsxtr@newmgls{mglspl}{\@glspl@}{\@glspl@}{\@glspl@}{\@glspl@}%
\glsxtr@newmgls{mglsmainpl}{\@gls@}{\@gls@}{\@glspl@}{\@glspl@}%
\glsxtr@newmgls{Mgls}{\@Gls@}{\@gls@}{\@Gls@}{\@gls@}%
\glsxtr@newmgls{Mglspl}{\@Glspl@}{\@glspl@}{\@Glspl@}{\@glspl@}%
\glsxtr@newmgls{Mglsmainpl}{\@Gls@}{\@gls@}{\@Glspl@}{\@glspl@}%
\glsxtr@newmgls{MGls}{\@Gls@}{\@Gls@}{\@Gls@}{\@Gls@}%
\glsxtr@newmgls{MGlspl}{\@Glspl@}{\@Glspl@}{\@Glspl@}{\@Glspl@}%
\glsxtr@newmgls{MGLS}{\@GLS@}{\@GLS@}{\@GLS@}{\@GLS@}%

```

```

\glxtr@newmgl{s{MGLSp1}{\@GLSp1@}{\@GLSp1@}{\@GLSp1@}{\@GLSp1@}}%
\glxtr@newmgl{s{MGLSmainp1}{\@GLS@}{\@GLS@}{\@GLSp1@}{\@GLSp1@}}%
\def\@glslongortext#1#2[#3]{%
  \ifglshaslong{#2}{\@glxtrlong{#1}{#2}[#3]}{\@glstext@{#1}{#2}[#3]}%
}
\def\@glsshortortext#1#2[#3]{%
  \ifglshasshort{#2}{\@glxtrshort{#1}{#2}[#3]}{\@glstext@{#1}{#2}[#3]}%
}
\def\@glsfullorfirst#1#2[#3]{%
  \ifglshasshort{#2}{\@glxtr@full{#1}{#2}[#3]}{\@glsfirst@{#1}{#2}[#3]}%
}
\def\@Glslongortext#1#2[#3]{%
  \ifglshaslong{#2}{\@Glsxtrlong{#1}{#2}[#3]}{\@Glstext@{#1}{#2}[#3]}%
}
\def\@Glsshortortext#1#2[#3]{%
  \ifglshasshort{#2}{\@Glsxtrshort{#1}{#2}[#3]}{\@Glstext@{#1}{#2}[#3]}%
}
\def\@Glsfullorfirst#1#2[#3]{%
  \ifglshasshort{#2}{\@Glsxtr@full{#1}{#2}[#3]}{\@Glsfirst@{#1}{#2}[#3]}%
}
\glxtr@newmgl{s{mglsshort}}%
{\@glsshortortext}{\@glsshortortext}{\@glsshortortext}{\@glsshortortext}%
\glxtr@newmgl{s{mglslong}}%
{\@glslongortext}{\@glslongortext}{\@glslongortext}{\@glslongortext}%
\glxtr@newmgl{s{mglfull}}%
{\@glsfullorfirst}{\@glsfullorfirst}{\@glsfullorfirst}{\@glsfullorfirst}%
\glxtr@newmgl{s{Mglsshort}}%
{\@Glsshortortext}{\@Glsshortortext}{\@Glsshortortext}{\@Glsshortortext}%
\glxtr@newmgl{s{Mglslong}}%
{\@Glslongortext}{\@Glslongortext}{\@Glslongortext}{\@Glslongortext}%
\glxtr@newmgl{s{Mglfull}}%
{\@Glsfullorfirst}{\@Glsfullorfirst}{\@Glsfullorfirst}{\@Glsfullorfirst}%
\glxtr@newmgl{s{mgl$name}}%
{\@gl$name@}{\@gl$name@}{\@gl$name@}{\@gl$name@}%
\glxtr@newmgl{s{Mgl$name}}%
{\@Gls$name@}{\@Gls$name@}{\@Gls$name@}{\@Gls$name@}%
\glxtr@newmgl{s{MGL$name}}%
{\@Gls$name@}{\@Gls$name@}{\@Gls$name@}{\@Gls$name@}%
\def\@glssymbolorgls#1#2[#3]{%
  \ifglshassymbol{#2}{\@glssymbol@{#1}{#2}[#3]}{\@gl$@{#1}{#2}[#3]}%
}
\def\@glssymbolorGls#1#2[#3]{%
  \ifglshassymbol{#2}{\@glssymbol@{#1}{#2}[#3]}{\@Gls@{#1}{#2}[#3]}%
}
\glxtr@newmgl{s{mglssymbol}}%
{\@glssymbolorgls}{\@glssymbolorgls}{\@glssymbolorgls}{\@glssymbolorgls}%
\glxtr@newmgl{s{Mglssymbol}}%
{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorgls}%
\glxtr@newmgl{s{MGLssymbol}}%
{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorGls}{\@glssymbolorGls}%

```

```

\newcommand{\mglsfield}{useri}
\def\@glsfieldorgls#1#2[#3]{%
  \glstrifhasfield{\mglsfield}{#2}%
  {\@glsdisp[#1]{#2}{\glscurrentfieldvalue#3}}%
  {\@gls@{#1}{#2}[#3]}%
}
\def\@Glsfieldorgls#1#2[#3]{%
  \glstrifhasfield{\mglsfield}{#2}%
  {\@glsdisp[#1]{#2}{\xmakefirstuc\glscurrentfieldvalue#3}}%
  {\@Gls@{#1}{#2}[#3]}%
}
\glstr@newmgl{s}{mglsusefield}%
{\@glsfieldorgls}{\@glsfieldorgls}{\@glsfieldorgls}{\@glsfieldorgls}%
\glstr@newmgl{s}{Mglsusefield}%
{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}%
\glstr@newmgl{s}{MGLsusefield}%
{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}{\@Glsfieldorgls}%
\newcommand*{\mpglsWarning}{%
  \GlossariesExtraWarning{glossaries-prefix.sty is required for
  \string\mpgls\space family of commands (either load after
  glossaries-extra.sty or use the 'prefix' package option)}%
}
\def\@pglsorgls#1#2[#3]{%
  \ifdef\@pgls@{\@pgls@{#1}{#2}[#3]}\mpglsWarning\@gls@{#1}{#2}[#3]}%
}
\def\@pglsorglsp1#1#2[#3]{%
  \ifdef\@pglsp1@{\@pglsp1@{#1}{#2}[#3]}\mpglsWarning\@glspl@{#1}{#2}[#3]}%
}
\def\@Pglorgls#1#2[#3]{%
  \ifdef\@Pgl@{\@Pgl@{#1}{#2}[#3]}\mpglsWarning\@Gls@{#1}{#2}[#3]}%
}
\def\@pglsorglsp1#1#2[#3]{%
  \ifdef\@pglsp1@{\@pglsp1@{#1}{#2}[#3]}\mpglsWarning\@glspl@{#1}{#2}[#3]}%
}
\def\@Pglorglsp1#1#2[#3]{%
  \ifdef\@Pglsp1@{\@Pglsp1@{#1}{#2}[#3]}\mpglsWarning\@Glspl@{#1}{#2}[#3]}%
}
\def\@PGLSorgls#1#2[#3]{%
  \ifdef\@PGLS@{\@PGLS@{#1}{#2}[#3]}\mpglsWarning\@GLS@{#1}{#2}[#3]}%
}
\def\@PGLSorglsp1#1#2[#3]{%
  \ifdef\@PGLSp1@{\@PGLSp1@{#1}{#2}[#3]}\mpglsWarning\@GLSp1@{#1}{#2}[#3]}%
}
\glstr@newmgl{s}{mpgls}{\@pglsorgls@}{\@gls@}{\@pglsorgls@}{\@gls@}%
\glstr@newmgl{s}{mpglsp1}{\@pglsorglsp1@}{\@glspl@}{\@pglsorglsp1@}{\@glspl@}%
\glstr@newmgl{s}{mpglmainpl}{\@pglsorgls@}{\@gls@}{\@pglsorglsp1@}{\@glspl@}%
\glstr@newmgl{s}{Mpgls}{\@Pglorgls@}{\@gls@}{\@Pglorgls@}{\@gls@}%
\glstr@newmgl{s}{Mpglsp1}{\@Pglorglsp1@}{\@glspl@}{\@Pglorglsp1@}{\@glspl@}%
\glstr@newmgl{s}{Mpglmainpl}{\@Pglorgls@}{\@gls@}{\@Pglorglsp1@}{\@glspl@}%
\glstr@newmgl{s}{MPGls}{\@Pglorgls@}{\@Gls@}{\@Pglorgls@}{\@Gls@}%

```

```

\glxtr@newmgls{MPGLspl}{\@PglSorglSpl@}{\@Glspl@}{\@PglSorglSpl@}{\@Glspl@}%
\glxtr@newmgls{MPGLSmainpl}{\@PglSorglS@}{\@Gls@}{\@PglSorglSpl@}{\@Glspl@}%
\glxtr@newmgls{MPGLS}{\@PGLSorglS@}{\@GLS@}{\@PGLSorglS@}{\@GLS@}%
\glxtr@newmgls{MPGLSpl}{\@PGLSorglSpl@}{\@GLSpl@}{\@PGLSorglSpl@}{\@GLSpl@}%
\glxtr@newmgls{MPGLSmainpl}{\@PGLSorglS@}{\@GLS@}{\@PGLSorglSpl@}{\@GLSpl@}%
\newcommand*\RequireGlossariesExtraLang}[1]{%
  \ifundefined{ver@glossariesxtr-#1.ldf}{\input{glossariesxtr-#1.ldf}}{}}%
}
\newcommand*\ProvidesGlossariesExtraLang}[1]{%
  \ProvidesFile{glossariesxtr-#1.ldf}%
}
\newcommand{\glxtr@loaddialect}{%
  \IfTrackedLanguageFileExists{\this@dialect}%
  {glossariesxtr-}% prefix
  {.ldf}%
  {%
    \RequireGlossariesExtraLang{\CurrentTrackedTag}%
  }%
  {}% not found
  \@glxtr@dialecthook
}
\@ifpackageloaded{tracklang} {%
  \AnyTrackedLanguages
  {%
    \ForEachTrackedDialect{\this@dialect}{\glxtr@loaddialect}%
  }%
  {}%
} {}
\@glxtr@redefstyles
\@glxtr@do@style

```

## 9.2 Rollback v1.48 (glossaries-extra-bib2gls-2021-11-22.sty)

Version 1.48 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-extra-bib2gls}[2021/11/22 v1.48 (NLCT)]
\ifglsacronym
  \providecommand*\printunsrtacronyms[1] []{%
    \printunsrtglossary[type=\acronymtype,#1]}%
\fi
\ifglossaryexists{index}
{
  \providecommand*\printunsrtindex[1] []{%
    \printunsrtglossary[type=index,#1]}%
}{}
\ifglossaryexists{symbols}
{
  \providecommand*\printunsrtsymbols[1] []{%
    \printunsrtglossary[type=symbols,#1]}%
}{}

```

```

}{}
\ifglossaryexists{numbers}
{
  \providecommand*\printunsrtnumbers}[1] [] {%
    \printunsrtglossary [type=numbers,#1]}%
}{}
\ifglossaryexists{abbreviations}
{
  \providecommand*\printunsrtabbreviations}[1] [] {%
    \printunsrtglossary [type=abbreviations,#1]}%
}{}
\renewcommand*\glsdisplaynumberlist}[1] {%
  \glsdoifexists{#1}%
  {%
    {\let\bibglsdelimN\glsnumlistsep
     \let\bibglslastDelimN\glsnumlistlastsep
     \glsxtrusefield{#1}{location}}%
  }%
}%
}
\robustify\glsdisplaynumberlist
\renewcommand*\glsentrynumberlist}[1]{\glsxtrusefield{#1}{location}}
\newcommand*\glshexx{\string\u}
\newcommand*\glsapturedgroupx{\string\$}
\newcommand*\GlsXtrIfHasNonZeroChildCountx{%
  \@ifstar\s@GlsXtrIfHasNonZeroChildCount\@GlsXtrIfHasNonZeroChildCount
}
\newcommand*\@GlsXtrIfHasNonZeroChildCount}[3] {%
  \@GlsXtrIfFieldNonZero{childcount}{#1}{#2}{#3}%
}
\newcommand*\s@GlsXtrIfHasNonZeroChildCount}[3] {%
  \s@GlsXtrIfFieldNonZero{childcount}{#1}{#2}{#3}%
}
\newcommand*\glsxtrprovidecommandx{\providecommand}
\newcommand*\glsrenewcommandx{\@star@or@long\glsxtr@renewcommand}
\newcommand*\glsxtr@renewcommand}[1] {%
  \begingroup \escapechar\m@ne\xdef\@gtempa{\string#1}\endgroup
  \expandafter\@ifundefined\@gtempa
  {%
    \GlossariesExtraWarning{can't redefine \noexpand#1(not already defined)}%
  }%
  \relax
  \relax
  \let\@ifdefinable\@rc@ifdefinable
  \new@command#1%
}
\newcommand*\glsxtr@wrglossarylocation}[2]{#1}
\ifdef\hyperref
{%
  \newcommand*\GlsXtrIndexCounterLink}[2] {%

```

```

\glstrifhasfield{indexcounter}{#2}%
{\hyperref[wrglossary.\glscurrentfieldvalue]{#1}}%
{#1}%
}
}
{
\newcommand*{\GlsXtrIndexCounterLink}[2]{#1}
}
\newcommand*{\GlsXtrDualField}{dual}
\newcommand*{\GlsXtrDualBackLink}[2]{%
\glstrifhasfield{\GlsXtrDualField}{#2}%
{\glshyperlink[#1]{\glscurrentfieldvalue}}%
{#2}%
}
}
\newcommand*{\GlsXtrBibTeXEntryAliases}{%
article=bibtexentry,
book=bibtexentry,
booklet=bibtexentry,
conference=bibtexentry,
inbook=bibtexentry,
incollection=bibtexentry,
inproceedings=bibtexentry,
manual=bibtexentry,
mastersthesis=bibtexentry,
misc=bibtexentry,
phdthesis=bibtexentry,
proceedings=bibtexentry,
techreport=bibtexentry,
unpublished=bibtexentry
}
}
\newcommand*{\GlsXtrProvideBibTeXFields}{%
\glsaddstoragekey{address}{\glstrbibaddress}%
\glsaddstoragekey{author}{\glstrbibauthor}%
\glsaddstoragekey{booktitle}{\glstrbibbooktitle}%
\glsaddstoragekey{chapter}{\glstrbibchapter}%
\glsaddstoragekey{edition}{\glstrbibedition}%
\glsaddstoragekey{howpublished}{\glstrbibhowpublished}%
\glsaddstoragekey{institution}{\glstrbibinstitution}%
\glsaddstoragekey{journal}{\glstrbibjournal}%
\glsaddstoragekey{month}{\glstrbibmonth}%
\glsaddstoragekey{note}{\glstrbibnote}%
\glsaddstoragekey{number}{\glstrbibnumber}%
\glsaddstoragekey{organization}{\glstrbiborganization}%
\glsaddstoragekey{pages}{\glstrbibpages}%
\glsaddstoragekey{publisher}{\glstrbibpublisher}%
\glsaddstoragekey{school}{\glstrbibschooll}%
\glsaddstoragekey{series}{\glstrbibseries}%
\glsaddstoragekey{title}{\glstrbibtitle}%
\glsaddstoragekey{bibtex-type}{\glstrbibtype}%
\glsaddstoragekey{volume}{\glstrbibvolume}%
}

```

```

}
\newcommand*\glxstrmultisupplocation}[3]{%
  {%
    \def\glxstrsupplocationurl{#2}%
    \glshypernumber{#1}%
  }%
}
\newcommand*\glxstrdisplaysupploc[5]{%
  \setentrycounter[#1]{#2}%
  \glxstrmultisupplocation{#5}{#4}{#3}%
}
\ifundef\hyperlink
{
  \newcommand*\glxstrdisplaylocnameref}[8]{%
    \glsnoidxdisplayloc{#1}{#2}{#3}{#4}%
  }
}
{
  \newcommand*\glxstrdisplaylocnameref}[8]{%
    \ifcsdef{glxstr#2locfmt}%
    {\glxstrnamereflink{#3}{\csuse{glxstr#2locfmt}{#4}{#5}}{#2.#7}{#8}}%
    {%
      \ifstrempy{#5}%
      {%
        \glxstrnamereflink{#3}{#4}{#2.#7}{#8}%
      }%
      {%
        \ifstrequal{#2}{page}%
        {\glxstrnamereflink{#3}{#4}{#2.#7}{#8}}%
        {\glxstrnamereflink{#3}{#5}{#2.#7}{#8}}%
      }%
    }%
  }
}
}
\newcommand*\glxstrequationlocfmt}[2]{(#1)}
\newcommand*\glxstrnamereflink}[4]{%
  \begingroup
  \let\glshypernumber\@firstofone
  \ifstrempy{#4}%
  {\glxstrfmtinternalnameref{#3}{#1}{#2}}%
  {\glxstrfmtexternalnameref{#3}{#1}{#2}{#4}}%
  \endgroup
}
\newcommand*\glxstrnamecloclink}[6]{%
  \begingroup
  \setentrycounter[#1]{#2}%
  \def\glxstr@locationhypertext{#5}%
  \let\glshypernumber\@firstofone
  \def\@glxnumberformat{#3}%
  \def\glxstrsupplocationurl{#6}%

```



```

\toks@={}%
\@glxtr@bibgls@removespaces#4 \@nil
\endgroup
}
\def\@glxtr@bibgls@removespaces#1 #2\@nil{%
\toks@=\expandafter{\the\toks@#1}%
\ifx\#2\%
\edef\@glo@tmp{\the\toks@}%
\ifx\@glo@tmp\empty
\else
\protected@edef\@glo@tmp{\glsentrycounter\@glo@counterprefix\the\toks@}%
\ifdefvoid\glsxtrsuppllocationurl
{%
\expandafter\glsxtrfmtinternalnameref\expandafter{\@glo@tmp}%
{\glsnumberformat}{\glsxtr@locationhypertext}%
}%
{%
\expandafter\glsxtrfmtexternalnameref\expandafter{\@glo@tmp}%
{\glsnumberformat}{\glsxtr@locationhypertext}{\glsxtrsuppllocationurl}%
}%
\fi
\else
\@gls@ReturnAfterFi{%
\@glxtr@bibgls@removespaces#2\@nil
}%
\fi
}
\newcommand*\glsxtrfmtinternalnameref}[3]{%
\csuse{#2}{\glsdohyperlink{#1}{#3}}%
}
\newcommand*\glsxtrfmtexternalnameref}[4]{%
\csuse{#2}{\hyperref{#4}{#1}{#3}}%
}
\newcommand*\glsxtrSetWidest}[3]{%
\ifdef\glsupdatewidest
{%
\ifdef\glslongextraUpdateWidest
{%
\ifstrempy{#1}
{%
\glsupdatewidest[#2]{#3}%
\ifnum#2=0\relax
\glslongextraUpdateWidest{#3}%
\else
\glslongextraUpdateWidestChild{#2}{#3}%
\fi
}%
}%
\apptoglossarypreamble[#1]{\glsupdatewidest[#2]{#3}}%
\ifnum#2=0\relax

```

```

        \apptoglossary preamble[#1]{\gls longextraUpdateWidest{#3}}%
    \else
        \apptoglossary preamble[#1]{\gls longextraUpdateWidestChild{#2}{#3}}%
    \fi
} %
} %
{ %
    \ifstrempy{#1}
    { %
        \glsupdatewidest[#2]{#3}%
    } %
    { %
        \apptoglossary preamble[#1]{\glsupdatewidest[#2]{#3}}%
    } %
} %
} %
{ %
    \ifdef\glssetwidest
    { %
        \ifdef\gls longextraUpdateWidest
        { %
            \ifstrempy{#1}
            { %
                \glssetwidest[#2]{#3}%
                \ifnum#2=0\relax
                \gls longextraUpdateWidest{#3}%
                \else
                \gls longextraUpdateWidestChild{#2}{#3}%
                \fi
            } %
            { %
                \apptoglossary preamble[#1]{\glssetwidest[#2]{#3}}%
                \ifnum#2=0\relax
                \apptoglossary preamble[#1]{\gls longextraUpdateWidest{#3}}%
                \else
                \apptoglossary preamble[#1]{\gls longextraUpdateWidestChild{#2}{#3}}%
                \fi
            } %
        } %
    } %
    { %
        \ifstrempy{#1}
        { %
            \glssetwidest[#2]{#3}%
        } %
        { %
            \apptoglossary preamble[#1]{\glssetwidest[#2]{#3}}%
        } %
    } %
} %
{ %

```

```

\ifdef\glslongextraUpdateWidest
{%
  \ifstrempy{#1}
  {%
    \ifnum#2=0\relax
      \glslongextraUpdateWidest{#3}%
    \else
      \glslongextraUpdateWidestChild{#2}{#3}%
    \fi
  }%
  {%
    \ifnum#2=0\relax
      \apptoglossary preamble[#1]{\glslongextraUpdateWidest{#3}}%
    \else
      \apptoglossary preamble[#1]{\glslongextraUpdateWidestChild{#2}{#3}}%
    \fi
  }%
}%
}%
}
}
\newcommand*\glsxtrSetWidestFallback}[2]{%
  \ifnum#1=0\relax
  \ifdef\glsFindWidestTopLevelName
  {%
    \glsFindWidestTopLevelName[#2]%
  }%
  {%
    \GlossariesExtraWarning{You need stylemods={tree} to
      provide a fallback for set-widest}%
  }%
  \else
  \ifdef\glsFindWidestLevelTwo
  {%
    \glsFindWidestLevelTwo[#2]%
    \ifdef\glslongextraUpdateWidestChild
    {%
      \glslongextraUpdateWidestChild{#1}{\csuse{@glswidestnamei}}%
      \glslongextraUpdateWidestChild{#1}{\csuse{@glswidestnameii}}%
    }%
    {}%
  }%
  {%
    \GlossariesExtraWarning{You need stylemods={tree} to
      provide a fallback for set-widest}%
  }%
  \fi
}
\newcommand*\glsxtr@labelprefixes}{%

