

The pdf $\text{T}_{\text{E}}\text{X}$ FAQ

Version 0.12*

Maintained by: C. V. Radhakrishnan

July 4, 2000

Abstract

This document is a preliminary version of pdf $\text{T}_{\text{E}}\text{X}$'s frequently asked questions (FAQ) and answers. If you can contribute to this document, please mail C. V. Radhakrishnan or pdf $\text{T}_{\text{E}}\text{X}$'s mailing list. Including the key `FAQ` in the subject line of your contribution will help the FAQ maintainer stay organized. This document is in $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ syntax and is generated in an Intel 500MHz PIII system running Linux kernel version 2.2.12-20 by pdf $\text{T}_{\text{E}}\text{X}$ ver. 14f.

© This document is freely distributable.

Contents

1	General	4
1.1	$\text{T}_{\text{E}}\text{X}$ and PDF	4
1.1.1	What is pdf $\text{T}_{\text{E}}\text{X}$?	4
1.1.2	What is $\text{T}_{\text{E}}\text{X}$?	4
1.1.3	What is PDF?	4
1.1.4	How can I view a PDF file?	4
1.2	Authors	5
1.2.1	Who is the author of pdf $\text{T}_{\text{E}}\text{X}$?	5
2	Information	6
2.1	Locations	6
2.1.1	Where can I find pdf $\text{T}_{\text{E}}\text{X}$?	6
2.1.2	What is the latest version?	6
2.1.3	Where can I find some docs about pdf $\text{T}_{\text{E}}\text{X}$?	6
2.1.4	Is there a pdf $\text{T}_{\text{E}}\text{X}$ mailing list?	6
2.1.5	Where can I find an archive of the pdf $\text{T}_{\text{E}}\text{X}$ mailing list?	7
2.1.6	How do I get new versions of this FAQ?	7
2.1.7	How do I contribute to this FAQ?	7

*This document is for public distribution

3	Installation	8
3.1	General Installation	8
3.1.1	How do I install the latest version of pdf \TeX ?	8
3.1.2	How do I use pdflatex (how to generate pdflatex.fmt)?	8
3.1.3	Why use pdflatex vs (??? i.e. latex2html)?	9
3.1.4	How do I compress my PDF files?	9
3.1.5	What can I do with this pdftex.cfg file?	9
3.1.6	How can I make a document portable to both latex and pdflatex	11
4	Fonts in pdf\TeX	12
4.1	Fonts in general	12
4.1.1	What kind of fonts can I use?	12
4.2	Type1 fonts	12
4.2.1	How do I use Type1 fonts?	12
4.2.2	How do I generate TFM files for Type1 fonts?	12
4.3	TrueType fonts	12
4.3.1	How do I use TrueType fonts?	12
4.3.2	How do I generate TFM files for TrueType fonts?	12
4.4	pk fonts	12
4.4.1	How do I use pk fonts?	12
4.4.2	Why does Acrobat Reader display pk fonts so poorly?	12
5	Graphics	13
5.1	Graphics in general	13
5.1.1	How do I include pictures in pdfLa \TeX ?	13
5.2	Vector Formats	14
5.2.1	How do I include PDF pictures?	14
5.2.2	How do I include EPS pictures?	14
5.2.3	How do I convert an EPS figure to PDF?	14
5.2.4	How do I use Adobe Distiller to create a pdf graphic for inclusion in pdfLa \TeX ?	15
5.2.5	Why doesn't my pdf picture show up when I include it?	15
5.3	Bitmap Formats	16
5.3.1	How do I include TIFF pictures?	16
5.4	Other Graphics	16
5.4.1	How can I use MetaPost in pdf \TeX ?	16
6	Miscellaneous	17
6.1	Kpathsea	17
6.1.1	What is this kpathsea?	17
6.2	Hyperref	17
6.2.1	What is hyperref?	17
6.2.2	How can I use it?	17
6.2.3	My pdftex.cfg says to use A4 paper, but the document comes out in Letter format.	17

