

# The etexcmds package

Heiko Oberdiek  
<oberdiek@uni-freiburg.de>

2007/09/09 v1.1

## Abstract

New primitive commands are introduced in  $\varepsilon$ -TeX. Sometimes the names collide with existing macros. This package solves this name clashes by adding a prefix to  $\varepsilon$ -TeX's commands. For example,  $\varepsilon$ -TeX's `\unexpanded` is provided as `\etex@unexpanded`.

## Contents

<b>1</b>	<b>Documentation</b>	<b>1</b>
<b>2</b>	<b>Implementation</b>	<b>2</b>
2.1	Reload check and package identification . . . . .	2
2.2	Catcodes . . . . .	3
2.3	Load package <code>infwarerr</code> . . . . .	3
2.4	<code>\unexpanded</code> . . . . .	3
<b>3</b>	<b>Test</b>	<b>4</b>
3.1	Catcode checks for loading . . . . .	4
3.2	Macro tests . . . . .	5
<b>4</b>	<b>Installation</b>	<b>6</b>
4.1	Download . . . . .	6
4.2	Bundle installation . . . . .	6
4.3	Package installation . . . . .	7
4.4	Refresh file name databases . . . . .	7
4.5	Some details for the interested . . . . .	7
<b>5</b>	<b>History</b>	<b>8</b>
	[2007/04/26 v1.0] . . . . .	8
	[2007/09/09 v1.1] . . . . .	8
<b>6</b>	<b>Index</b>	<b>8</b>

## 1 Documentation

`\etex@unexpanded`

New primitive commands are introduced in  $\varepsilon$ -TeX. Unhappily `\unexpanded` collides with a macro in ConTeXt with the same name. This also affects the L<sup>A</sup>T<sub>E</sub>X world. For example, package `m-ch-de` loads `base/syst-gen.tex` that redefines `\unexpanded`. Thus this package defines `\etex@unexpanded` to get rid of the name clash.

`\ifetex@unexpanded`

Package `etexcmds` can be loaded even if  $\varepsilon$ -TeX is not present or `\unexpanded` cannot be found. The switch `\ifetex@unexpanded` tells whether it is safe to use `\etex@unexpanded`. The switch is true (`\iftrue`) only if the primitive `\unexpanded` has been found and `\etex@unexpanded` is available.

## 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
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \expandafter\let\expandafter\x\csname ver@etexcmds.sty\endcsname
9   \ifcase 0%
10    \ifx\x\relax % plain
11    \else
12      \ifx\x\empty % LaTeX
13      \else
14        1%
15      \fi
16    \fi
17  \else
18    \catcode35 6 % #
19    \catcode123 1 % {
20    \catcode125 2 % }
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{etexcmds}{The package is already loaded}%
29  \endgroup
30  \expandafter\endinput
31 \fi
32 \endgroup
```

Package identification:

```
33 \begingroup
34   \catcode35 6 % #
35   \catcode40 12 % (
36   \catcode41 12 % )
37   \catcode44 12 % ,
38   \catcode45 12 % -
39   \catcode46 12 % .
40   \catcode47 12 % /
41   \catcode58 12 % :
42   \catcode64 11 % @
43   \catcode123 1 % {
44   \catcode125 2 % }
45   \expandafter\ifx\csname ProvidesPackage\endcsname\relax
46     \def\x#1#2#3[#4]{\endgroup
47       \immediate\write-1{Package: #3 #4}%
```

```

48     \xdef#1{#4}%
49   }%
50   \else
51     \def\x#1#2[#3]{\endgroup
52       #2[#3]}%
53     \ifx#1\relax
54       \xdef#1{#3}%
55     \fi
56   }%
57 \fi
58 \expandafter\x\csname ver@etexcmds.sty\endcsname
59 \ProvidesPackage{etexcmds}%
60 [2007/09/09 v1.1 Prefix for e-TeX command names (H0)]

```

## 2.2 Catcodes

