

The etexcmds package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

2007/12/12 v1.2

Abstract

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

Contents

1	Documentation	1
1.1	<code>\unexpanded</code>	1
1.2	<code>\expanded</code>	2
2	Implementation	2
2.1	Reload check and package identification	2
2.2	Catcodes	3
2.3	Load package infwarerr	4
2.4	<code>\unexpanded</code>	4
2.5	<code>\expanded</code>	4
3	Test	5
3.1	Catcode checks for loading	5
3.2	Macro tests	6
4	Installation	7
4.1	Download	7
4.2	Bundle installation	7
4.3	Package installation	8
4.4	Refresh file name databases	8
4.5	Some details for the interested	8
5	History	9
	[2007/05/06 v1.0]	9
	[2007/09/09 v1.1]	9
	[2007/12/12 v1.2]	9
6	Index	9

1 Documentation

1.1 `\unexpanded`

`\etex@unexpanded`

New primitive commands are introduced in ε -TeX. Unhappily `\unexpanded` collides with a macro in ConTeXt with the same name. This also affects the L^AT_EX

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 ϵ -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.

1.2 `\expanded`

Probably `\expanded` will be added in pdfTeX 1.50.4 and L^AT_EX. Again ConT_EXt defines this as macro. Therefore version 1.2 of this packages also provides `\etex@expanded` and `\ifetex@unexpanded`.

2 Implementation

1 `(*package)`

2.1 Reload check and package identification

Reload check, especially if the package is not used with L^AT_EX.

```

2 \begingroup
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \catcode123 1 % {
9   \catcode125 2 % }
10  \expandafter\let\expandafter\x\csname ver@etexcmds.sty\endcsname
11  \ifx\x\relax % plain-TeX, first loading
12  \else
13    \def\empty{}%
14    \ifx\x\empty % LaTeX, first loading,
15      % variable is initialized, but \ProvidesPackage not yet seen
16    \else
17      \catcode35 6 % #
18      \expandafter\ifx\csname PackageInfo\endcsname\relax
19        \def\x#1#2{%
20          \immediate\write-1{Package #1 Info: #2.}%
21        }%
22      \else
23        \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24      \fi
25      \x{etexcmds}{The package is already loaded}%
26    \aftergroup\endinput
27  \fi
28 \fi
29 \endgroup

```

Package identification:

```

30 \begingroup
31   \catcode35 6 % #
32   \catcode40 12 % (
33   \catcode41 12 % )
34   \catcode44 12 % ,
35   \catcode45 12 % -
36   \catcode46 12 % .

```

```

37 \catcode47 12 % /
38 \catcode58 12 % :
39 \catcode64 11 % @
40 \catcode91 12 % [
41 \catcode93 12 % ]
42 \catcode123 1 % {
43 \catcode125 2 % }
44 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
45   \def\x#1#2#3[#4]{\endgroup
46     \immediate\write-1{Package: #3 #4}%
47     \xdef#1{#4}%
48   }%
49 \else
50   \def\x#1#2[#3]{\endgroup
51     #2[{#3}]%
52     \ifx#1\@undefined
53       \xdef#1{#3}%
54     \fi
55     \ifx#1\relax
56       \xdef#1{#3}%
57     \fi
58   }%
59 \fi
60 \expandafter\x\csname ver@etexcmds.sty\endcsname
61 \ProvidesPackage{etexcmds}%
62 [2007/12/12 v1.2 Prefix for e-TeX command names (H0)]

```

2.2 Catcodes

```

63 \begingroup
64 \catcode123 1 % {
65 \catcode125 2 % }
66 \def\x{\endgroup
67   \expandafter\edef\csname etexcmds@AtEnd\endcsname{%
68     \catcode35 \the\catcode35\relax
69     \catcode64 \the\catcode64\relax
70     \catcode123 \the\catcode123\relax
71     \catcode125 \the\catcode125\relax
72   }%
73 }%
74 \x
75 \catcode35 6 % #
76 \catcode64 11 % @
77 \catcode123 1 % {
78 \catcode125 2 % }
79 \def\TMP@EnsureCode#1#2{%
80   \edef\etexcmds@AtEnd{%
81     \etexcmds@AtEnd
82     \catcode#1 \the\catcode#1\relax
83   }%
84   \catcode#1 #2\relax
85 }
86 \TMP@EnsureCode{44}{12}% ,
87 \TMP@EnsureCode{45}{12}% -
88 \TMP@EnsureCode{46}{12}% .
89 \TMP@EnsureCode{47}{12}% /
90 \TMP@EnsureCode{61}{12}% =
91 \edef\etexcmds@AtEnd{%
92   \etexcmds@AtEnd
93   \escapechar\the\escapechar\relax
94 }
95 \escapechar=92 % backslash

