The pdflscape package

Heiko Oberdiek*

2019/12/05 v0.12

Abstract

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

Contents

1 Documentation **2**
- 1.1 Supported drivers . . . 2
- 1.2 Caveat . . . 2
- 1.3 Requirements . . . 2
- 1.4 Usage . . . 2

2 Implementation **2**
- 2.1 Package identification . . . 2
- 2.2 Driver options . . . 2
- 2.3 Autodetection of driver . . . 3
  - 2.3.1 Driver pdftex . . . 3
  - 2.3.2 Driver xetex . . . 3
  - 2.3.3 Detect driver based on `\Gin@driver` . . . 4
  - 2.3.4 Driver dvips . . . 4
- 2.4 Driver implementation . . . 5
  - 2.4.1 pdfTEX . . . 5
  - 2.4.2 PostScript driver . . . 6
  - 2.4.3 Driver dvipdfm . . . 6
- 2.5 Driver independent stuff . . . 6

3 Installation **7**
- 3.1 Download . . . 7
- 3.2 Bundle installation . . . 8
- 3.3 Package installation . . . 8
- 3.4 Refresh file name databases . . . 8
- 3.5 Some details for the interested . . . 8

4 History **9**
- [2001/01/15 v0.1] . . . 9
- [2001/02/04 v0.2] . . . 9
- [2004/05/11 v0.3] . . . 9
- [2004/05/12 v0.4] . . . 9
- [2006/02/20 v0.5] . . . 9
- [2006/04/24 v0.6] . . . 9

*Please report any issues at https://github.com/ho-tex/pdflscape/issues

[2007/04/11 v0.7] 9
[2007/04/17 v0.8] 9
[2007/10/21 v0.9] 9
[2008/08/11 v0.10] 9
[2016/05/14 v0.11] 10
[2019/12/05 v0.12] 10

5 Index **10**

1 Documentation

1.1 Supported drivers

- pdftex,luatex
- 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 lscape.
- The package atbegshi for all drivers except pdftex,luatex.

1.4 Usage

Load this package instead of or after package lscape:

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

2 Implementation

2.1 Package identification

1 ⟨*package⟩

Package identification.

```
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdflscape}%
4   [2019/12/05 v0.12 Display of landscape pages in PDF (HO)]
```

2.2 Driver options

```
5 \let\PLS@option\@empty
6 \let\PLS@driver\@empty
7 \def\PLS@temp#1#2{%
8   \DeclareOption{#1}{%
```

```
    \let\PLS@option\CurrentOption
    \def\PLS@driver{#2}%
  }%
}
\PLS@temp{pdftex}{pdftex}
\PLS@temp{luatex}{pdftex}
\PLS@temp{dvips}{dvips}
\PLS@temp{dvipsone}{dvips}
\PLS@temp{pctexps}{dvips}
\PLS@temp{dvipdfm}{dvipdfm}
\PLS@temp{dvipdfmx}{dvipdfm}
\PLS@temp{xetex}{dvipdfm}
\let\PLS@temp\@empty
\DeclareOption*{%
  \ifx\PLS@temp\@empty
    \let\PLS@temp\CurrentOption
  \else
    \edef\PLS@temp{\PLS@temp,\CurrentOption}%
  \fi
}
\ProcessOptions*
\ifx\PLS@option\@empty
\else
  \expandafter\PassOptionsToPackage\expandafter{\PLS@option}{lscape}%
\fi
\ifx\PLS@temp\@empty
\else
  \expandafter\PassOptionsToPackage\expandafter{\PLS@temp}{lscape}%
\fi
\RequirePackage{iftex}[2019/11/07]%
\RequirePackage{lscape}
```

2.3 Autodetection of driver

2.3.1 Driver pdftex

```
\def\PLS@temp{pdftex}
\ifpdf
  \ifx\PLS@driver\@empty
    \let\PLS@driver\PLS@temp
    \PackageInfo{pdflscape}{Auto-detected driver: \PLS@temp}%
  \fi
  \ifx\PLS@driver\PLS@temp
  \else
    \PackageError{pdflscape}{%
      The driver option `\PLS@option' is not compatible\MessageBreak
      with pdfTeX in PDF mode, using driver `pdftex' instead%
    }\@ehc
    \let\PLS@driver\PLS@temp
  \fi
\fi
```

2.3.2 Driver xetex

```
\def\PLS@temp{dvipdfm}
\ifxetex
  \ifx\PLS@driver\@empty
    \let\PLS@driver\PLS@temp
    \PackageInfo{pdflscape}{%
      Auto-detected driver: \PLS@temp\space(xetex)%
```

```
    }%
  \fi
  \ifx\PLS@driver\PLS@temp
  \else
    \PackageError{pdflscape}{%
      The driver option `\PLS@option' is not compatible\MessageBreak
      with XeTeX, using driver for XeTeX (dvipdfm) instead%
    }\@ehc
    \let\PLS@driver\PLS@temp
  \fi
\fi
```

