

# The pdfscape package

Heiko Oberdiek  
<oberdiek@uni-freiburg.de>

2007/10/21 v0.9

## Abstract

Package `pdfscape` adds PDF support to the environment `landscape` of package `lscape` by setting the PDF page attribute `/Rotate`.

## Contents

<b>1</b>	<b>Documentation</b>	<b>2</b>
1.1	Supported drivers	2
1.2	Caveat	2
1.3	Requirements	2
1.4	Usage	2
<b>2</b>	<b>Implementation</b>	<b>2</b>
2.1	Package identification	2
2.2	Driver options	2
2.3	Autodetection of driver	3
2.3.1	Driver <code>pdftex</code>	3
2.3.2	Driver <code>xetex</code>	3
2.3.3	Detect driver based on <code>\Gin@driver</code>	4
2.3.4	Driver <code>dvips</code>	4
2.4	Driver implementation	4
2.4.1	<code>pdfTeX</code>	4
2.4.2	PostScript driver	5
2.4.3	Driver <code>dvipdfm</code>	5
2.5	Driver independent stuff	6
<b>3</b>	<b>Test</b>	<b>7</b>
3.1	Driver detection tests	7
3.2	Test for <code>\PLS@CheckAngle</code>	7
3.3	Test for rotate	8
<b>4</b>	<b>Installation</b>	<b>10</b>
4.1	Download	10
4.2	Bundle installation	10
4.3	Package installation	10
4.4	Refresh file name databases	11
4.5	Some details for the interested	11
<b>5</b>	<b>History</b>	<b>11</b>
	[2001/01/15 v0.1]	11
	[2001/02/04 v0.2]	11
	[2004/05/11 v0.3]	11
	[2004/05/12 v0.4]	11
	[2006/02/20 v0.5]	12
	[2006/04/24 v0.6]	12

[2007/04/11 v0.7]	12
[2007/04/17 v0.8]	12
[2007/10/21 v0.9]	12

<b>6 Index</b>	<b>12</b>
----------------	-----------

## 1 Documentation

### 1.1 Supported drivers

- pdftex
- dvips, dvipsone, pctex32, pctexps (and other drivers that provide a non-empty `\Gin@PS@raw`)
- dvipdfm

### 1.2 Caveat

Depending on the configuration Ghostscript adds a guessed rotation entry by its own. This can lead to two `/Rotate` entries per page. To prevent this behaviour set the parameter `AutoRotatePages` to `/None`, eg:

```
ps2pdf -dAutoRotatePages=/None
```

### 1.3 Requirements

- The package `lscap`.
- The package `atbegshi` for all drivers except `pdftex`.

### 1.4 Usage

Load this package instead of or after package `lscap`:

```
\usepackage{pdfscape}
\begin{landscape}...\end{landscape}
```

## 2 Implementation

### 2.1 Package identification

```
1 (*package)
```

Package identification.

```
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfscape}%
4 [2007/10/21 v0.9 Landscape pages in PDF (H0)]
```

### 2.2 Driver options

```
5 \let\PLS@option\@empty
6 \let\PLS@driver\@empty
7 \def\PLS@temp#1#2{%
8   \DeclareOption{#1}{%
9     \let\PLS@option\CurrentOption
10    \def\PLS@driver{#2}%
11  }%
12 }
13 \PLS@temp{pdftex}{pdftex}
14 \PLS@temp{dvips}{dvips}
15 \PLS@temp{dvipsone}{dvips}
```

```

16 \PLS@temp{pctexps}{dvips}
17 \PLS@temp{dvipdfm}{dvipdfm}
18 \PLS@temp{dvipdfmx}{dvipdfm}
19 \PLS@temp{xetex}{dvipdfm}
20 \let\PLS@temp\@empty
21 \DeclareOption*{%
22   \ifx\PLS@temp\@empty
23     \let\PLS@temp\CurrentOption
24   \else
25     \edef\PLS@temp{\PLS@temp,\CurrentOption}%
26   \fi
27 }
28 \ProcessOptions*
29 \ifx\PLS@option\@empty
30 \else
31   \expandafter\PassOptionsToPackage\expandafter{\PLS@option}{lscap}%
32 \fi
33 \ifx\PLS@temp\@empty
34 \else
35   \expandafter\PassOptionsToPackage\expandafter{\PLS@temp}{lscap}%
36 \fi
37 \RequirePackage{lscap}