```

```

\newcommand*\glstrclearlabelprefixes{%
  \renewcommand*\@glxtr@labelprefixes{}}%
}
\newcommand*\glxtraddlabelprefix}[1]{%
  \ifstrempy{#1}%
  {\glxtraddlabelprefix{\empty}}%
  {%
    \ifdefempty\@glxtr@labelprefixes
    {\def\@glxtr@labelprefixes{#1}}%
    {\appto\@glxtr@labelprefixes{,#1}}%
  }%
}
\newcommand*\glxtrprependlabelprefix}[1]{%
  \ifstrempy{#1}%
  {\glxtrprependlabelprefix{\empty}}%
  {%
    \ifdefempty\@glxtr@labelprefixes
    {\def\@glxtr@labelprefixes{#1}}%
    {\preto\@glxtr@labelprefixes{#1,}}%
  }%
}
\newcommand*\glxtrifinlabelprefixlist}[3]{%
  \ifstrempy{#1}%
  {\glxtrifinlabelprefixlist{\empty}{#2}{#3}}%
  {%
    \DTLifinlist{#1}{\@glxtr@labelprefixes}{#2}{#3}%
  }%
}
\AtBeginDocument{%
  \protected@write\@auxout{}{\string\providecommand\string\@glxtr@prefixlabellist}[1]{}}%
  \protected@write\@auxout{}{\string\@glxtr@prefixlabellist{\@glxtr@labelprefixes}}%
}
\newcommand*\@glxtr@get@prefixedlabel}[1]{%
  \begingroup
  \protected@edef\@gls@thislabel{#1}%
  \@for\@glxtr@prefix:=\@glxtr@labelprefixes\do
  {%
    \protected@edef\@gls@thislabel{\@glxtr@prefix#1}%
    \ifglentryexists{\@gls@thislabel}{\@endfortrue}{}%
  }%
  \edef\@glo@tmp{\endgroup\noexpand\def\noexpand\@gls@thislabel{\@gls@thislabel}}\@glo@tmp
}
\newrobustcmd*\{dgl\}{\@gls@hyp@opt@dgl\}
\newcommand*\@dgl}[2][{}]{%
  \@glxtr@get@prefixedlabel{#2}%
  \new@ifnextchar[{\@gls@{#1}{\@gls@thislabel}}{\@gls@{#1}{\@gls@thislabel}}[{}]}%
}
\newrobustcmd*\{dgl\sp\}{\@gls@hyp@opt@dgl\sp\}
\newcommand*\@dgl\sp\}[2][{}]{%
  \@glxtr@get@prefixedlabel{#2}%
}

```

```

    \new@ifnextchar [{\@glspl@{#1}{\@gls@thislabel}}{\@glspl@{#1}{\@gls@thislabel} []}%
  }
  \newrobustcmd*{\dGls}{\@gls@hyp@opt\dGls}
  \newcommand*{\@dGls}[2] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \new@ifnextchar [{\@Gls@{#1}{\@gls@thislabel}}{\@Gls@{#1}{\@gls@thislabel} []}%
  }
  \newrobustcmd*{\dGlspl}{\@gls@hyp@opt\dGlspl}
  \newcommand*{\@dGlspl}[2] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \new@ifnextchar [{\@Glspl@{#1}{\@gls@thislabel}}{\@Glspl@{#1}{\@gls@thislabel} []}%
  }
  \newrobustcmd*{\dGLS}{\@gls@hyp@opt\dGLS}
  \newcommand*{\@dGLS}[2] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \new@ifnextchar [{\@GLS@{#1}{\@gls@thislabel}}{\@GLS@{#1}{\@gls@thislabel} []}%
  }
  \newrobustcmd*{\dGLSpl}{\@gls@hyp@opt\dGLSpl}
  \newcommand*{\@dGLSpl}[2] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \new@ifnextchar [{\@GLSpl@{#1}{\@gls@thislabel}}{\@GLSpl@{#1}{\@gls@thislabel} []}%
  }
  \newrobustcmd*{\dglslink}[3] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \glslink[#1]{\@gls@thislabel}{#3}%
  }
  \newrobustcmd*{\dglsdisp}[3] []{%
    \@glsxtr@get@prefixedlabel{#2}%
    \glsdisp[#1]{\@gls@thislabel}{#3}%
  }
  \newrobustcmd*{\glsxtrmultientryadjustedname}[4]{%
    \bgroup
    \let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
    \let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
    \let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
    \let\@glsxtrmultientryadjustednameother\glsxtrmultientryadjustednameother
    \let\@glsxtrmultientryadjustednamefmt\glsxtrmultientryadjustednamefmt
    \let\@glsxtrmultientryadjustednamefirsttoother\glsxtrmultientryadjustednameother
    \let\@glsxtrmultientryadjustednamefirstfmt\glsxtrmultientryadjustednamefmt
    \@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
    \egroup
  }
  \newrobustcmd*{\Glsxtrmultientryadjustedname}[4]{%
    \bgroup
    \let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
    \let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
    \let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
    \let\@glsxtrmultientryadjustednameother\glsxtrmultientryadjustednameother
    \let\@glsxtrmultientryadjustednamefmt\glsxtrmultientryadjustednamefmt
    \let\@glsxtrmultientryadjustednamefirsttoother\Glsxtrmultientryadjustednameother
  }

```

```

\let\@glsxtrmultientryadjustednamefirstfmt\Glsxtrmultientryadjustednamefmt
\@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
\egroup
}
\newrobustcmd*{\GlsXtrmultientryadjustedname}[4]{%
\bgroup
\let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
\let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
\let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
\let\@glsxtrmultientryadjustednameother\GlsXtrmultientryadjustednameother
\let\@glsxtrmultientryadjustednamefmt\GlsXtrmultientryadjustednamefmt
\let\@glsxtrmultientryadjustednamefirstother\GlsXtrmultientryadjustednameother
\let\@glsxtrmultientryadjustednamefirstfmt\GlsXtrmultientryadjustednamefmt
\@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
\egroup
}
\newrobustcmd*{\GLSxtrmultientryadjustedname}[4]{%
\bgroup
\let\@glsxtrmultientryadjustednamesep\glsxtrmultientryadjustednamesep
\let\@glsxtrmultientryadjustednamepresep\glsxtrmultientryadjustednamepresep
\let\@glsxtrmultientryadjustednamepostsep\glsxtrmultientryadjustednamepostsep
\let\@glsxtrmultientryadjustednameother\GLSxtrmultientryadjustednameother
\let\@glsxtrmultientryadjustednamefmt\GLSxtrmultientryadjustednamefmt
\let\@glsxtrmultientryadjustednamefirstother\GLSxtrmultientryadjustednameother
\let\@glsxtrmultientryadjustednamefirstfmt\GLSxtrmultientryadjustednamefmt
\@glsxtrmultientryadjustedname{#1}{#2}{#3}{#4}%
\egroup
}
\newcommand*{@glsxtrmultientryadjustedname}[4]{%
\letcs@mglscurrentmainlabel{@gls@combined@#4@main}%
\letcs@mglscurrentmainlist{@gls@combined@#4@list}%
\letcs@mglscurrentmainoptions{@gls@combined@#4@options}%
\ifblank{#1}%
{%
\@glsxtrmultientryadjustednamefirstfmt{#2}%
}%
{%
\def@mglsp@previouslabel{}%
\let@mglsextr@justedother\@glsxtrmultientryadjustednamefirstother
\@for@mglscurrentlabel:=#1\do{%
\ifx@mglsp@previouslabel\empty
\else
\@glsxtrmultientryadjustednamesep{@mglsp@previouslabel}{mglscurrentlabel}%
\fi
\@gls@extr@justedother{mglscurrentlabel}%
\let@mglsp@previouslabelmglscurrentlabel
\let@mglsextr@justedother\@glsxtrmultientryadjustednameother
}%
\@glsxtrmultientryadjustednamepresep{@mglsp@previouslabel}{mglscurrentmainlabel}%
\@glsxtrmultientryadjustednamefmt{#2}%

```

```

}%
\ifblank{#3}%
{}%
{%
  \let@mgl@previouslabel@mgl@currentmainlabel
  \let@gls@xtrmultientryadjustedname@sep@gls@xtrmultientryadjustednamepostsep
  \for@mgl@currentlabel:=#3\do{%
    \gls@xtrmultientryadjustedname@sep{\mgl@previouslabel}{\mgl@currentlabel}%
    \gls@xtrmultientryadjustedname@other{\mgl@currentlabel}%
    \let@mgl@previouslabel@mgl@currentlabel
    \let@gls@xtrmultientryadjustedname@sep@gls@xtrmultientryadjustedname@sep
  }%
}%
}
\newcommand*\gls@xtrmultientryadjustedname@sep{\gls@combinedfirstsepfirst}
\newcommand*\gls@xtrmultientryadjustedname@presep{\gls@xtrmultientryadjustedname@sep}
\newcommand*\gls@xtrmultientryadjustedname@postsep{\gls@xtrmultientryadjustedname@sep}
\newcommand*\gls@xtrmultientryadjustedname@fmt[1]{#1}
\newcommand*\gls@xtrmultientryadjustedname@other[1]{\gls@entryname{#1}}
\newcommand*\Gls@xtrmultientryadjustedname@fmt[1]{\makefirstuc{#1}}
\newcommand*\Gls@xtrmultientryadjustedname@other[1]{\Gls@entryname{#1}}
\newcommand*\Gls@Xtrmultientryadjustedname@other[1]{%
\gls@entrytitlecase{#1}{name}}
\ifdef\gls@capitalisewords
{%
  \newcommand*\Gls@Xtrmultientryadjustedname@fmt[1]{\gls@capitalisewords{#1}}
}
{
  \newcommand*\Gls@Xtrmultientryadjustedname@fmt[1]{\capitalisewords{#1}}
}
\newcommand*\Gls@Xtrmultientryadjustedname@other[1]{%
\mfirstucMakeUppercase{\gls@entryname{#1}}}
\newcommand*\Gls@Xtrmultientryadjustedname@fmt[1]{\mfirstucMakeUppercase{#1}}
\providecommand*\Alpha{\mathrm{A}}
\providecommand*\Beta{\mathrm{B}}
\providecommand*\Epsilon{\mathrm{E}}
\providecommand*\Zeta{\mathrm{Z}}
\providecommand*\Eta{\mathrm{H}}
\providecommand*\Iota{\mathrm{I}}
\providecommand*\Kappa{\mathrm{K}}
\providecommand*\Mu{\mathrm{M}}
\providecommand*\Nu{\mathrm{N}}
\providecommand*\Omicron{\mathrm{O}}
\providecommand*\Rho{\mathrm{P}}
\providecommand*\Tau{\mathrm{T}}
\providecommand*\Chi{\mathrm{X}}
\providecommand*\Digamma{\mathrm{F}}
\providecommand*\omicron{\mathit{o}}
\@ifpackageloaded{upgreek}%
{

```

```

\providecommand*\Upalpha{\mathrm{A}}
\providecommand*\Upbeta{\mathrm{B}}
\providecommand*\Upepsilon{\mathrm{E}}
\providecommand*\Upzeta{\mathrm{Z}}
\providecommand*\Upeta{\mathrm{H}}
\providecommand*\Upiota{\mathrm{I}}
\providecommand*\Upkappa{\mathrm{K}}
\providecommand*\Upmu{\mathrm{M}}
\providecommand*\Upnu{\mathrm{N}}
\providecommand*\Upomicron{\mathrm{O}}
\providecommand*\Uprho{\mathrm{P}}
\providecommand*\Uptau{\mathrm{T}}
\providecommand*\Upchi{\mathrm{X}}
\providecommand*\upomicron{\mathrm{o}}
}%
{}% upgreek.sty not loaded
\newcommand*\glstrcontrolrules{%
\string'\glshex 200B\string'\string=\glshex 200C\string=\glshex 200D
\string=\glshex 200E\string=\glshex 200F\string=\glshex 0000\string=\glshex 0001
\string=\glshex 0002\string=\glshex 0003\string=\glshex 0004\string=\glshex 0005
\string=\glshex 0006\string=\glshex 0007\string=\glshex 0008
\string=\string'\glshex 0009\string'\string=\string'\glshex 000B\string'
\string=\glshex 000E\string=\glshex 000F\string=\string'\glshex
0010\string'\string=\glshex 0011
\string=\glshex 0012\string=\glshex 0013\string=\glshex 0014\string=\glshex 0015
\string=\glshex 0016\string=\glshex 0017\string=\glshex 0018\string=\glshex 0019
\string=\glshex 001A\string=\glshex 001B\string=\glshex 001C\string=\glshex 001D
\string=\glshex 001E\string=\glshex 001F\string=\glshex 007F\string=\glshex 0080
\string=\glshex 0081\string=\glshex 0082\string=\glshex 0083\string=\glshex 0084
\string=\glshex 0085\string=\glshex 0086\string=\glshex 0087\string=\glshex 0088
\string=\glshex 0089\string=\glshex 008A\string=\glshex 008B\string=\glshex 008C
\string=\glshex 008D\string=\glshex 008E\string=\glshex 008F\string=\glshex 0090
\string=\glshex 0091\string=\glshex 0092\string=\glshex 0093\string=\glshex 0094
\string=\glshex 0095\string=\glshex 0096\string=\glshex 0097\string=\glshex 0098
\string=\glshex 0099\string=\glshex 009A\string=\glshex 009B\string=\glshex 009C
\string=\glshex 009D\string=\glshex 009E\string=\glshex 009F
}
\newcommand*\glstrspacerules{%
\string' \string'\string;
\string'\glshex 00A0\string'\string;
\string'\glshex 2000\string'\string;
\string'\glshex 2001\string'\string;
\string'\glshex 2002\string'\string;
\string'\glshex 2003\string'\string;
\string'\glshex 2004\string'\string;
\string'\glshex 2005\string'\string;
\string'\glshex 2006\string'\string;
\string'\glshex 2007\string'\string;
\string'\glshex 2008\string'\string;
\string'\glshex 2009\string'\string;

```



```

\string'\glshex 200A\string'\string;
\string'\glshex 3000\string'
}
\newcommand*{\glxtrnonprintablerules}{%
\string'\glshex FEFF\string'\string;
\string'\glshex 000A\string'\string;
\string'\glshex 0009\string'\string;
\string'\glshex 000C\string'\string;
\string'\glshex 000B\string'
}

\newcommand*{\glxtrcombiningdiacriticrules}{%
\glxtrcombiningdiacriticIrules\string;
\glxtrcombiningdiacriticIIrules\string;
\glxtrcombiningdiacriticIIIrules\string;
\glxtrcombiningdiacriticIVrules
}
\newcommand*{\glxtrcombiningdiacriticIrules}{%
\glshex 0301\string;% combining acute
\glshex 0300\string;% combining grave
\glshex 0306\string;% combining breve
\glshex 0302\string;% combining circumflex
\glshex 030C\string;% combining caron
\glshex 030A\string;% combining ring
\glshex 030D\string;% combining vertical line above
\glshex 0308\string;% combining diaeresis
\glshex 030B\string;% combining double acute
\glshex 0303\string;% combining tilde
\glshex 0307\string;% combining dot above
\glshex 0304% combining macron
}
\newcommand*{\glxtrcombiningdiacriticIIrules}{%
\glshex 0337\string;% combining short solidus overlay
\glshex 0327\string;% combining cedilla
\glshex 0328\string;% combining ogonek
\glshex 0323\string;% combining dot below
\glshex 0332\string;% combining low line
\glshex 0305\string;% combining overline
\glshex 0309\string;% combining hook above
\glshex 030E\string;% combining double vertical line above
\glshex 030F\string;% combining double grave accent
\glshex 0310\string;% combining candrabindu
\glshex 0311\string;% combining inverted breve
\glshex 0312\string;% combining turned comma above
\glshex 0313\string;% combining comma above
\glshex 0314\string;% combining reversed comma above
\glshex 0315\string;% combining comma above right
\glshex 0316\string;% combining grave accent below
\glshex 0317% combining acute accent below
}

```

```

\newcommand*{\glxtrcombingdiacriticIIIrules}{%
\glshex 0318\string;% combining left tack below
\glshex 0319\string;% combining right tack below
\glshex 031A\string;% combining left angle above
\glshex 031B\string;% combining horn
\glshex 031C\string;% combining left half ring below
\glshex 031D\string;% combining up tack below
\glshex 031E\string;% combining down tack below
\glshex 031F\string;% combining plus sign below
\glshex 0320\string;% combining minus sign below
\glshex 0321\string;% combining palatalized hook below
\glshex 0322\string;% combining retroflex hook below
\glshex 0324\string;% combining diaeresis below
\glshex 0325\string;% combining ring below
\glshex 0326\string;% combining comma below
\glshex 0329\string;% combining vertical line below
\glshex 032A\string;% combining bridge below
\glshex 032B\string;% combining inverted double arch below
\glshex 032C\string;% combining caron below
\glshex 032D\string;% combining circumflex accent below
\glshex 032E\string;% combining breve below
\glshex 032F\string;% combining inverted breve below
\glshex 0330\string;% combining tilde below
\glshex 0331\string;% combining macron below
\glshex 0333\string;% combining double low line
\glshex 0334\string;% combining tilde overlay
\glshex 0335\string;% combining short stroke overlay
\glshex 0336\string;% combining long stroke overlay
\glshex 0338\string;% combining long solidus overlay
\glshex 0339\string;% combining combining right half ring below
\glshex 033A\string;% combining inverted bridge below
\glshex 033B\string;% combining square below
\glshex 033C\string;% combining seagull below
\glshex 033D\string;% combining x above
\glshex 033E\string;% combining vertical tilde
\glshex 033F\string;% combining double overline
\glshex 0342\string;% combining Greek perispomeni
\glshex 0344\string;% combining Greek dialytika tonos
\glshex 0345\string;% combining Greek ypogegrammeni
\glshex 0360\string;% combining double tilde
\glshex 0361\string;% combining double inverted breve
\glshex 0483\string;% combining Cyrillic titlo
\glshex 0484\string;% combining Cyrillic palatalization
\glshex 0485\string;% combining Cyrillic dasia pneumata
\glshex 0486\string;% combining Cyrillic psili pneumata
}
\newcommand*{\glxtrcombingdiacriticIVrules}{%
\glshex 20D0\string;% combining left harpoon above
\glshex 20D1\string;% combining right harpoon above
\glshex 20D2\string;% combining long vertical line overlay

```

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\glsheX 20D3\string;% combining short vertical line overlay
\glsheX 20D4\string;% combining anticlockwise arrow above
\glsheX 20D5\string;% combining clockwise arrow above
\glsheX 20D6\string;% combining left arrow above
\glsheX 20D7\string;% combining right arrow above
\glsheX 20D8\string;% combining ring overlay
\glsheX 20D9\string;% combining clockwise ring overlay
\glsheX 20DA\string;% combining anticlockwise ring overlay
\glsheX 20DB\string;% combining three dots above
\glsheX 20DC\string;% combining four dots above
\glsheX 20DD\string;% combining enclosing circle
\glsheX 20DE\string;% combining enclosing square
\glsheX 20DF\string;% combining enclosing diamond
\glsheX 20E0\string;% combining enclosing circle backslash
\glsheX 20E1% combining left right arrow above
}
\newcommand*{\glxtrhyphenrules}{%
\string'\string-\string'\string;% ASCII hyphen
\glsheX 00AD\string;% soft hyphen
\glsheX 2010\string;% hyphen
\glsheX 2011\string;% non-breaking hyphen
\glsheX 2012\string;% figure dash
\glsheX 2013\string;% en dash
\glsheX 2014\string;% em dash
\glsheX 2015\string;% horizontal bar
\glsheX 2212\string=\glsheX 207B\string=\glsheX 208B% minus sign
}
\newcommand*{\glxtrgeneralpuncrules}{%
\glxtrgeneralpuncIrules
\string<\glxtrcurrencyrules
\string<\glxtrgeneralpuncIIrules
}
\newcommand*{\glxtrgeneralpuncIrules}{%
\string'\glsheX 005F\string'% underscore
\string<\glsheX 00AF% macron
\string<\string'\glsheX 002C\string'% comma
\string<\string'\glsheX 003B\string'% semi-colon
\string<\string'\glsheX 003A\string'% colon
\string<\string'\glsheX 0021\string'% exclamation mark
\string<\glsheX 00A1% inverted exclamation mark
\string<\string'\glsheX 003F\string'% question mark
\string<\glsheX 00BF% inverted question mark
\string<\string'\glsheX 002F\string'% solidus
\string<\string'\glsheX 002E\string'% full stop
\string<\glsheX 00B4% acute accent
\string<\string'\glsheX 0060\string'% grave accent
\string<\string'\glsheX 005E\string'% circumflex accent
\string<\glsheX 00A8% diaeresis
\string<\string'\glsheX 007E\string'% tilde
\string<\glsheX 00B7% middle dot

```

