

Epspdf and epspdfTk User Manual

A multiplatform GUI- and command-line converter for [e]ps and pdf

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This manual is for epspdf, version 0.4.3.

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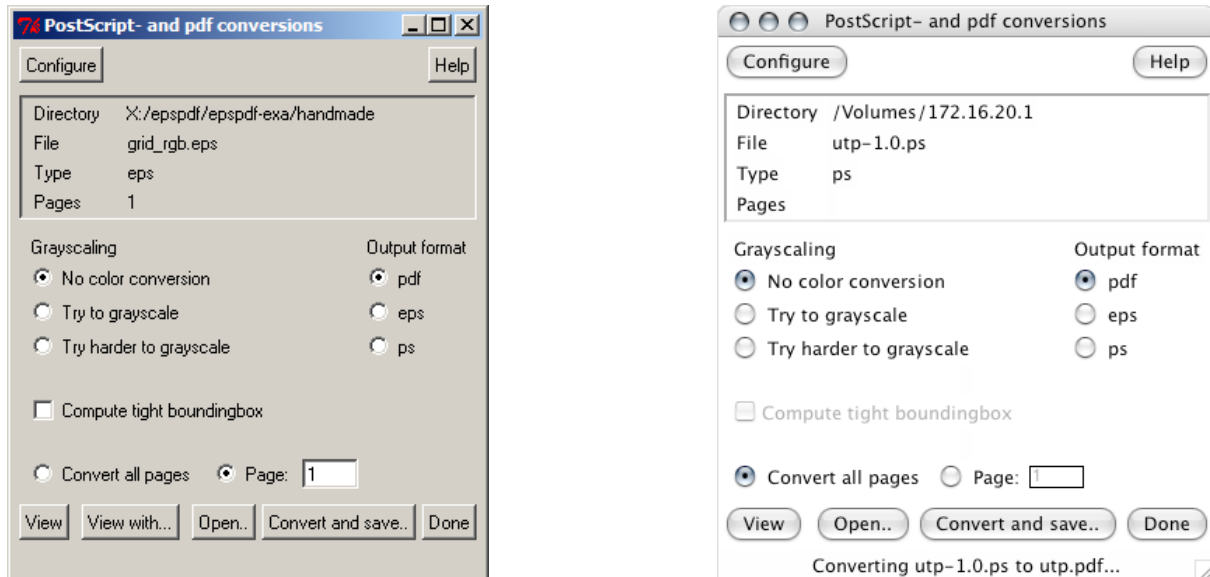
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1 Usage

1.1 Overview

Epspdf converts files between eps, pdf and general PostScript. The main screen lets you open a file, select some options and convert the file.

When opening a file, epspdf tries to find out file type and, in the case of a pdf file, the number of pages. This information is displayed in the box in the upper part of the screen.



1.2 Viewing

The View button at the bottom of the screen calls an appropriate external viewer.

Windows: Epspdf simply tries to use the default Open command. A second button, labeled *View with...*, lets the user select a different program to view the file.

For OS X the viewer is also the default program, but there is no *View with...* button.

Under Linux the PostScript- and pdf viewers are configurable; see [Section 1.5 \[The configuration screen\]](#), page 2.

The View button is grayed if epspdf thinks that there is no previewer for the current file.

1.3 Conversion options

Grayscale: Simple color figures can be converted to grayscale. Bitmapped data won't be converted. If grayscale doesn't work even on non-bitmapped data, select the "Try harder to grayscale" option. This may cause an extra pdf-PostScript roundtrip, but grayscale may still fail.

Compute tight boundingbox: This option is only available if a single page is converted.

Page selection: The only possibilities are selecting a single page or selecting all pages. When converting to eps you are restricted to a single page.

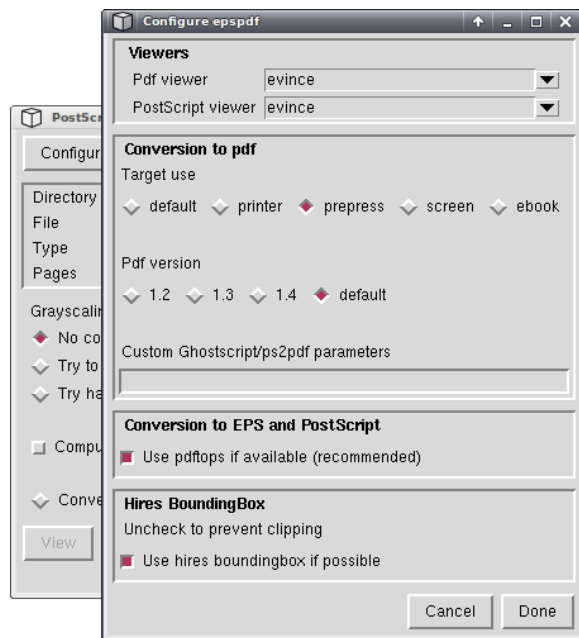
For general PostScript files, there is no quick way to determine the number of pages, so the program won't check beforehand whether you picked an existing page. If you picked a non-existent page, the program will abort. If you don't like that, convert the entire document to pdf first – which will be done behind the scenes anyhow.