```

## 2.3 Autodetection of driver

### 2.3.1 Driver pdftex

```

38 \RequirePackage{ifpdf}[2006/02/20]
39 \def\PLS@temp{pdftex}
40 \ifpdf
41   \ifx\PLS@driver\@empty
42     \let\PLS@driver\PLS@temp
43     \PackageInfo{pdfscape}{Auto-detected driver: \PLS@temp}%
44   \fi
45   \ifx\PLS@driver\PLS@temp
46   \else
47     \PackageError{pdfscape}{%
48       The driver option ‘\PLS@option’ is not compatible\MessageBreak
49       with pdfTeX in PDF mode, using driver ‘pdftex’ instead%
50     }\@ehc
51     \let\PLS@driver\PLS@temp
52   \fi
53 \fi

```

### 2.3.2 Driver xetex

```

54 \RequirePackage{ifxetex}%
55 \def\PLS@temp{dvipdfm}
56 \ifxetex
57   \ifx\PLS@driver\@empty
58     \let\PLS@driver\PLS@temp
59     \PackageInfo{pdfscape}{%
60       Auto-detected driver: \PLS@temp\space(xetex)%
61     }%
62   \fi
63   \ifx\PLS@driver\PLS@temp
64   \else
65     \PackageError{pdfscape}{%
66       The driver option ‘\PLS@option’ is not compatible\MessageBreak
67       with XeTeX, using driver for XeTeX (dvipdfm) instead%
68     }\@ehc
69     \let\PLS@driver\PLS@temp
70   \fi
71 \fi

```

### 2.3.3 Detect driver based on \Gin@driver

```
72 \def\PLS@temp#1#2{%
73   \ifx\PLS@driver\@empty
74     \begingroup
75       \def\PLS@temp{#1.def}%
76     \expandafter\endgroup
77     \ifx\PLS@temp\Gin@driver
78       \def\PLS@driver{#2}%
79       \PackageInfo{pdflscape}{%
80         Auto-detected driver: \PLS@driver\space(#1)%
81       }%
82     \fi
83   \fi
84 }
85 \PLS@temp{dvipdfm}{dvipdfm}
86 \PLS@temp{dvipdfmx}{dvipdfm}
87 \PLS@temp{dvips}{dvips}
88 \PLS@temp{dvipsone}{dvips}
89 \PLS@temp{pctexps}{dvips}
```

### 2.3.4 Driver dvips

```
90 \ifx\PLS@driver\@empty
91   \def\PLS@temp{dvips}%
92   \ifnum 1=0\ifx\Gin@PS@raw\@undefined
93     \else
94       \ifx\Gin@PS@raw\relax
95       \else
96         \ifx\Gin@PS@raw\@empty
97         \else
98           1%
99         \fi
100       \fi
101     \fi
102     \space
103     \let\PLS@driver\PLS@temp
104     \PackageInfo{pdflscape}{%
105       Auto-detected driver: \PLS@temp\space(PostScript)%
106     }%
107   \fi
108 \fi
109 \ifx\PLS@driver\@empty
110   \PackageError{pdflscape}{%
111     Neither pdfTeX, PostScript, nor dvipdfm driver found%
112   }\@ehc
113 \fi
```

## 2.4 Driver implementation

- \PLS@AddRotate #1  
it expects the correct rotation number in #1 and implements the adding of the /Rotation entry in the /Page object of the current page.
- \PLS@RemoveRotate  
it removes a previous /Rotate entry, if necessary.

### 2.4.1 pdfTeX

Not too nice is the global setting of \pdfpageattr. Perhaps this can be changed in future versions.

```
114 \def\PLS@temp{pdftex}
115 \ifx\PLS@temp\PLS@driver
116   \def\PLS@AddRotate#1{%
```

```
117 \ifnum#1=0 %
```

Already the default.

```
118 \else
119 \global\pdfpageattr\expandafter{%
120 \the\pdfpageattr
121 /Rotate #1%
122 }%
123 \fi
124 }%
```

Removes a /Rotate entry.

```
125 \def\PLS@RemoveRotate{%
126 \begingroup
127 \global\pdfpageattr\expandafter{\expandafter}%
128 \expandafter\PLS@@RemoveRotate
129 \the\pdfpageattr /Rotate\@nil
130 \endgroup
131 }%
132 \def\PLS@@RemoveRotate#1/Rotate#2\@nil{%
```

