

# The etexcmds package

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## 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`.

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## 1 Documentation

### 1.1 `\unexpanded`

`\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 LaTeX 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.

### 1.2 `\expanded`

Probably `\expanded` will be added in pdfTeX 1.50 and LuaTeX. 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 LaTeX.

```

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@etexcmds.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{etexcmds}{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@etexcmds.sty\endcsname
67 \ProvidesPackage{etexcmds}%
68 [2011/02/16 v1.5 Avoid name clashes with e-TeX commands (HO)]%

```

## 2.2 Catcodes

```

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 etexcmds@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\etexcmds@AtEnd{%
96 \etexcmds@AtEnd
97 \catcode#1=\the\catcode#1\relax
98 }%
99 \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{40}{12}% (
103 \TMP@EnsureCode{41}{12}% )
104 \TMP@EnsureCode{44}{12}% ,
105 \TMP@EnsureCode{45}{12}% -
106 \TMP@EnsureCode{46}{12}% .
107 \TMP@EnsureCode{47}{12}% /
108 \TMP@EnsureCode{60}{12}% <
109 \TMP@EnsureCode{91}{12}% [
110 \TMP@EnsureCode{93}{12}% ]
111 \edef\etexcmds@AtEnd{%
112 \etexcmds@AtEnd
113 \escapechar\the\escapechar\relax
114 \noexpand\endinput
115 }
116 \escapechar=92 % backslash

```

## 2.3 Provide \newif

\etexcmds@newif

```

117 \def\etexcmds@newif#1{%
118 \expandafter\edef\csname etex@#1false\endcsname{%
119 \let
120 \expandafter\noexpand\csname ifetex@#1\endcsname
121 \noexpand\iffalse
122 }%
123 \expandafter\edef\csname etex@#1true\endcsname{%
124 \let
125 \expandafter\noexpand\csname ifetex@#1\endcsname
126 \noexpand\iftrue
127 }%
128 \csname etex@#1false\endcsname
129 }

```

## 2.4 Load package infwarerr

```
130 \begingroup\expandafter\expandafter\expandafter\endgroup
131 \expandafter\ifx\csname RequirePackage\endcsname\relax
132   \def\TMP@RequirePackage#1[#2]{%
133     \begingroup\expandafter\expandafter\expandafter\endgroup
134     \expandafter\ifx\csname ver@#1.sty\endcsname\relax
135       \input #1.sty\relax
136     \fi
137   }%
138   \TMP@RequirePackage{infwarerr}[2007/09/09]%
139   \TMP@RequirePackage{ifluatex}[2010/03/01]%
140 \else
141   \RequirePackage{infwarerr}[2007/09/09]%
142   \RequirePackage{ifluatex}[2010/03/01]%
143 \fi
```

## 2.5 \unexpanded

\ifetex@unexpanded

```
144 \etexcmds@newif{unexpanded}
```

\etex@unexpanded

```
145 \begingroup
146 \edef\x{\string\unexpanded}%
147 \edef\y{\meaning\unexpanded}%
148 \ifx\x\y
149   \endgroup
150   \let\etex@unexpanded\unexpanded
151   \etex@unexpandedtrue
152 \else
153   \edef\y{\meaning\normalunexpanded}%
154   \ifx\x\y
155     \endgroup
156     \let\etex@unexpanded\normalunexpanded
157     \etex@unexpandedtrue
158   \else
159     \edef\y{\meaning\@@unexpanded}%
160     \ifx\x\y
161       \endgroup
162       \let\etex@unexpanded\@@unexpanded
163       \etex@unexpandedtrue
164     \else
165       \ifluatex
166         \ifnum\luatexversion<36 %
167         \else
168           \begingroup
169             \directlua{%
170               tex.enableprimitives('etex@',{unexpanded'})}%
171             }%
172             \global\let\etex@unexpanded\etex@unexpanded
173           \endgroup
174         \fi
175       \fi
176       \edef\y{\meaning\etex@unexpanded}%
177       \ifx\x\y
178         \endgroup
179         \etex@unexpandedtrue
180       \else
```

```

181     \endgroup
182     \@PackageInfoNoLine{etexcmds}{%
183       Could not find \string\unexpanded.\MessageBreak
184       That can mean that you are not using e-TeX or%
185       \MessageBreak
186       that some package has redefined \string\unexpanded.%
187       \MessageBreak
188       In the latter case, load this package earlier%
189     }%
190     \etex@unexpandedfalse
191   \fi
192 \fi
193 \fi
194 \fi