```

\string<\glshex 00B8% cedilla
\string<\string'\glshex 0027\string'% straight apostrophe
\string<\string'\glshex 0022\string'% straight double quote
\string<\glshex 00AB% left guillemet
\string<\glshex 00BB% right guillemet
\string<\string'\glshex 0028\string'% left parenthesis
\string=\glshex 207D\string=\glshex 208D% super/subscript left parenthesis
\string<\string'\glshex 0029\string'% right parenthesis
\string=\glshex 207E\string=\glshex 208E% super/subscript right parenthesis
\string<\string'\glshex 005B\string'% left square bracket
\string<\string'\glshex 005D\string'% right square bracket
\string<\string'\glshex 007B\string'% left curly bracket
\string<\string'\glshex 007D\string'% right curly bracket
\string<\glshex 00A7% section sign
\string<\glshex 00B6% pilcrow sign
\string<\glshex 00A9% copyright sign
\string<\glshex 00AE% registered sign
\string<\string'\glshex 0040\string'% at sign
}
\newcommand*{\glxtrcurrencyrules}{%
\glshex 00A4% currency sign
\string<\glshex 0E3F% Thai currency symbol baht
\string<\glshex 00A2% cent sign
\string<\glshex 20A1% colon sign
\string<\glshex 20A2% cruzeiro sign
\string<\string'\glshex 0024\string'% dollar sign
\string<\glshex 20AB% dong sign
\string<\glshex 20AC% euro sign
\string<\glshex 20A3% French franc sign
\string<\glshex 20A4% lira sign
\string<\glshex 20A5% mill sign
\string<\glshex 20A6% naira sign
\string<\glshex 20A7% peseta sign
\string<\glshex 00A3% pound sign
\string<\glshex 20A8% rupee sign
\string<\glshex 20AA% new sheqel sign
\string<\glshex 20A9% won sign
\string<\glshex 00A5% yen sign
}
\newcommand*{\glxtrgeneralpuncIIrules}{%
\string'\glshex 002A\string'% asterisk
\string<\string'\glshex 005C\string'% backslash
\string<\string'\glshex 0026\string'% ampersand
\string<\string'\glshex 0023\string'% hash sign
\string<\string'\glshex 0025\string'% percent sign
\string<\string'\glshex 002B\string'% plus sign
\string=\glshex 207A\string=\glshex 208A% super/subscript plus sign
\string<\glshex 00B1% plus-minus sign
\string<\glshex 00F7% division sign
\string<\glshex 00D7% multiplication sign

```

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\string<\string'\glshex 003C\string'% less-than sign
\string<\string'\glshex 003D\string'% equals sign
\string<\string'\glshex 003E\string'% greater-than sign
\string<\glshex 00AC% not sign
\string<\string'\glshex 007C\string'% vertical bar (pipe)
\string<\glshex 00A6% broken bar
\string<\glshex 00B0% degree sign
\string<\glshex 00B5% micron sign
}
\newcommand*{\glxtrGeneralLatinIrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z
}
\newcommand*{\glxtrGeneralLatinIIrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK

```

```

\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS \string, \glxtrLatinEszettSs
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinIIIrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SZ, \glxtrLatinEszettSz
\string<\glxtrLatinT
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinIVrules}{%
\glxtrLatinA
\string& AE , \glxtrLatinAELigature

```

```

\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string& OE , \glxtrLatinOELigature
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinVrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%

```

```

\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinVIrules}{%
\glxtrLatinA
\string<b,B%
\string<c,C%
\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SZ , \glxtrLatinEszettSz
\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinVIIrules}{%
\glxtrLatinA
\string<\glxtrLatinAELigature
\string<b,B%
\string<c,C%

```



```

\string<d,D%
\string<\glxtrLatinEth
\string<\glxtrLatinE
\string<f,F%
\string<\glxtrLatinInsularG
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glxtrLatinL
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glxtrLatinO
\string<\glxtrLatinOELigature
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glshex 017F=\glxtrLatinS % s and long s
\string<\glxtrLatinT
\string<\glxtrLatinThorn
\string<u,U%
\string<v,V%
\string< w\string=\glshex 01BF, W\string=\glshex 01F7
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrGeneralLatinVIIIrules}{%
\glxtrLatinA
\string& AE , \glxtrLatinAELigature
\string<b,B%
\string<c,C%
\string<\glshex 00F0\string;d,\glshex 00D0\string;D% D and eth
\string<\glxtrLatinE
\string<f,F%
\string<g,G%
\string<\glxtrLatinH
\string<\glxtrLatinI
\string<j,J%
\string<\glxtrLatinK
\string<\glshex 0142\string=\glxtrLatinL\string=\glshex 0141% L and \L
\string<\glxtrLatinM
\string<\glxtrLatinN
\string<\glshex 00F8\string=\glxtrLatinO\string=\glshex 00D8% O and \O
\string& OE , \glxtrLatinOELigature
\string<\glxtrLatinP
\string<q,Q%
\string<r,R%
\string<\glxtrLatinS
\string& SS , \glxtrLatinEszettSs

```

```

\string<\glxtrLatinT
\string& th =\glshex 00DE
\string& TH =\glshex 00FE
\string<u,U%
\string<v,V%
\string<w,W%
\string<\glxtrLatinX
\string<y,Y%
\string<z,Z%
}
\newcommand*{\glxtrLatinA}{%
  a\string=\glshex 00AA\string=\glshex 2090,A
}
\newcommand*{\glxtrLatinE}{%
  e\string=\glshex 2091,E
}
\newcommand*{\glxtrLatinH}{%
  h\string=\glshex 2095,H
}
\newcommand*{\glxtrLatinI}{%
  i\string=\glshex 2071,I
}
\newcommand*{\glxtrLatinK}{%
  k\string=\glshex 2096,K
}
\newcommand*{\glxtrLatinL}{%
  l\string=\glshex 2097,L
}
\newcommand*{\glxtrLatinM}{%
  m\string=\glshex 2098,M
}
\newcommand*{\glxtrLatinN}{%
  n\string=\glshex 207F\string=\glshex 2099,N
}
\newcommand*{\glxtrLatinO}{%
  o\string=\glshex 00BA\string=\glshex 2092,O
}
\newcommand*{\glxtrLatinP}{%
  p\string=\glshex 209A,P
}
\newcommand*{\glxtrLatinS}{%
  s\string=\glshex 209B,S
}
\newcommand*{\glxtrLatinT}{%
  t\string=\glshex 209C,T
}
\newcommand*{\glxtrLatinX}{%
  x\string=\glshex 2093,X
}
\newcommand*{\glxtrLatinSchwa}{%

```

```

    \glshex 0259\string=\glshex 2094,\glshex 018F
  }
  \newcommand*\glsxtrLatinEszettSs}{%
    \glshex 00DF% eszett
    \string=\glshex 017Fs % long S s
  }
  \newcommand*\glsxtrLatinEszettSz}{%
    \glshex 00DF% eszett
    \string= \glshex 017Fz % long S z
  }
  \newcommand*\glsxtrLatinEth}{%
    \glshex 00F0,\glshex 00D0% eth
  }
  \newcommand*\glsxtrLatinThorn}{%
    \glshex 00FE,\glshex 00DE% thorn
  }
  \newcommand*\glsxtrLatinAELigature}{%
    \glshex 00E6,\glshex 00C6% AE-ligature
  }
  \newcommand*\glsxtrLatinOELigature}{%
    \glshex 0153,\glshex 0152% OE-ligature
  }
  \newcommand*\glsxtrLatinAA}{%
    \glshex 00E5=a\glshex 030A,% \aa
    \glshex 00C5=A\glshex 030A% \AA
  }
  \newcommand*\glsxtrLatinWynn}{%
    \glshex 01BF,\glshex 01F7% wynn
  }
  \newcommand*\glsxtrLatinInsularG}{%
    \glshex 1D79,\glshex A77D% insular G
    \string; g, G
  }
  \newcommand*\glsxtrLatinOslash}{%
    \glshex 00F8,\glshex 00D8% \o, \O
  }
  \newcommand*\glsxtrLatinLslash}{%
    \glshex 0142,\glshex 0141% \l, \L
  }
  \newcommand*\glsxtrMathUpGreekIrules}{%
    \glsxtrUpAlpha
    \string<\glsxtrUpBeta
    \string<\glsxtrUpGamma
    \string<\glsxtrUpDelta
    \string<\glsxtrUpEpsilon
    \string<\glsxtrUpDigamma
    \string<\glsxtrUpZeta
    \string<\glsxtrUpEta
    \string<\glsxtrUpTheta
    \string<\glsxtrUpIota

```

```

\string<\glxtrUpKappa
\string<\glxtrUpLambda
\string<\glxtrUpMu
\string<\glxtrUpNu
\string<\glxtrUpXi
\string<\glxtrUpOmicron
\string<\glxtrUpPi
\string<\glxtrUpRho
\string<\glxtrUpSigma
\string<\glxtrUpTau
\string<\glxtrUpUpsilon
\string<\glxtrUpPhi
\string<\glxtrUpChi
\string<\glxtrUpPsi
\string<\glxtrUpOmega
}
\newcommand*{\glxtrMathUpGreekIIrules}{%
\glxtrUpAlpha
\string<\glxtrUpBeta
\string<\glxtrUpGamma
\string<\glxtrUpDelta
\string<\glxtrUpEpsilon
\string<\glxtrUpZeta
\string<\glxtrUpEta
\string<\glxtrUpTheta
\string<\glxtrUpIota
\string<\glxtrUpKappa
\string<\glxtrUpLambda
\string<\glxtrUpMu
\string<\glxtrUpNu
\string<\glxtrUpXi
\string<\glxtrUpOmicron
\string<\glxtrUpPi
\string<\glxtrUpRho
\string<\glxtrUpSigma
\string<\glxtrUpTau
\string<\glxtrUpUpsilon
\string<\glxtrUpPhi
\string<\glxtrUpChi
\string<\glxtrUpPsi
\string<\glxtrUpOmega
}
\newcommand*{\glxtrMathItalicGreekIrules}{%
\glxtrMathItalicAlpha
\string<\glxtrMathItalicBeta
\string<\glxtrMathItalicGamma
\string<\glxtrMathItalicDelta
\string<\glxtrMathItalicEpsilon
\string<\glxtrUpDigamma
\string<\glxtrMathItalicZeta

```

```

\string<\glxtrMathItalicEta
\string<\glxtrMathItalicTheta
\string<\glxtrMathItalicIota
\string<\glxtrMathItalicKappa
\string<\glxtrMathItalicLambda
\string<\glxtrMathItalicMu
\string<\glxtrMathItalicNu
\string<\glxtrMathItalicXi
\string<\glxtrMathItalicOmicron
\string<\glxtrMathItalicPi
\string<\glxtrMathItalicRho
\string<\glxtrMathItalicSigma
\string<\glxtrMathItalicTau
\string<\glxtrMathItalicUpsilon
\string<\glxtrMathItalicPhi
\string<\glxtrMathItalicChi
\string<\glxtrMathItalicPsi
\string<\glxtrMathItalicOmega
}
\newcommand*{\glxtrMathItalicGreekIIrules}{%
\glxtrMathItalicAlpha
\string<\glxtrMathItalicBeta
\string<\glxtrMathItalicGamma
\string<\glxtrMathItalicDelta
\string<\glxtrMathItalicEpsilon
\string<\glxtrMathItalicZeta
\string<\glxtrMathItalicEta
\string<\glxtrMathItalicTheta
\string<\glxtrMathItalicIota
\string<\glxtrMathItalicKappa
\string<\glxtrMathItalicLambda
\string<\glxtrMathItalicMu
\string<\glxtrMathItalicNu
\string<\glxtrMathItalicXi
\string<\glxtrMathItalicOmicron
\string<\glxtrMathItalicPi
\string<\glxtrMathItalicRho
\string<\glxtrMathItalicSigma
\string<\glxtrMathItalicTau
\string<\glxtrMathItalicUpsilon
\string<\glxtrMathItalicPhi
\string<\glxtrMathItalicChi
\string<\glxtrMathItalicPsi
\string<\glxtrMathItalicOmega
}
\newcommand*{\glxtrMathItalicUpperGreekIrules}{%
\glshex 1D6E2% upper case alpha (maths italic)
\string<\glshex 1D6E3% upper case beta (maths italic)
\string<\glshex 1D6E4% upper case gamma (maths italic)
\string<\glshex 1D6E5% upper case delta (maths italic)

```

```

\string<\glshex 1D6E6% upper case epsilon (maths italic)
\string<\glshex 03DC% upper case digamma
\string<\glshex 1D6E7% upper case zeta (maths italic)
\string<\glshex 1D6E8% upper case eta (maths italic)
\string<\glshex 1D6E9% upper case theta (maths italic)
\string=\glshex 1D6F3% upper case theta variant (maths italic)
\string<\glshex 1D6EA% upper case iota (maths italic)
\string<\glshex 1D6EB% upper case kappa (maths italic)
\string<\glshex 1D6EC% upper case lambda (maths italic)
\string<\glshex 1D6ED% upper case mu (maths italic)
\string<\glshex 1D6EE% upper case nu (maths italic)
\string<\glshex 1D6EF% upper case xi (maths italic)
\string<\glshex 1D6F0% upper case omicron (maths italic)
\string<\glshex 1D6F1% upper case pi (maths italic)
\string<\glshex 1D6F2% upper case rho (maths italic)
\string<\glshex 1D6F4% upper case sigma (maths italic)
\string<\glshex 1D6F5% upper case tau (maths italic)
\string<\glshex 1D6F6% upper case upsilon (maths italic)
\string<\glshex 1D6F7% upper case phi (maths italic)
\string<\glshex 1D6F8% upper case chi (maths italic)
\string<\glshex 1D6F9% upper case psi (maths italic)
\string<\glshex 1D6FA% upper case omega (maths italic)
}
\newcommand*{\glxtrMathItalicUpperGreekIIrules}{%
\glshex 1D6E2% upper case alpha (maths italic)
\string<\glshex 1D6E3% upper case beta (maths italic)
\string<\glshex 1D6E4% upper case gamma (maths italic)
\string<\glshex 1D6E5% upper case delta (maths italic)
\string<\glshex 1D6E6% upper case epsilon (maths italic)
\string<\glshex 1D6E7% upper case zeta (maths italic)
\string<\glshex 1D6E8% upper case eta (maths italic)
\string<\glshex 1D6E9% upper case theta (maths italic)
\string=\glshex 1D6F3% upper case theta variant (maths italic)
\string<\glshex 1D6EA% upper case iota (maths italic)
\string<\glshex 1D6EB% upper case kappa (maths italic)
\string<\glshex 1D6EC% upper case lambda (maths italic)
\string<\glshex 1D6ED% upper case mu (maths italic)
\string<\glshex 1D6EE% upper case nu (maths italic)
\string<\glshex 1D6EF% upper case xi (maths italic)
\string<\glshex 1D6F0% upper case omicron (maths italic)
\string<\glshex 1D6F1% upper case pi (maths italic)
\string<\glshex 1D6F2% upper case rho (maths italic)
\string<\glshex 1D6F4% upper case sigma (maths italic)
\string<\glshex 1D6F5% upper case tau (maths italic)
\string<\glshex 1D6F6% upper case upsilon (maths italic)
\string<\glshex 1D6F7% upper case phi (maths italic)
\string<\glshex 1D6F8% upper case chi (maths italic)
\string<\glshex 1D6F9% upper case psi (maths italic)
\string<\glshex 1D6FA% upper case omega (maths italic)
}

```

```

\newcommand*{\glxtrMathItalicLowerGreekIrules}{%
\glshex 1D6FC% lower case alpha (maths italic)
\string<\glshex 1D6FD% lower case beta (maths italic)
\string<\glshex 1D6FE% lower case gamma (maths italic)
\string<\glshex 1D6FF% lower case delta (maths italic)
\string<\glshex 1D700% lower case epsilon (maths italic)
\string=\glshex 1D716% lower case epsilon variant (maths italic)
\string<\glshex 03DD% lower case digamma
\string<\glshex 1D701% lower case zeta (maths italic)
\string<\glshex 1D702% lower case eta (maths italic)
\string<\glshex 1D703% lower case theta (maths italic)
\string=\glshex 1D717% lower case theta variant (maths italic)
\string<\glshex 1D704% lower case iota (maths italic)
\string<\glshex 1D705% lower case kappa (maths italic)
\string=\glshex 1D718% lower case kappa variant (maths italic)
\string<\glshex 1D706% lower case lambda (maths italic)
\string<\glshex 1D707% lower case mu (maths italic)
\string<\glshex 1D708% lower case nu (maths italic)
\string<\glshex 1D709% lower case xi (maths italic)
\string<\glshex 1D70A% lower case omicron (maths italic)
\string<\glshex 1D70B% lower case pi (maths italic)
\string=\glshex 1D71B% lower case pi variant (maths italic)
\string<\glshex 1D70C% lower case rho (maths italic)
\string=\glshex 1D71A% lower case rho variant (maths italic)
\string<\glshex 1D70D% lower case final sigma (maths italic)
\string=\glshex 1D70E% lower case sigma (maths italic)
\string<\glshex 1D70F% lower case tau (maths italic)
\string<\glshex 1D710% lower case upsilon (maths italic)
\string<\glshex 1D711% lower case phi (maths italic)
\string=\glshex 1D719% lower case phi variant (maths italic)
\string<\glshex 1D712% lower case chi (maths italic)
\string<\glshex 1D713% lower case psi (maths italic)
\string<\glshex 1D714% lower case omega (maths italic)
}
\newcommand*{\glxtrMathItalicLowerGreekIIrules}{%
\glshex 1D6FC% lower case alpha (maths italic)
\string<\glshex 1D6FD% lower case beta (maths italic)
\string<\glshex 1D6FE% lower case gamma (maths italic)
\string<\glshex 1D6FF% lower case delta (maths italic)
\string<\glshex 1D700% lower case epsilon (maths italic)
\string=\glshex 1D716% lower case epsilon variant (maths italic)
\string<\glshex 1D701% lower case zeta (maths italic)
\string<\glshex 1D702% lower case eta (maths italic)
\string<\glshex 1D703% lower case theta (maths italic)
\string=\glshex 1D717% lower case theta variant (maths italic)
\string<\glshex 1D704% lower case iota (maths italic)
\string<\glshex 1D705% lower case kappa (maths italic)
\string=\glshex 1D718% lower case kappa variant (maths italic)
\string<\glshex 1D706% lower case lambda (maths italic)
\string<\glshex 1D707% lower case mu (maths italic)

```

```

\string<\glshex 1D708% lower case nu (maths italic)
\string<\glshex 1D709% lower case xi (maths italic)
\string<\glshex 1D70A% lower case omicron (maths italic)
\string<\glshex 1D70B% lower case pi (maths italic)
\string=\glshex 1D71B% lower case pi variant (maths italic)
\string<\glshex 1D70C% lower case rho (maths italic)
\string=\glshex 1D71A% lower case rho variant (maths italic)
\string<\glshex 1D70D% lower case final sigma (maths italic)
\string=\glshex 1D70E% lower case sigma (maths italic)
\string<\glshex 1D70F% lower case tau (maths italic)
\string<\glshex 1D710% lower case upsilon (maths italic)
\string<\glshex 1D711% lower case phi (maths italic)
\string=\glshex 1D719% lower case phi variant (maths italic)
\string<\glshex 1D712% lower case chi (maths italic)
\string<\glshex 1D713% lower case psi (maths italic)
\string<\glshex 1D714% lower case omega (maths italic)
}
\newcommand*{\glxtrMathGreekIrules}{%
\glxtrMathItalicAlpha
\string;\glxtrUpAlpha
\string<\glxtrMathItalicBeta
\string;\glxtrUpBeta
\string<\glxtrMathItalicGamma
\string;\glxtrUpGamma
\string<\glxtrMathItalicDelta
\string;\glxtrUpDelta
\string<\glxtrMathItalicEpsilon
\string;\glxtrUpEpsilon
\string<\glxtrUpDigamma
\string<\glxtrMathItalicZeta
\string;\glxtrUpZeta
\string<\glxtrMathItalicEta
\string;\glxtrUpEta
\string<\glxtrMathItalicTheta
\string;\glxtrUpTheta
\string<\glxtrMathItalicIota
\string;\glxtrUpIota
\string<\glxtrMathItalicKappa
\string;\glxtrUpKappa
\string<\glxtrMathItalicLambda
\string;\glxtrUpLambda
\string<\glxtrMathItalicMu
\string;\glxtrUpMu
\string<\glxtrMathItalicNu
\string;\glxtrUpNu
\string<\glxtrMathItalicXi
\string;\glxtrUpXi
\string<\glxtrMathItalicOmicron
\string;\glxtrUpOmicron
\string<\glxtrMathItalicPi

```



```

\string;\glxtrUpPi
\string<\glxtrMathItalicRho
\string;\glxtrUpRho
\string<\glxtrMathItalicSigma
\string;\glxtrUpSigma
\string<\glxtrMathItalicTau
\string;\glxtrUpTau
\string<\glxtrMathItalicUpsilon
\string;\glxtrUpUpsilon
\string<\glxtrMathItalicPhi
\string;\glxtrUpPhi
\string<\glxtrMathItalicChi
\string;\glxtrUpChi
\string<\glxtrMathItalicPsi
\string;\glxtrUpPsi
\string<\glxtrMathItalicOmega
\string;\glxtrUpOmega
}
\newcommand*{\glxtrMathGreekIIrules}{%
\glxtrMathItalicAlpha
\string;\glxtrUpAlpha
\string<\glxtrMathItalicBeta
\string;\glxtrUpBeta
\string<\glxtrMathItalicGamma
\string;\glxtrUpGamma
\string<\glxtrMathItalicDelta
\string;\glxtrUpDelta
\string<\glxtrMathItalicEpsilon
\string;\glxtrUpEpsilon
\string<\glxtrMathItalicZeta
\string;\glxtrUpZeta
\string<\glxtrMathItalicEta
\string;\glxtrUpEta
\string<\glxtrMathItalicTheta
\string;\glxtrUpTheta
\string<\glxtrMathItalicIota
\string;\glxtrUpIota
\string<\glxtrMathItalicKappa
\string;\glxtrUpKappa
\string<\glxtrMathItalicLambda
\string;\glxtrUpLambda
\string<\glxtrMathItalicMu
\string;\glxtrUpMu
\string<\glxtrMathItalicNu
\string;\glxtrUpNu
\string<\glxtrMathItalicXi
\string;\glxtrUpXi
\string<\glxtrMathItalicOmicron
\string;\glxtrUpOmicron
\string<\glxtrMathItalicPi

```

```

\string;\glxtrUpPi
\string<\glxtrMathItalicRho
\string;\glxtrUpRho
\string<\glxtrMathItalicSigma
\string;\glxtrUpSigma
\string<\glxtrMathItalicTau
\string;\glxtrUpTau
\string<\glxtrMathItalicUpsilon
\string;\glxtrUpUpsilon
\string<\glxtrMathItalicPhi
\string;\glxtrUpPhi
\string<\glxtrMathItalicChi
\string;\glxtrUpChi
\string<\glxtrMathItalicPsi
\string;\glxtrUpPsi
\string<\glxtrMathItalicOmega
\string;\glxtrUpOmega
}
\newcommand*{\glxtrUpAlpha}{%
\glshex 03B1,% lower case alpha
\glshex 0391% upper case alpha
}
\newcommand*{\glxtrUpBeta}{%
\glshex 03B2,% lower case beta
\glshex 0392% upper case beta
}
\newcommand*{\glxtrUpGamma}{%
\glshex 03B3,% lower case gamma
\glshex 0393% upper case gamma
}
\newcommand*{\glxtrUpDelta}{%
\glshex 03B4,% lower case delta
\glshex 0394% upper case delta
}
\newcommand*{\glxtrUpEpsilon}{%
\glshex 03B5% lower case epsilon
\string=\glshex 03F5,% lower case epsilon variant
\glshex 0395% upper case epsilon
}
\newcommand*{\glxtrUpDigamma}{%
\glshex 03DD,% lower case digamma
\glshex 03DC% upper case digamma
}
\newcommand*{\glxtrUpZeta}{%
\glshex 03B6,% lower case zeta
\glshex 0396% upper case zeta
}
\newcommand*{\glxtrUpEta}{%
\glshex 03B7,% lower case eta
\glshex 0397% upper case eta
}