Append /Rotate free stuff to \pdfpageattr.

```
133 \global\pdfpageattr\expandafter{\the\pdfpageattr#1}%
134 \ifx\#2\%
```

Ready, because the detected /Rotate is part of the end marker: /Rotate\@nil

```
135 \else
```

First read in the argument of /Rotate, then continue parsing.

```
136 \afterassignment\PLS@@RemoveRotate
137 \count0=#2\@nil
138 \fi
139 }%
140 \fi
```

## 2.4.2 PostScript driver

```
141 \def\PLS@temp{dvips}
142 \ifx\PLS@temp\PLS@driver
143 \RequirePackage{atbegshi}%
144 \AtBeginShipout{\PLS@AtBeginShipout}%
145 \let\PLS@AtBeginShipout\@empty
146 \def\PLS@AddRotate#1{%
147 \ifnum#1=0 %
148 \else
149 \def\PLS@AtBeginShipout{%
150 \global\setbox\AtBeginShipoutBox\vbox{%
151 \Gin@PS@raw{%
152 [{ThisPage}\string<\string</Rotate #1\string>\string>%
153 /PUT pdfmark%
154 }%
155 \box\AtBeginShipoutBox
156 }%
157 }%
158 \fi
159 }%
160 \def\PLS@RemoveRotate{\let\PLS@AtBeginShipout\@empty}%
161 \fi
```

## 2.4.3 Driver dvipdfm

```
162 \def\PLS@temp{dvipdfm}
163 \ifx\PLS@temp\PLS@driver
164 \RequirePackage{atbegshi}%
165 \AtBeginShipout{\PLS@AtBeginShipout}%

```

```

166 \let\PLS@AtBeginShipout\@empty
167 \def\PLS@AddRotate#1{%
168   \ifnum#1=0 %
169   \else
170     \def\PLS@AtBeginShipout{%
171       \global\setbox\AtBeginShipoutBox\vbox{%
172         \special{pdf: put @thispage <</Rotate #1>>}}%
173       \box\AtBeginShipoutBox
174     }%
175   }%
176 \fi
177 }%
178 \def\PLS@RemoveRotate{\let\PLS@AtBeginShipout\@empty}%
179 \fi

```

## 2.5 Driver independent stuff

The landscape environment is extended by adding the correct `/Rotate` entries.

```

180 \g@addto@macro{\landscape}{\PLS@Rotate{90}}
181 \g@addto@macro{\endlandscape}{\PLS@Rotate{0}}

```

**\PLS@Rotate** Main macro, that sets the `/Rotate` entry.  
Argument: any TeX number or nothing, that means zero.  
Driver independent.

```

182 \def\PLS@Rotate#1{%
183   \begingroup
184   1. Check and validate the argument.
185   \PLS@CheckAngle{#1}%
186   \expandafter\endgroup
187   2. Remove previous \Rotate entry.
188   \expandafter\PLS@RemoveRotate
189   3. Add /Rotate entry.
190   \expandafter\PLS@AddRotate\expandafter{\the\count@}%
191 }

```

**\PLS@CheckAngle** Validates the rotation angle.  
The result is stored in the count register `\count@`.  
Driver independent.

```

189 \def\PLS@CheckAngle#1{%
190   \ifx\#1\%
191     \count@=0 %
192   \else
193     \count@=#1\relax
194   \fi
195   Normalize to interval  $-360 < \text{\count@} < 360$ .
196   \@whilenum\count@>359\do{\advance\count@ -360 }%
197   \@whilenum\count@<-359\do{\advance\count@ 360 }%
198   Check values: 0, +/-90, +/-180, +/-270
199   \ifnum 1=0\ifnum\count@=0 \else
200     \ifnum\count@=90 \else
201     \ifnum\count@=-90 \else
202     \ifnum\count@=180 \else
203     \ifnum\count@=-180 \else
204     \ifnum\count@=270 \else
205     \ifnum\count@=-270 \else
206     1\fi\fi\fi\fi\fi\fi\relax
207   \PackageError{pdflscape}{%
208     Invalid value \the\count@\space for /Rotate%

