

# The `epstopdf` package

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## Abstract

This packages adds support of handling eps images to package `graphics` or `graphicx` with option `pdftex`. If an eps image is detected, `epstopdf` is automatically called to convert it to pdf format.

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## 1 Documentation

### 1.1 Requirements

- The program `epstopdf` for the conversion from EPS to PDF. However, other programs can be used and configured by `\DeclareGraphicsRule`.

- The feature `\write18` must be enabled. This allows the running of external programs during  $\TeX$ 's compile run. Keep in mind that this is a security risk. The feature is an addition to  $\TeX$ . Mik $\TeX$ ,  $\text{te}\TeX$ ,  $\TeX$  Live support it. In Web2C based  $\TeX$  distributions ( $\text{te}\TeX$ ,  $\TeX$  Live) it can be enabled in the configuration file `texmf.cnf`:

```
shell_escape = 1
```

Because of the security risk, it is better to do it on the command line only:

```
-shell-escape ( $\text{te}\TeX$ ,  $\TeX$  Live)
--enable-write18 (Mik $\TeX$ )
```

Example:

```
pdflatex -shell-escape test.tex
```

## 2 Usage

The package is loaded after `graphic{s,x}`, e.g.:

```
\usepackage[pdftex]{graphicx}
\usepackage{epstopdf}
```

Now images with extension ‘.eps’ are detected and supported:

- Implicitly: `\includegraphics{bild}`  
If `bild.eps` is present, but `bild.pdf` is missed, then `bild.eps` is converted to `bild.pdf` that is then included by  $\text{pdf}\TeX$ . On the next occurrences or on the next  $\text{pdf}\TeX$  run, the PDF file is already available, so the conversion step is skipped.
- Explicitly: `\includegraphics{bild.eps}`  
Each time the conversion program is called.

### 2.1 Configuration

Package `epstopdf` implements the forth argument of `\DeclareGraphicsRule` for  $\text{pdf}\TeX$ . There conversion programs can be configured and package `epstopdf` declares:

```
\DeclareGraphicsRule{.eps}{pdf}{.pdf}{'epstopdf #1}
```

Additionally the extension `.eps` is added to the list of extensions that are recognized by package `graphics`, see `\GraphicsExtensions`.

Instead of `epstopdf` other programs can be used, for example `ghostscript`:

```
\DeclareGraphicsRule{.eps}{pdf}{.pdf}{'ps2pdf -dEPSCrop #1}
```

### 2.2 Other image formats

The support that package `epstopdf` implements is not limited to EPS files. Other image conversions can be declared. The following example shows it for GIF images under Unix with ImageMagick's `convert`:

```
\DeclareGraphicsRule{.gif}{png}{.png}{%
  'convert #1 'basename #1 .gif'.png%
}
```

Or without `basename`:

```

\makeatletter
\DeclareGraphicsRule{.gif}{png}{.png}{%
  'convert #1 \noexpand\Gin@base.png%
}
\makeatother

```

The file extension `.gif` can be added to the extension list that package `graphics` searches if the file extension is not given in `\includegraphics`. The list can be set by `\GraphicsExtensions`. The following example shows another way by adding `.gif` to the list:

```

\makeatletter
\g@addto@macro\Gin@extensions{.gif}
\makeatother

```

## 3 Implementation

1 (\*package)

### 3.1 Relead check and identification

Reload check, especially if the package is not used with L<sup>A</sup>T<sub>E</sub>X.

```

2 \begingroup
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \expandafter\let\expandafter\x\csname ver@epstopdf.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    \expandafter\ifx\csname PackageInfo\endcsname\relax
19      \def\x#1#2{%
20        \immediate\write-1{Package #1 Info: #2.}%
21      }%
22    \else
23      \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24    \fi
25    \x{epstopdf}{The package is already loaded}%
26  \endgroup
27  \expandafter\endinput
28 \fi
29 \endgroup

```

Package identification:

```

30 \begingroup
31   \catcode40 12 % (
32   \catcode41 12 % )
33   \catcode44 12 % ,
34   \catcode45 12 % -
35   \catcode46 12 % .
36   \catcode47 12 % /
37   \catcode58 12 % :
38   \catcode64 11 % @
39   \expandafter\ifx\csname ProvidesPackage\endcsname\relax
40     \def\x#1#2#3[#4]{\endgroup

```

```

41     \immediate\write-1{Package: #3 #4}%
42     \xdef#1{#4}%
43 }%
44 \else
45     \def\x#1#2[#3]{\endgroup
46     #2[#3]}%
47     \ifx#1\relax
48     \xdef#1{#3}%
49     \fi
50 }%
51 \fi
52 \expandafter\x\csname ver@epstopdf.sty\endcsname
53 \ProvidesPackage{epstopdf}%
54 [2007/04/26 v1.4 Conversion with epstopdf on the fly (H0)]