```

2.3 Load package infwarerr

```
96 \begingroup\expandafter\expandafter\expandafter\endgroup
97 \expandafter\ifx\csname RequirePackage\endcsname\relax
98   \input infwarerr.sty\relax
99 \else
100   \RequirePackage{infwarerr}[2007/09/09]%
101 \fi
```

2.4 \unexpanded

\ifetex@unexpanded

```
102 \newif\ifetex@unexpanded
```

\etex@unexpanded

```
103 \begingroup
104 \edef\x{\string\unexpanded}%
105 \edef\y{\meaning\unexpanded}%
106 \ifx\x\y
107   \endgroup
108   \let\etex@unexpanded\unexpanded
109   \etex@unexpandedtrue
110 \else
111   \edef\y{\meaning\normalunexpanded}%
112   \ifx\x\y
113     \endgroup
114     \let\etex@unexpanded\normalunexpanded
115     \etex@unexpandedtrue
116   \else
117     \edef\y{\meaning\@@unexpanded}%
118     \ifx\y
119       \endgroup
120       \let\etex@unexpanded\@@unexpanded
121       \etex@unexpandedtrue
122     \else
123       \endgroup
124       \@PackageInfoNoLine{etexcmds}{%
125         Could not find \string\unexpanded.\MessageBreak
126         That can mean that you are not using e-TeX or\MessageBreak
127         that some package has redefined \string\unexpanded.\MessageBreak
128         In the latter case, load this package earlier%
129       }%
130       \etex@unexpandedfalse
131   \fi
132 \fi
133 \fi
```

2.5 \expanded

\ifetex@expanded

```
134 \newif\ifetex@expanded
```

\etex@expanded

```
135 \begingroup
136 \edef\x{\string\expanded}%
137 \edef\y{\meaning\expanded}%
138 \ifx\x\y
139   \endgroup
140   \let\etex@expanded\expanded
141   \etex@expandedtrue
142 \else
143   \edef\y{\meaning\normalexpanded}%
```

```

144 \ifx\x\y
145 \endgroup
146 \let\etex@expanded\normalexpanded
147 \etex@expandedtrue
148 \else
149 \edef\y{\meaning\@expanded}%
150 \ifx\y
151 \endgroup
152 \let\etex@expanded\@expanded
153 \etex@expandedtrue
154 \else
155 \endgroup
156 \@PackageInfoNoLine{etexcmds}{%
157   Could not find \string\expanded.\MessageBreak
158   That can mean that you are not using pdfTeX 1.50 or\MessageBreak
159   that some package has redefined \string\expanded.\MessageBreak
160   In the latter case, load this package earlier%
161 }%
162 \etex@expandedfalse
163 \fi
164 \fi
165 \fi

166 \etexcmds@AtEnd
167 \end{package}

```

3 Test

3.1 Catcode checks for loading

```

168 \test1\
169 \catcode'\{=1 %
170 \catcode'\}=2 %
171 \catcode'\#=6 %
172 \catcode'\@=11 %
173 \expandafter\ifx\csname count\endcsname\relax
174 \countdef\count@=255 %
175 \fi
176 \expandafter\ifx\csname @gobble\endcsname\relax
177 \long\def\@gobble#1{}%
178 \fi
179 \expandafter\ifx\csname @firstofone\endcsname\relax
180 \long\def\@firstofone#1{#1}%
181 \fi
182 \expandafter\ifx\csname loop\endcsname\relax
183 \expandafter\@firstofone
184 \else
185 \expandafter\@gobble
186 \fi
187 {%
188 \def\loop#1\repeat{%
189 \def\body{#1}%
190 \iterate
191 }%
192 \def\iterate{%
193 \body
194 \let\next\iterate
195 \else
196 \let\next\relax
197 \fi
198 \next
199 }%