```

```

207     }\@ehc
208     \count@=0 %
209     \fi
210 }

211 </package>

```

## 3 Test

### 3.1 Driver detection tests

```

212 <*test0>
213 \NeedsTeXFormat{LaTeX2e}
214 \documentclass{minimal}
215 \usepackage{qstest}
216 \IncludeTests{*}
217 \LogTests{log}{*}{*}
218 </test0>

219 <*test1>
220 \usepackage{ifpdf}
221 \ifpdf
222   \def\ExpectDriver{pdftex}%
223 \fi
224 \usepackage{ifxetex}%
225 \ifxetex
226   \def\ExpectDriver{dvipdfm}%
227 \fi
228 \usepackage{pdfscape}[2007/10/21]
229 </test1>

230 <*test2>
231 \def\ExpectDriver{pdftex}
232 \usepackage[pdftex]{pdfscape}[2007/10/21]
233 </test2>

234 <*test3>
235 \def\ExpectDriver{dvipdfm}
236 \usepackage[dvipdfm]{pdfscape}[2007/10/21]
237 </test3>

238 <*test4>
239 \def\ExpectDriver{dvips}
240 \usepackage[dvipson]{graphics}
241 \usepackage{pdfscape}[2007/10/21]
242 </test4>

243 <*test0>
244 \begin{document}
245 \begin{qstest}{driver}{driver}
246   \makeatletter
247   \Expect*{\PLS@driver}*\ExpectDriver}%
248 \end{qstest}
249 \end{document}
250 </test0>

```

### 3.2 Test for \PLS@CheckAngle

```

251 <*test5>
252 \NeedsTeXFormat{LaTeX2e}
253 \documentclass{minimal}
254 \usepackage{qstest}
255 \IncludeTests{*}
256 \LogTests{log}{*}{*}
257 \usepackage{pdfscape}[2007/10/21]
258 \begin{document}

```

```

259 \begin{qstest}{checkangle}{checkangle}
260 \makeatletter
261 \def\Result{%
262   \def\ResultString{\the\count@}%
263 }%
264 \def\PackageError#1#2#3{%
265   \def\Result{%
266     \def\ResultString{error}%
267   }%
268 }%
269 \def\Test#1#2{%
270   \begin{group}
271     \PLS@CheckAngle{#1}%
272     \Result
273     \Expect*{\ResultString}{#2}%
274   \end{group}
275 }%
276 \Test{0}{0}%
277 \Test{90}{90}%
278 \Test{180}{180}%
279 \Test{270}{270}%
280 \Test{360}{0}%
281 \Test{450}{90}%
282 \Test{540}{180}%
283 \Test{630}{270}%
284 \Test{720}{0}%
285 \Test{3600}{0}%
286 \Test{3690}{90}%
287 \Test{-90}{270}%
288 \Test{-180}{180}%
289 \Test{-270}{-90}%
290 \Test{-360}{0}%
291 \Test{-450}{270}%
292 \Test{540}{180}%
293 \Test{-630}{90}%
294 \Test{-720}{0}%
295 \Test{-3600}{0}%
296 \Test{-3690}{270}%
297 \Test{1}{error}%
298 \Test{-1}{error}%
299 \Test{123}{error}%
300 \end{qstest}
301 \end{document}
302 \end{test5}

```

### 3.3 Test for rotate

```

303 (*test6)
304 \NeedsTeXFormat{LaTeX2e}
305 \documentclass{article}
306 \usepackage{pdfscape}[2007/10/21]
307 \begin{document}
308 \section{Portrait page}
309 \begin{landscape}
310 \section{Landscape page}
311 Foo bar foo bar foo bar foo bar foo bar
312 foo bar foo bar foo bar foo bar foo bar.
313 \end{landscape}
314 \section{Portrait Section}
315 Foo bar
316 \begin{landscape}
317 \section{Again Landscape Section}
318 \newpage