Specifying options such as grayscale or page selection may require several roundtrips between PostScript or eps and pdf.

1.4 Converting

The Convert and save... button calls up a file save dialog. After a successful conversion, the result becomes the new current file, so you can judge the result by pressing the View button again.

1.5 The configuration screen



Epspdf also has a configuration screen. The settings here are preserved between sessions.

1.5.1 Configuring viewers

Under Unix, the preferred PostScript- and pdf viewers can be configured in this screen. Epspdf looks for a number of PostScript- and pdf viewers, from which you can select one, but you can also enter one manually.

For Windows and Mac OS X, there is no such configuration option. Epspdf will use the program associated with the file type, which can be configured outside epspdf. Under Windows, you can use the “View with...” button instead.

1.5.2 Options for converting to pdf

Double-check the setting “Target use” under “Conversion to pdf”. Choose “prepress” for pdfs which are target for commercial printing. This option will try to embed all fonts, among other things. Often, printshops insist on this. With luck, Ghostscript fonts and system fonts will be used for fonts which were not originally embedded.

On the other hand, you may prefer “screen” if file size is a concern. See also the Ghostscript documentation, in particular Use.htm and Ps2pdf.htm.

1.5.3 Options for converting to PostScript

For conversion the other way you may opt *not* to use pdftops even if it is available. In this case, the conversion will be done by Ghostscript. Characters may be converted to drawn shapes or little bitmaps so this is not recommended.

Under Windows, this is also the place to point the program to the location of pdftops.exe.

1.5.4 Hires BoundingBox

Uncheck the option “Use hires boundingbox if possible” if otherwise the computed boundingbox is slightly too tight, resulting in some clipping. It has two effects:

- When converting to pdf, it uses the standard rather than the hires boundingbox for page dimensions
- When computing a boundingbox, it adds a small safety margin of 1pt to the standard boundingbox, except where it would make any boundingbox coordinate negative.

2 Command-line usage

epspdf.rb, the library for epspdftk.rb, does double duty as command-line version of epspdftk.rb. It shares configuration settings with epspdftk.rb.

It is strongly recommended to invoke epspdf.rb via a wrapper script epspdf or epspdf.bat on the search path, e.g.

```
#!/bin/sh
path_to_epspdf/epspdf.rb "$@"
```

for Unix/Linux/OS X, or

```
"path_to_ruby.exe" "path_to_epspdf.rb" %*
```

for Windows. It is the responsibility of the caller to provide double quotes.

The TeX Live package for epspdf already includes a wrapper.

Basic usage:

```
epspdf [options] infile outfile
```

2.1 Option summary

Typing `epspdf --help` gives you the following summary:

```
$ epspdf --help
Epspdf version 0.4.3
Copyright (C) 2006, 2008, 2009, 2010 Siep Kroonenberg
Convert between [e]ps and pdf formats
Usage: epspdf.rb [options] infile [outfile]
```

```
Default for outfile is file.pdf if infile is file.eps or file.ps
```

```
Default for outfile is file.eps if infile is file.pdf
```

-g, --gray, --grey	Convert to grayscale; success not guaranteed
-G, --GRAY, --GREY	Try harder to convert to grayscale
-p, --pagenumber=PAGENUMBER	Page to be converted or selected
-b, --bbox, --BoundingBox	Compute tight boundingbox
-n, --no-hires	Don't use hires boundingbox
-r, --hires	Use hires boundingbox
-T, --target=TARGET	Target use of pdf; one of default, printer, prepress, screen, ebook
-N, --pdfversion=PDFVERSION	Pdf version to be generated
-V, --version=PDFVERSION	Deprecated; use '-N' or '--pdfversion'.
-I	Ignore pdftops even if available (default: use if available)
-U	Use pdftops if available (overrides previous -I setting)
-C, --custom=CUSTOMOPTIONS	Custom options for conversion to pdf,

-P, --psoptions=PSOPTIONS	view Use.htm and ps2pdf.htm from the Ghostscript documentation set Options for pdftops; default -level3, don't include -eps or page number options; these will be generated by the program
-i, --info	Info: display detected filetype
-s	Save (some) settings
-d	Debug: don't remove temp files
-v	Prints version info
-h, --help	Show this message

3 Notes on PostScript and pdf

3.1 Bitmapped and vector

Pictures can be described either in terms of pixels, or more abstractly, in terms of geometric shapes, fonts and text.