```

```

200 \let\repeat=\fi
201 }%
202 \def\RestoreCatcodes{}
203 \count@=0 %
204 \loop
205   \edef\RestoreCatcodes{%
206     \RestoreCatcodes
207     \catcode\the\count@=\the\catcode\count@\relax
208   }%
209 \ifnum\count@<255 %
210   \advance\count@ 1 %
211 \repeat
212
213 \def\RangeCatcodeInvalid#1#2{%
214   \count@=#1\relax
215   \loop
216     \catcode\count@=15 %
217   \ifnum\count@<#2\relax
218     \advance\count@ 1 %
219   \repeat
220 }
221 \expandafter\ifx\csname LoadCommand\endcsname\relax
222   \def\LoadCommand{\input etexcmds.sty\relax}%
223 \fi
224 \def\Test{%
225   \RangeCatcodeInvalid{0}{47}%
226   \RangeCatcodeInvalid{58}{64}%
227   \RangeCatcodeInvalid{91}{96}%
228   \RangeCatcodeInvalid{123}{255}%
229   \catcode'\@=12 %
230   \catcode'\=0 %
231   \catcode'\{=1 %
232   \catcode'\}=2 %
233   \catcode'\#=6 %
234   \catcode'\[=12 %
235   \catcode'\]=12 %
236   \catcode'\%=14 %
237   \catcode'\ =10 %
238   \catcode13=5 %
239   \LoadCommand
240   \RestoreCatcodes
241 }
242 \Test
243 \csname @@end\endcsname
244 \end
245 </test1>

```

3.2 Macro tests

```

246 <*test2>
247 \immediate\write16{etexcmds-test2.tex: test file for plainTeX}
248 \input etexcmds.sty\relax
249 \catcode'\@=11 %
250 \edef\x{\string\unexpanded}
251 \edef\y{\meaning\etex\unexpanded}
252 \ifx\x\y
253 \else
254   \@PackageError{etexcmds-test2}{Test failed}\@ehc
255 \fi
256 \end
257 </test2>
258 <*test3>
259 \NeedsTeXFormat{LaTeX2e}