6.2.4	I get the message: “Warning (ext1): destination with the same identifier already exists!”	17
7	ConT_EXt	19
7.0.1	What is ConT _E Xt?	19
7.0.2	What do I need to use ConT _E Xt	19
7.0.3	How do I install ConT _E Xt	19
7.0.4	How do I install the ConT _E Xt symbol fonts?	20
7.0.5	How do I activate hyperlinks?	20
7.0.6	How do I set up the papersize?	20
7.0.7	To what extend does ConT _E Xt support pdfT _E X?	20
7.0.8	Where can I find more information on ConT _E Xt and pdfT _E X?	21
8	Contributors	21

1. General

1.1. T_EX and PDF

1.1.1. What is pdfT_EX?

Contributed by: Pavel Janík jr

pdfT_EX is a variant of well known typesetting program of prof. Donald E. Knuth – T_EX. Output of Knuth's T_EX is a file in DVI format. The difference between T_EX and pdfT_EX is that pdfT_EX directly generates PDF. You can also create PDF with Adobe's Distiller program, using a DVI to PostScript program to create PS from T_EX's DVI file.

1.1.2. What is T_EX?

Contributed by: Pavel Janík jr

From 'T_EX – The Program' by Donald E. Knuth: "This is T_EX, a document compiler intended to produce typesetting of high quality". T_EX is a batch oriented typesetting system. When we talk about T_EX we mean the macro programming language as well as the program that interprets and executed this language.

1.1.3. What is PDF?

Contributed by: Pavel Janík jr

This question is answered in the Adobe Systems' document *Portable Document Format Reference Manual* available at <http://www.adobe.com/supportservice/devrelations/PDFS/TN/PDFSPEC.PDF> on page 27. It can not be reproduced here for strange copyright reasons.

Think of PDF as PostScript without programming constructs. A PDF file consists of graphical objects tight together in such a way that fast viewing is possible and incremental updates become possible.

1.1.4. How can I view a PDF file?

Contributed by: Steve Phipps

Contributed by: Michael Sanders

There are several .pdf readers available as free ware over the Internet.

Adobe's Acrobat Reader is available for many operating systems, including Win95, NT, and 3.1, Macintosh, Linux, Sun, and OS/2. Download the self-installing executable from Adobe's web site: <http://www.adobe.com/prodindex/acrobat/>.

Ghostscript is a .ps interpreter and Ghostview is its graphical front-end. Ghostscript is also available for many operating systems, including UNIX and VMS, MS-DOS, MS-Windows, OS/2 and Macintosh. See the Ghostscript home page at <http://www.cs.wisc.edu/~ghost/> for details, documentation, and downloads.

Another previewer is xpdf, a PDF viewer for X maintained by Derek B. Noonburg with a home page at <http://www.aimnet.com/~derekn/xpdf>. Xpdf runs under the X

Window System on UNIX, VMS, and OS/2 and is designed to be small and efficient. It does not use the Motif or Xt libraries and only uses standard X fonts.

[FIXME: some words about Xpdf and other PDF viewers]

1.2. Authors

1.2.1. Who is the author of pdfTeX?

Contributed by: Pavel Janík jr

The primary author of pdfTeX is Han The Thanh. [FIXME: in pdftex.ch there is also Petr Sojka and the current head (rector) of Masaryk's University and Jiří Zlatuška.]

2. Information

2.1. Locations

2.1.1. Where can I find pdf \TeX ?

Contributed by: Pavel Janík jr

`ftp://ftp.cstug.cz/pub/tex/local/cstug/{janik,thanh}` daily mirror on `ftp://ftp.inet.cz/pub/Mirrors/pdfTeX`

2.1.2. What is the latest version?

Contributed by: Pavel Janík jr

The latest version of pdf \TeX is pdf \TeX -0.14f. This is the latest version of pdf \TeX approved by Han The Thanh (for now).