```

## 2.6 \expanded

\ifetex@expanded

```

195 \etexcmds@newif{expanded}

```

\etex@expanded

```

196 \begingroup
197 \edef\x{\string\expanded}%
198 \edef\y{\meaning\expanded}%
199 \ifx\x\y
200   \endgroup
201   \let\etex@expanded\expanded
202   \etex@expandedtrue
203 \else
204   \edef\y{\meaning\normalexpanded}%
205   \ifx\x\y
206     \endgroup
207     \let\etex@expanded\normalexpanded
208     \etex@expandedtrue
209   \else
210     \edef\y{\meaning\@@expanded}%
211     \ifx\x\y
212       \endgroup
213       \let\etex@expanded\@@expanded
214       \etex@expandedtrue
215     \else
216       \ifluatex
217         \ifnum\luatexversion<36 %
218           \else
219             \begingroup
220             \directlua{%
221               tex.enableprimitives('etex@',{expanded'})%
222             }%
223             \global\let\etex@expanded\etex@expanded
224           \endgroup
225         \fi
226       \fi
227       \edef\y{\meaning\etex@expanded}%
228       \ifx\x\y
229         \endgroup
230         \etex@expandedtrue
231       \else
232         \endgroup

```

```

233     \@PackageInfoNoLine{etexcmds}{%
234         Could not find \string\expanded.\MessageBreak
235         That can mean that you are not using pdfTeX 1.50 or%
236         \MessageBreak
237         that some package has redefined \string\expanded.%
238         \MessageBreak
239         In the latter case, load this package earlier%
240     }%
241     \etex@expandedfalse
242 \fi
243 \fi
244 \fi
245 \fi

246 \etexcmds@AtEnd%
247 \</package>

```

## 3 Test

### 3.1 Catcode checks for loading

```

248 \<test1>

249 \catcode'\{=1 %
250 \catcode'\}=2 %
251 \catcode'\#=6 %
252 \catcode'\@=11 %
253 \expandafter\ifx\csname count\endcsname\relax
254     \countdef\count@=255 %
255 \fi
256 \expandafter\ifx\csname @gobble\endcsname\relax
257     \long\def\@gobble#1{%
258 \fi
259 \expandafter\ifx\csname @firstofone\endcsname\relax
260     \long\def\@firstofone#1{#1}%
261 \fi
262 \expandafter\ifx\csname loop\endcsname\relax
263     \expandafter\@firstofone
264 \else
265     \expandafter\@gobble
266 \fi
267 {%
268     \def\loop#1\repeat{%
269         \def\body{#1}%
270         \iterate
271     }%
272     \def\iterate{%
273         \body
274         \let\next\iterate
275     \else
276         \let\next\relax
277     \fi
278     \next
279 }%
280 \let\repeat=\fi
281 }%
282 \def\RestoreCatcodes{}
283 \count@=0 %

```

```

284 \loop
285   \edef\RestoreCatcodes{%
286     \RestoreCatcodes
287     \catcode\the\count@=\the\catcode\count@\relax
288   }%
289 \ifnum\count@<255 %
290   \advance\count@ 1 %
291 \repeat
292
293 \def\RangeCatcodeInvalid#1#2{%
294   \count@=#1\relax
295   \loop
296     \catcode\count@=15 %
297   \ifnum\count@<#2\relax
298     \advance\count@ 1 %
299   \repeat
300 }
301 \def\RangeCatcodeCheck#1#2#3{%
302   \count@=#1\relax
303   \loop
304     \ifnum#3=\catcode\count@
305   \else
306     \errmessage{%
307       Character \the\count@\space
308       with wrong catcode \the\catcode\count@\space
309       instead of \number#3%
310     }%
311   \fi
312   \ifnum\count@<#2\relax
313     \advance\count@ 1 %
314   \repeat
315 }
316 \def\space{ }
317 \expandafter\ifx\csname LoadCommand\endcsname\relax
318   \def\LoadCommand{\input etexcmds.sty\relax}%
319 \fi
320 \def\Test{%
321   \RangeCatcodeInvalid{0}{47}%
322   \RangeCatcodeInvalid{58}{64}%
323   \RangeCatcodeInvalid{91}{96}%
324   \RangeCatcodeInvalid{123}{255}%
325   \catcode'\@=12 %
326   \catcode'\=0 %
327   \catcode'\%=14 %
328   \LoadCommand
329   \RangeCatcodeCheck{0}{36}{15}%
330   \RangeCatcodeCheck{37}{37}{14}%
331   \RangeCatcodeCheck{38}{47}{15}%
332   \RangeCatcodeCheck{48}{57}{12}%
333   \RangeCatcodeCheck{58}{63}{15}%
334   \RangeCatcodeCheck{64}{64}{12}%
335   \RangeCatcodeCheck{65}{90}{11}%
336   \RangeCatcodeCheck{91}{91}{15}%
337   \RangeCatcodeCheck{92}{92}{0}%
338   \RangeCatcodeCheck{93}{96}{15}%
339   \RangeCatcodeCheck{97}{122}{11}%
340   \RangeCatcodeCheck{123}{255}{15}%
341   \RestoreCatcodes