```

61 \begingroup
62   \catcode123 1 % {
63   \catcode125 2 % }
64   \def\x{\endgroup
65     \expandafter\edef\csname etexcmds@AtEnd\endcsname{%
66       \catcode35 \the\catcode35\relax
67       \catcode64 \the\catcode64\relax
68       \catcode123 \the\catcode123\relax
69       \catcode125 \the\catcode125\relax
70     }%
71   }%
72 \x
73 \catcode35 6 % #
74 \catcode64 11 % @
75 \catcode123 1 % {
76 \catcode125 2 % }
77 \def\TMP@EnsureCode#1#2{%
78   \edef\etexcmds@AtEnd{%
79     \etexcmds@AtEnd
80     \catcode#1 \the\catcode#1\relax
81   }%
82   \catcode#1 #2\relax
83 }
84 \TMP@EnsureCode{44}{12}% ,
85 \TMP@EnsureCode{45}{12}% -
86 \TMP@EnsureCode{46}{12}% .
87 \TMP@EnsureCode{47}{12}% /
88 \TMP@EnsureCode{61}{12}% =

```

## 2.3 Load package infwarerr

```

89 \begingroup\expandafter\expandafter\expandafter\endgroup
90 \expandafter\ifx\csname RequirePackage\endcsname\relax
91   \input infwarerr.sty\relax
92 \else
93   \RequirePackage{infwarerr}[2007/09/09]%
94 \fi

```

## 2.4 \unexpanded

\ifetex@unexpanded

```

95 \newif\ifetex@unexpanded

```

\etex@unexpanded

```

96 \begingroup
97 \escapechar=92 % backslash
98 \edef\x{\string\unexpanded}%

```

```

99 \edef\y{\meaning\unexpanded}%
100 \ifx\x\y
101   \endgroup
102   \let\etex@unexpanded\unexpanded
103   \etex@unexpandedtrue
104 \else
105   \edef\y{\meaning\normalunexpanded}%
106   \ifx\x\y
107     \endgroup
108     \let\etex@unexpanded\normalunexpanded
109     \etex@unexpandedtrue
110   \else
111     \edef\y{\meaning\@@unexpanded}%
112     \ifx\y
113       \endgroup
114       \let\etex@unexpanded\@@unexpanded
115       \etex@unexpandedtrue
116     \else
117       \endgroup
118       \@PackageInfoNoLine{etexcmds}{%
119         Could not find \string\unexpanded.\MessageBreak
120         That can mean that you are not using e-TeX or\MessageBreak
121         that some package has redefined \string\unexpanded.\MessageBreak
122         In the latter case, load this package earlier%
123       }%
124       \etex@unexpandedfalse
125     \fi
126   \fi
127 \fi

128 \etexcmds@AtEnd
129 \end{package}

```

## 3 Test

### 3.1 Catcode checks for loading

```

130 \test1\
131 \catcode'\{=1 %
132 \catcode'\}=2 %
133 \catcode'\#=6 %
134 \catcode'\@=11 %
135 \expandafter\ifx\csname count\endcsname\relax
136   \countdef\count@=255 %
137 \fi
138 \expandafter\ifx\csname @gobble\endcsname\relax
139   \long\def@gobble#1{%
140 \fi
141 \expandafter\ifx\csname @firstofone\endcsname\relax
142   \long\def@firstofone#1{#1}%
143 \fi
144 \expandafter\ifx\csname loop\endcsname\relax
145   \expandafter@firstofone
146 \else
147   \expandafter@gobble
148 \fi
149 {%
150   \def\loop#1\repeat{%
151     \def\body{#1}%
152     \iterate
153   }%
154   \def\iterate{%

```