```

```

}
\newcommand*\glsxtrUpTheta}{%
\glshex 03B8% lower case theta
\string=\glshex 03D1,% lower case theta variant
\glshex 0398% upper case theta
}
\newcommand*\glsxtrUpIota}{%
\glshex 03B9,% lower case iota
\glshex 0399% upper case iota
}
\newcommand*\glsxtrUpKappa}{%
\glshex 03BA% lower case kappa
\string=\glshex 03F0,% lower case kappa variant
\glshex 039A% upper case kappa
}
\newcommand*\glsxtrUpLambda}{%
\glshex 03BB,% lower lambda
\glshex 039B% upper case lambda
}
\newcommand*\glsxtrUpMu}{%
\glshex 03BC,% lower case mu
\glshex 039C% upper case mu
}
\newcommand*\glsxtrUpNu}{%
\glshex 03BD,% lower case nu
\glshex 039D% upper case nu
}
\newcommand*\glsxtrUpXi}{%
\glshex 03BE,% lower case xi
\glshex 039E% upper case xi
}
\newcommand*\glsxtrUpOmicron}{%
\glshex 03BF,% lower case omicron
\glshex 039F% upper case omicron
}
\newcommand*\glsxtrUpPi}{%
\glshex 03C0% lower case pi
\string=\glshex 03D6,% lower case pi variant
\glshex 03A0% upper case pi
}
\newcommand*\glsxtrUpRho}{%
\glshex 03C1% lower case rho
\string=\glshex 03F1,% lower case rho variant
\glshex 03A1% upper case rho
}
\newcommand*\glsxtrUpSigma}{%
\glshex 03C2% lower case sigma
\string=\glshex 03C3,% lower case sigma
\glshex 03A3% upper case sigma
}
}

```

```

\newcommand*\glxtrUpTau}{%
\glshex 03C4,% lower case tau
\glshex 03A4% upper case tau
}
\newcommand*\glxtrUpUpsilon}{%
\glshex 03C5,% lower case upsilon
\glshex 03A5% upper case upsilon
}
\newcommand*\glxtrUpPhi}{%
\glshex 03C6% lower case phi
\string=\glshex 03D5,% lower case phi variant
\glshex 03A6% upper case phi
}
\newcommand*\glxtrUpChi}{%
\glshex 03C7,% lower case chi
\glshex 03A7% upper case chi
}
\newcommand*\glxtrUpPsi}{%
\glshex 03C8,% lower case psi
\glshex 03A8% upper case psi
}
\newcommand*\glxtrUpOmega}{%
\glshex 03C9,% lower case omega
\glshex 03A9% upper case omega
}
\newcommand*\glxtrMathItalicAlpha}{%
\glshex 1D6FC,% lower case alpha (maths italic)
\glshex 1D6E2% upper case alpha (maths italic)
}
\newcommand*\glxtrMathItalicBeta}{%
\glshex 1D6FD,% lower case beta (maths italic)
\glshex 1D6E3% upper case beta (maths italic)
}
\newcommand*\glxtrMathItalicGamma}{%
\glshex 1D6FE,% lower case gamma (maths italic)
\glshex 1D6E4% upper case gamma (maths italic)
}
\newcommand*\glxtrMathItalicDelta}{%
\glshex 1D6FF,% lower case delta (maths italic)
\glshex 1D6E5% upper case delta (maths italic)
}
\newcommand*\glxtrMathItalicEpsilon}{%
\glshex 1D700% lower case epsilon (maths italic)
\string=\glshex 1D716,% lower case epsilon variant (maths italic)
\glshex 1D6E6% upper case epsilon (maths italic)
}
\newcommand*\glxtrMathItalicZeta}{%
\glshex 1D701,% lower case zeta (maths italic)
\glshex 1D6E7% upper case zeta (maths italic)
}

```

```

\newcommand*\glxtrMathItalicEta}{%
\glshex 1D702,% lower case eta (maths italic)
\glshex 1D6E8% upper case eta (maths italic)
}
\newcommand*\glxtrMathItalicTheta}{%
\glshex 1D703% lower case theta (maths italic)
\string=\glshex 1D717,% lower case theta variant (maths italic)
\glshex 1D6E9% upper case theta (maths italic)
\string=\glshex 1D6F3% upper case theta variant (maths italic)
}
\newcommand*\glxtrMathItalicIota}{%
\glshex 1D704,% lower case iota (maths italic)
\glshex 1D6EA% upper case iota (maths italic)
}
\newcommand*\glxtrMathItalicKappa}{%
\glshex 1D705% lower case kappa (maths italic)
\string=\glshex 1D718,% lower case kappa variant (maths italic)
\glshex 1D6EB% upper case kappa (maths italic)
}
\newcommand*\glxtrMathItalicLambda}{%
\glshex 1D706,% lower case lambda (maths italic)
\glshex 1D6EC% upper case lambda (maths italic)
}
\newcommand*\glxtrMathItalicMu}{%
\glshex 1D707,% lower case mu (maths italic)
\glshex 1D6ED% upper case mu (maths italic)
}
\newcommand*\glxtrMathItalicNu}{%
\glshex 1D708,% lower case nu (maths italic)
\glshex 1D6EE% upper case nu (maths italic)
}
\newcommand*\glxtrMathItalicXi}{%
\glshex 1D709,% lower case xi (maths italic)
\glshex 1D6EF% upper case xi (maths italic)
}
\newcommand*\glxtrMathItalicOmicron}{%
\glshex 1D70A,% lower case omicron (maths italic)
\glshex 1D6F0% upper case omicron (maths italic)
}
\newcommand*\glxtrMathItalicPi}{%
\glshex 1D70B% lower case pi (maths italic)
\string=\glshex 1D71B,% lower case pi variant (maths italic)
\glshex 1D6F1% upper case pi (maths italic)
}
\newcommand*\glxtrMathItalicRho}{%
\glshex 1D70C% lower case rho (maths italic)
\string=\glshex 1D71A,% lower case rho variant (maths italic)
\glshex 1D6F2% upper case rho (maths italic)
}
\newcommand*\glxtrMathItalicSigma}{%

```

```

\glshex 1D70D% lower case final sigma (maths italic)
\string=\glshex 1D70E,% lower case sigma (maths italic)
\glshex 1D6F4% upper case sigma (maths italic)
}
\newcommand*\glsxtrMathItalicTau}{%
\glshex 1D70F,% lower case tau (maths italic)
\glshex 1D6F5% upper case tau (maths italic)
}
\newcommand*\glsxtrMathItalicUpsilon}{%
\glshex 1D710,% lower case upsilon (maths italic)
\glshex 1D6F6% upper case upsilon (maths italic)
}
\newcommand*\glsxtrMathItalicPhi}{%
\glshex 1D711% lower case phi (maths italic)
\string=\glshex 1D719,% lower case phi variant (maths italic)
\glshex 1D6F7% upper case phi (maths italic)
}
\newcommand*\glsxtrMathItalicChi}{%
\glshex 1D712,% lower case chi (maths italic)
\glshex 1D6F8% upper case chi (maths italic)
}
\newcommand*\glsxtrMathItalicPsi}{%
\glshex 1D713,% lower case psi (maths italic)
\glshex 1D6F9% upper case psi (maths italic)
}
\newcommand*\glsxtrMathItalicOmega}{%
\glshex 1D714,% lower case omega (maths italic)
\glshex 1D6FA% upper case omega (maths italic)
}
\newcommand*\glsxtrMathItalicPartial}{%
\glshex 1D715% partial differential (maths italic)
}
\newcommand*\glsxtrMathItalicNabla}{%
\glshex 1D6FB% nabla (maths italic)
}
\newcommand*\glsxtrDigitrules}{%
0\string=\glshex 2080\string=\glshex 2070
\string<1\string=\glshex 2081\string=\glshex 00B9
\string<2\string=\glshex 2082\string=\glshex 00B2
\string<3\string=\glshex 2083\string=\glshex 00B3
\string<4\string=\glshex 2084\string=\glshex 2074
\string<5\string=\glshex 2085\string=\glshex 2075
\string<6\string=\glshex 2086\string=\glshex 2076
\string<7\string=\glshex 2087\string=\glshex 2077
\string<8\string=\glshex 2088\string=\glshex 2078
\string<9\string=\glshex 2089\string=\glshex 2079
}
\newcommand*\glsxtrBasicDigitrules}{%
0\string<1\string<2\string<3\string<4%
\string<5\string<6\string<7\string<8\string<9%

```

```

}
\newcommand*\glxtrSubScriptDigitrules}{%
\glshex 2080% subscript 0
\string<\glshex 2081% subscript 1
\string<\glshex 2082% subscript 2
\string<\glshex 2083% subscript 3
\string<\glshex 2084% subscript 4
\string<\glshex 2085% subscript 5
\string<\glshex 2086% subscript 6
\string<\glshex 2087% subscript 7
\string<\glshex 2088% subscript 8
\string<\glshex 2089% subscript 9
}
\newcommand*\glxtrSuperScriptDigitrules}{%
\glshex 2070% superscript 0
\string<\glshex 00B9% superscript 1
\string<\glshex 00B2% superscript 2
\string<\glshex 00B3% superscript 3
\string<\glshex 2074% superscript 4
\string<\glshex 2075% superscript 5
\string<\glshex 2076% superscript 6
\string<\glshex 2077% superscript 7
\string<\glshex 2078% superscript 8
\string<\glshex 2079% superscript 9
}
\newcommand*\glxtrfractionrules}{%
\glshex 215F% fraction numerator one (1/)
\string<\glshex 2189% zero thirds (0/3 = 0)
\string<\glshex 2152% one tenth (1/10 = 0.1)
\string<\glshex 2151% one ninth (1/9 ~ 0.111)
\string<\glshex 215B% one eighth (1/8 = 0.125)
\string<\glshex 2150% one seventh (1/7 ~ 0.143)
\string<\glshex 2159% one sixth (1/6 ~ 0.167)
\string<\glshex 2155% one fifth (1/5 = 0.2)
\string<\glshex 00BC% one quarter (1/4 = 0.25)
\string<\glshex 2153% one third (1/3 ~ 0.333)
\string<\glshex 215C% three eighths (3/8 = 0.375)
\string<\glshex 2156% two fifths (2/5 = 0.4)
\string<\glshex 00BD% one half (1/2 = 0.5)
\string<\glshex 2157% three fifths (3/5 = 0.6)
\string<\glshex 215D% five eighths (5/8 = 0.625)
\string<\glshex 2154% two thirds (2/3 ~ 0.667)
\string<\glshex 00BE% three quarters (3/4 = 0.75)
\string<\glshex 2158% four fifths (4/5 = 0.8)
\string<\glshex 215A% five sixths (5/6 ~ 0.833)
\string<\glshex 215E% seven eighths (7/8 = 0.875)
}
\renewcommand{\@glxtrdialecthook}{%
\ifundef\CurrentTrackedScript
{%

```

```

\TrackLangIfHasDefaultScript{\CurrentTrackedLanguage}%
{%
  \edef\CurrentTrackedScript{%
    \TrackLangGetDefaultScript\CurrentTrackedLanguage}%
  }%
  {}%
}%
{}%
\ifdef\CurrentTrackedScript
{%
  \let\gls@orgTrackLangRequireDialectPrefix\TrackLangRequireDialectPrefix
  \def\TrackLangRequireDialectPrefix{glossariesxtr-}%
  \let\CurrentTrackedTag\CurrentTrackedScript
  \IfFileExists{\TrackLangRequireDialectPrefix\CurrentTrackedTag.ldf}
  {\RequireGlossariesExtraLang{\CurrentTrackedTag}}%
  {}%
  \let\TrackLangRequireDialectPrefix\gls@orgTrackLangRequireDialectPrefix
}%
{}%
}
\ifdef\glsxtr@loaddialect
{%
  \@ifpackageloaded{tracklang}
  {%
    \AnyTrackedLanguages
    {%
      \ForEachTrackedDialect{\this@dialect}{\glsxtr@loaddialect}%
    }%
    {}%
  }
  {}
}
{}

```

### 9.3 Rollback v1.48 (glossaries-extra-stylemods-2021-11-22.sty)

Version 1.48 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossaries-extra-stylemods}[2021/11/22 v1.48 (NLCT)]
\newcommand*{\@glsxtr@loadstyles}{}
\DeclareOption{all}{%
  \appto\@glsxtr@loadstyles{%
    \RequirePackage{glossary-inline}%
    \RequirePackage{glossary-list}%
    \RequirePackage{glossary-tree}%
    \RequirePackage{glossary-mcols}%
    \RequirePackage{glossary-long}%
    \RequirePackage{glossary-longragged}%
    \RequirePackage{glossary-longbooktabs}%
  }
}

```



```

\RequirePackage{glossary-super}%
\RequirePackage{glossary-superragged}%
\RequirePackage{glossary-bookindex}[=v1.48]%
\RequirePackage{glossary-longextra}[=v1.48]%
\RequirePackage{glossary-topic}[=v1.48]%
}
}
\DeclareOption*{%
\IfFileExists{glossary-\CurrentOption.sty}
{\eappto\@glsxtr@loadstyles{%
\noexpand\RequirePackage{glossary-\CurrentOption}}%
}%
{%
\PackageError{glossaries-extra-styles}%
{Unknown option ‘\CurrentOption’}{}%
}%
}
\ProcessOptions
\@glsxtr@loadstyles
\providecommand*\@glsxtr@prelocation{\space}
\providecommand*\renewglossarystyle}[2]{%
\ifcsundef{@glsstyle@#1}%
{%
\PackageError{glossaries-extra}{Glossary style ‘#1’ isn’t already defined}{}%
}%
{%
\csdef{@glsstyle@#1}{#2}%
}%
}
\ifdef{\@glsstyle@listdotted}
{%
\renewglossarystyle{listdotted}{%
\setglossarystyle{list}%
\renewcommand*\@glossentry}[2]{%
\item[]\makebox[\glslistdottedwidth][l]{%
\glsentryitem{##1}%
\glstarget{##1}{\glossentryname{##1}}%
\unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}%
\glossentrydesc{##1}\glspostdescription}%
\renewcommand*\@subglossentry}[3]{%
\item[]\makebox[\glslistdottedwidth][l]{%
\glssubentryitem{##2}%
\glstarget{##2}{\glossentryname{##2}}%
\unskip\leaders\hbox to 2.9mm{\hss.}\hfill\strut}%
\glossentrydesc{##2}\glspostdescription}%
}
}
{%
}
}
\ifdef{\@glsstyle@list}

```

```

{%
\newcommand{\glslistprelocation}{\glsxtrprelocation}
\newcommand{\glslistchildprelocation}{\glslistprelocation}
\newcommand{\glslistchildpostlocation}{.}
\newcommand{\glslistdesc}[1]{\glossentrydesc{#1}\glspostdescription}
\newcommand{\glslistgroupskip}{\nobreak\indexspace\nobreak}
\newcommand{\glslistitem}[1]{%
\item[\glsentryitem{#1}]%
\glstarget{#1}{\glossentryname{#1}}}%
}
\providecommand{\glslistinit}{%
\ifdef\GetTitleStringDisableCommands
{%
\GetTitleStringSetup{expand}%
\GetTitleStringDisableCommands{%
\let\glsentryitem@gobble
\let\glstarget@secondoftwo
\let\glossentryname\glslistexpandedname
\let\glslistgroupheaderfmt@firstofone
\let\glsgetgrouptitle@firstofone
\let\glsnavhypertarget@secondoftwo
\let\glsnavigation\relax
}%
}%
}%
}
\providecommand{\glslistexpandedname}[1]{%
\ifcsname glo@\glsdetoklabel{#1}@name\endcsname
\expandafter\expandonce\csname glo@\glsdetoklabel{#1}@name\expandafter\endcsname
\fi
}
\renewglossarystyle{list}{%
\renewenvironment{theglossary}{%
{\glslistinit\begin{description}}{\end{description}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand*{\glossentry}[2]{%
\glslistitem{##1}\glslistdesc{##1}\glslistprelocation ##2}%
\renewcommand*{\subglossentry}[3]{%
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\space
\glslistdesc{##2}%
\glslistchildprelocation ##3\glslistchildpostlocation}%
\renewcommand*{\glsgroupskip}{\ifglsnogroupskip\else\glslistgroupskip\fi}%
}
}
\ifdef{\@glsstyle@altlist}
{%
\newcommand{\glsaltlistitem}[1]{%

```

```

\glslistitem{#1}%
\mbox{}\par\nobreak\@afterheading
}
\renewglossarystyle{altlist}{%
\setglossarystyle{list}%
\renewcommand*\glossentry}[2]{%
\glsaltlistitem{##1}%
\glslistdesc{##1}\glslistprelocation ##2}%
\renewcommand\subglossentry}[3]{%
\par
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glslistdesc{##2}%
\glslistchildprelocation ##3}%
}
}
{}
\ifdef{\@glsstyle@listgroup}
{%
\newcommand\glslistgroupheaderitem}[2]{\item[##2]}
\newcommand\glslistgroupafterheader}{%
\mbox{}\par\nobreak\@afterheading
}
\renewglossarystyle{listgroup}{%
\setglossarystyle{list}%
\renewcommand*\glsgroupheading}[1]{%
\glslistgroupheaderitem{##1}\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}}%
\glslistgroupafterheader
}%
}
}
{}
\ifdef{\@glsstyle@listhypergroup}
{%
\renewglossarystyle{listhypergroup}{%
\setglossarystyle{list}%
\renewcommand*\glossaryheader}{%
\glslistnavigationitem{\glsnavigation}}}%
\renewcommand*\glsgroupheading}[1]{%
\glslistgroupheaderitem{##1}\glslistgroupheaderfmt
{\glsnavhypertarget{##1}\glsgetgrouptitle{##1}}}%
\glslistgroupafterheader
}%
}
}
{}
\ifdef{\@glsstyle@altlistgroup}
{%
\renewglossarystyle{altlistgroup}{%
\setglossarystyle{altlist}%
\renewcommand*\glsgroupheading}[1]{%

```

```

        \glslistgroupheaderitem{##1}%
        {\glslistgroupheaderfmt{\glsgetgrouptitle{##1}}}%
        \glslistgroupafterheader
    }%
}
}
{}
\ifdef{\@glsstyle@altlisthypergroup}
{%
  \renewglossarystyle{altlisthypergroup}{%
    \setglossarystyle{altlist}%
    \renewcommand*\glossaryheader}{%
      \glslistnavigationitem{\glsnavigation}}%
    \renewcommand*\glsgroupheading}[1]{%
      \glslistgroupheaderitem{##1}{\glslistgroupheaderfmt
        {\glsnavhypertarget{##1}{\glsgetgrouptitle{##1}}}}%
      \glslistgroupafterheader
    }%
  }
}
{}
\ifcsdef{@glsstyle@long}
{%
  \renewglossarystyle{long}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{lp{\glsdescwidth}}}%
      {\end{longtable}}%
    \renewcommand*\glossaryheader}{}%
    \renewcommand*\glsgroupheading}[1]{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription
      \glsxtrprelocation ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
      \glsxtrprelocation ##3\tabularnewline
    }%
    \ifglsnogroupskip
      \renewcommand*\glsgroupskip}{}%
    \else
      \renewcommand*\glsgroupskip}{ & \tabularnewline}%
    \fi
  }
}
{}
\ifcsdef{@glsstyle@long3col}
{%

```

```

\renewglossarystyle{long3col}{%
  \renewenvironment{theglossary}%
    {\begin{longtable}{lp{\glsdescwidth}p{\glspagelistwidth}}}%
    {\end{longtable}}%
  \renewcommand*{\glossaryheader}{}%
  \renewcommand*{\glsgroupheading}[1]{}%
  \renewcommand{\glossentry}[2]{%
    \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
    \glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
  }%
  \renewcommand{\subglossentry}[3]{%
    &
    \glssubentryitem{##2}%
    \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
    ##3\tabularnewline
  }%
  \ifglsnogroupskip
    \renewcommand*{\glsgroupskip}{}%
  \else
    \renewcommand*{\glsgroupskip}{& \tabularnewline}%
  \fi
}
}
{}
\ifcsdef{@glsstyle@long4col}
{%
  \renewglossarystyle{long4col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{llll}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription &
      \glossentrysymbol{##1} &
      ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
      \glossentrysymbol{##2} & ##3\tabularnewline
    }%
    \ifglsnogroupskip
      \renewcommand*{\glsgroupskip}{}%
    \else
      \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
    \fi
  }
}

```

```

}
{}
\ifcsdef{@glsstyle@longragged}
{%
  \renewglossarystyle{longragged}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription\glsxtrprelocation ##2%
      \tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}%
      \glspostdescription\glsxtrprelocation ##3%
      \tabularnewline
    }%
    \ifglsnogroupskip
      \renewcommand*{\glsgroupskip}{}%
    \else
      \renewcommand*{\glsgroupskip}{ & \tabularnewline}%
    \fi
  }
}
{}
\ifcsdef{@glsstyle@longragged3col}
{%
  \renewglossarystyle{longragged3col}{%
    \renewenvironment{theglossary}%
      {\begin{longtable}{1>{\raggedright}p{\glsdescwidth}%
      >{\raggedright}p{\glspagelistwidth}}%
      {\end{longtable}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand*{\glsgroupheading}[1]{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
      ##3\tabularnewline
    }%
    \ifglsnogroupskip

```

