

# 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`.

## Contents

<b>1</b>	<b>Documentation</b>	<b>2</b>
1.1	<code>\unexpanded</code> . . . . .	2
1.2	<code>\expanded</code> . . . . .	2
<b>2</b>	<b>Implementation</b>	<b>2</b>
2.1	Reload check and package identification . . . . .	2
2.2	Catcodes . . . . .	3
2.3	Provide <code>\newif</code> . . . . .	4
2.4	Load package <code>infwarerr</code> . . . . .	4
2.5	<code>\unexpanded</code> . . . . .	5
2.6	<code>\expanded</code> . . . . .	5
<b>3</b>	<b>Test</b>	<b>6</b>
3.1	Catcode checks for loading . . . . .	6
3.2	Macro tests . . . . .	8
<b>4</b>	<b>Installation</b>	<b>9</b>
4.1	Download . . . . .	9
4.2	Bundle installation . . . . .	9
4.3	Package installation . . . . .	10
4.4	Refresh file name databases . . . . .	10
4.5	Some details for the interested . . . . .	10
<b>5</b>	<b>Catalogue</b>	<b>11</b>
<b>6</b>	<b>History</b>	<b>11</b>
	[2007/05/06 v1.0] . . . . .	11
	[2007/09/09 v1.1] . . . . .	11
	[2007/12/12 v1.2] . . . . .	11
	[2010/01/28 v1.3] . . . . .	11
	[2011/01/30 v1.4] . . . . .	11
	[2011/02/16 v1.5] . . . . .	12
	[2016/05/16 v1.6] . . . . .	12
<b>7</b>	<b>Index</b>	<b>12</b>

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\*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

# 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 [2016/05/16 v1.6 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 \endpackage

```

### 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}[2016/05/16 v1.6 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}[2016/05/16 v1.6 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
397 \end{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:install/macros/latex/contrib/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):

```
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/
```

---

<sup>1</sup><http://ctan.org/pkg/etexcmds>

### 4.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain  $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ :

```
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  $\mathrm{T}_{\mathrm{E}}\mathrm{X}$  distribution ( $\mathrm{t}_{\mathrm{e}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$ ,  $\mathrm{m}_{\mathrm{i}}\mathrm{k}_{\mathrm{T}}\mathrm{E}_{\mathrm{X}}$ , ...) relies on file name databases, you must refresh these. For example,  $\mathrm{t}_{\mathrm{e}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$  users run `texhash` or `mktextlsr`.

### 4.5 Some details for the interested

**Unpacking with  $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$ .** The `.dtx` chooses its action depending on the format:

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

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

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

```
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 [T<sub>E</sub>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='lppl1.3'>
407         <version number='1.6'>
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 <tt>\unexpanded</tt> is provided as
413             <tt>\etex@unexpanded</tt>.
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 iniT<sub>E</sub>X added.

**[2011/01/30 v1.4]**

- Already loaded package files are not input in plain T<sub>E</sub>X.

[2011/02/16 v1.5]

- Using LuaT<sub>E</sub>X's `tex.enableprimitives` if available.

[2016/05/16 v1.6]

- Documentation updates.

## 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.

Symbols			
<code>\#</code> .....	251	<code>\endcsname</code> .....	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344
<code>\%</code> .....	327	<code>\endinput</code> .....	29, 114
<code>\@</code> .....	252, 325, 350	<code>\endlinechar</code> .....	4, 35, 71, 77, 89
<code>\@<u>expanded</u></code> .....	210, 213	<code>\errmessage</code> .....	306
<code>\@<u>unexpanded</u></code> .....	159, 162	<code>\escapechar</code> .....	113, 116
<code>\@PackageError</code> .....	355, 368	<code>\etex<u>expanded</u></code> .....	196
<code>\@PackageInfoNoLine</code> .....	182, 233	<code>\etex<u>expandedfalse</u></code> .....	241
<code>\@PackageWarningNoLine</code> .....	389, 392	<code>\etex<u>expandedtrue</u></code> .....	202, 208, 214, 230
<code>\@ehc</code> .....	355, 368	<code>\etex<u>unexpanded</u></code> .....	2, 145, 352, 365, 386, 413
<code>\@firstofone</code> .....	260, 263	<code>\etex<u>unexpandedfalse</u></code> .....	190
<code>\@gobble</code> .....	257, 265	<code>\etex<u>unexpandedtrue</u></code> .....	151, 157, 163, 179
<code>\@undefined</code> .....	58	<code>\etexcmds@AtEnd</code> .....	95, 96, 111, 112, 246
<code>\@</code> .....	326	<code>\etexcmds@newif</code> .....	117, 144, 195
<code>\{</code> .....	249	<code>\expanded</code> .....	197, 198, 201, 234, 237
<code>\}</code> .....	250		
A		I	
<code>\advance</code> .....	290, 298, 313	<code>\ifetex<u>expanded</u></code> .....	195
<code>\aftergroup</code> .....	29	<code>\ifetex<u>unexpanded</u></code> .....	2, 144, 384
B		<code>\iffalse</code> .....	121
<code>\body</code> .....	269, 273	<code>\ifluatex</code> .....	165, 216
C		<code>\ifnum</code> .....	166, 217, 289, 297, 304, 312
<code>\catcode</code> ..	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, 249, 250, 251, 252, 287, 296, 304, 308, 325, 326, 327, 350	<code>\iftrue</code> .....	126
<code>\count@</code> .....	254, 283, 287, 289, 290, 294, 296, 297, 298, 302, 304, 307, 308, 312, 313	<code>\ifx</code> .....	15, 18, 21, 50, 58, 61, 131, 134, 148, 154, 160, 177, 199, 205, 211, 228, 253, 256, 259, 262, 317, 353, 366, 387
<code>\countdef</code> .....	254	<code>\immediate</code> .....	23, 52, 348
<code>\csname</code> .....	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344	<code>\input</code> .....	135, 318, 349
D		<code>\iterate</code> .....	270, 272, 274
<code>\directlua</code> .....	169, 220	L	
<code>\documentclass</code> .....	375	<code>\LoadCommand</code> .....	318, 328
E		<code>\loop</code> .....	268, 284, 295, 303
<code>\empty</code> .....	17, 18	<code>\luatexversion</code> .....	166, 217
<code>\end</code> .....	345, 357	M	
		<code>\makeatletter</code> .....	363, 383
		<code>\meaning</code> .....	147, 153, 159, 176, 198, 204, 210, 227, 352, 365, 386
		<code>\MessageBreak</code> .....	183, 185, 187, 234, 236, 238
		N	
		<code>\NeedsTeXFormat</code> .....	360, 373
		<code>\next</code> .....	274, 276, 278

<code>\normalexpanded</code> . . . . .	204, 207	<code>\the</code> . . . . .	77, 78, 79, 80, 81, 82, 83, 84, 97, 113, 287, 307, 308
<code>\normalunexpanded</code> . . . . .	153, 156	<code>\TMP@EnsureCode</code> 94, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110	
<code>\normalwritestatus</code> . . . . .	377, 378	<code>\TMP@RequirePackage</code> . .	132, 138, 139
<code>\number</code> . . . . .	309	<code>\typeout</code> . . . . .	378, 379
<b>P</b>			
<code>\PackageInfo</code> . . . . .	26	<b>U</b>	
<code>\ProvidesFile</code> . . . . .	361, 374	<code>\unexpanded</code> . . . . .	146, 147, 150, 183, 186, 351, 364, 385, 412
<code>\ProvidesPackage</code> . . . . .	19, 67	<code>\usepackage</code> . . . . .	376, 381, 382
<b>R</b>			
<code>\RangeCatcodeCheck</code> . . . . .	301, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340	<b>W</b>	
<code>\RangeCatcodeInvalid</code> . . . . .	293, 321, 322, 323, 324	<code>\write</code> . . . . .	23, 52, 348
<code>\repeat</code> . . . . .	268, 280, 291, 299, 314	<b>X</b>	
<code>\RequirePackage</code> . . . . .	141, 142, 362	<code>\x</code> . . . . .	14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87, 146, 148, 154, 160, 177, 197, 199, 205, 211, 228, 351, 353, 364, 366, 385, 387
<code>\RestoreCatcodes</code> . . . . .	282, 285, 286, 341	<b>Y</b>	
<b>S</b>			
<code>\space</code> . . . . .	307, 308, 316	<code>\y</code> . . . . .	147, 148, 153, 154, 159, 160, 176, 177, 198, 199, 204, 205, 210, 211, 227, 228, 352, 353, 365, 366, 386, 387
<code>\stop</code> . . . . .	370, 396		
<b>T</b>			
<code>\Test</code> . . . . .	320, 343		