2.3.3 Detect driver based on `\Gin@driver`

```
\def\PLS@temp#1#2{%
  \ifx\PLS@driver\@empty
    \begingroup
      \def\PLS@temp{#1.def}%
    \expandafter\endgroup
    \ifx\PLS@temp\Gin@driver
      \def\PLS@driver{#2}%
      \PackageInfo{pdflscape}{%
        Auto-detected driver: \PLS@driver\space(#1)%
      }%
    \fi
  \fi
}
\PLS@temp{dvipdfm}{dvipdfm}
\PLS@temp{dvipdfmx}{dvipdfm}
\PLS@temp{dvips}{dvips}
\PLS@temp{dvipsone}{dvips}
\PLS@temp{pctexps}{dvips}
```

2.3.4 Driver dvips

```
\ifx\PLS@driver\@empty
  \def\PLS@temp{dvips}%
  \ifnum 1=0\ifx\Gin@PS@raw\@undefined
            \else
              \ifx\Gin@PS@raw\relax
              \else
                \ifx\Gin@PS@raw\@empty
                \else
                  1%
                \fi
              \fi
            \fi
            \space
    \let\PLS@driver\PLS@temp
    \PackageInfo{pdflscape}{%
      Auto-detected driver: \PLS@temp\space(PostScript)%
    }%
  \fi
\fi
```

```
\ifx\PLS@driver\@empty
  \PackageError{pdflscape}{%
    Neither pdfTeX, PostScript, nor dvipdfm driver found%
  }\@ehc
\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.

luatex compat.

```
\ifx\pdfpageattr\@undefined
  \ifx\pdfvariable\@undefined\else
    \protected\edef\pdfpageattr{\pdfvariable pageattr}
  \fi
\fi
```

```
\def\PLS@temp{pdftex}
\ifx\PLS@temp\PLS@driver
  \def\PLS@AddRotate#1{%
    \ifnum#1=0 %
```

Already the default.

```
    \else
      \global\pdfpageattr\expandafter{%
        \the\pdfpageattr
        /Rotate #1%
      }%
    \fi
  }%
```

Removes a `/Rotate` entry.

```
  \def\PLS@RemoveRotate{%
    \begingroup
      \global\pdfpageattr\expandafter{\expandafter}%
      \expandafter\PLS@@RemoveRotate
        \the\pdfpageattr /Rotate\@nil
    \endgroup
  }%
  \def\PLS@@RemoveRotate#1/Rotate#2\@nil{%
```

Append `/Rotate` free stuff to `\pdfpageattr`.

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

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

```
    \else
```

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

```
      \afterassignment\PLS@@RemoveRotate
      \count0=#2\@nil
    \fi
  }%
\fi
```

2.4.2 PostScript driver

```
\def\PLS@temp{dvips}
\ifx\PLS@temp\PLS@driver
  \RequirePackage{atbegshi}%
  \AtBeginShipout{\PLS@AtBeginShipout}%
  \let\PLS@AtBeginShipout\@empty
  \def\PLS@AddRotate#1{%
    \ifnum#1=0 %
    \else
      \def\PLS@AtBeginShipout{%
        \global\setbox\AtBeginShipoutBox\vbox{%
          \Gin@PS@raw{%
            [{ThisPage}\string<\string</Rotate #1\string>\string>%
            /PUT pdfmark%
          }%
          \box\AtBeginShipoutBox
        }%
      }%
    \fi
  }%
  \def\PLS@RemoveRotate{\let\PLS@AtBeginShipout\@empty}%
\fi
```

2.4.3 Driver dvipdfm

```
\def\PLS@temp{dvipdfm}
\ifx\PLS@temp\PLS@driver
  \RequirePackage{atbegshi}%
  \AtBeginShipout{\PLS@AtBeginShipout}%
  \let\PLS@AtBeginShipout\@empty
  \def\PLS@AddRotate#1{%
    \ifnum#1=0 %
    \else
      \def\PLS@AtBeginShipout{%
        \global\setbox\AtBeginShipoutBox\vbox{%
          \special{pdf: put @thispage <</Rotate #1>>}%
          \box\AtBeginShipoutBox
        }%
      }%
    \fi
  }%
  \def\PLS@RemoveRotate{\let\PLS@AtBeginShipout\@empty}%
\fi
```

2.5 Driver independent stuff

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

```
\g@addto@macro{\landscape}{\PLS@Rotate{90}}
\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.

```
\def\PLS@Rotate#1{%
  \begingroup
```

1. Check and validate the argument.

```
    \PLS@CheckAngle{#1}%
  \expandafter\endgroup
```

2. Remove previous `\Rotate` entry.

```
\expandafter\PLS@RemoveRotate
```

3. Add `/Rotate` entry.

```
\expandafter\PLS@AddRotate\expandafter{\the\count@}%
}
```

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

```
\def\PLS@CheckAngle#1{%
```

Nothing means zero:

```
  \ifx\\#1\\%
    \count@=0 %
  \else
    \count@=#1\relax
  \fi
```