```

## 3.2 Help macros for miniltx mode

```

55 \@ifundefined{PackageWarning}{%
56   \def\PackageWarning#1#2{%
57     \begingroup
58     \newlinechar=10 %
59     \def\MessageBreak{%
60       ^^J(#1)\@spaces\@spaces\@spaces\@spaces
61     }%
62     \immediate\write16{^^JPackage #1 Warning: #2\on@line.^^J}%
63   \endgroup
64 }%
65 }{}
66 \@ifundefined{PackageWarningNoLine}{%
67   \def\PackageWarningNoLine#1#2{%
68     \PackageWarning{#1}{#2\@gobble}%
69   }%
70 }{}
71 \@ifundefined{on@line}{%
72   \def\on@line{ on input line \the\inputlineno}%
73 }{}
74 \@ifundefined{@spaces}{%
75   \def\@spaces{\space\space\space\space}%
76 }{}

```

## 3.3 Checks

Check, whether package graphics is loaded (also graphicx loads graphics). Because miniltx.tex does not know \@ifpackageloaded we test for \Gin@setfile instead.

```

77 \begingroup\expandafter\expandafter\expandafter\endgroup
78 \expandafter\ifx\csname Gin@setfile\endcsname\relax
79   \PackageWarningNoLine{epstopdf}{%
80     No graphics package \string'graphic{s,x}\string' found%
81   }%
82   \expandafter\endinput
83 \fi

```

Check, whether pdftex.def is loaded. \ver@pdftex.def is not available with miniltx.tex, thus we test for \Gin@driver.

```

84 \begingroup
85   \def\x{pdftex.def}%
86   \ifx\Gin@driver\x
87   \else
88     \PackageWarningNoLine{epstopdf}{%
89       Graphics driver file \string'pdftex.def\string' not found%
90     }%
91   \expandafter\endgroup\expandafter\endinput
92 \fi

```

```

93 \endgroup
    Check, whether the shell escape feature is enabled.
94 \begingroup
95   \expandafter\ifx\csname pdfshellescape\endcsname\relax
96   \else
97     \ifnum\pdfshellescape>0 %
98     \else
99       \PackageWarningNoLine{epstopdf}{%
100         Shell escape feature is not enabled%
101       }%
102     \fi
103   \fi
104 \endgroup

```

### 3.4 Adding conversion support

Patch `\Gin@setfile` to execute #3, if it contains a command.

```

105 \let\ETEorg@Gin@setfile\Gin@setfile
106 \def\Gin@setfile#1#2#3{%
107   \if'\@car #3\relax\@nil
108     \immediate\write18{\@cdr #3\@empty\@nil}%
109     \ETEorg@Gin@setfile{#1}{#2}{\Gin@base #2}%
110   \else
111     \ETEorg@Gin@setfile{#1}{#2}{#3}%
112   \fi
113 }

```

Adding .eps at the end of the list of extensions, defined by `\GraphicsExtensions`.

```

114 \@ifundefined{Gin@extensions}{%
115   \def\Gin@extensions{.eps}%
116 }{%
117   \expandafter\ifx\expandafter\indent\Gin@extensions\indent
118     \def\Gin@extensions{.eps}%
119   \else
120     \expandafter\def\expandafter\Gin@extensions\expandafter{%
121       \Gin@extensions,.eps%
122     }%
123   \fi
124 }
    \DeclareGraphicsRule for .eps
125 \@namedef{Gin@rule@.eps}#1{{pdf}}{.pdf}{'epstopdf #1}}
126 </package>

```

## 4 Installation

### 4.1 Download

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

[CTAN:macros/latex/contrib/oberdiek/epstopdf.dtx](http://ctan.org/tex-archive/macros/latex/contrib/oberdiek/epstopdf.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/epstopdf.pdf](http://ctan.org/tex-archive/macros/latex/contrib/oberdiek/epstopdf.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:macros/latex/contrib/oberdiek/oberdiek-tds.zip](http://ctan.org/tex-archive/macros/latex/contrib/oberdiek/oberdiek-tds.zip)

<sup>1</sup><http://ftp.ctan.org/tex-archive/>

## 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 epstopdf.dtx
```

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

```
epstopdf.sty → tex/latex/oberdiek/epstopdf.sty
epstopdf.pdf → doc/latex/oberdiek/epstopdf.pdf
epstopdf.dtx → source/latex/oberdiek/epstopdf.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 (`teTeX`, `mikTeX`, ...) relies on file name databases, you must refresh these. For example, `teTeX` 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 epstopdf.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{epstopdf.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<sup>A</sup>T<sub>E</sub>X:

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

## 5 History

### [2001/01/06 v1.0]

- First public version, published in the pdfT<sub>E</sub>X mailing list.

### [2001/02/04 v1.1]

- Minor documentation update.
- CTAN.

### [2006/02/20 v1.2]

- DTX framework.
- Compatibility for `miniltx.tex`.

### [2006/08/26 v1.3]

- Check for `\write18` if available and print a warning if the feature is not enabled.

### [2007/04/26 v1.4]

- Documentation rewritten and extended.

## 6 Index

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