

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	3
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 ConTeXt 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   \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 [2007/12/12 v1.2 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}% =
89 \edef\etexcmds@AtEnd{%
90   \etexcmds@AtEnd
91   \escapechar\the\escapechar\relax
92 }
93 \escapechar=92 % backslash

```

2.3 Load package infwarerr

```

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

```

2.4 \unexpanded

\ifetex@unexpanded

```
100 \newif\ifetex@unexpanded
```

\etex@unexpanded

```

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

```

2.5 \expanded

\ifetex@expanded

```
132 \newif\ifetex@expanded
```

\etex@expanded

```

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

```

```

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

164 \etexcmds@AtEnd
165 </package>

```

3 Test

3.1 Catcode checks for loading

```

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

```

```

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

```

3.2 Macro tests

```

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

256 <*test3>
257 \NeedsTeXFormat{LaTeX2e}
258 \ProvidesFile{etexcmds-test3.tex}[2007/12/12 v1.2 Test file for LaTeX]
259 \RequirePackage{etexcmds}

```

```

260 \makeatletter
261 \edef\x{\string\unexpanded}
262 \edef\y{\meaning\etex\unexpanded}
263 \ifx\x\y
264 \else
265   \@PackageError{etexcmds-test3}{Test failed}\@ehc
266 \fi
267 \stop
268 \test3}

269 (*test4)
270 \NeedsTeXFormat{LaTeX2e}
271 \ProvidesFile{etexcmds-test4.tex}[2007/12/12 v1.2 Test file for LaTeX]
272 \documentclass{article}
273 \usepackage{m-pictex}
274 \usepackage{m-ch-de}
275 \usepackage{etexcmds}
276 \makeatletter
277 \ifetex\unexpanded
278   \edef\x{\string\unexpanded}%
279   \edef\y{\meaning\etex\unexpanded}%
280   \ifx\x\y
281   \else
282     \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
283   \fi
284 \else
285   \@PackageWarningNoLine{etexcmds-test4}{%
286     Test failed because of ConTeXt%
287   }%
288 \fi
289 \stop
290 \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 \TeX 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<http://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		B	
<code>\#</code>	169, 231	<code>\body</code>	187, 191
<code>\%</code>	234	C	
<code>\@</code>	170, 227, 247	<code>\catcode</code>	3, 4, 5, 6, 7, 18, 19, 20, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 62, 63, 66, 67, 68, 69, 73, 74, 75, 76, 80, 82, 167, 168, 169, 170, 205, 214, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 247
<code>\@@expanded</code>	147, 150	<code>\count@</code>	172, 201, 205, 207, 208, 212, 214, 215, 216
<code>\@@unexpanded</code>	115, 118	<code>\countdef</code>	172
<code>\@PackageError</code>	252, 265	<code>\csname</code>	8, 21, 45, 58, 65, 95, 171, 174, 177, 180, 219, 241
<code>\@PackageInfoNoLine</code>	122, 154	D	
<code>\@PackageWarningNoLine</code>	282, 285	<code>\documentclass</code>	272
<code>\@ehc</code>	252, 265	E	
<code>\@firstofone</code>	178, 181	<code>\empty</code>	12
<code>\@gobble</code>	175, 183	<code>\end</code>	242, 254
<code>\[</code>	232	A	
<code>\]</code>	228	<code>\advance</code>	208, 216
<code>\{</code>	167, 229	B	
<code>\}</code>	168, 230	<code>\body</code>	187, 191
<code>\]</code>	233	C	
<code>_</code>	235	<code>\catcode</code>	3, 4, 5, 6, 7, 18, 19, 20, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 62, 63, 66, 67, 68, 69, 73, 74, 75, 76, 80, 82, 167, 168, 169, 170, 205, 214, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 247
A		<code>\count@</code>	172, 201, 205, 207, 208, 212, 214, 215, 216
<code>\advance</code>	208, 216	<code>\countdef</code>	172
B		<code>\csname</code>	8, 21, 45, 58, 65, 95, 171, 174, 177, 180, 219, 241
<code>\body</code>	187, 191	D	
C		<code>\documentclass</code>	272
<code>\catcode</code>	3, 4, 5, 6, 7, 18, 19, 20, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 62, 63, 66, 67, 68, 69, 73, 74, 75, 76, 80, 82, 167, 168, 169, 170, 205, 214, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 247	E	
<code>\count@</code>	172, 201, 205, 207, 208, 212, 214, 215, 216	<code>\empty</code>	12
<code>\countdef</code>	172	<code>\end</code>	242, 254
<code>\csname</code>	8, 21, 45, 58, 65, 95, 171, 174, 177, 180, 219, 241	A	
D		<code>\advance</code>	208, 216
<code>\documentclass</code>	272	B	
E		<code>\body</code>	187, 191
<code>\empty</code>	12	C	
<code>\end</code>	242, 254	<code>\catcode</code>	3, 4, 5, 6, 7, 18, 19, 20, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 62, 63, 66, 67, 68, 69, 73, 74, 75, 76, 80, 82, 167, 168, 169, 170, 205, 214, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 247

