

# The hyphsubst package

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## Abstract

A  $\TeX$  format file may include alternative hyphenation patterns for a language with a different name. If the naming convention follows `babel`'s rules, then the hyphenation patterns for a language can be replaced by the alternative hyphenation patterns, provided in the format file.

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## 1 Documentation

### 1.1 In short

The package is an experimental package that allows the substitution of hyphenation patterns, example:

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\*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

```

\RequirePackage[ngerman=ngerman-x-20080601]{hyphsubst}
\documentclass{article}
\usepackage[ngerman]{babel}

```

The patterns `ngerman` are replaced by the patterns `ngerman-x-20080601`. The format must contain these patterns and should use the naming scheme of either `babel`'s `language.dat` or `etex.src`'s `language.def`.

## 1.2 Longer version

Assume the format may contain the following hyphenation patterns (excerpt from `language.dat`):

```

...
ngerman dehyphn.tex
ngerman-x-20071231 dehyphn-x-20071231
ngerman-x-20080601 dehyphn-x-20080601
=ngerman-x-latest % alias for ngerman-x-20080601
...

```

The patterns that contain `-x-` are experimental new patterns for `ngerman`. However, package `babel` does not provide the use of patterns that do not have the same name as the used language (dialect). The `babel` system remembers patterns in macros: `\l@<name>`.  $\varepsilon$ -TeX's `etex.src` uses `\lang@<name>` instead. In the following we use `babel`'s naming scheme, but `etex.src`'s naming scheme is supported, too.

This package `hyphsubst` solves the problem by redefining the macro `\l@<name>` to use other patterns.

```
\HyphSubstLet {<nameA>} {<nameB>}
```

`\l@<nameA>` now has the same meaning as `\l@<nameB>`. The patterns for `nameB` must exist. If the patterns for `nameA` exist, then they will be overwritten to use the patterns for `nameB`. Example:

```

\documentclass{article}
\usepackage{hyphsubst}
\HyphSubstLet{ngerman}{ngerman-x-20080601}
\usepackage[ngerman]{babel}

```

Now the patterns `ngerman-x-20080601` are be used.

Or if you want to compare hyphenations:

```

\documentclass{article}
\usepackage{hyphsubst}
% save original patterns for ngerman in ngerman-saved
\HyphSubstLet{ngerman-saved}{ngerman}
\usepackage[ngerman]{babel}
\begin{document}
We start with the original patterns for ngerman.
\HyphSubstLet{ngerman}{ngerman-x-latest}%
Now we are using ngerman-x-latest.
\HyphSubstLet{ngerman}{ngerman-saved}%
Again we are using the original patterns.
\end{document}

```

```
\HyphSubstIfExists {<name>} {<then>} {<else>}
```

Tests if patterns with name  $\langle name \rangle$  exist and execute  $\langle then \rangle$  in case of success and  $\langle else \rangle$  otherwise.

### 1.3 L<sup>A</sup>T<sub>E</sub>X

The package can also be loaded before `\documentclass`:

```
\RequirePackage[ngerman=ngerman-x-20080601]{hyphsubst}
\documentclass{article}
...
```

This allows to put the package in a format file.

Package options are interpreted as ‘let’ assignments and passed to macro `\HyphSubstLet`:

```
\usepackage[ngerman=ngerman-x-20080601]{hyphsubst}
```

The part before the equal sign is the first argument for `\HyphSubstLet` and the part after the equal sign forms the second argument:

```
\HyphSubstLet{ngerman}{ngerman-x-20080601}
```

Note, this only works for direct package options. Global options are ignored.

### 1.4 plain T<sub>E</sub>X

The package can be loaded and used with plain T<sub>E</sub>X, e.g.:

```
\input hyphsubst.sty
\HyphSubstLet{ngerman}{ngerman-x-latest}
```

## 2 Implementation

1 (\*package)

### 2.1 Reload check and package identification

Reload check, especially if the package is not used with L<sup>A</sup>T<sub>E</sub>X.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^~M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@hyphsubst.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
```

```

21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
24 }%
25 \else
26 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27 \fi
28 \x{hyphsubst}{The package is already loaded}%
29 \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%

```

Package identification:

```

33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^~M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '
38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51 \def\x#1#2#3[#4]{\endgroup
52 \immediate\write-1{Package: #3 #4}%
53 \xdef#1{#4}%
54 }%
55 \else
56 \def\x#1#2[#3]{\endgroup
57 #2[#{#3}]%
58 \ifx#1\@undefined
59 \xdef#1{#3}%
60 \fi
61 \ifx#1\relax
62 \xdef#1{#3}%
63 \fi
64 }%
65 \fi
66 \expandafter\x\csname ver@hyphsubst.sty\endcsname
67 \ProvidesPackage{hyphsubst}%
68 [2016/05/16 v0.3 Substitute hyphenation patterns (HO)]%
69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^~M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76 \expandafter\xdef\csname HyphSubst@AtEnd\endcsname{%

```

```

77     \endlinechar=\the\endlinechar\relax
78     \catcode13=\the\catcode13\relax
79     \catcode32=\the\catcode32\relax
80     \catcode35=\the\catcode35\relax
81     \catcode61=\the\catcode61\relax
82     \catcode64=\the\catcode64\relax
83     \catcode123=\the\catcode123\relax
84     \catcode125=\the\catcode125\relax
85   }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\HyphSubst@AtEnd{%
96     \HyphSubst@AtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{46}{12}% .
103 \TMP@EnsureCode{47}{12}% /
104 \TMP@EnsureCode{58}{12}% :
105 \TMP@EnsureCode{91}{12}% [
106 \TMP@EnsureCode{93}{12}% ]
107 \TMP@EnsureCode{96}{12}% '
108 \edef\HyphSubst@AtEnd{\HyphSubst@AtEnd\noexpand\endinput}

```

## 2.2 Package