```

        \renewcommand*\glsgroupskip}{}%
    \else
        \renewcommand*\glsgroupskip}{& &\tabularnewline}%
    \fi
}
}
{}
\ifcsdef{@glsstyle@altlongragged4col}
{%
\renewglossarystyle{altlongragged4col}{%
\renewenvironment{theglossary}%
{\begin{longtable}{1>{\raggedright}p{\glsdescwidth}1%
>{\raggedright}p{\glspagelistwidth}}}%
{\end{longtable}}}%
\renewcommand*\glossaryheader}{}%
\renewcommand*\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1}\glspostdescription & \glossentrysymbol{##1} &
##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
\glossentrysymbol{##2} & ##3\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else
\renewcommand*\glsgroupskip}{& &\tabularnewline}%
\fi
}
}
{}
\ifcsdef{@glsstyle@super}
{%
\renewglossarystyle{super}{%
\renewenvironment{theglossary}%
{\tablehead{}\tabletail{}%
\begin{supertabular}{lp{\glsdescwidth}}}%
{\end{supertabular}}}%
\renewcommand*\glossaryheader}{}%
\renewcommand*\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1}\glspostdescription
\glsxtrprelocation ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%

```

```

        &
        \glssubentryitem{##2}%
        \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
        \glstrprelocation ##3\tabularnewline
    }%
    \ifglsnogroupskip
        \renewcommand*{\glsgroupskip}{}%
    \else
        \renewcommand*{\glsgroupskip}{& \tabularnewline}%
    \fi
}
}
{}
\ifcsdef{@glsstyle@super3col}
{%
\renewglossarystyle{super3col}{%
\renewenvironment{theglossary}%
{\tablehead{ }\tabletail{ }}%
\begin{supertabular}{lp{\glsdescwidth}p{\glspagelistwidth}}%
{\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\glssubentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
\glossentrydesc{##1}\glspostdescription & ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
&
\glssubentryitem{##2}%
\glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
##3\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*{\glsgroupskip}{}%
\else
\renewcommand*{\glsgroupskip}{ & \tabularnewline}%
\fi
}
}
{}
\ifcsdef{@glsstyle@super4col}
{%
\renewglossarystyle{super4col}{%
\renewenvironment{theglossary}%
{\tablehead{ }\tabletail{ }}%
\begin{supertabular}{llll}%
{\end{supertabular}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%

```



```

        \glstarget{##1}{\glossentryname{##1}} &
        \glossentrydesc{##1}\glspostdescription &
        \glossentrysymbol{##1} & ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
        &
        \glssubentryitem{##2}%
        \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
        \glossentrysymbol{##2} & ##3\tabularnewline
    }%
    \ifglsgroupskip
        \renewcommand*{\glsgroupskip}{}%
    \else
        \renewcommand*{\glsgroupskip}{& & \tabularnewline}%
    \fi
}
}
{}
\ifcsdef{@glsstyle@superragged}
{%
    \renewglossarystyle{superragged}{%
        \renewenvironment{theglossary}%
            {\tablehead{}}\tabletail{}%
            \begin{supertabular}[1>{\raggedright}p{\glsdescwidth}]%
                {\end{supertabular}}%
        \renewcommand*{\glossaryheader}{}%
        \renewcommand*{\glsgroupheading}[1]{}%
        \renewcommand{\glossentry}[2]{%
            \glstarget{##1}{\glossentryname{##1}} &
            \glossentrydesc{##1}\glspostdescription\glstrprelocation ##2%
            \tabularnewline
        }%
        \renewcommand{\subglossentry}[3]{%
            &
            \glssubentryitem{##2}%
            \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription
            \glstrprelocation ##3%
            \tabularnewline
        }%
        \ifglsgroupskip
            \renewcommand*{\glsgroupskip}{}%
        \else
            \renewcommand*{\glsgroupskip}{& \tabularnewline}%
        \fi
    }
}
{}
\ifcsdef{@glsstyle@superragged3col}
{%
    \renewglossarystyle{superragged3col}{%

```

```

\renewenvironment{theglossary}%
  {\tablehead{}\tabletail{}}%
  \begin{supertabular}{l>{\raggedright}p{\glsdescwidth}%
    >{\raggedright}p{\glspagelistwidth}}}%
  {\end{supertabular}}}%
\renewcommand*{\glossaryheader}{}%
\renewcommand*{\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
  \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
  \glossentrydesc{##1}\glspostdescription &
  ##2\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  &
  \glssubentryitem{##2}%
  \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
  ##3\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{& &\tabularnewline}%
\fi
}
}
{}
\ifcsdef{@glsstyle@altsuperragged4col}
{%
  \renewglossarystyle{altsuperragged4col}{%
    \renewenvironment{theglossary}%
      {\tablehead{}\tabletail{}}%
      \begin{supertabular}{l>{\raggedright}p{\glsdescwidth}l%
        >{\raggedright}p{\glspagelistwidth}}}%
      {\end{supertabular}}}%
    \renewcommand*{\glossaryheader}{}%
    \renewcommand{\glossentry}[2]{%
      \glsentryitem{##1}\glstarget{##1}{\glossentryname{##1}} &
      \glossentrydesc{##1}\glspostdescription &
      \glossentrysymbol{##1} & ##2\tabularnewline
    }%
    \renewcommand{\subglossentry}[3]{%
      &
      \glssubentryitem{##2}%
      \glstarget{##2}{\strut}\glossentrydesc{##2}\glspostdescription &
      \glossentrysymbol{##2} & ##3\tabularnewline
    }%
    \ifglsnogroupskip
      \renewcommand*{\glsgroupskip}{}%
    \else
      \renewcommand*{\glsgroupskip}{& &\tabularnewline}%
    \fi
  }
}

```

```

    \fi
  }
}
{}
\ifdef{\@glsstyle@inline}
{%
  \renewcommand*\{glspostinline}\{.\spacefactor\sfcode'\}
  \renewcommand*\{glsinlinedescformat}[3]{%
    \space#1glsxtrpostdescription}
  \renewcommand*\{glsinlinesubdescformat}[3]{%
    #1glsxtrpostdescription}
}
{}
\ifdef\glstreenamefmt
{
  \newcommand\{glstreedefaultnamefmt}[1]{\textbf{#1}}
  \renewcommand\{glstreenamefmt}[1]{\glstreedefaultnamefmt{#1}}
  \def\glstreegroupheaderfmt#1{\glstreedefaultnamefmt{#1}}
  \def\glstreenavigationfmt#1{\glstreedefaultnamefmt{#1}}
  \newcommand\{glstreePreHeader}[2]{
}
{}
\ifdef{\@glsstyle@index}
{
  \newcommand*\{glstreeprelocation}\{glsxtrprelocation}
  \newcommand*\{glstreechildprelocation}\{glstreeprelocation}
  \newcommand\{glstreegroupskip}\{\indexspace}
  \newcommand\{glstreegroupheaderskip}\{\nopagebreak\glstreegroupskip\nobreak}
  \renewglossarystyle{index}{%
    \renewenvironment{theglossary}%
      {\setlength{\parindent}{0pt}%
       \setlength{\parskip}{0pt plus 0.3pt}%
       \let\item\glstreeitem
       \let\subitem\glstreesubitem
       \let\subsubitem\glstreesubsubitem
      }%
    {\par}%
    \renewcommand*\{glossaryheader}\{}%
    \renewcommand*\{glsgroupheading}[1]{}%
    \renewcommand*\{glossentry}[2]{%
      \item\glsentryitem{##1}%
      \glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
      \glstreesymbol{##1}%
      \glstreeDescLoc{##1}{##2}%
    }%
    \renewcommand\{subglossentry}[3]{%
      \ifcase##1\relax
        \item
      \or
        \subitem

```

```

        \glssubentryitem{##2}%
    \else
        \subsubitem
    \fi
    \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
    \glstreechildsymbol{##2}%
    \glstreeChildDescLoc{##2}{##3}%
}%
\renewcommand*{\glsgroupskip}{\ifglsgnogroupskip\else\glstreegroupskip\fi}%
}
}
{}
\ifdef{\@glstyle@indexgroup}
{%
    \renewglossarystyle{indexgroup}{%
        \setglossarystyle{index}%
        \renewcommand*{\glsgroupheading}[1]{%
            \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
            \glstreePreHeader{##1}{\glxtr@grptitle}%
            \item\glstreegroupheaderfmt{\glxtr@grptitle}%
            \glstreegroupheaderskip\@afterheading
        }%
    }
}
{}
\ifdef{\@glstyle@indexhypergroup}
{%
    \renewglossarystyle{indexhypergroup}{%
        \setglossarystyle{index}%
        \renewcommand*{\glossaryheader}{%
            \item\glstreenavigationfmt{\glsnavigation}%
            \glstreegroupheaderskip\@afterheading}%
        \renewcommand*{\glsgroupheading}[1]{%
            \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
            \glstreePreHeader{##1}{\glxtr@grptitle}%
            \item\glstreegroupheaderfmt
                {\glsnavhypertarget{##1}{\glxtr@grptitle}}%
            \glstreegroupheaderskip\@afterheading}%
    }%
}
{}
\ifdef{\@glstyle@tree}
{%
    \newcommand{\glxtrtreepredesc}{\glstreepredesc}
    \newcommand{\glxtrtreechildpredesc}{\glstreechildpredesc}
    \newcommand{\glstreedesc}[1]{%
        \glxtrtreepredesc\glossentrydesc{##1}\glspostdescription
    }
    \newcommand{\glstreeDescLoc}[2]{%
        \ifglshasdesc{##1}%

```

```

    {\glstreedesc{#1}\glstreeprelocation}%
    {\ifglshassymbol{#1}{\glstreeprelocation}{\glstreeNoDescSymbolPreLocation}}%
    #2%
}
\newcommand{\glstreeNoDescSymbolPreLocation}{\space}
\newcommand{\glstreesymbol}[1]{%
  \ifglshassymbol{#1}{\space(\glossentrysymbol{#1})}{}%
}%
\newcommand{\glstreechilddesc}[1]{%
  \glxtrtreechildpredesc\glossentrydesc{#1}\glspostdescription
}%
\newcommand{\glstreeChildDescLoc}[2]{%
  \ifglshasdesc{#1}%
  {\glstreechilddesc{#1}\glstreechildprelocation}%
  {\ifglshassymbol{#1}{\glstreechildprelocation}%
  {\glstreeNoDescSymbolPreLocation}}%
  }%
  #2%
}%
\newcommand{\glstreechildsymbol}[1]{%
  \glstreesymbol{#1}%
}%
\renewglossarystyle{tree}{%
  \renewenvironment{theglossary}%
  {\setlength{\parindent}{0pt}%
  \setlength{\parskip}{0pt plus 0.3pt}}%
  {}%
  \renewcommand*{\glossaryheader}{}%
  \renewcommand*{\glsgroupheading}[1]{}%
  \renewcommand{\glossentry}[2]{%
    \hangindent0pt\relax
    \parindent0pt\relax
    \glstentryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
    \glstreesymbol{##1}%
    \glstreeDescLoc{##1}{##2}\par
  }%
  \renewcommand{\subglossentry}[3]{%
    \hangindent##1\glstreeindent\relax
    \parindent##1\glstreeindent\relax
    \ifnum##1=1\relax
      \glssubentryitem{##2}%
    \fi
    \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}%
    \glstreechildsymbol{##2}%
    \glstreeChildDescLoc{##2}{##3}\par
  }%
  \renewcommand*{\glsgroupskip}{\ifglsgnogroupskip\else\glstreegroupskip\fi}%
}%
}
{}

```

```

\ifdef{\@glsstyle@treegroup}
{%
  \renewglossarystyle{treegroup}{%
    \setglossarystyle{tree}%
    \renewcommand{\glsgroupheading}[1]{%
      \glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
      \glstreePreHeader{##1}{\glsxtr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glsxtr@grptitle}%
      \glstreegroupheaderskip\@afterheading}%
    }
  }
}
\ifdef{\@glsstyle@treehypergroup}
{%
  \renewglossarystyle{treehypergroup}{%
    \setglossarystyle{tree}%
    \renewcommand*\glossaryheader{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip\@afterheading}%
    \renewcommand*\glsgroupheading[1]{%
      \glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
      \glstreePreHeader{##1}{\glsxtr@grptitle}%
      \par\noindent
      \glstreegroupheaderfmt
      {\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
      \glstreegroupheaderskip\@afterheading}%
    }
  }
}
\ifdef{\@glsstyle@treenoname}
{%
  \newcommand{\glstreenonamedesc}[1]{%
    \glstreepredesc\glossentrydesc{##1}\glspostdescription
  }%
  \newcommand{\glstreenonamesymbol}[1]{%
    \ifgls hassymbol{##1}{\space(\glossentrysymbol{##1})}{}%
  }%
  \newcommand{\glstreenonameDescLoc}[2]{%
    \glstreenonamedesc{##1}\glstreeprelocation#2%
  }
  \newcommand{\glstreenonamechilddesc}[1]{%
    \glossentrydesc{##1}\glspostdescription
  }%
  \newcommand{\glstreenonameChildDescLoc}[2]{%
    \glstreenonamechilddesc{##1}\glstreechildprelocation#2%
  }
  \renewglossarystyle{treenoname}{%
    \renewenvironment{theglossary}%
      {\setlength{\parindent}{0pt}%
       \setlength{\parskip}{0pt plus 0.3pt}}%

```

```

    {}%
\renewcommand*\glossaryheader}{}%
\renewcommand*\glsgroupheading}[1]{}%
\renewcommand\glossentry}[2]{%
  \hangindent0pt\relax
  \parindent0pt\relax
  \glstryitem{##1}\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
  \glstreenonamesymbol{##1}%
  \glstreenonameDescLoc{##1}{##2}\par
}%
\renewcommand\subglossentry}[3]{%
  \hangindent##1\glstreeindent\relax
  \parindent##1\glstreeindent\relax
  \ifnum##1=1\relax
    \glssubentryitem{##2}%
  \fi
  \glstarget{##2}{\strut}%
  \glstreenonameChildDescLoc{##2}{##3}\par
}%
\renewcommand*\glsgroupskip{\ifglsnogroupskip\else\glstreegroupskip\fi}%
}
}
{}
\ifdef{\@glsstyle@treenonamegroup}
{%
  \renewglossarystyle{treenonamegroup}{%
    \setglossarystyle{treenoname}%
    \renewcommand\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%
      \glstreePreHeader{##1}{\glstr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glstr@grptitle}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}
{}
\ifdef{\@glsstyle@treenonamehypergroup}
{%
  \renewglossarystyle{treenonamehypergroup}{%
    \setglossarystyle{treenoname}%
    \renewcommand*\glossaryheader}{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip\@afterheading}%
    \renewcommand*\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%
      \glstreePreHeader{##1}{\glstr@grptitle}%
      \par\noindent
      \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glstr@grptitle}}%
      \glstreegroupheaderskip\@afterheading}%
  }
}

```

```

}
{}
\ifdef{\@glsstyle@almtree}
{%
\newcommand{\glsalttreepredesc}{}
\newcommand{\glsalttreechildpredesc}{\glsalttreepredesc}
\newcommand{\glsxtralttreeSymbolDescLocation}[2]{%
  {%
    \let\par\glsxtrAltTreePar
    \let\glsxtrtreepredesc\glsalttreepredesc
    \let\glsxtrtreechildpredesc\glsalttreechildpredesc
    \ifglsymbol{#1}{(\glossentrysymbol{#1})\space}{}%
    \glstreeDescLoc{#1}{#2}\par
  }%
}
\newlength\glsxtrAltTreeIndent
\newcommand{\glsxtrAltTreePar}{%
  \@par
  \glsxtrAltTreeSetHangIndent
  \setlength{\parindent}{\dimexpr\hangindent+\glsxtrAltTreeIndent}%
}
\newcommand{\glsxtralttreeSubSymbolDescLocation}[3]{%
  \glsxtralttreeSymbolDescLocation{#2}{#3}%
}
\newlength\glsxtrtreetopindent
\newcommand*\glsxtralttreeInit{%
  \settowidth{\glsxtrtreetopindent}{\glstrenamefmt{\glsgetwidestname\space}}%
  \glsxtrAltTreeIndent=\parindent
}
\newcommand*\glssetwidest}[2][0]{%
  \csgdef{@glswidestname\romannumeral#1}{#2}%
}
\newcommand*\eglssetwidest}[2][0]{%
  \protected@csedef{@glswidestname\romannumeral#1}{#2}%
}
\newcommand*\xglssetwidest}[2][0]{%
  \protected@csxdef{@glswidestname\romannumeral#1}{#2}%
}
\newcommand*\glsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\csdef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \settowidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \settowidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
    \csdef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
\newcommand*\gglsupdatewidest}[2][0]{%

```



```

\ifcsundef{@glswidestname\romannumeral#1}%
{\csgdef{@glswidestname\romannumeral#1}{#2}}%
{%
  \settowidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
  \settowidth{\dimen@ii}{#2}%
  \ifdim\dimen@ii>\dimen@
    \csgdef{@glswidestname\romannumeral#1}{#2}%
  \fi
}%
}
\newcommand*{\glsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\protected@csedef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \settowidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \settowidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
      \protected@csedef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
\newcommand*{\xglsupdatewidest}[2][0]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\protected@csxdef{@glswidestname\romannumeral#1}{#2}}%
  {%
    \settowidth{\dimen@}{\csuse{@glswidestname\romannumeral#1}}%
    \settowidth{\dimen@ii}{#2}%
    \ifdim\dimen@ii>\dimen@
      \protected@csxdef{@glswidestname\romannumeral#1}{#2}%
    \fi
  }%
}
\newcommand*{\glsgetwidestname}{\@glswidestname}
\newcommand*{\glsgetwidestsubname}[1]{%
  \ifcsundef{@glswidestname\romannumeral#1}%
  {\@glswidestname}%
  {\csuse{@glswidestname\romannumeral#1}}%
}
\let\glsFindWidestTopLevelName\glsfindwidesttoplevelname
\newrobustcmd*{\glsFindWidestUsedTopLevelName}[1][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  \foralllglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \ifglsahasparent{\@glo@label}%
        {}%
      }%
    }%
  }%
}

```



```

\dimen@=0pt\relax
\dimen@i=0pt\relax
\dimen@ii=0pt\relax
\forallglossaries[#1]{\@gls@type}%
{%
  \forallglsentries[\@gls@type]{\@glo@label}%
  {%
    \ifglsused{\@glo@label}%
    {%
      \ifglsahasparent{\@glo@label}%
      {%
        \protected@edef\@glo@parent{\csuse{glo@glsdetoklabel{\@glo@label}@parent}}%
        \ifglsahasparent{\@glo@parent}%
        {%
          \protected@edef\@glo@parent{\csuse{glo@glsdetoklabel{\@glo@parent}@parent}}%
          \ifglsahasparent{\@glo@parent}%
          {}%
          {%
            \settowidth{\gls@tmplen}%
              {\glstreenamfmt{\glsentryname{\@glo@label}}}%
            \ifdim\gls@tmplen>\dimen@ii
              \dimen@ii=\gls@tmplen
              \eglssetwidest[2]{\glsentryname{\@glo@label}}%
            \fi
          }%
        }%
      }%
    }%
    {%
      \settowidth{\gls@tmplen}%
        {\glstreenamfmt{\glsentryname{\@glo@label}}}%
      \ifdim\gls@tmplen>\dimen@i
        \dimen@i=\gls@tmplen
        \eglssetwidest[1]{\glsentryname{\@glo@label}}%
      \fi
    }%
  }%
  {%
    \settowidth{\gls@tmplen}%
      {\glstreenamfmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@
      \dimen@=\gls@tmplen
      \eglssetwidest{\glsentryname{\@glo@label}}%
    \fi
  }%
  }%
  {}%
}
}
\newrobustcmd*{\glsFindWidestLevelTwo}[1][\@glo@types]{%
  \dimen@=0pt\relax

```

```

\dimen@i=0pt\relax
\dimen@ii=0pt\relax
\forallglossaries[#1]{\@gls@type}%
{%
  \forallglsentries[\@gls@type]{\@glo@label}%
  {%
    \ifglshasparent{\@glo@label}%
    {%
      \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@label}@parent}}%
      \ifglshasparent{\@glo@parent}%
      {%
        \protected@edef\@glo@parent{\csuse{glo@\glsdetoklabel{\@glo@parent}@parent}}%
        \ifglshasparent{\@glo@parent}%
        {}%
      }%
      {%
        \settowidth{\gls@tmplen}%
          {\glstreenamefmt{\glsentryname{\@glo@label}}}%
        \ifdim\gls@tmplen>\dimen@ii
          \dimen@ii=\gls@tmplen
          \eglssetwidest[2]{\glsentryname{\@glo@label}}%
        \fi
      }%
    }%
  }%
  {%
    \settowidth{\gls@tmplen}%
      {\glstreenamefmt{\glsentryname{\@glo@label}}}%
    \ifdim\gls@tmplen>\dimen@i
      \dimen@i=\gls@tmplen
      \eglssetwidest[1]{\glsentryname{\@glo@label}}%
    \fi
  }%
}
{%
  \settowidth{\gls@tmplen}%
    {\glstreenamefmt{\glsentryname{\@glo@label}}}%
  \ifdim\gls@tmplen>\dimen@
    \dimen@=\gls@tmplen
    \eglssetwidest{\glsentryname{\@glo@label}}%
  \fi
}
}%
}
\newrobustcmd*{\glsFindWidestUsedAnyNameSymbol}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forallglsentries[\@gls@type]{\@glo@label}%

```

```

    {%
      \ifglsused{\@glo@label}%
      {%
        \settowidth{\dimen@}%
          {\glstreenamefmt{\glsentryname{\@glo@label}}}%
        \ifdim\dimen@>\gls@tmplen
          \gls@tmplen=\dimen@
          \eglssetwidest{\glsentryname{\@glo@label}}%
        \fi
        \settowidth{\dimen@}%
          {\glsentrysymbol{\@glo@label}}%
        \ifdim\dimen@>#2\relax
          #2=\dimen@
        \fi
      }%
    }%
  }%
}
\newrobustcmd*{\glsFindWidestAnyNameSymbol}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%
      \settowidth{\dimen@}%
        {\glstreenamefmt{\glsentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \eglssetwidest{\glsentryname{\@glo@label}}%
      \fi
      \settowidth{\dimen@}%
        {\glsentrysymbol{\@glo@label}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
    }%
  }%
}
\newrobustcmd*{\glsFindWidestUsedAnyNameSymbolLocation}[3][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  #3=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%

```