<code>\endcsname</code>	8, 21, 45, 58, 65, 95, 171, 174, 177, 180, 219, 241	<code>\normalexpanded</code>	141, 144
<code>\endinput</code>	30	<code>\normalunexpanded</code>	109, 112
<code>\escapechar</code>	91, 93	P	
<code>\etex@expanded</code>	133	<code>\PackageInfo</code>	26
<code>\etex@expandedfalse</code>	160	<code>\ProvidesFile</code>	258, 271
<code>\etex@expandedtrue</code>	139, 145, 151	<code>\ProvidesPackage</code>	59
<code>\etex@unexpanded</code>	1, 101, 249, 262, 279	R	
<code>\etex@unexpandedfalse</code>	128	<code>\RangeCatcodeInvalid</code>	
<code>\etex@unexpandedtrue</code>	107, 113, 119	211, 223, 224, 225, 226
<code>\etexcmds@AtEnd</code>	78, 79, 89, 90, 164	<code>\repeat</code>	186, 198, 209, 217
<code>\expanded</code>	134, 135, 138, 155, 157	<code>\RequirePackage</code>	98, 259
I		<code>\RestoreCatcodes</code>	200, 203, 204, 238
<code>\ifcase</code>	9	S	
<code>\ifetex@expanded</code>	132	<code>\stop</code>	267, 289
<code>\ifetex@unexpanded</code>	2, 100, 277	T	
<code>\ifnum</code>	207, 215	<code>\Test</code>	222, 240
<code>\ifx</code>	10, 12, 21, 45, 53, 95, 104, 110, 116, 136, 142, 148, 171, 174, 177, 180, 219, 250, 263, 280	<code>\the</code>	66, 67, 68, 69, 80, 91, 205
<code>\immediate</code>	23, 47, 245	<code>\TMP@EnsureCode</code>	77, 84, 85, 86, 87, 88
<code>\input</code>	96, 220, 246	U	
<code>\iterate</code>	188, 190, 192	<code>\unexpanded</code>	102, 103, 106, 123, 125, 248, 261, 278
L		<code>\usepackage</code>	273, 274, 275
<code>\LoadCommand</code>	220, 237	W	
<code>\loop</code>	186, 202, 213	<code>\write</code>	23, 47, 245
M		X	
<code>\makeatletter</code>	260, 276	<code>\x</code>	8, 10, 12, 22, 26, 28, 46, 51, 58, 64, 72, 102, 104, 110, 134, 136, 142, 248, 250, 261, 263, 278, 280
<code>\meaning</code>	103, 109, 115, 135, 141, 147, 249, 262, 279	Y	
<code>\MessageBreak</code>	123, 124, 125, 155, 156, 157	<code>\y</code>	103, 104, 109, 110, 115, 116, 135, 136, 141, 142, 147, 148, 249, 250, 262, 263, 279, 280
N			
<code>\NeedsTeXFormat</code>	257, 270		
<code>\newif</code>	100, 132		
<code>\next</code>	192, 194, 196		