Bitmapped or pixel-based graphics are appropriate for photographs and screenshots, but less so for diagrams and spreadsheet-generated graphics.

A file in PostScript- or pdf format can contain both types of graphic data.

Vector graphics can be freely scaled without losing sharpness or becoming pixellated. If bitmapped graphics are enlarged too much, individual pixels become apparent. With low-resolution bitmaps this happens sooner than with high-resolution bitmaps, but high-resolution bitmaps have (much) larger file sizes, and take longer to process.

So avoid converting vector to bitmap. However, converting from bitmap to vector is also best avoided, since it is very hard to do well.

Epspdf normally avoids conversion from vector to bitmap and never converts the other way. With the screen- and ebook "Target use" option, included bitmaps tend to be downsampled, i.e. reduced to a lower resolution.

3.2 Font embedding

When converting to pdf, Ghostscript handles font embedding differently depending on the "Target use" option. For prepress, it embeds even the standard fonts, including Times etc. Ghostscript has copies of these fonts in case the PostScript file doesn't have them. For screen, it doesn't embed standard fonts.

You can embed fonts after the fact by converting pdf to eps or ps, and back to pdf, with target use set to "prepress". However, don't try this unless you have pdftops.

If target use is set to "screen", then standard fonts will be removed instead of added. This option may also cause downsampling of bitmaps.

3.3 Eps preview headers

Preview headers are quietly stripped from eps files. These preview headers are used by e.g. desktop-publishing software to represent eps files on screen without having to interpret the PostScript code itself. Epspdf currently has no option to preserve or add them.

3.4 Bounding- and other boxes

A PostScript file may have a page size and a boundingbox defined. A pdf file may have a mediabox, a trimbox and various other boxes. Ghostscript by itself normally converts the PostScript page – which is anchored at (0,0) – to the pdf mediabox.

When epspdf or a similar program converts eps to pdf, it adds code to move the bottom left corner of the graphic to (0,0) and to set the page to the size of the graphic. Anything outside the boundingbox should be cut off.

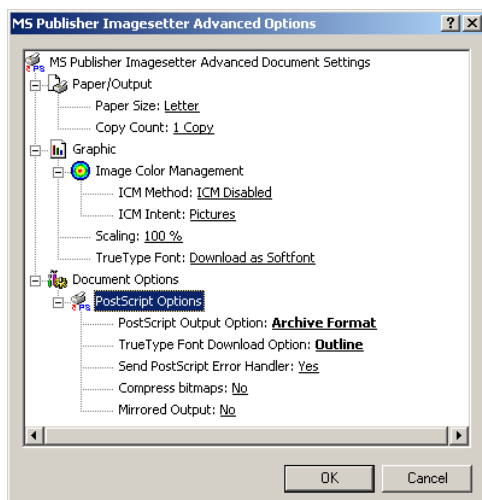
Both Ghostscript and pdftops have some parameters for setting or using these boxes; consult Ps2pdf.htm from the Ghostscript documentation and “pdftops –help” or “man pdftops”.

3.5 Orientation

There appears to be no reliable way to set orientation for PostScript- and pdf files. This may result part of a graphic being cut off after conversion or even everything falling outside the page / mediabox / boundingbox. It may help to change the extension from “.eps” to “.ps” before converting to pdf. In this case, let epspdf generate a new boundingbox.

3.6 Exporting PostScript from Windows programs

Often, the only way to get EPS or PostScript from a Windows program is by “printing” to a PostScript file. From some programs, you can print a selection. A suitable driver which comes with Windows is Generic / MS Publisher Imagesetter. Pay attention to the printer properties: choose “Outline” for font downloading and avoid the “Optimize for speed” setting for PostScript Output Option. Try e.g. “Archive” instead. These options can be found under the Advanced button.