```

\ifglsused{\@glo@label}%
{%
  \settowidth{\dimen@}%
    {\glstreenamefmt{\glstentryname{\@glo@label}}}%
  \ifdim\dimen@>\gls@tmplen
    \gls@tmplen=\dimen@
    \eglssetwidest{\glstentryname{\@glo@label}}%
  \fi
  \settowidth{\dimen@}%
    {\glsentrysymbol{\@glo@label}}%
  \ifdim\dimen@>#2\relax
    #2=\dimen@
  \fi
  \settowidth{\dimen@}%
    {\GlsXtrFormatLocationList{\glstentrynumberlist{\@glo@label}}}%
  \ifdim\dimen@>#3\relax
    #3=\dimen@
  \fi
}%
}%
}%
}
\newrobustcmd*{\glsFindWidestAnyNameSymbolLocation}[3][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  #3=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglsentries[\@gls@type]{\@glo@label}%
    {%
      \settowidth{\dimen@}%
        {\glstreenamefmt{\glstentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \eglssetwidest{\glstentryname{\@glo@label}}%
      \fi
      \settowidth{\dimen@}%
        {\glsentrysymbol{\@glo@label}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
      \settowidth{\dimen@}%
        {\GlsXtrFormatLocationList{\glstentrynumberlist{\@glo@label}}}%
      \ifdim\dimen@>#3\relax
        #3=\dimen@
      \fi
    }%
  }%
}

```

```

}
\newrobustcmd*{\glsFindWidestUsedAnyNameLocation}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglentries[\@gls@type]{\@glo@label}%
    {%
      \ifglsused{\@glo@label}%
      {%
        \settowidth{\dimen@}%
          {\glstreenamfmt{\glsentryname{\@glo@label}}}%
        \ifdim\dimen@>\gls@tmplen
          \gls@tmplen=\dimen@
          \eglssetwidest{\glsentryname{\@glo@label}}%
        \fi
        \settowidth{\dimen@}%
          {\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
        \ifdim\dimen@>#2\relax
          #2=\dimen@
        \fi
      }%
    }%
  }%
}
\newrobustcmd*{\glsFindWidestAnyNameLocation}[2][\@glo@types]{%
  \dimen@=0pt\relax
  \gls@tmplen=0pt\relax
  #2=0pt\relax
  \forallglossaries[#1]{\@gls@type}%
  {%
    \forglentries[\@gls@type]{\@glo@label}%
    {%
      \settowidth{\dimen@}%
        {\glstreenamfmt{\glsentryname{\@glo@label}}}%
      \ifdim\dimen@>\gls@tmplen
        \gls@tmplen=\dimen@
        \eglssetwidest{\glsentryname{\@glo@label}}%
      \fi
      \settowidth{\dimen@}%
        {\GlsXtrFormatLocationList{\glsentrynumberlist{\@glo@label}}}%
      \ifdim\dimen@>#2\relax
        #2=\dimen@
      \fi
    }%
  }%
}
\newcommand*{\glsxtrComputeTreeIndent}[1]{%

```

```

\glstreeindent=\glxtrtreetopindent\relax
}
\newcommand*\glxtrComputeTreeSubIndent}[3]{%
\ifcsundef{@glswidestname\romannumeral#1}%
{%
\settowidth{#3}{\glstreenamefmt{\@glswidestname\space}}%
}%
{%
\settowidth{#3}{\glstreenamefmt{%
\csname @glswidestname\romannumeral#1\endcsname\space}}%
}%
}
\newcommand*\glxtrAltTreeSetHangIndent}{\hangindent\glstreeindent}
\newcommand*\glxtrAltTreeSetSubHangIndent}[1]{\hangindent\glstreeindent}
\renewglossarystyle{almtree}{%
\renewenvironment{theglossary}%
{%
\glxtralmtreeInit
\def\@gls@prevlevel{-1}%
\mbox{}\par}%
{\par}%
\renewcommand*\glossaryheader}{}%
\renewcommand*\glsgroupheading}[1]{}%
\renewcommand{\glossentry}[2]{%
\ifnum\@gls@prevlevel=0\relax
\else
\glxtrComputeTreeIndent{##1}%
\fi
\parindent\glstreeindent
\glxtrAltTreeSetHangIndent
\makebox[0pt][r]{%
{%
\glstreenamebox{\glstreeindent}%
{%
\glsentryitem{##1}%
\glstreenamefmt{\glstarget{##1}{\glossentryname{##1}}}%
}%
}%
\glxtralmtreeSymbolDescLocation{##1}{##2}%
\def\@gls@prevlevel{0}%
}
\renewcommand{\subglossentry}[3]{%
\ifnum##1=1\relax
\glssubentryitem{##2}%
\fi
\ifnum\@gls@prevlevel=##1\relax
\else
\glxtrComputeTreeSubIndent{##1}{##2}{\gls@tmplen}%
\ifnum\@gls@prevlevel<##1\relax
\setlength\glstreeindent\gls@tmplen

```



```

        \addtolength\glstreeindent\parindent
        \parindent\glstreeindent
    \else
        \ifnum\@gls@prevlevel=0\relax
            \glstrComputeTreeIndent{##2}%
        \else
            \glstrComputeTreeSubIndent{\@gls@prevlevel}{##2}{\glstreeindent}%
        \fi
        \addtolength\parindent{-\glstreeindent}%
        \setlength\glstreeindent\parindent
    \fi
    \fi
    \glstrAltTreeSetSubHangIndent{##1}%
    \makebox[Opt][r]{\glstreenamebox{\gls@tmplen}{%
        \glstreenamefmt{\glstarget{##2}{\glossentryname{##2}}}}}%
    \glstralttreeSubSymbolDescLocation{##1}{##2}{##3}%
    \def\@gls@prevlevel{##1}%
}%
\renewcommand*\{glsgroupskip}{\ifglsnogroupskip\else\glstreegroupskip\fi}%
}
}%
{%
}
\ifdef{\@glsstyle@almtreegroup}
{%
\renewglossarystyle{almtreegroup}{%
\setglossarystyle{almtree}%
\renewcommand{\glsgroupheading}[1]{\par
\def\@gls@prevlevel{-1}%
\hangindentOpt\relax
\parindentOpt\relax
\glstrgetgrouptitle{##1}{\glstr@grptitle}%
\glstreePreHeader{##1}{\glstr@grptitle}%
\glstreegroupheaderfmt{\glstr@grptitle}%
\glstreegroupheaderskip
}%
}%
}%
{%
}
\ifdef{\@glsstyle@almtreehypergroup}
{%
\renewglossarystyle{almtreehypergroup}{%
\setglossarystyle{almtree}%
\renewcommand*\{glossaryheader}{%
\par
\def\@gls@prevlevel{-1}%
\hangindentOpt\relax
\parindentOpt\relax
\glstreenavigationfmt{\glsnavigation}%
}
}
}

```

```

        \glstreegroupheaderskip
    }%
    \renewcommand*\glsgroupheading}[1]{%
        \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
        \glstreePreHeader{##1}{\glxtr@grptitle}%
        \par
        \def\@gls@prevlevel{-1}%
        \hangindentOpt\relax
        \parindentOpt\relax
        \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
        \glstreegroupheaderskip
    }%
}
}%
{
}
\ifdef{\@glsstyle@mcolindexgroup}
{
    \renewglossarystyle{mcolindexgroup}{%
        \setglossarystyle{mcolindex}%
        \renewcommand*\glsgroupheading}[1]{%
            \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
            \glstreePreHeader{##1}{\glxtr@grptitle}%
            \item\glstreegroupheaderfmt{\glxtr@grptitle}%
            \glstreegroupheaderskip\@afterheading
        }%
    }
}
}%
{
}
\ifdef{\@glsstyle@mcolindexhypergroup}
{
    \renewglossarystyle{mcolindexhypergroup}{%
        \setglossarystyle{mcolindex}%
        \renewcommand*\glossaryheader}{%
            \item\glstreenavigationfmt{\glsnavigation}%
            \glstreegroupheaderskip\@afterheading
        }%
        \renewcommand*\glsgroupheading}[1]{%
            \glxtrgetgrouptitle{##1}{\glxtr@grptitle}%
            \glstreePreHeader{##1}{\glxtr@grptitle}%
            \item\glstreegroupheaderfmt
                {\glsnavhypertarget{##1}{\glxtr@grptitle}}%
            \glstreegroupheaderskip\@afterheading
        }%
    }
}
}%
{
}
\ifdef{\@glsstyle@mcolindexspannav}

```

```

{%
  \renewglossarystyle{mcolindexspannav}{%
    \setglossarystyle{index}%
    \renewenvironment{theglossary}%
    {%
      \begin{multicols}{\glsmcols}[\noindent\glstreenavigationfmt{\glsnavigation}]%
      \setlength{\parindent}{0pt}%
      \setlength{\parskip}{0pt plus 0.3pt}%
      \let\item\glstreeitem}%
    \end{multicols}}%
  \renewcommand*\glsgroupheading}[1]{%
    \glstrgetgrouptitle{##1}{\glxtr@grptitle}%
    \glstreePreHeader{##1}{\glxtr@grptitle}%
    \item\glstreegroupheaderfmt
      {\glsnavhypertarget{##1}{\glxtr@grptitle}}%
    \glstreegroupheaderskip\@afterheading
  }%
}
}%
{%
}
\ifdef{\@glsstyle@mcoltreegroup}
{%
  \renewglossarystyle{mcoltreegroup}{%
    \setglossarystyle{mcoltree}%
    \renewcommand*\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glxtr@grptitle}%
      \glstreePreHeader{##1}{\glxtr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glxtr@grptitle}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}
}%
{%
}
\ifdef{\@glsstyle@mcoltreehypergroup}
{%
  \renewglossarystyle{mcoltreehypergroup}{%
    \setglossarystyle{mcoltree}%
    \renewcommand*\glossaryheader}{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip
    }%
    \renewcommand*\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glxtr@grptitle}%
      \glstreePreHeader{##1}{\glxtr@grptitle}%
      \par\noindent
      \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxtr@grptitle}}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}
}

```

```

    }
}%
{%
}
\ifdef{\@glsstyle@mcoltreesspannav}
{%
  \renewglossarystyle{mcoltreesspannav}{%
    \setglossarystyle{tree}%
    \renewenvironment{theglossary}%
    {%
      \begin{multicols}{\glscols}%
        [\noindent\glstreenavigationfmt{\glsnavigation}]%
      \setlength{\parindent}{0pt}%
      \setlength{\parskip}{0pt plus 0.3pt}%
    }%
    \end{multicols}}%
  \renewcommand*\glsgroupheading}[1]{%
    \glstrgetgrouptitle{##1}{\glstr@grptitle}%
    \glstreePreHeader{##1}{\glstr@grptitle}%
    \par\noindent
    \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glstr@grptitle}}%
    \glstreegroupheaderskip\@afterheading
  }%
}
}%
{%
}
\ifdef{\@glsstyle@mcoltreenamegroup}
{%
  \renewglossarystyle{mcoltreenamegroup}{%
    \setglossarystyle{mcoltreename}%
    \renewcommand*\glsgroupheading}[1]{%
      \glstrgetgrouptitle{##1}{\glstr@grptitle}%
      \glstreePreHeader{##1}{\glstr@grptitle}%
      \par\noindent\glstreegroupheaderfmt{\glstr@grptitle}%
      \glstreegroupheaderskip\@afterheading
    }%
  }
}
}%
{%
}
\ifdef{\@glsstyle@mcoltreenamehypergroup}
{%
  \renewglossarystyle{mcoltreenamehypergroup}{%
    \setglossarystyle{mcoltreename}%
    \renewcommand*\glossaryheader}{%
      \par\noindent\glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip
    }%
    \renewcommand*\glsgroupheading}[1]{%

```

```

\glstrgetgrouptitle{##1}{\glstr@grptitle}%
\glstreePreHeader{##1}{\glstr@grptitle}%
\par\noindent
\glstreegroupheaderfmt{\glsnahypertarget{##1}{\glstr@grptitle}}%
\glstreegroupheaderskip\@afterheading}%
}
}%
{
}
\ifdef{\@glsstyle@mcoltreenonamespannav}
{
\renewglossarystyle{mcoltreenonamespannav}{%
\setglossarystyle{treenoname}%
\renewenvironment{theglossary}%
{
\begin{multicols}{\glsmcols}%
[\noindent\glstreenavigationfmt{\glsnavigation}}%
\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
}%
{\end{multicols}}%
\renewcommand*{\glsgroupheading}[1]{%
\glstrgetgrouptitle{##1}{\glstr@grptitle}%
\glstreePreHeader{##1}{\glstr@grptitle}%
\par\noindent
\glstreegroupheaderfmt{\glsnahypertarget{##1}{\glstr@grptitle}}%
\glstreegroupheaderskip\@afterheading}%
}
}%
{
}
\ifdef{\@glsstyle@mcolalmtree}
{
\renewglossarystyle{mcolalmtree}{%
\setglossarystyle{almtree}%
\renewenvironment{theglossary}%
{
\glstralmtreeInit
\def\@gls@prevlevel{-1}%
\begin{multicols}{\glsmcols}%
}%
{\par\end{multicols}}%
}
}%
{
}
\ifdef{\@glsstyle@mcolalmtreegroup}
{
\renewglossarystyle{mcolalmtreegroup}{%
\setglossarystyle{mcolalmtree}%

```

```

\renewcommand{\glsgroupheading}[1]{%
  \glxstrgetgrouptitle{##1}{\glxstr@grptitle}%
  \glstreePreHeader{##1}{\glxstr@grptitle}%
  \par
  \def\@gls@prevlevel{-1}%
  \hangindent0pt\relax
  \parindent0pt\relax
  \glstreegroupheaderfmt{\glxstr@grptitle}%
  \glstreegroupheaderskip
}%
}
}%
{%
}
\ifdef{\@glsstyle@ncolalmtreehypergroup}
{%
  \renewglossarystyle{mcolalmtreehypergroup}{%
    \setglossarystyle{mcolalmtree}%
    \renewcommand*\glossaryheader{%
      \par
      \def\@gls@prevlevel{-1}%
      \hangindent0pt\relax
      \parindent0pt\relax
      \glstreenavigationfmt{\glsnavigation}%
      \glstreegroupheaderskip
    }%
    \renewcommand*\glsgroupheading}[1]{%
      \glxstrgetgrouptitle{##1}{\glxstr@grptitle}%
      \glstreePreHeader{##1}{\glxstr@grptitle}%
      \par
      \def\@gls@prevlevel{-1}%
      \hangindent0pt\relax
      \parindent0pt\relax
      \glstreegroupheaderfmt{\glsnavhypertarget{##1}{\glxstr@grptitle}}%
      \glstreegroupheaderskip
    }%
  }
}%
{%
}
\ifdef{\@glsstyle@ncolalmtreespannav}
{%
  \renewglossarystyle{mcolalmtreespannav}{%
    \setglossarystyle{almtree}%
    \renewenvironment{theglossary}%
    {%
      \glxtralmtreeInit
      \def\@gls@prevlevel{-1}%
      \begin{multicols}{\glsncols}%
        [\noindent\glstreenavigationfmt{\glsnavigation}]%
    }
  }
}

```

```

}%
{\par\end{multicols}}%
\renewcommand*\glsgroupheading}[1]{%
  \glsxtrgetgrouptitle{##1}{\glsxtr@grptitle}%
  \glsxtrtreePreHeader{##1}{\glsxtr@grptitle}%
  \par
  \def\@gls@prevlevel{-1}%
  \hangindentOpt\relax
  \parindentOpt\relax
  \glsxtrtreegroupheaderfmt{\glsnavhypertarget{##1}{\glsxtr@grptitle}}%
  \glsxtrtreegroupheaderskip
}%
}
}%
{
}
\ifx\@glossary@default@style\relax
\else
  \setglossarystyle{\@glsxtr@current@style}
\fi

```

## 9.4 Rollback v1.48 (glossary-bookindex-2021-11-22.sty)

Version 1.48 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossary-bookindex}[2021/11/22 v1.48 (NLCT)]
\RequirePackage{multicol}
\RequirePackage{glossary-tree}
\newcommand*\glsxtrbookindexcols}{2}
\newcommand*\glsxtrbookindexname}[1]{\glossentryname{##1}}
\newcommand*\glsxtrbookindexsubname}[1]{\glsxtrbookindexname{##1}}
\providecommand*\glsxtrprelocation{\space}

\newcommand*\glsxtrbookindexprelocation}[1]{%
  \glsxtrifhasfield{location}{##1}%
  {,\glsxtrprelocation}%
  {\glsxtrprelocation}%
}
\newcommand*\glsxtrbookindexsubprelocation}[1]{%
  \glsxtrbookindexprelocation{##1}%
}
\newcommand*\glsxtrbookindexlocation}[2]{##2}
\newcommand*\glsxtrbookindexsublocation{\glsxtrbookindexlocation}
\newcommand*\glsxtrbookindexparentchildsep{\nopagebreak}
\newcommand*\glsxtrbookindexparentsubchildsep{\glsxtrbookindexparentchildsep}
\newcommand*\glsxtrbookindexbetween}[2]{}
\newcommand*\glsxtrbookindexsubbetween}[2]{}
\newcommand*\glsxtrbookindexsubsubbetween}[2]{}
\newcommand*\glsxtrbookindexatendgroup}[1]{}

```

```

\newcommand{\glxtrbookindexsubatendgroup}[1]{
\newcommand{\glxtrbookindexsubsubatendgroup}[1]{
\newcommand{\glxtrbookindexgroupskip}{\ifglsnogroupskip\else\indexspace\fi}
\newcommand*{\glxtrbookindexformatheader}[1]{%
  \par{\centering\glstreegroupheaderfmt{#1}\par}%
}
\ifdef\pdfbookmark
{%
  \newcommand*{\glxtrbookindexbookmark}[2]{%
    \ifdefstring{\@@glossarysec}{chapter}%
    {\pdfbookmark[1]{#1}{#2}}%
    {\pdfbookmark[2]{#1}{#2}}%
  }
}
{%
  \newcommand*{\glxtrbookindexbookmark}[2]{
}
\newcommand*{\glxtrbookindexbookmarkprefix}{\currentglossary.}
\newcommand*{\glxtrbookindexcolspread}{
\newcommand*{\glxtrbookindexmulticolseenv}{multicols}
\newglossarystyle{bookindex}{%
  \setglossarystyle{index}%
  \renewenvironment{theglossary}%
  {%
    \ifnum\glxtrbookindexcols>1\relax
    \ifdefempty\glxtrbookindexcolspread
    {%
      \edef\glxtr@beginbookindex{%
        \noexpand\begin{\glxtrbookindexmulticolseenv}
          {\glxtrbookindexcols}%
      }%
    }%
  }%
  {%
    \edef\glxtr@beginbookindex{%
      \noexpand\begin{\glxtrbookindexmulticolseenv}%
        {\glxtrbookindexcols}{\glxtrbookindexcolspread}%
    }%
  }%
}
\else
  \def\glxtr@beginbookindex{}%
\fi
\glxtr@beginbookindex
\setlength{\parindent}{0pt}%
\setlength{\parskip}{0pt plus 0.3pt}%
\let\@glxtr@bookindex@sep\glxtrbookindexparentchildsep
\let\@glxtr@bookindex@subsep\glxtrbookindexparentsubchildsep
\let\@glxtr@bookindex@between\@gobble
\let\@glxtr@bookindex@subbetween\@gobble
\let\@glxtr@bookindex@subsubbetween\@gobble
\let\@glxtr@bookindex@atendgroup\relax

```



```

\let\@glxtr@bookindex@subatendgroup\relax
\let\@glxtr@bookindex@subsubatendgroup\relax
\let\@glxtr@bookindex@groupskip\relax
}%
{%
\@glxtr@bookindex@subsubatendgroup
\@glxtr@bookindex@subatendgroup
\@glxtr@bookindex@atendgroup
\ifnum\glxtrbookindexcols>1\relax
\edef\glxtr@endbookindex{%
\noexpand\end{\glxtrbookindexmulticolenv}%
}%
\else
\def\glxtr@endbookindex{%
\fi
\glxtr@endbookindex
}%
\renewcommand*\glossaryheader{\raggedright}%
\renewcommand*\glossentry}[2]{%
\@glxtr@bookindex@between{##1}%
\let\@glxtr@bookindex@sep\glxtrbookindexparentchildsep
\let\@glxtr@bookindex@subsep\glxtrbookindexparentsubchildsep
\let\@glxtr@bookindex@subbetween\@gobble
\let\@glxtr@bookindex@subsubbetween\@gobble
\edef\@glxtr@bookindex@between{%
\noexpand\glxtrbookindexbetween{##1}%
}%
\edef\@glxtr@bookindex@atendgroup{%
\noexpand\glxtrbookindexatendgroup{##1}%
}%
\let\@glxtr@bookindex@subatendgroup\relax
\let\@glxtr@bookindex@subsubatendgroup\relax
\glstreeitem
\glstryitem{##1}%
\glstarget{##1}{\glxtrbookindexname{##1}}%
\glxtrbookindexprelocation{##1}%
\glxtrbookindexlocation{##1}{##2}%
}%
\renewcommand{\subglossentry}[3]{%
\ifcase##1\relax
\glstreeitem
\or
\@glxtr@bookindex@sep
\@glxtr@bookindex@subbetween{##2}%
\let\@glxtr@bookindex@sep\relax
\let\@glxtr@bookindex@subsubbetween\@gobble
\let\@glxtr@bookindex@subsep\glxtrbookindexparentsubchildsep
\edef\@glxtr@bookindex@subbetween{%
\noexpand\glxtrbookindexsubbetween{##2}%
}%
}%

