

# The hyphsubst package

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## Abstract

A  $\text{\TeX}$  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.

## Contents

<b>1</b>	<b>Documentation</b>	<b>1</b>
1.1	In short	1
1.2	Longer version	2
1.3	$\text{\LaTeX}$	3
1.4	plain $\text{\TeX}$	3
<b>2</b>	<b>Implementation</b>	<b>3</b>
2.1	Reload check and package identification	3
2.2	Package	5
<b>3</b>	<b>Installation</b>	<b>7</b>
3.1	Download	7
3.2	Bundle installation	7
3.3	Package installation	7
3.4	Refresh file name databases	7
3.5	Some details for the interested	8
<b>4</b>	<b>History</b>	<b>8</b>
	[2008/06/07 v0.1]	8
	[2008/06/09 v0.2]	8
	[2016/05/16 v0.3]	8
<b>5</b>	<b>Index</b>	<b>8</b>

## 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>`.  $\epsilon$ -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  $\langle *package \rangle$

### 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 (H0)]%
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\edef\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 \</package>

```

## 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  $\text{\TeX}$  distribution ( $\text{\TeX}$  Live,  $\text{mik}\text{\TeX}$ , ...) relies on file name databases, you must refresh these. For example,  $\text{\TeX}$  Live users run `texhash` or `mktextlsr`.

### 3.5 Some details for the interested

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{\TeX}$ :** Run `docstrip` and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for `docstrip` (really, `docstrip` does not need  $\text{\LaTeX}$ ), 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  $\text{pdf}\text{\LaTeX}$ :

```
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  $\varepsilon$ - $\text{\TeX}$ 's `language.def` added.
- Fix for undefined `\lmsg`.

[2016/05/16 v0.3]

- Documentation updates.

## 5 Index

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.

### Symbols

`\@PackageError` ..... 125



\@PackageInfo	154		
\@ehc	125		
\@firstoftwo	167, 170		
\@secondoftwo	165, 173		
\@undefined	58		
<b>A</b>			
\aftergroup	29		
<b>C</b>			
\catcode	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99		
\csname	14, 21, 50, 66, 76, 110, 116, 124, 128, 130, 135, 137, 140, 143, 152, 153, 156, 164, 170, 173, 177		
\CurrentOption	181		
<b>D</b>			
\DeclareOption	180		
<b>E</b>			
\empty	17, 18		
\endcsname	14, 21, 50, 66, 76, 110, 116, 124, 128, 130, 135, 137, 140, 143, 152, 153, 156, 164, 170, 173, 177		
\endinput	29, 108		
\endlinechar	4, 35, 71, 77, 89		
<b>H</b>			
\HyphSubst@AtEnd	95, 96, 108, 178, 187		
\HyphSubst@l	115, 124, 128, 130, 135, 137, 140, 143, 152, 153, 156, 164		
\HyphSubst@Option	181, 183		
\HyphSubstIfExists	2, 162		
\HyphSubstLet	2, 121, 184		
<b>I</b>			
\ifnum	140		
\ifx	15, 18, 21, 50, 58, 61, 110, 116, 124, 128, 164, 170, 173, 177		
\immediate	23, 52		
\input	111		
<b>L</b>			
\language	140, 142, 147		
\lmsg	127, 145, 157		
<b>M</b>			
\MessageBreak	131, 136, 138, 146		
\msg	129, 134, 155		
<b>N</b>			
\number	137, 143, 156		
<b>P</b>			
\PackageInfo	26		
\ProcessOptions	186		
\ProvidesPackage	19, 67		
<b>R</b>			
\RequirePackage	113		
<b>S</b>			
\space	147		
<b>T</b>			
\the	77, 78, 79, 80, 81, 82, 83, 84, 97		
\TMP@EnsureCode	94, 101, 102, 103, 104, 105, 106, 107		
<b>W</b>			
\write	23, 52		
<b>X</b>			
\x	14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87, 123, 141, 160		