```

```

260 \ProvidesFile{etexcmds-test3.tex}[2007/12/12 v1.2 Test file for LaTeX]
261 \RequirePackage{etexcmds}
262 \makeatletter
263 \edef\x{\string\unexpanded}
264 \edef\y{\meaning\etex@unexpanded}
265 \ifx\x\y
266 \else
267   \@PackageError{etexcmds-test3}{Test failed}\@ehc
268 \fi
269 \stop
270 </test3>

271 (*test4)
272 \NeedsTeXFormat{LaTeX2e}
273 \ProvidesFile{etexcmds-test4.tex}[2007/12/12 v1.2 Test file for LaTeX]
274 \documentclass{article}
275 \usepackage{m-pictex}
276 \usepackage{m-ch-de}
277 \usepackage{etexcmds}
278 \makeatletter
279 \ifetex@unexpanded
280   \edef\x{\string\unexpanded}%
281   \edef\y{\meaning\etex@unexpanded}%
282   \ifx\x\y
283   \else
284     \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
285   \fi
286 \else
287   \@PackageWarningNoLine{etexcmds-test4}{%
288     Test failed because of ConTeXt%
289   }%
290 \fi
291 \stop
292 </test4>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

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

TDS refers to the standard “A Directory Structure for T_EX 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):

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

¹<ftp://ftp.ctan.org/tex-archive/>

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^AT_EX:

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

5 History

[2007/05/06 v1.0]

- First version.

[2007/09/09 v1.1]

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

[2007/12/12 v1.2]

- `\etex@expanded` added.

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			
<code>\#</code>	171, 233	<code>\aftergroup</code>	26
<code>\%</code>	236	B	
<code>\@</code>	172, 229, 249	<code>\body</code>	189, 193
<code>\@@expanded</code>	149, 152	C	
<code>\@@unexpanded</code>	117, 120	<code>\catcode</code>	3, 4, 5, 6, 7, 8, 9, 17, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 64, 65, 68, 69, 70, 71, 75, 76, 77, 78, 82, 84, 169, 170, 171, 172, 207, 216, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 249
<code>\@PackageError</code>	254, 267	<code>\count@</code>	174, 203, 207, 209, 210, 214, 216, 217, 218
<code>\@PackageInfoNoLine</code>	124, 156	<code>\countdef</code>	174
<code>\@PackageWarningNoLine</code>	284, 287	<code>\curname</code>	10, 18, 44, 60, 67, 97, 173, 176, 179, 182, 221, 243
<code>\@ehc</code>	254, 267	D	
<code>\@firstofone</code>	180, 183	<code>\documentclass</code>	274
<code>\@gobble</code>	177, 185	E	
<code>\@undefined</code>	52	<code>\advance</code>	210, 218
<code>\[</code>	234	<code>\empty</code>	13, 14
<code>\]</code>	230		
<code>\{</code>	169, 231		
<code>\}</code>	170, 232		
<code>\]</code>	235		
<code>_</code>	237		
A			

<code>\end</code>	244, 256	<code>\normalexpanded</code>	143, 146
<code>\endscname</code>	10, 18, 44, 60, 67, 97, 173, 176, 179, 182, 221, 243	<code>\normalunexpanded</code>	111, 114
<code>\endinginput</code>	26	P	
<code>\escapechar</code>	93, 95	<code>\PackageInfo</code>	23
<code>\etex@expanded</code>	135	<code>\ProvidesFile</code>	260, 273
<code>\etex@expandedfalse</code>	162	<code>\ProvidesPackage</code>	15, 61
<code>\etex@expandedtrue</code>	141, 147, 153	R	
<code>\etex@unexpanded</code>	1, 103, 251, 264, 281	<code>\RangeCatcodeInvalid</code>	
<code>\etex@unexpandedfalse</code>	130	213, 225, 226, 227, 228
<code>\etex@unexpandedtrue</code> ..	109, 115, 121	<code>\repeat</code>	188, 200, 211, 219
<code>\etexcmds@AtEnd</code>	80, 81, 91, 92, 166	<code>\RequirePackage</code>	100, 261
<code>\expanded</code>	136, 137, 140, 157, 159	<code>\RestoreCatcodes</code> ..	202, 205, 206, 240
I			
<code>\ifetex@expanded</code>	134	S	
<code>\ifetex@unexpanded</code>	2, 102, 279	<code>\stop</code>	269, 291
<code>\ifnum</code>	209, 217	T	
<code>\ifx</code> ..	11, 14, 18, 44, 52, 55, 97, 106, 112, 118, 138, 144, 150, 173, 176, 179, 182, 221, 252, 265, 282	<code>\Test</code>	224, 242
<code>\immediate</code>	20, 46, 247	<code>\the</code>	68, 69, 70, 71, 82, 93, 207
<code>\input</code>	98, 222, 248	<code>\TMP@EnsureCode</code> ..	79, 86, 87, 88, 89, 90
<code>\iterate</code>	190, 192, 194	U	
L			
<code>\LoadCommand</code>	222, 239	<code>\unexpanded</code>	104, 105, 108, 125, 127, 250, 263, 280
<code>\loop</code>	188, 204, 215	<code>\usepackage</code>	275, 276, 277
M			
<code>\makeatletter</code>	262, 278	W	
<code>\meaning</code>	105, 111, 117, 137, 143, 149, 251, 264, 281	<code>\write</code>	20, 46, 247
<code>\MessageBreak</code>		X	
.....	125, 126, 127, 157, 158, 159	<code>\x</code> ..	10, 11, 14, 19, 23, 25, 45, 50, 60, 66, 74, 104, 106, 112, 136, 138, 144, 250, 252, 263, 265, 280, 282
N			
<code>\NeedsTeXFormat</code>	259, 272	Y	
<code>\newif</code>	102, 134	<code>\y</code>	105, 106, 111, 112, 117, 118, 137, 138, 143, 144, 149, 150, 251, 252, 264, 265, 281, 282
<code>\next</code>	194, 196, 198		