```



```

319 \section{Second Page of Landscape Section}
320 \end{landscape}
321 \section{Second Last Portrait Page}
322 \newpage
323 \section{Last Portrait Page}
324 \end{document}
325 \end{test6}

326 (*result6)
327 /Page 1 /Rotate 0
328 /Page 2 /Rotate 90
329 /Page 3 /Rotate 0
330 /Page 4 /Rotate 90
331 /Page 5 /Rotate 90
332 /Page 6 /Rotate 0
333 /Page 7 /Rotate 0
334 \end{result6}

335 (*ExtractRotate)
336 /**
337  * ExtractRotate.java
338  *
339  * Copyright (C) 2007 by Heiko Oberdiek <oberdiek@uni-freiburg.de>
340  *
341  * Requires: PDFBox (http://www.pdfbox.org/)
342  *
343  * Syntax: java ExtractRotate <pdffile> <textfile>
344  *
345  * The <pdffile> is analyzed and for each page its rotation
346  * setting is printed in the <textfile>. Example:
347  *   /Page 1 /Rotate 0
348  *   /Page 2 /Rotate 90
349  */
350 import java.io.FileInputStream;
351 import java.io.FileWriter;
352 import org.pdfbox.pdfparser.PDFParser;
353 import org.pdfbox.pdmodel.PDDocument;
354 import org.pdfbox.pdmodel.PDDocumentCatalog;
355 import org.pdfbox.pdmodel.PDPage;
356
357 public class ExtractRotate {
358
359     public static void main(String[] args) {
360         try {
361             String infile = args[0];
362             String outfile = args[1];
363             FileWriter out = new FileWriter(outfile);
364             PDFParser parser =
365                 new PDFParser(new FileInputStream(infile));
366             parser.parse();
367             PDDocument document = parser.getPDDocument();
368             PDDocumentCatalog catalog = document.getDocumentCatalog();
369             int i = 0;
370             for (Object page: catalog.getAllPages()) {
371                 i++;
372                 out.write("/Page " + i + " " + "/Rotate "
373                     + ((PDPage)page).findRotation() + "\n");
374             }
375             document.close();
376             out.close();
377         }
378         catch (Exception e) {
379             e.printStackTrace();
380             System.exit(1);

```

```

381     }
382   }
383 }
384 </ExtractRotate>

```

## 4 Installation

### 4.1 Download

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

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

[CTAN:macros/latex/contrib/oberdiek/pdflscape.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/

```

### 4.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain-T<sub>E</sub>X:

```
tex pdflscape.dtx
```

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

```

pdflscape.sty      → tex/latex/oberdiek/pdflscape.sty
pdflscape.pdf      → doc/latex/oberdiek/pdflscape.pdf
test/pdflscape-test1.tex → doc/latex/oberdiek/test/pdflscape-test1.tex
test/pdflscape-test2.tex → doc/latex/oberdiek/test/pdflscape-test2.tex
test/pdflscape-test3.tex → doc/latex/oberdiek/test/pdflscape-test3.tex
test/pdflscape-test4.tex → doc/latex/oberdiek/test/pdflscape-test4.tex
test/pdflscape-test5.tex → doc/latex/oberdiek/test/pdflscape-test5.tex
test/pdflscape-test6.tex → doc/latex/oberdiek/test/pdflscape-test6.tex
test/pdflscape-test6.txt → doc/latex/oberdiek/test/pdflscape-test6.txt
test/ExtractRotate.java → doc/latex/oberdiek/test/ExtractRotate.java
pdflscape.dtx      → source/latex/oberdiek/pdflscape.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><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 `mktexlsr`.