Other possibilities are the TpX and wmf2eps programs, which both have options to write clipboard contents to an emf file. Wmf2eps uses a printer driver in the background. For faithful conversion, pick wmf2eps; for subsequent editing, choose TpX. Both programs are available from <http://www.tug.org/ctan.html>.

4 Bitmapped graphics for L^AT_EX and pdf_latex

pdf_latex can use graphics in .png format (best for screenshots) and .jpg format (best for photographs) directly. However, for L^AT_EX you are stuck with .eps format. Tips for converting to .eps:

4.1 Linux

sam2p This command-line bitmap-to-PostScript/pdf conversion utility is available from <http://code.google.com/p/sam2p/> and may already be packaged for your distribution. It produces very small files: 'sam2p image.png image.eps'

ImageMagick/convert

convert from the ImageMagick package is a command-line utility: 'convert image.png image.eps'

The GIMP This is the premier open source image editing program. It is often pre-installed on Linux, and is also available for other platforms. The GIMP can save in eps format.

4.2 Mac OS X

Mac OS X's built-in Preview application can read most bitmapped formats and save them as .pdf, which eps_latex can convert to .eps.

4.3 Windows

Windows is not a particularly friendly environment for PostScript and pdf. A couple of command-line utilities try to fill the gap, *e.g.*

```
sam2p image.png image.eps
```

or

```
bmeps -c image.png image.eps
```

sam2p is distributed with TeX Live (Windows only), bmeps both with TeX Live and with MikTeX. Without the -c option, bmeps produces a grayscale image. It produces larger files than sam2p.

4.3.1 GUI use of sam2p and bmeps

Create a batchfile 'bitmap2eps.bat' with contents

```
sam2p "%~1" "%~dpn1.eps"
```

(TeX Live) or

```
bmeps -c "%~1" "%~dpn1.eps"
```

(MikTeX) and place it *e.g.* on your desktop. Now if you drop a bitmapped graphic on this batchfile then you will get an eps file with the same name as the original, but with extension .eps.

You can also right-click on a bitmap, choose *Open With...* and browse to this file bitmap2eps.bat, resulting in conversion to .eps. The next time you do this with a file of the same type, bitmap2eps.bat will already be in the list of possible programs for opening the file.

5 Troubleshooting

5.1 Grayscale fails

See above, under [Grayscale], page 1. Epspdf is limited by what can be done by the backend tools, i.e. Ghostscript and pdftops. In particular, epspdf cannot grayscale bitmapped data.

5.2 Part of the graphic gets cut off

Things to try:

- If the PostScript file was generated with the Windows PostScript driver, experiment with the PostScript Output option. Don't choose Optimize for Speed.
- Replace the extension with ".ps" and let epspdf generate a boundingbox.
- Boundingbox calculations may be slightly inaccurate where text is involved. If just a sliver is cut off, let epspdf ignore the high-resolution boundingbox. Command-line option: "-n" or "-no-hires".

5.3 Fonts look ugly

If Ghostscript has to do the conversion from pdf to ps then text will not remain text, but will be replaced by drawn shapes or bitmaps. Try to get hold of the xpdf suite, which includes pdftops, especially if your files contain serious amount of text.

5.4 Resources for troubleshooting

Logfile. Epspdf and epspdfk maintain a log file epspdf.log in your home directory or, in case of Windows, your profile directory. This profile directory may be 'c:\Documents and Settings\your user name'. Otherwise, open a DOS box and type `echo %USERPROFILE%`, which will produce this information.

This logfile lists all Ghostscript- and pdftops program calls plus error information. "EPCallError" is probably a program error. 'EPSYSTEMERROR' is more likely caused by a faulty file, but may be a program error as well.

Temporary files. The temporary files may give clues as well. They will be deleted at the end of the session (for the command-line version, give a -d parameter to keep the temporary files). Check the logfile as to which temporary files have been created.

Ghostscript- and pdftops documentation. For Ghostscript, the most important files are Ps2pdf.htm and Use.htm. For pdftops, type `pdftops -h`. For Unix, there is also a man page, and for Windows there is a file pdftops.txt in the distribution zip.

6 Changes in version 0.4

Hi-res boundingboxes are now supported. By default, conversion from eps to pdf now uses the hires boundingbox as "page" to determine the page dimensions of the pdf file. Other conversions preserve or generate a hires boundingbox.

Under Windows, the new version looks for an installed T_EX and will use its private Ghostscript if it cannot find a separately installed Ghostscript. T_EX Live's pdftops, being on the searchpath, will be used unless epspdf finds another copy first.

There is now a "-v" (lowercase) option to print the version string.