```

155     \body
156     \let\next\iterate
157     \else
158     \let\next\relax
159     \fi
160     \next
161 }%
162 \let\repeat=\fi
163 }%
164 \def\RestoreCatcodes{}
165 \count@=0 %
166 \loop
167   \edef\RestoreCatcodes{%
168     \RestoreCatcodes
169     \catcode\the\count@=\the\catcode\count@\relax
170   }%
171   \ifnum\count@<255 %
172     \advance\count@ 1 %
173   \repeat
174
175 \def\RangeCatcodeInvalid#1#2{%
176   \count@=#1\relax
177   \loop
178     \catcode\count@=15 %
179     \ifnum\count@<#2\relax
180       \advance\count@ 1 %
181     \repeat
182 }
183 \def\Test{%
184   \RangeCatcodeInvalid{0}{47}%
185   \RangeCatcodeInvalid{58}{64}%
186   \RangeCatcodeInvalid{91}{96}%
187   \RangeCatcodeInvalid{123}{255}%
188   \catcode'\@=12 %
189   \catcode'\=0 %
190   \catcode'\{=1 %
191   \catcode'\}=2 %
192   \catcode'\#=6 %
193   \catcode'\[=12 %
194   \catcode'\]=12 %
195   \catcode'\%=14 %
196   \catcode'\ =10 %
197   \catcode13=5 %
198   \input etexcmds.sty\relax
199   \RestoreCatcodes
200 }
201 \Test
202 \csname @@end\endcsname
203 \end
204 </test1>

```

## 3.2 Macro tests

```

205 <*test2>
206 \immediate\write16{etexcmds-test2.tex: test file for plainTeX}
207 \input etexcmds.sty\relax
208 \catcode'\@=11 %
209 \edef\x{\string\unexpanded}
210 \edef\y{\meaning\etex\unexpanded}
211 \ifx\x\y
212 \else
213   \@PackageError{etexcmds-test2}{Test failed}\@ehc
214 \fi

```

```

215 \end
216 </test2>

217 (*test3)
218 \NeedsTeXFormat{LaTeX2e}
219 \ProvidesFile{etexcmds-test3.tex}[2007/09/09 v1.1 Test file for LaTeX]
220 \RequirePackage{etexcmds}
221 \makeatletter
222 \edef\x{\string\unexpanded}
223 \edef\y{\meaning\etex@unexpanded}
224 \ifx\x\y
225 \else
226   \@PackageError{etexcmds-test3}{Test failed}\@ehc
227 \fi
228 \stop
229 </test3>

230 (*test4)
231 \NeedsTeXFormat{LaTeX2e}
232 \ProvidesFile{etexcmds-test4.tex}[2007/09/09 v1.1 Test file for LaTeX]
233 \documentclass{article}
234 \usepackage{m-pictex}
235 \usepackage{m-ch-de}
236 \usepackage{etexcmds}
237 \makeatletter
238 \ifetex@unexpanded
239   \edef\x{\string\unexpanded}%
240   \edef\y{\meaning\etex@unexpanded}%
241   \ifx\x\y
242   \else
243     \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
244   \fi
245 \else
246   \@PackageWarningNoLine{etexcmds-test4}{%
247     Test failed because of ConTeXt%
248   }%
249 \fi
250 \stop
251 </test4>

```

## 4 Installation

### 4.1 Download

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

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

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

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

### 4.2 Bundle installation

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

---

<sup>1</sup>[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

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

**Script installation.** Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

### 4.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain- $\TeX$ :

```
tex etexcmds.dtx
```

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

```
etexcmds.sty      → tex/generic/oberdiek/etexcmds.sty
etexcmds.pdf      → doc/latex/oberdiek/etexcmds.pdf
test/etexcmds-test1.tex → doc/latex/oberdiek/test/etexcmds-test1.tex
test/etexcmds-test2.tex → doc/latex/oberdiek/test/etexcmds-test2.tex
test/etexcmds-test3.tex → doc/latex/oberdiek/test/etexcmds-test3.tex
test/etexcmds-test4.tex → doc/latex/oberdiek/test/etexcmds-test4.tex
etexcmds.dtx      → source/latex/oberdiek/etexcmds.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.

### 4.4 Refresh file name databases

If your  $\TeX$  distribution (te $\TeX$ , mik $\TeX$ , ...) relies on file name databases, you must refresh these. For example, te $\TeX$  users run `texhash` or `mktextlsr`.

### 4.5 Some details for the interested

**Attached source.** The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk etexcmds.pdf unpack_files output .
```

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

**plain- $\TeX$ :** Run docstrip and extract the files.

**$\LaTeX$ :** Generate the documentation.

If you insist on using  $\LaTeX$  for docstrip (really, docstrip does not need  $\LaTeX$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{etexcmds.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 etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
```

## 5 History

[2007/04/26 v1.0]

- First version.