```

109 \begingroup\expandafter\expandafter\expandafter\endgroup
110 \expandafter\ifx\csname RequirePackage\endcsname\relax
111   \input infwarerr.sty\relax
112 \else
113   \RequirePackage{infwarerr}[2007/09/09]%
114 \fi

\HyphSubst@l
115 \begingroup\expandafter\expandafter\expandafter\endgroup
116 \expandafter\ifx\csname et@xlang\endcsname\relax
117   \def\HyphSubst@l{l@}%
118 \else
119   \def\HyphSubst@l{lang@}%
120 \fi

\HyphSubstLet
121 \def\HyphSubstLet#1#2{%
122   \begingroup
123     \def\x{}%
124     \expandafter\ifx\csname\HyphSubst@l#2\endcsname\relax
125       \@PackageError{hyphsubst}{Unknown pattern '#2'}\@ehc
126     \else
127       \def\lmsg{}%

```

```

128 \expandafter\ifx\csname\HyphSubst@l#1\endcsname\relax
129 \edef\msg{%
130   New: \expandafter\string\csname\HyphSubst@l#1\endcsname
131   \noexpand\MessageBreak
132 }%
133 \else
134 \edef\msg{%
135   Redefined: \expandafter\string\csname\HyphSubst@l#1\endcsname
136   \noexpand\MessageBreak
137   old value: \number\csname\HyphSubst@l#1\endcsname
138   \noexpand\MessageBreak
139 }%
140 \ifnum\csname\HyphSubst@l#1\endcsname=\language
141 \edef\x{%
142   \noexpand\language=%
143   \number\csname\HyphSubst@l#2\endcsname\relax
144 }%
145 \edef\lmsg{%
146   \noexpand\MessageBreak
147   \string\language\noexpand\space updated%
148 }%
149 \fi
150 \fi
151 \expandafter\global\expandafter\let
152   \csname\HyphSubst@l#1\endcsname\expandafter\endcsname
153   \csname\HyphSubst@l#2\endcsname
154 \@PackageInfo{hyphsubst}{%
155   \msg
156   new value: \number\csname\HyphSubst@l#1\endcsname
157   \lmsg
158 }%
159 \fi
160 \expandafter\endgroup\x
161 }

```

\HyphSubstIfExists

```

162 \def\HyphSubstIfExists#1{%
163   \begingroup\expandafter\expandafter\expandafter\endgroup
164   \expandafter\ifx\csname\HyphSubst@l#1\endcsname\relax
165     \expandafter\@secondoftwo
166   \else
167     \expandafter\@firstoftwo
168   \fi
169 }

```

\@firstoftwo

```

170 \expandafter\ifx\csname @firstoftwo\endcsname\relax
171 \long\def\@firstoftwo#1#2{#1}%
172 \fi

```

\@secondoftwo

```

173 \expandafter\ifx\csname @secondoftwo\endcsname\relax
174 \long\def\@secondoftwo#1#2{#2}%
175 \fi

176 \begingroup\expandafter\expandafter\expandafter\endgroup
177 \expandafter\ifx\csname documentclass\endcsname\relax
178 \expandafter\HyphSubst@AtEnd
179 \fi%

```

```

180 \DeclareOption*{%
181   \expandafter\HyphSubst@Option\CurrentOption==\relax
182 }
183 \def\HyphSubst@Option#1=#2=#3\relax{%
184   \HyphSubstLet{#1}{#2}%
185 }
186 \ProcessOptions*\relax
187 \HyphSubst@AtEnd%
188 \endpackage

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/hyphsubst.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/hyphsubst.pdf](#) Documentation.

**Bundle.** All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

### 3.2 Bundle installation

**Unpacking.** Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

### 3.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain T<sub>E</sub>X:

```
tex hyphsubst.dtx
```

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```

hyphsubst.sty → tex/generic/oberdiek/hyphsubst.sty
hyphsubst.pdf → doc/latex/oberdiek/hyphsubst.pdf
hyphsubst.dtx → source/latex/oberdiek/hyphsubst.dtx

```

If you have a `docstrip.cfg` that configures and enables `docstrip`’s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

---

<sup>1</sup>[CTAN:pkg/hyphsubst](#)

### 3.4 Refresh file name databases

If your T<sub>E</sub>X distribution (T<sub>E</sub>X Live, MiK<sub>T</sub>E<sub>X</sub>, ...) relies on file name databases, you must refresh these. For example, T<sub>E</sub>X Live users run `texhash` or `mktextlsr`.

### 3.5 Some details for the interested

**Unpacking with L<sup>A</sup>T<sub>E</sub>X.** The `.dtx` chooses its action depending on the format:

**plain T<sub>E</sub>X:** Run `docstrip` and extract the files.

**L<sup>A</sup>T<sub>E</sub>X:** Generate the documentation.

If you insist on using L<sup>A</sup>T<sub>E</sub>X for `docstrip` (really, `docstrip` does not need L<sup>A</sup>T<sub>E</sub>X), then inform the `autodetect` routine about your intention:

```
latex \let\install=y\input{hyphsubst.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

**Generating the documentation.** You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL<sup>A</sup>T<sub>E</sub>X:

```
pdflatex hyphsubst.dtx
makeindex -s gind.ist hyphsubst.idx
pdflatex hyphsubst.dtx
makeindex -s gind.ist hyphsubst.idx
pdflatex hyphsubst.dtx
```

## 4 History

[2008/06/07 v0.1]

- First public version.

[2008/06/09 v0.2]

- Support for  $\varepsilon$ -T<sub>E</sub>X's `language.def` added.
- Fix for undefined `\lmsg`.

[2016/05/16 v0.3]

- Documentation updates.

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

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