## 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 pdfscape.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{pdfscape.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 pdfscape.dtx
makeindex -s gind.ist pdfscape.idx
pdflatex pdfscape.dtx
makeindex -s gind.ist pdfscape.idx
pdflatex pdfscape.dtx
```

## 5 History

[2001/01/15 v0.1]

- First public version, published in `de.comp.text.tex`.

[2001/02/04 v0.2]

- Minor documentation update.
- CTAN.

[2004/05/11 v0.3]

- Support for `dvipdfm` added.

[2004/05/12 v0.4]

- Bug fix: support for multipage landscape environment for all drivers except for `pdf $\text{t}_{\text{E}}\text{X}$` .

[2006/02/20 v0.5]

- DTX framework.
- LPPL 1.3
- Code is not changed.

[2006/04/24 v0.6]

- Bug fix: `\PLS@RemoveRotate` reinserted for `\PLS@Rotate`.
- Fix for `\PLS@RemoveRotate` (dvips/dvipdfm): `\PLS@EverhShi` hook is cleared.

[2007/04/11 v0.7]

- Line ends sanitized.

[2007/04/17 v0.8]

- Package `atbegshi` replaces `everyshi`.

[2007/10/21 v0.9]

- Driver detection for  $\text{\TeX}$  added.
- Fix for rotation angles  $\leq -360$  or  $\geq 360$ .

## 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>\@ehc</code> .....	50, 68, 112, 207
<code>\@empty</code> .....	5, 6, 20, 22, 29, 33, 41, 57, 73, 90, 96, 109, 145, 160, 166, 178
<code>\@nil</code> .....	129, 132, 137
<code>\@undefined</code> .....	92
<code>\@whilenum</code> .....	195, 196
<code>\@</code> .....	134, 190
A	
<code>\advance</code> .....	195, 196
<code>\afterassignment</code> .....	136
<code>\AtBeginShipout</code> .....	144, 165
<code>\AtBeginShipoutBox</code> ..	150, 155, 171, 173
B	
<code>\begin</code> .....	244, 245, 258, 259, 307, 309, 316
<code>\box</code> .....	155, 173
C	
<code>\count</code> .....	137
<code>\count@</code> .....	187, 191, 193, 195, 196, 197, 198, 199, 200, 201, 202, 203, 206, 208, 262
<code>\CurrentOption</code> .....	9, 23, 25
D	
<code>\DeclareOption</code> .....	8, 21
<code>\do</code> .....	195, 196
<code>\documentclass</code> .....	214, 253, 305
E	
<code>\end</code> ..	248, 249, 300, 301, 313, 320, 324
<code>\endlandscape</code> .....	181
<code>\Expect</code> .....	247, 273
<code>\ExpectDriver</code> .....	222, 226, 231, 235, 239, 247
G	
<code>\g@addto@macro</code> .....	180, 181
<code>\Gin@driver</code> .....	77
<code>\Gin@PS@raw</code> .....	92, 94, 96, 151
I	
<code>\ifnum</code> .....	92, 117, 147, 168, 197, 198, 199, 200, 201, 202, 203
<code>\ifpdf</code> .....	40, 221
<code>\ifx</code> .....	22, 29, 33, 41, 45, 57, 63, 73, 77, 90, 92, 94, 96, 109, 115, 134, 142, 163, 190
<code>\ifxetex</code> .....	56, 225
<code>\IncludeTests</code> .....	216, 255
L	
<code>\landscape</code> .....	180
<code>\LogTests</code> .....	217, 256

<b>M</b>	
<code>\makeatletter</code> . . . . .	246, 260
<code>\MessageBreak</code> . . . . .	48, 66
<b>N</b>	
<code>\n</code> . . . . .	373
<code>\NeedsTeXFormat</code> . . . . .	2, 213, 252, 304
<code>\newpage</code> . . . . .	318, 322
<b>P</b>	
<code>\PackageError</code> . . . . .	47, 65, 110, 205, 264
<code>\PackageInfo</code> . . . . .	43, 59, 79, 104
<code>\PassOptionsToPackage</code> . . . . .	31, 35
<code>\pdfpageattr</code> . . . . .	119, 120, 127, 129, 133
<code>\PLS@@RemoveRotate</code> . . . . .	128, 132, 136
<code>\PLS@AddRotate</code> . . . . .	116, 146, 167, 187
<code>\PLS@AtBeginShipout</code> . . . . .	144, 145, 149, 160, 165, 166, 170, 178
<code>\PLS@CheckAngle</code> . . . . .	184, 189, 271
<code>\PLS@driver</code> . . . . .	6, 10, 41, 42, 45, 51, 57, 58, 63, 69, 73, 78, 80, 90, 103, 109, 115, 142, 163, 247
<code>\PLS@option</code> . . . . .	5, 9, 29, 31, 48, 66
<code>\PLS@RemoveRotate</code> . . . . .	125, 160, 178, 186
<code>\PLS@Rotate</code> . . . . .	180, 181, 182
<code>\PLS@temp</code> 7, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 33, 35, 39, 42, 43, 45, 51, 55, 58, 60, 63, 69, 72, 75,	
	77, 85, 86, 87, 88, 89, 91, 103, 105, 114, 115, 141, 142, 162, 163
<code>\ProcessOptions</code> . . . . .	28
<code>\ProvidesPackage</code> . . . . .	3
<b>R</b>	
<code>\RequirePackage</code> . . . . .	37, 38, 54, 143, 164
<code>\Result</code> . . . . .	261, 265, 272
<code>\ResultString</code> . . . . .	262, 266, 273
<b>S</b>	
<code>\section</code> 308, 310, 314, 317, 319, 321, 323	
<code>\setbox</code> . . . . .	150, 171
<code>\space</code> . . . . .	60, 80, 102, 105, 206
<code>\special</code> . . . . .	172
<b>T</b>	
<code>\Test</code> . . . . .	269, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299
<code>\the</code> . . . . .	120, 129, 133, 187, 206, 262
<b>U</b>	
<code>\usepackage</code> . . . . .	215, 220, 224, 228, 232, 236, 240, 241, 254, 257, 306
<b>V</b>	
<code>\vbox</code> . . . . .	150, 171