[2007/09/09 v1.1]

- Documentation for `\ifetex@unexpanded` added.
- Catcode section rewritten.

## 6 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; numbers in *roman* refer to the code lines where the entry is used.

Symbols		38, 39, 40, 41, 42, 43, 44, 62,
\#	133, 192	63, 66, 67, 68, 69, 73, 74, 75,
\%	195	76, 80, 82, 131, 132, 133, 134,
\@	134, 188, 208	169, 178, 188, 189, 190, 191,
\@@unexpanded	111, 114	192, 193, 194, 195, 196, 197, 208
\@PackageError	213, 226	\count@ 136, 165,
\@PackageInfoNoLine	118	169, 171, 172, 176, 178, 179, 180
\@PackageWarningNoLine	243, 246	\countdef 136
\@ehc	213, 226	\csname 8, 21, 45,
\@firstofone	142, 145	58, 65, 90, 135, 138, 141, 144, 202
\@gobble	139, 147	
\[	193	D
\\	189	\documentclass 233
\{	131, 190	E
\}	132, 191	\empty 12
\]	194	\end 203, 215
		\endcsname 8, 21, 45,
\_	196	58, 65, 90, 135, 138, 141, 144, 202
A		\endinput 30
\advance	172, 180	\escapechar 97
B		\etex@unexpanded 1, 96, 210, 223, 240
\body	151, 155	\etex@unexpandedfalse 124
C		\etex@unexpandedtrue 103, 109, 115
\catcode	3, 4, 5,	\etexcmds@AtEnd 78, 79, 128
6, 7, 18, 19, 20, 34, 35, 36, 37,		I
		\ifcase 9



<code>\ifetex@unexpanded</code> .....	2, 95, 238	<code>\repeat</code> .....	150, 162, 173, 181
<code>\ifnum</code> .....	171, 179	<code>\RequirePackage</code> .....	93, 220
<code>\ifx</code> .....	10, 12, 21, 45, 53, 90, 100, 106, 112, 135, 138, 141, 144, 211, 224, 241	<code>\RestoreCatcodes</code> ..	164, 167, 168, 199
<code>\immediate</code> .....	23, 47, 206	<b>S</b>	
<code>\input</code> .....	91, 198, 207	<code>\stop</code> .....	228, 250
<code>\iterate</code> .....	152, 154, 156	<b>T</b>	
<b>L</b>		<code>\Test</code> .....	183, 201
<code>\loop</code> .....	150, 166, 177	<code>\the</code> .....	66, 67, 68, 69, 80, 169
<b>M</b>		<code>\TMP@EnsureCode</code> ..	77, 84, 85, 86, 87, 88
<code>\makeatletter</code> .....	221, 237	<b>U</b>	
<code>\meaning</code> ...	99, 105, 111, 210, 223, 240	<code>\unexpanded</code> .....	98, 99, 102, 119, 121, 209, 222, 239
<code>\MessageBreak</code> .....	119, 120, 121	<code>\usepackage</code> .....	234, 235, 236
<b>N</b>		<b>W</b>	
<code>\NeedsTeXFormat</code> .....	218, 231	<code>\write</code> .....	23, 47, 206
<code>\newif</code> .....	95	<b>X</b>	
<code>\next</code> .....	156, 158, 160	<code>\x</code> .....	8, 10, 12, 22, 26, 28, 46, 51, 58, 64, 72, 98, 100, 106, 209, 211, 222, 224, 239, 241
<code>\normalunexpanded</code> .....	105, 108	<b>Y</b>	
<b>P</b>		<code>\y</code> .....	99, 100, 105, 106, 111, 112, 210, 211, 223, 224, 240, 241
<code>\PackageInfo</code> .....	26		
<code>\ProvidesFile</code> .....	219, 232		
<code>\ProvidesPackage</code> .....	59		
<b>R</b>			
<code>\RangeCatcodeInvalid</code> .....	175, 184, 185, 186, 187		