```

```

\edef\@glsxtr@bookindex@atsubendgroup{%
  \noexpand\glsxtrbookindexatsubendgroup{##1}%
}%
\glstreesubitem
\glssubentryitem{##2}%
\else
\@glsxtr@bookindex@subsep
\@glsxtr@bookindex@subsubbetween{##2}%
\let\@glsxtr@bookindex@subsep\relax
\edef\@glsxtr@bookindex@subsubbetween{%
  \noexpand\glsxtrbookindexsubsubbetween{##2}%
}%
\edef\@glsxtr@bookindex@atsubsubendgroup{%
  \noexpand\glsxtrbookindexatsubsubendgroup{##1}%
}%
\glstreesubsubitem
\fi
\glstarget{##2}{\glsxtrbookindexsubname{##2}}%
\glsxtrbookindexsubprelocation{##2}%
\glsxtrbookindexsublocation{##2}{##3}%
}%
\renewcommand*{\glsgroupskip}{}%
\renewcommand*{\glsgroupheading}[1]{%
  \@glsxtr@bookindex@subsubatendgroup
  \@glsxtr@bookindex@subatendgroup
  \@glsxtr@bookindex@atendgroup
  \@glsxtr@bookindexgroupskip
  \let\@glsxtr@bookindexgroupskip\glsxtrbookindexgroupskip
  \let\@glsxtr@bookindex@between\@gobble
  \let\@glsxtr@bookindex@atendgroup\relax
  \let\@glsxtr@bookindex@subatendgroup\relax
  \let\@glsxtr@bookindex@subsubatendgroup\relax
  \glsxtrgetgrouptitle{##1}{\glsxtrcurrentgrptitle}%
  \glsxtrbookindexbookmark{\glsxtrcurrentgrptitle}{\glsxtrbookindexbookmarkprefix##1}%
  \glsxtrbookindexformatheader{\glsxtrcurrentgrptitle}%
  \nopagebreak\indexspace\nopagebreak\@afterheading
}%
}
\newcommand{\glsxtrbookindexthepage}{%
  \ifdef\currentglossary{\currentglossary.\arabic{page}}{\arabic{page}}%
}
\newcommand*{\glsxtrbookindexmarkentry}[1]{%
  \protected@write\@auxout
  {\let\glsxtrbookindexthepage\relax}%
  {\string\glsxtr@setbookindexmark{\glsxtrbookindexthepage}{##1}}%
}
\newcommand*{\glsxtr@setbookindexmark}[2]{%
  \ifcsundef{glsxtr@idxfirstmark@##1}%
  {\csgdef{glsxtr@idxfirstmark@##1}{##2}}%
  {}%
}

```

```

\csgdef{glsxtr@idxlastmark@#1}{#2}%
}
\newcommand*{\glsxtrbookindexfirstmarkfmt}[1]{%
  \glsentryname{#1}%
}
\newcommand*{\glsxtrbookindexfirstmark}{%
  \letcs{\glsxtr@label}{glsxtr@idxfirstmark@\glsxtrbookindexthepage}%
  \ifdef\glsxtr@label
    {\glsxtrbookindexfirstmarkfmt{\glsxtr@label}}%
  {}%
}
\newcommand*{\glsxtrbookindexlastmarkfmt}[1]{%
  \glsentryname{#1}%
}
\newcommand*{\glsxtrbookindexlastmark}{%
  \letcs{\glsxtr@label}{glsxtr@idxlastmark@\glsxtrbookindexthepage}%
  \ifdef\glsxtr@label
    {\glsxtrbookindexlastmarkfmt{\glsxtr@label}}%
  {}%
}
}

```

## 9.5 Rollback v1.48 (glossary-longextra-2021-11-22.sty)

Version 1.48 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossary-longextra}[2021/11/22 v1.48 (NLCT)]
\RequirePackage{glossary-longbooktabs}
\newcommand{\glslongextraNameFmt}[1]{%
  \glsentryitem{#1}\glstarget{#1}{\glossentryname{#1}}%
}
\newcommand{\glslongextraDescFmt}[1]{%
  \glossentrydesc{#1}\glspostdescription
}
\newcommand{\glslongextraSymbolFmt}[1]{\glossentrysymbol{#1}}
\newcommand{\glslongextraLocationFmt}[2]{#2}
\newcommand{\glslongextraSubNameFmt}[2]{%
  \glssubentryitem{#2}\glstarget{#2}{\strut}%
}
\newcommand{\glslongextraSubDescFmt}[2]{%
  \glslongextraDescFmt{#2}%
}
\newcommand{\glslongextraSubSymbolFmt}[2]{%
  \glslongextraSymbolFmt{#2}%
}
\newcommand{\glslongextraSubLocationFmt}[3]{#3}
\newcommand{\glslongextraNameAlign}{1}
\newcommand{\glslongextraDescAlign}{>{\raggedright}p{\glsdescwidth}}
\newcommand{\glslongextraSymbolAlign}{c}
\newcommand{\glslongextraLocationAlign}{>{\raggedright}p{\glspagelistwidth}}

```

```

\newcommand{\glslongextraGroupHeading}[2]{%
\newcommand{\glslongextraHeaderFmt}[1]{\textbf{#1}}
\newcommand{\glslongextraNameDescHeader}{%
\glslongextraNameDescTabularHeader\endhead
\glslongextraNameDescTabularFooter\endfoot
}
\newcommand{\glslongextraNameDescTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname\tabularnewline
\midrule
}
\newcommand{\glslongextraNameDescTabularFooter}{%
\bottomrule
}
\newcommand*{\glslongextraSetWidest}[1]{%
\def\@glslongextrawidestname{#1}%
}
\newcommand*{\@glslongextrawidestname}{\csuse{@glswidestname}}
\newcommand*{\glslongextraUpdateWidest}[1]{%
\ifundef\@glslongextrawidestname
{\def\@glslongextrawidestname{#1}}%
{%
\settowidth{\dimen@}{\@glslongextrawidestname}%
\settowidth{\dimen@ii}{#1}%
\ifdim\dimen@ii>\dimen@
\def\@glslongextrawidestname{#1}%
\fi
}%
}
\newcommand*{\glslongextraUpdateWidestChild}[2]{}
\newcommand{\glslongextraSetDescWidth}{%
\settowidth{\gls@tmplen}{\glslongextraHeaderFmt\entryname}%
\settowidth{\dimen@}{\glsnamefont{\@glslongextrawidestname}}%
\ifdim\dimen@>\gls@tmplen
\gls@tmplen=\dimen@
\fi
\setlength{\glsdescwidth}{\dimexpr\linewidth-4\tabcolsep-\gls@tmplen}%
}
\newcommand{\glslongextraSymSetDescWidth}{%
\glslongextraSetDescWidth
\settowidth{\gls@tmplen}{\glslongextraHeaderFmt\symbolname}%
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\gls@tmplen}%
}
\newcommand{\glslongextraLocSetDescWidth}{%
\glslongextraSetDescWidth
\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\glspagelistwidth}%
}
\newcommand{\glslongextraSymLocSetDescWidth}{%
\glslongextraSymSetDescWidth

```

```

\setlength{\glsdescwidth}{\dimexpr\glsdescwidth-2\tabcolsep-\glspagelistwidth}%
}
\newif\ifGlsLongExtraUseTabular
\GlsLongExtraUseTabularfalse
\newcommand*\glslongextraTabularVAlign}{c}
\newglossarystyle{long-name-desc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign}}%
\@glslongextra@begintab
}%
{%
\glslongextraNameDescTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameDescHeader}%
\fi
\renewcommand*\glsgroupheading}[1]{\glslongextraGroupHeading{2}{##1}}%
\renewcommand{\glossentry}[2]{%
\glslongextraNameFmt{##1} &
\glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubNameFmt{##1}{##2}
&
\glslongextraSubDescFmt{##1}{##2}%
\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip}{}%
\else

```

```

\renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraNameDescLocationHeader}{%
\glslongextraNameDescLocationTabularHeader\endhead
\glslongextraNameDescLocationTabularFooter\endfoot
}
\newcommand{\glslongextraNameDescLocationTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\pagelistname\tabularnewline
\midrule
}
\newcommand{\glslongextraNameDescLocationTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-name-desc-loc}{%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}{%
{%
\glslongextraLocSetDescWidth
\edef\@glslongextra@begintab{%
\expand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraNameDescLocationTabularFooter
\end{tabular}}%
}%
\renewcommand*{\glossaryheader}{\glslongextraNameDescLocationTabularHeader}%
\else
\renewenvironment{theglossary}{%
{%
\glspatchLToutput
\glslongextraLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
}

```

```

\renewcommand*{\glossaryheader}{\glslongextraNameDescLocationHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraLocationFmt{##1}{##2}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2}&
  \glslongextraSubDescFmt{##1}{##2}&
  \glslongextraSubLocationFmt{##1}{##2}{##3}%
  \tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraDescNameHeader}{%
  \glslongextraDescNameTabularHeader\endhead
  \glslongextraDescNameTabularFooter\endfoot
}
\newcommand{\glslongextraDescNameTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\descriptionname&
  \glslongextraHeaderFmt\entryname \tabularnewline
  \midrule
}
\newcommand{\glslongextraDescNameTabularFooter}{%
  \bottomrule
}
\newglossarystyle{long-desc-name}%
{%
  \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
    {%
      \glslongextraSetDescWidth
      \edef\@glslongextra@begintab{%
        \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
          \expandonce\glslongextraDescAlign
          \expandonce\glslongextraNameAlign}}%
      \@glslongextra@begintab
    }%
    {%
      \glslongextraDescNameTabularFooter
      \end{tabular}%
    }%
  \renewcommand*{\glossaryheader}{\glslongextraDescNameTabularHeader}%

```

```

\else
\renewenvironment{theglossary}%
{
\glspatchLTOoutput
\glslongextraSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraNameAlign}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\{glossaryheader\}{\glslongextraDescNameHeader}%
\fi
\renewcommand*\{glsgroupheading}[1]{\glslongextraGroupHeading{2}{##1}}%
\renewcommand{\glossentry}[2]{%
\glslongextraDescFmt{##1} &
\glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubDescFmt{##1}{##2} &
\glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\{glsgroupskip\}{}%
\else
\renewcommand*\{glsgroupskip\}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraLocationDescNameHeader}{%
\glslongextraLocationDescNameTabularHeader\endhead
\glslongextraLocationDescNameTabularFooter\endfoot
}
\newcommand{\glslongextraLocationDescNameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\pagelistname&
\glslongextraHeaderFmt\descriptionname&
\glslongextraHeaderFmt\entryname \tabularnewline
\midrule
}
\newcommand{\glslongextraLocationDescNameTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-loc-desc-name}%
{
\ifGlsLongExtraUseTabular
{
\glslongextraLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAalign]{%

```



```

        \expandonce\glslongextraLocationAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraNameAlign}}%
    \@glslongextra@begintab
}%
{%
    \glslongextraLocationDescNameTabularFooter
    \end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraLocationDescNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{
    \glspatchLToutput
    \glslongextraLocSetDescWidth
    \edef\@glslongextra@begintab{%
        \noexpand\begin{longtable}{%
            \expandonce\glslongextraLocationAlign
            \expandonce\glslongextraDescAlign
            \expandonce\glslongextraNameAlign}}%
        \@glslongextra@begintab
    }%
    {\end{longtable}}%
    \renewcommand*{\glossaryheader}{\glslongextraLocationDescNameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraLocationFmt{##1}{##2} &
    \glslongextraDescFmt{##1} &
    \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubLocationFmt{##1}{##2}{##3} &
    \glslongextraSubDescFmt{##1}{##2} &
    \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*{\glsgroupskip}{}%
\else
    \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraNameDescSymHeader}{%
    \glslongextraNameDescSymTabularHeader\endhead
    \glslongextraNameDescSymTabularFooter\endfoot
}
\newcommand{\glslongextraNameDescSymTabularHeader}{%
    \toprule
    \glslongextraHeaderFmt\entryname &
    \glslongextraHeaderFmt\descriptionname &

```

```

\glslongextraHeaderFmt\symbolname\tabularnewline
\midrule
}
\newcommand{\glslongextraNameDescSymTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-name-desc-sym}{%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}{%
{%
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
}}%
\@glslongextra@begintab
}%
{%
\glslongextraNameDescSymTabularFooter
\end{tabular}}%
}%
\renewcommand*{\glossaryheader}{\glslongextraNameDescSymTabularHeader}%
\else
\renewenvironment{theglossary}{%
{%
\glspatchLToutput
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraNameDescSymHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
\glslongextraNameFmt{##1} &
\glslongextraDescFmt{##1} &
\glslongextraSymbolFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubNameFmt{##1}{##2} &
\glslongextraSubDescFmt{##1}{##2} &

```

```

        \glslongextraSubSymbolFmt{##1}{##2}%
        \tabularnewline
    }%
    \ifglsnogroupskip
        \renewcommand*{\glsgroupskip}{}%
    \else
        \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
    \fi
}
\newcommand{\glslongextraNameDescSymLocationHeader}{%
\glslongextraNameDescSymLocationTabularHeader\endhead
\glslongextraNameDescSymLocationTabularFooter\endfoot
}
\newcommand{\glslongextraNameDescSymLocationTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\pagelistname\tabularnewline
\midrule
}
\newcommand{\glslongextraNameDescSymLocationTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-name-desc-sym-loc}%
{%
    \ifGlsLongExtraUseTabular
        \renewenvironment{theglossary}%
        {%
            \glslongextraSymLocSetDescWidth
            \edef\@glslongextra@begintab{%
                \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
                    \expandonce\glslongextraNameAlign
                    \expandonce\glslongextraDescAlign
                    \expandonce\glslongextraSymbolAlign
                    \expandonce\glslongextraLocationAlign
                }}%
            \@glslongextra@begintab
        }%
        {%
            \glslongextraNameDescSymLocationTabularFooter
            \end{tabular}%
        }%
        \renewcommand*{\glossaryheader}{\glslongextraNameDescSymLocationTabularHeader}%
    \else
        \renewenvironment{theglossary}%
        {%
            \glspatchLToutput
            \glslongextraSymLocSetDescWidth
            \edef\@glslongextra@begintab{%

```

```

\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameDescSymLocationHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
\renewcommand*\glossentry[2]{%
\glslongextraNameFmt{##1} &
\glslongextraDescFmt{##1} &
\glslongextraSymbolFmt{##1}&
\glslongextraLocationFmt{##1}{##2}\tabularnewline
}%
\renewcommand*\subglossentry[3]{%
\glslongextraSubNameFmt{##1}{##2} &
\glslongextraSubDescFmt{##1}{##2} &
\glslongextraSubSymbolFmt{##1}{##2}&
\glslongextraSubLocationFmt{##1}{##2}{##3}%
\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}
\newcommand*\glslongextraNameSymDescHeader{%
\glslongextraNameSymDescTabularHeader\endhead
\glslongextraNameSymDescTabularFooter\endfoot
}
\newcommand*\glslongextraNameSymDescTabularHeader{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname\tabularnewline
\midrule
}
\newcommand*\glslongextraNameSymDescTabularFooter{%
\bottomrule
}
\newglossarystyle{long-name-sym-desc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{

```

```

\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
  \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
    \expandonce\glslongextraNameAlign
    \expandonce\glslongextraSymbolAlign
    \expandonce\glslongextraDescAlign
  }}%
\@glslongextra@begintab
}%
{
  \glslongextraNameSymDescTabularFooter
  \end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescTabularHeader}%
\else
\renewenvironment{theglossary}%
{
  \glspatchLToutput
  \glslongextraSymSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraNameAlign
      \expandonce\glslongextraSymbolAlign
      \expandonce\glslongextraDescAlign
    }}%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraDescFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*\glsgroupskip{}%
\else
  \renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraNameSymDescLocationHeader}{%
\glslongextraNameSymDescLocationTabularHeader\endhead
\glslongextraNameSymDescLocationTabularFooter\endfoot

```

```

}
\newcommand{\glslongextraNameSymDescLocationTabularHeader}{%
\toprule
\glslongextraHeaderFmt\entryname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\pagelistname\tabularnewline
\midrule
}
\newcommand{\glslongextraNameSymDescLocationTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-name-sym-desc-loc}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{%
\glslongextraSymLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
}%
\glslongextraNameSymDescLocationTabularFooter
\end{tabular}%
}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescLocationTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraSymLocSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraNameAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraLocationAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraNameSymDescLocationHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%

```

```

\renewcommand{\glossentry}[2]{%
  \glslongextraNameFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraLocationFmt{##1}{##2}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubNameFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubLocationFmt{##1}{##2}{##3}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraSymDescNameHeader}{%
  \glslongextraSymDescNameTabularHeader\endhead
  \glslongextraSymDescNameTabularFooter\endfoot
}
\newcommand{\glslongextraSymDescNameTabularHeader}{%
  \toprule
  \glslongextraHeaderFmt\symbolname &
  \glslongextraHeaderFmt\descriptionname &
  \glslongextraHeaderFmt\entryname\tabularnewline
  \midrule
}
\newcommand{\glslongextraSymDescNameTabularFooter}{%
  \bottomrule
}
\newglossarystyle{long-sym-desc-name}%
{%
  \ifGlsLongExtraUseTabular
    \renewenvironment{theglossary}%
      {%
        \glslongextraSymSetDescWidth
        \edef\@glslongextra@begintab{%
          \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
            \expandonce\glslongextraSymbolAlign
            \expandonce\glslongextraDescAlign
            \expandonce\glslongextraNameAlign
          }}%
        \@glslongextra@begintab
      }%
      {%
        \glslongextraSymDescNameTabularFooter
        \end{tabular}%
      }%
  \fi
}

```

```

\renewcommand*\glossaryheader{\glslongextraSymDescNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
\glspatchLToutput
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraDescAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraSymDescNameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
\glslongextraSymbolFmt{##1} &
\glslongextraDescFmt{##1} &
\glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
\glslongextraSubSymbolFmt{##1}{##2} &
\glslongextraSubDescFmt{##1}{##2} &
\glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
\renewcommand*\glsgroupskip{}}%
\else
\renewcommand*\glsgroupskip{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraLocationSymDescNameHeader}{%
\glslongextraLocationSymDescNameTabularHeader\endhead
\glslongextraLocationSymDescNameTabularFooter\endfoot
}
\newcommand{\glslongextraLocationSymDescNameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\pagelistname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\entryname\tabularnewline
\midrule
}
\newcommand{\glslongextraLocationSymDescNameTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-loc-sym-desc-name}%

```



```

{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
  {%
    \glslongextraSymLocSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
        \expandonce\glslongextraLocationAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraNameAlign
      }%
    }
    \@glslongextra@begintab
  }%
  {%
    \glslongextraLocationSymDescNameTabularFooter
    \end{tabular}%
  }%
\renewcommand*\glossaryheader{\glslongextraLocationSymDescNameTabularHeader}%
\else
\renewenvironment{theglossary}%
  {%
    \glspatchLToutput
    \glslongextraSymLocSetDescWidth
    \edef\@glslongextra@begintab{%
      \noexpand\begin{longtable}{%
        \expandonce\glslongextraLocationAlign
        \expandonce\glslongextraSymbolAlign
        \expandonce\glslongextraDescAlign
        \expandonce\glslongextraNameAlign
      }%
    }
    \@glslongextra@begintab
  }%
  {\end{longtable}}%
\renewcommand*\glossaryheader{\glslongextraLocationSymDescNameHeader}%
\fi
\renewcommand*\glsgroupheading[1]{\glslongextraGroupHeading{4}{##1}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraLocationFmt{##1}{##2} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraDescFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubLocationFmt{##1}{##2}{##3} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip

```

```

        \renewcommand*{\glsgroupskip}{}%
    \else
        \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
    \fi
}
\newcommand{\glslongextraDescSymNameHeader}{%
\glslongextraDescSymNameTabularHeader\endhead
\glslongextraDescSymNameTabularFooter\endfoot
}
\newcommand{\glslongextraDescSymNameTabularHeader}{%
\toprule
\glslongextraHeaderFmt\descriptionname &
\glslongextraHeaderFmt\symbolname &
\glslongextraHeaderFmt\entryname\tabularnewline
\midrule
}
\newcommand{\glslongextraDescSymNameTabularFooter}{%
\bottomrule
}
\newglossarystyle{long-desc-sym-name}%
{%
\ifGlsLongExtraUseTabular
\renewenvironment{theglossary}%
{
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}%
{
\glslongextraDescSymNameTabularFooter
\end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraDescSymNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{
\glspatchLToutput
\glslongextraSymSetDescWidth
\edef\@glslongextra@begintab{%
\noexpand\begin{longtable}{%
\expandonce\glslongextraDescAlign
\expandonce\glslongextraSymbolAlign
\expandonce\glslongextraNameAlign
}}%
\@glslongextra@begintab
}

```

```

    }%
    {\end{longtable}}%
    \renewcommand*{\glossaryheader}{\glslongextraDescSymNameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{3}{##1}}%
\renewcommand{\glossentry}[2]{%
    \glslongextraDescFmt{##1} &
    \glslongextraSymbolFmt{##1} &
    \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
    \glslongextraSubDescFmt{##1}{##2} &
    \glslongextraSubSymbolFmt{##1}{##2} &
    \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
    \renewcommand*{\glsgroupskip}{}%
\else
    \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}
\newcommand{\glslongextraLocationDescSymNameHeader}{%
    \glslongextraLocationDescSymNameTabularHeader\endthead
    \glslongextraLocationDescSymNameTabularFooter\endfoot
}
\newcommand{\glslongextraLocationDescSymNameTabularHeader}{%
    \toprule
    \glslongextraHeaderFmt\pagelistname &
    \glslongextraHeaderFmt\descriptionname &
    \glslongextraHeaderFmt\symbolname &
    \glslongextraHeaderFmt\entryname\tabularnewline
    \midrule
}
\newcommand{\glslongextraLocationDescSymNameTabularFooter}{%
    \bottomrule
}
\newglossarystyle{long-loc-desc-sym-name}%
{%
    \ifGlsLongExtraUseTabular
        \renewenvironment{theglossary}%
        {%
            \glslongextraSymLocSetDescWidth
            \edef\@glslongextra@begintab{%
                \noexpand\begin{tabular}[\glslongextraTabularVAlign]{%
                    \expandonce\glslongextraLocationAlign
                    \expandonce\glslongextraDescAlign
                    \expandonce\glslongextraSymbolAlign
                    \expandonce\glslongextraNameAlign
                }}%
            \@glslongextra@begintab
    }%

```

```

}%
{%
  \glslongextraLocationDescSymNameTabularFooter
  \end{tabular}%
}%
\renewcommand*{\glossaryheader}{\glslongextraLocationDescSymNameTabularHeader}%
\else
\renewenvironment{theglossary}%
{%
  \glspatchLToutput
  \glslongextraSymLocSetDescWidth
  \edef\@glslongextra@begintab{%
    \noexpand\begin{longtable}{%
      \expandonce\glslongextraLocationAlign
      \expandonce\glslongextraDescAlign
      \expandonce\glslongextraSymbolAlign
      \expandonce\glslongextraNameAlign
    }%
  }%
  \@glslongextra@begintab
}%
{\end{longtable}}%
\renewcommand*{\glossaryheader}{\glslongextraLocationDescSymNameHeader}%
\fi
\renewcommand*{\glsgroupheading}[1]{\glslongextraGroupHeading{4}{##1}}%
\renewcommand{\glossentry}[2]{%
  \glslongextraLocationFmt{##1}{##2} &
  \glslongextraDescFmt{##1} &
  \glslongextraSymbolFmt{##1} &
  \glslongextraNameFmt{##1}\tabularnewline
}%
\renewcommand{\subglossentry}[3]{%
  \glslongextraSubLocationFmt{##1}{##2}{##3} &
  \glslongextraSubDescFmt{##1}{##2} &
  \glslongextraSubSymbolFmt{##1}{##2} &
  \glslongextraSubNameFmt{##1}{##2}\tabularnewline
}%
\ifglsnogroupskip
  \renewcommand*{\glsgroupskip}{}%
\else
  \renewcommand*{\glsgroupskip}{\glspenaltygroupskip}%
\fi
}

```

## 9.6 Rollback v1.48 (glossary-topic-2021-11-22.sty)

Version 1.48 preserved for rollback.