```



```

342 }
343 \Test
344 \csname @@end\endcsname
345 \end
346 </test1>

```

## 3.2 Macro tests

```

347 <*test2>
348 \immediate\write16{etexcmds-test2.tex: test file for plainTeX}
349 \input etexcmds.sty\relax
350 \catcode'\@=11 %
351 \edef\x{\string\unexpanded}
352 \edef\y{\meaning\etex@unexpanded}
353 \ifx\x\y
354 \else
355   \@PackageError{etexcmds-test2}{Test failed}\@ehc
356 \fi
357 \end
358 </test2>

359 <*test3>
360 \NeedsTeXFormat{LaTeX2e}
361 \ProvidesFile{etexcmds-test3.tex}[2011/02/16 v1.5 Test file for LaTeX]
362 \RequirePackage{etexcmds}
363 \makeatletter
364 \edef\x{\string\unexpanded}
365 \edef\y{\meaning\etex@unexpanded}
366 \ifx\x\y
367 \else
368   \@PackageError{etexcmds-test3}{Test failed}\@ehc
369 \fi
370 \stop
371 </test3>

372 <*test4>
373 \NeedsTeXFormat{LaTeX2e}
374 \ProvidesFile{etexcmds-test4.tex}[2011/02/16 v1.5 Test file for LaTeX]
375 \documentclass{article}
376 \usepackage{m-pictex}
377 \def\normalwritestatus#1#2{%
378   \typeout{EMERGENCY HACK \string\normalwritestatus}%
379   \typeout{#1: #2}%
380 }
381 \usepackage{m-ch-de}
382 \usepackage{etexcmds}
383 \makeatletter
384 \ifetex@unexpanded
385   \edef\x{\string\unexpanded}%
386   \edef\y{\meaning\etex@unexpanded}%
387   \ifx\x\y
388   \else
389     \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
390   \fi
391 \else
392   \@PackageWarningNoLine{etexcmds-test4}{%
393     Test failed because of ConTeXt%
394   }%
395 \fi
396 \stop

```

## 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: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
```

**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`.

---

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

## 4.4 Refresh file name databases

If your  $\text{T}_{\text{E}}\text{X}$  distribution ( $\text{t}_{\text{E}}\text{X}$ ,  $\text{m}_{\text{ik}}\text{T}_{\text{E}}\text{X}$ , ...) relies on file name databases, you must refresh these. For example,  $\text{t}_{\text{E}}\text{X}$  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  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{T}_{\text{E}}\text{X}$ :** Run `docstrip` and extract the files.

**$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ :** Generate the documentation.

If you insist on using  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  for `docstrip` (really, `docstrip` does not need  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ), 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 `pdf $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$` :

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

## 5 Catalogue

The following XML file can be used as source for the  [\$\text{T}\_{\text{E}}\text{X}\$  Catalogue](#). The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `etexcmds.xml`.

```
398 (*catalogue)
399 <?xml version='1.0' encoding='us-ascii'?>
400 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
401 <entry datestamp='$Date$' modifier='$Author$' id='etexcmds'>
402   <name>etexcmds</name>
403   <caption>Avoid name clashes with e-TeX commands.</caption>
404   <authorref id='auth:oberdiek'/>
405   <copyright owner='Heiko Oberdiek' year='2007,2010,2011'/>
406   <license type='lpl1.3'/>
407   <version number='1.5'/>
408   <description>
409     New primitive commands are introduced in e-TeX; sometimes the
```

```

410 names collide with existing macros. This package solves the
411 name clashes by adding a prefix to e-TeX's commands. For
412 example, eTeX's \unexpanded is provided as
413 \etex@unexpanded.
414
415 <p/>
416 The package is part of the <xref refid='oberdiek'>oberdiek</xref>
417 bundle.
418 </description>
419 <documentation details='Package documentation'
420 href='ctan:/macros/latex/contrib/oberdiek/etexcmds.pdf' />
421 <ctan file='true' path='/macros/latex/contrib/oberdiek/etexcmds.dtx' />
422 <miktex location='oberdiek' />
423 <texlive location='oberdiek' />
424 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip' />
425 </entry>
426 </catalogue>

```

## 6 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.

[2010/01/28 v1.3]

- Compatibility to `iniTeX` added.

[2011/01/30 v1.4]

- Already loaded package files are not input in plain `TeX`.

[2011/02/16 v1.5]

- Using `LuaTeX`'s `tex.enableprimitives` if available.

## 7 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.

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