Normalize to interval -360 < `\count@` < 360.

```
  \@whilenum\count@>359\do{\advance\count@ -360 }%
  \@whilenum\count@<-359\do{\advance\count@ 360 }%
```

Check values: 0, +/-90, +/-180, +/-270

```
  \ifnum 1=0\ifnum\count@=0 \else
             \ifnum\count@=90 \else
             \ifnum\count@=-90 \else
             \ifnum\count@=180 \else
             \ifnum\count@=-180 \else
             \ifnum\count@=270 \else
             \ifnum\count@=-270 \else
            1\fi\fi\fi\fi\fi\fi\fi\relax
    \PackageError{pdflscape}{%
      Invalid value \the\count@\space for /Rotate%
    }\@ehc
    \count@=0 %
  \fi
}
```

```
⟨/package⟩
```

3 Installation

3.1 Download

Package. This package is available on CTAN[1]:

CTAN:macros/latex/contrib/pdflscape/pdflscape.dtx The source file.

CTAN:macros/latex/contrib/pdflscape/pdflscape.pdf Documentation.

Bundle. All the packages of the bundle 'pdflscape' 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/pdflscape.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:pkg/tds). Directories with `texmf` in their name are usually organized this way.

[1] CTAN:pkg/pdflscape

3.2 Bundle installation

Unpacking. Unpack the `pdflscape.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

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

3.3 Package installation

Unpacking. The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain TEX:

```
tex 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/pdflscape/pdflscape.sty
pdflscape.pdf → doc/latex/pdflscape/pdflscape.pdf
pdflscape.dtx → source/latex/pdflscape/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.

3.4 Refresh file name databases

If your TEX distribution (TEX Live, mikTEX, ...) relies on file name databases, you must refresh these. For example, TEX Live users run `texhash` or `mktexlsr`.

3.5 Some details for the interested

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{pdflscape.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 pdfLATEX:

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

4 History

[2001/01/15 v0.1]

- First public version, published in de.comp.text.tex: "Re: Querformat, pdfLaTex und thumbpdf"[2]

[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 pdftex.

[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 XeTeX added.
- Fix for rotation angles $\leq$ -360 or $\geq$ 360.

[2008/08/11 v0.10]

- Code is not changed.
- URLs updated.

[2] Url: https://groups.google.com/group/de.comp.text.tex/msg/e054c5795e52d2b8

[2016/05/14 v0.11]

- LuaTeX Compatibility

[2019/12/05 v0.12]

- Documentation updates.
- iftex package.

5 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

\@ehc 51, 68, 112, 212
\@empty . 5, 6, 21, 23, 30, 34, 42, 57, 73, 90, 96, 109, 150, 165, 171, 183
\@nil 134, 137, 142
\@undefined 92, 114, 115
\@whilenum 200, 201
\\ 139, 195

A

\advance 200, 201
\afterassignment 141
\AtBeginShipout 149, 170
\AtBeginShipoutBox . 155, 160, 176, 178

B

\box 160, 178

C

\count 142
\count@ 192, 196, 198, 200, 201, 202, 203, 204, 205, 206, 207, 208, 211, 213
\CurrentOption 9, 24, 26

D

\DeclareOption 8, 22
\do 200, 201

E

\endlandscape 186

G

\g@addto@macro 185, 186
\Gin@driver 77
\Gin@PS@raw 92, 94, 96, 156

I

\ifnum 92, 122, 152, 173, 202, 203, 204, 205, 206, 207, 208
\ifpdf 41
\ifx 23, 30, 34, 42, 46, 57, 63, 73, 77, 90, 92, 94, 96, 109, 114, 115, 120, 139, 147, 168, 195
\ifxetex 56

L

\landscape 185

M

\MessageBreak 49, 66

N

\NeedsTeXFormat 2

P

\PackageError 48, 65, 110, 210
\PackageInfo 44, 59, 79, 104
\PassOptionsToPackage 32, 36
\pdfpageattr 114, 116, 124, 125, 132, 134, 138
\pdfvariable 115, 116
\PLS@@RemoveRotate 133, 137, 141
\PLS@AddRotate 121, 151, 172, 192
\PLS@AtBeginShipout 149, 150, 154, 165, 170, 171, 175, 183
\PLS@CheckAngle 189, 194
\PLS@driver 6, 10, 42, 43, 46, 52, 57, 58, 63, 69, 73, 78, 80, 90, 103, 109, 120, 147, 168
\PLS@option 5, 9, 30, 32, 49, 66
\PLS@RemoveRotate . 130, 165, 183, 191
\PLS@Rotate 185, 186, 187
\PLS@temp 7, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 26, 34, 36, 40, 43, 44, 46, 52, 55, 58, 60, 63, 69, 72, 75, 77, 85, 86, 87, 88, 89, 91, 103, 105, 119, 120, 146, 147, 167, 168
\ProcessOptions 29
\protected 116
\ProvidesPackage 3

R

\RequirePackage 38, 39, 148, 169

S

\setbox 155, 176
\space 60, 80, 102, 105, 211
\special 177

T

\the 125, 134, 138, 192, 211

V

\vbox 155, 176