```

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{glossary-topic}[2021/11/22 v1.48 (NLCT)]
\RequirePackage{multicol}

```

```

\newglossarystyle{topic}{%
  \renewenvironment{theglossary}%
  {%
    \glstopicInit
    \def\glstopic@prechildren{}%
    \def\glstopic@prevlevel{-1}%
  }%
  {\par}%
  \renewcommand*{\glossaryheader}{}%
  \renewcommand*{\glsgroupheading}[1]{%
    \def\glstopic@prevlevel{-1}%
    \glstopicGroupHeading{##1}%
  }%
  \renewcommand{\glossentry}[2]{%
    \hangindent0pt\relax
    \parindent\glstopicParIndent\relax
    \glstopicItem{##1}{##2}%
    \ifglshasdesc{##1}%
    {%
      \def\glstopic@prechildren{}%
    }%
    {%
      \def\glstopic@prechildren{\nopagebreak}%
    }%
  }%
  \renewcommand{\subglossentry}[3]{%
    \ifnum\glstopic@prevlevel=0\relax\glstopic@prechildren\fi
    \def\glstopic@prevlevel{##1}%
    \begingroup
    \glstopicAssignSubIndent{##1}%
    \glstopicSubItem{##1}{##2}{##3}%
    \par
    \endgroup
  }%
  \renewcommand*{\glsgroupskip}{}%
}
\newcommand*{\glstopicGroupHeading}[1]{}
\newcommand*{\glstopicItem}[2]{%
  \glspare\glstopicPreSkip\glspare\noindent
  \glstopicMarker{##1}%
  \glstopicTitleFont
  {%
    \glstentryitem{##1}\glstarget{##1}{\glstopicTitle{##1}}%
  }%
  \ifglshasdesc{##1}%
  {\glspare\nobreak\glstopicMidSkip\glspare\nobreak
  \@afterheading\glstopicDesc{##1}\glspare\glstopicPostSkip}%
  {\glspare\nobreak\glstopicPostSkip}%
  \glstopicLoc{##1}{##2}%
}

```

```

\newcommand*\glstopicMarker}[1]{}
\newcommand*\glstopicTitle}[1]{\Glossentryname{#1}%
  \ifglshassymbol{#1}{\space\glossentrysymbol{#1}}{}}%
}
\newcommand*\glstopicTitleFont}[1]{\textbf{\large #1}}
\newcommand*\glstopicDesc}[1]{\Glossentrydesc{#1}\glspostdescription}
\newcommand*\glstopicLoc}[2]{}
\newlength\glstopicParIndent
\setlength\glstopicParIndent{20pt}
\newlength\glstopicSubIndent
\setlength\glstopicSubIndent{20pt}
\newcommand*\glstopicInit[1]{}
\newcommand*\glstopicAssignSubIndent}[1]{%
  \par
  \parindent\dimexpr#1\glstopicSubIndent-\glstopicSubIndent\relax
  \glstopicAssignWidest{#1}%
  \glstopicsubitemhangindent=\dimexpr\parindent+\glstopicwidest\relax
  \hangindent\glstopicsubitemhangindent\relax
  \everypar{\hangindent\glstopicsubitemhangindent\relax
    \parindent\dimexpr\glstopicSubItemParIndent+\glstopicsubitemhangindent\relax}%
}
\newlength\glstopicsubitemhangindent
\newlength\glstopicSubItemParIndent
\glstopicSubItemParIndent\parindent
\newlength\glstopicwidest
\newcommand*\glstopicAssignWidest}[1]{%
  \ifcsundef{@glswidestlength\romannumeral#1}%
  {%
    \ifcsdef{@glswidestname\romannumeral#1}%
    {%
      \settowidth{\glstopicwidest}{%
        \glstopicSubNameFont{\csuse{@glswidestname\romannumeral#1}}%
        \glstopicSubItemSep
      }%
    }%
    {\setlength{\glstopicwidest}{0pt}}%
    \csdef{@glswidestlength\romannumeral#1}{\the\glstopicwidest}%
  }%
  {\setlength{\glstopicwidest}{\csuse{@glswidestlength\romannumeral#1}}}%
}
\newcommand*\glstopicPreSkip[1]{\medskip}
\newcommand*\glstopicMidSkip[1]{\smallskip}
\newcommand*\glstopicPostSkip[1]{\smallskip}
\newcommand*\glstopicSubItem}[3]{%
  \glstopicSubItemBox{#1}{\glstopicSubNameFont{\glstentryitem{#2}}%
    \glstarget{#2}{\glossentryname{#2}}}%
  \glstopicSubItemSep
}%
\ifglshassymbol{#2}{(\glossentrysymbol{#2})\space}{}%
\ifglshasdesc{#2}%

```

```

    {\glossentrydesc{#2}\glspostdescription\glstopicSubPreLocSep}{}%
    \glstopicSubLoc{#2}{#3}%
}
\newcommand*\glstopicSubItemSep}{\quad}
\newcommand*\glstopicSubItemBox}[2]{%
  \ifdim\glstopicwidest>0pt\relax\makebox[\glstopicwidest][1]{#2}\else#2\fi
}
\newcommand*\glstopicSubNameFont}[1]{\textbf{#1}}
\newcommand*\glstopicSubPreLocSep}{\space}
\newcommand*\glstopicSubLoc}[2]{#2}
\newcommand*\glstopicCols}{2}
\newcommand*\glstopicColsEnv}{multicols}
\newglossarystyle{topicmcols}{%
  \renewenvironment{theglossary}{%
    {%
      \glstopicInit
      \def\glstopic@prechildren{}%
      \def\glstopic@postchildren{}%
      \def\glstopic@prevlevel{-1}%
    }%
    {%
      \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
      \par
    }%
    \renewcommand*\glossaryheader{}%
    \renewcommand*\glsgroupheading}[1]{%
      \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
      \def\glstopic@prevlevel{-1}%
      \glstopicGroupHeading{##1}%
    }%
    \renewcommand{\glossentry}[2]{%
      \ifnum\glstopic@prevlevel>0\relax\glstopic@postchildren\fi
      \def\glstopic@prevlevel{0}%
      \hangindent0pt\relax
      \parindent\glstopicParIndent\relax
      \glstopicItem{##1}{##2}%
      \ifnum\glstopicCols>1\relax
        \ifglshasdesc{##1}%
          {%
            \edef\glstopic@prechildren{%
              \noexpand\begin{\glstopicColsEnv}{\glstopicCols}%
            }%
          }%
        }%
        {%
          \edef\glstopic@prechildren{%
            \noexpand\nopagebreak
            \noexpand\begin{\glstopicColsEnv}{\glstopicCols}%
          }%
        }%
      }%
      \edef\glstopic@postchildren{\noexpand\end{\glstopicColsEnv}}%
    }%
  }%

```

```

    \fi
  }%
  \renewcommand{\subglossentry}[3]{%
    \ifnum\glstopic@prevlevel=0\relax\glstopic@prechildren\fi
    \def\glstopic@prevlevel{##1}%
    \glstopicAssignSubIndent{##1}%
    \glstopicSubItem{##1}{##2}{##3}%
  }%
  \renewcommand*{\glsgroupskip}{}%
}

```

## Change History

0.1 – 2015-11-22			
General: Initial experimental			
release .....	2		
0.2 – 2015-11-30			
\Glsfmtshort: new .....	370		
\glsfmtshort: new .....	370		
\Glsfmtshortpl: new .....	370		
\glsfmtshortpl: new .....	370		
short: switched inline full form			
to short (long) .....	463		
0.3 – 2015-12-02			
\@ACRlong: added redefinition .	132	\@GLStext@: added redefinition .	109
\@ACRlongpl: added redefinition	133	\@GLSuseri@: added redefinition	122
\@ACRshort: added redefinition .	129	\@GLSuserii@: added	
\@ACRshortpl: added		redefinition .....	123
redefinition .....	130	\@GLSuseriii@: added	
\@Acrlong: added redefinition .	131	redefinition .....	124
\@Acrlongpl: added redefinition	132	\@GLSuseriv@: added	
\@Acrshort: added redefinition .	129	redefinition .....	125
\@Acrshortpl: added		\@GLSuseriv@: added redefinition	126
redefinition .....	130	\@GLSuservi@: added	
\@GLSdesc@: added redefinition .	117	redefinition .....	128
\@GLSdescplural@: added		\@GLSdesc@: added redefinition .	117
redefinition .....	118	\@GLSdescplural@: added	
\@GLSfirst@: added redefinition	111	redefinition .....	118
\@GLSfirstplural@: added		\@GLSfirst@: added redefinition	111
redefinition .....	114	\@GLSfirstplural@: added	
\@GLSname@: added redefinition .	116	redefinition .....	114
\@GLSplural@: added		\@GLSname@: added redefinition .	115
redefinition .....	113	\@GLSplural@: added	
\@GLSsymbol@: added		redefinition .....	112
redefinition .....	119	\@GLSsymbol@: added	
\@GLSsymbolplural@: added		redefinition .....	119
redefinition .....	120	\@GLSsymbolplural@: added	
		redefinition .....	120
		\@GLStext@: added redefinition .	110
		\@GLSuseri@: added redefinition	121
		\@GLSuserii@: added	
		redefinition .....	122
		\@GLSuseriii@: added	
		redefinition .....	124
		\@GLSuseriv@: added	
		redefinition .....	125
		\@GLSuseriv@: added redefinition	126



\@Glsuservi@: added		\Glsxtrlongpl: new	340
redefinition	127	\glsxtrlongpl: new	340
\@acrlong: added redefinition	131	\glsxtrNoGlossaryWarning: new	25
\@acrlongpl: added redefinition	132	\glsxtrpostlinkAddDescOnFirstUse:	
\@acrshort: added redefinition	128	new	315
\@acrshortpl: added		\glsxtrpostlinkAddSymbolOnFirstUse:	
redefinition	130	new	316
\@gls@field@link: added		\glsxtrpostlinkendsentence:	
optional argument	95	new	315
\@glsdescplural@: added		\GLSxtrshortpl: new	339
redefinition	117	\Glsxtrshortpl: new	338
\@glsfirst@: added redefinition	110	\glsxtrshortpl: new	338
\@glsfirstplural@: added		long-short-desc: fixed name to	
redefinition	113	use \glslabeltok	453
\@glsplural@: added		short-long-desc: fixed name to	
redefinition	112	use \glslabeltok	455
\@glssymbolplural@: added		0.4 – 2015-12-03	
redefinition	120	\@glsxtr@doabbreviationsdef:	
\@glsxtr@defaultnoglossarywarning:		added redefinition of	
new	198	\acronymtype	20
\@glsxtr@field@linkdefs: new	108	\Glsfmtshort: changed to use	
\@glsxtr@insertdots: new	319	\Glsxtrshort	370
\@print@glossary: added		\glsfmtshort: changed to use	
redefinition	194	\glsxtrshort	370
\glsabbrvdefaultfont: renamed		\Glsfmtshortpl: changed to use	
from \abbrvdefaultfont	328	\glsxtrshortpl	370
\glsaccessdesc: new	243	\glsfmtshortpl: changed to use	
\glsaccessdescplural: new	245	\glsxtrshortpl	370
\glsaccessfirst: new	238	\glsxtrifemptyglossary: new	39
\glsaccessfirstplural: new	239	\glsxtrnewnumber: added extra	
\Glsaccesslong: new	249	argument	295
\glsaccesslong: new	249	\glsxtrnewsymbol: added extra	
\glsaccessname: new	234	argument	294
\glsaccessplural: new	237	\MakeAcronymsAbbreviations:	
\Glsaccessshort: new	246	set the default type to	
\glsaccessshort: new	246	\acronymtype	175
\Glsaccessshortpl: new	248	\newterm: fixed name argument	294
\glsaccessshortpl: new	247	0.5 – 2015-12-07	
\glsaccesssymbol: new	241	\@cGLS: new	165
\glsaccesssymbolplural: new	242	\@cGLS@: new	165
\glsaccessstext: new	235	\@cGLSpl: new	165
\glsentryfmt: added check for		\@cGLSpl@: new	165
short	88	\@glsxtr@setentrycountunsetattr:	
\glslongpltok: new	319	new	160
\glsshortpltok: new	319	\cGLS: new	165
\glsxtr@newabbreviation: fixed		\cGLSformat: new	165
family name in \setkeys	321	\cGLSpl: new	165
\glsxtrdiscardperiod: added		\cGLSplformat: new	165
check for plural	316	\GlossariesExtraWarningNoLine:	
\GLSxtrlongpl: new	341	new	18

<code>\glsenableentrycount</code> : new ..	160	<code>short-em-footnote</code> : new .....	528
<code>\glsfirstabbrvdefaultfont</code> :		<code>short-em-long</code> : new .....	511
new .....	328	<code>short-em-long-desc</code> : new .....	513
<code>\glsfirstlongdefaultfont</code> :		<code>short-em-postfootnote</code> : new ..	530
new .....	329	<code>short-sc-footnote</code> : new .....	484
<code>\Glsfmtfirst</code> : new .....	372	<code>short-sc-postfootnote</code> : new ..	487
<code>\glsfmtfirst</code> : new .....	372	<code>short-sm</code> : new .....	494
<code>\Glsfmtfirstpl</code> : new .....	373	<code>short-sm-desc</code> : new .....	495
<code>\glsfmtfirstpl</code> : new .....	373	<code>short-sm-footnote</code> : new .....	501
<code>\Glsfmtplural</code> : new .....	372	<code>short-sm-long</code> : new .....	492
<code>\glsfmtplural</code> : new .....	372	<code>short-sm-long-desc</code> : new ....	493
<code>\Glsfmtshort</code> : changed to use		<code>short-sm-postfootnote</code> : new ..	504
<code>\Glsxtrtitleshort</code> .....	370	0.5.1 – 2015-12-02	
renamed from		<code>\Glsaccesstext</code> : new .....	236
<code>\Glsentryfmtshort</code> .....	370	0.5.1 – 2015-12-07	
<code>\glsfmtshort</code> : changed to use		General: removed	
<code>\glsxtrtitleshort</code> .....	370	<code>\ifglsxtruseuhead</code> .....	357
renamed from		<code>\@glsxtr@doaccsupp</code> : new ....	24
<code>\glsentryfmtshort</code> .....	370	footnote: switch off regular	
<code>\Glsfmtshortpl</code> : changed to use		attribute if set .....	457
<code>\Glsxtrtitleshortpl</code> ....	370	<code>\Glsaccessdesc</code> : new .....	244
renamed from		<code>\Glsaccessdescplural</code> : new ..	245
<code>\Glsentryfmtshortpl</code> ....	370	<code>\Glsaccessfirst</code> : new .....	238
<code>\glsfmtshortpl</code> : changed to use		<code>\Glsaccessfirstplural</code> : new ..	240
<code>\glsxtrtitleshortpl</code> ....	370	<code>\Glsaccessname</code> : new .....	234
renamed from		<code>\Glsaccessplural</code> : new .....	237
<code>\glsentryfmtshortpl</code> ....	370	<code>\Glsaccesssymbol</code> : new .....	241
<code>\Glsfmttext</code> : new .....	371	<code>\Glsaccesssymbolplural</code> : new ..	242
<code>\glsfmttext</code> : new .....	371	<code>\Glsxtrheadfirst</code> : now uses	
<code>\glshasattribute</code> : new .....	290	headuc attribute .....	364
<code>\glshascategoryattribute</code> :		<code>\glsxtrheadfirst</code> : now uses	
new .....	290	headuc attribute .....	363
<code>\glsxtremsuffix</code> : new .....	507	<code>\Glsxtrheadfirstplural</code> : now	
<code>\GlsXtrEnableEntryCounting</code> :		uses headuc attribute ....	365
new .....	159	<code>\glsxtrheadfirstplural</code> : now	
<code>\glsxtrifcounttrigger</code> : new ..	163	uses headuc attribute ....	364
<code>\glsxtrscfont</code> : new .....	472	<code>\Glsxtrheadplural</code> : now uses	
<code>\glsxtrscsuffix</code> : new .....	472	headuc attribute .....	362
<code>\glsxtrsmfont</code> : new .....	489	<code>\glsxtrheadplural</code> : now uses	
<code>\glsxtrsmsuffix</code> : new .....	490	headuc attribute .....	362
<code>long-noshort-em</code> : new .....	519	<code>\Glsxtrheadshort</code> : now uses	
<code>long-noshort-em-desc</code> : new ..	524	headuc attribute .....	359
<code>long-noshort-sm</code> : new .....	498	<code>\glsxtrheadshort</code> : now uses	
<code>long-noshort-sm-desc</code> : new ..	500	headuc attribute .....	358
<code>long-short-em</code> : new .....	507	<code>\Glsxtrheadshortpl</code> : now uses	
<code>long-short-em-desc</code> : new ....	508	headuc attribute .....	359
<code>long-short-sm</code> : new .....	490	<code>\glsxtrheadshortpl</code> : now uses	
<code>long-short-sm-desc</code> : new ....	491	headuc attribute .....	358
<code>short-em</code> : new .....	515	<code>\Glsxtrheadtext</code> : now uses	
<code>short-em-desc</code> : new .....	517	headuc attribute .....	361

<code>\glxtrheadtext</code> : now uses headuc attribute . . . . .	361	<code>\@GLSsymbolplural@</code> : added accessibility support . . . . .	120
<code>long-short</code> : switch off regular attribute if set . . . . .	451	<code>\@GLStext@</code> : added accessibility support . . . . .	109
<code>long-short-desc</code> : switch off regular attribute if set . . . .	453	<code>\@GLSdesc@</code> : added accessibility support . . . . .	117
<code>long-short-sc-desc</code> : switch off regular attribute if set . . . .	474	<code>\@GLSdescplural@</code> : added accessibility support . . . . .	118
<code>postfootnote</code> : switch off regular attribute if set . . . . .	460	<code>\@GLSfirst@</code> : added accessibility support . . . . .	111
<code>short-em-footnote</code> : switch off regular attribute if set . . . .	528	<code>\@GLSfirstplural@</code> : added accessibility support . . . . .	114
<code>short-em-footnote-desc</code> : switch off regular attribute if set . .	530	<code>\@GLSname@</code> : add accessibility support . . . . .	115
<code>short-long</code> : switch off regular attribute if set . . . . .	454	<code>\@GLSplural@</code> : added accessibility support . . . . .	112
<code>short-long-desc</code> : switch off regular attribute if set . . . .	455	<code>\@GLSsymbol@</code> : added accessibility support . . . . .	119
<code>short-postfootnote-desc</code> : switch off regular attribute if set . . . . .	462	<code>\@GLSsymbolplural@</code> : added accessibility support . . . . .	120
<code>short-sc-footnote</code> : switch off regular attribute if set . . . .	484	<code>\@GLStext@</code> : added accessibility support . . . . .	110
<code>short-sc-footnote-desc</code> : switch off regular attribute if set . .	486	<code>\@GLSdesc@</code> : added accessibility support . . . . .	116
<code>short-sm-footnote</code> : switch off regular attribute if set . . . .	502	<code>\@GLSdescplural@</code> : added accessibility support . . . . .	117
<code>short-sm-footnote-desc</code> : switch off regular attribute if set . .	504	<code>\@GLSfirst@</code> : added accessibility support . . . . .	110
0.5.2 – 2015-12-08		<code>\@GLSfirstplural@</code> : added accessibility support . . . . .	113
General: fixed typo in glossaries-accsupp and tidied up code to use just one		<code>\@GLSname@</code> : added accessibility support . . . . .	115
<code>\@ifpackageloaded</code> . . . . .	234	<code>\@GLSplural@</code> : added accessibility support . . . . .	112
removed <code>\glxtrabbrvfmt</code> . .	342	<code>\@GLSsymbol@</code> : added accessibility support . . . . .	119
<code>\@GLSdesc@</code> : added accessibility support . . . . .	117	<code>\@GLSsymbolplural@</code> : added accessibility support . . . . .	120
<code>\@GLSdescplural@</code> : added accessibility support . . . . .	118	<code>\@GLStext@</code> : added accessibility support . . . . .	109
<code>\@GLSfirst@</code> : added accessibility support . . . . .	111	<code>\@glxtr@activate@initialtagging</code> : new . . . . .	312
<code>\@GLSfirstplural@</code> : added accessibility support . . . . .	114	<code>\@glxtr@do@titlecaps@warn</code> : new . . . . .	312
<code>\@GLSname@</code> : added accessibility support . . . . .	116	<code>\@glxtr@tag</code> : new . . . . .	312
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