2.1.3. Where can I find some docs about pdf \TeX ?

Contributed by: Jody Klymak

A web site for the pdf \TeX project is maintained by Sebastian Rahtz, and can be found at:

`http://www.tug.org/applications/pdftex/`

In it you will find:

- The pdf \TeX manual in PDF format:
`http://www.tug.org/applications/pdftex/pdftexman.pdf`
and HTML format:
`http://www.tug.org/applications/pdftex/pdftexman.html`
- The pdf \TeX mailing list archives:
`http://tug.org/ListsArchives/pdftex/threads.html`
- This FAQ in PDF format:
`http://www.tug.org/applications/pdftex/pdfTeX-FAQ.pdf`
and DVI format:
`http://www.tug.org/applications/pdftex/pdfTeX-FAQ.dvi`

[FIXME: The best documentation is in the source files...]

2.1.4. Is there a pdf \TeX mailing list?

Contributed by: Jody Klymak

Yes, to subscribe send mail to `majordomo@tug.org`, and put the line:

```
subscribe pdftex username@hostname
```

in the body of the message, where `username@hostname` is your complete email address.

2.1.5. Where can I find an archive of the pdfTeX mailing list?

Contributed by: Jody Klymak

An ftp site of the mailing list, arranged chronologically can be found at: `ftp://ftp.tug.org/mail-archives/pdftex/` Daily mirror is also at `ftp://ftp.inet.cz/pub/Mirrors/pdftex-MailArchive/`

2.1.6. How do I get new versions of this FAQ?

Contributed by: Jody Klymak

The TeX version of this document is periodically posted to pdfTeX's mailing list.

It is also uploaded to `http://www.tug.org/applications/pdftex/pdfTeX-FAQ.pdf` with its L^AT_EX source: `http://www.tug.org/applications/pdftex/pdfTeX-FAQ.tex`. A screen version of the FAQ is also available: `http://www.tug.org/applications/pdftex/pdfTeX-FAQ-scr.pdf`.

2.1.7. How do I contribute to this FAQ?

Contributed by: Jody Klymak

Send email to the FAQ maintainer: C. V. Radhakrishnan with the word FAQ in the subject line. If possible FAQ entries should be formatted like this example:

```
\question{This_is_a_template_faq_question}%
  {This is a template faq question}{1998/09/24}
\contributor{Pavel Jan\'\{i\}k jr}
{Pavel.Janik@inet.cz}{1998/09/10}
\contributor{Jody Klymak}
{jklymak@apl.washington.edu}{1998/09/24}
```

This is a sample FAQ question. It can reference other questions, like `Question \ref{q:what_is_TeX}`, or sections (See Section `\ref{sec:General}`). This FAQ can be found at `\url{http://www.tug.org/applications/pdftex/pdfTeX-FAQ.pdf}`, and is maintained by `\href{mailto:jklymak@apl.washington.edu}{Jody Klymak}`.

3. Installation

3.1. General Installation

3.1.1. How do I install the latest version of pdfTeX?

Contributed by: Pavel Janík jr

Get the precompiled binaries and also the zip archive, `pdftexlib-0.12.zip` in the pdfTeX distribution which contains platform-independent files required for running pdfTeX:

```
configuration file:  pdftex.cfg
encoding vectors:   *.enc
map files:          *.map
macros:             *.tex
```

Unpacking this archive don't forget the `-d` option when using `pkunzip` will create a `texmf` tree containing pdfTeX-specific files.

The next step is to place the binaries somewhere in `PATH`. If you want to use \LaTeX , you also need to make a copy (or symbolic link) of pdfTeX and name it `pdf \LaTeX` . The files `texmf.cnf` and `pdftex.pool` and the directory `texmf`, created by unpacking the file `pdftexlib-0.12.zip`, should be moved to the 'appropriate' place (see below).

Web2c-based programs, including pdfTeX, use the Web2c run-time configuration file called `texmf.cnf`. This file can be found via the user-set environment variable `TEXMFCNF` or via the compile-time default value if the former is not set. It is strongly recommended to use the first option. Next you need to edit `texmf.cnf` so pdfTeX can find all necessary files. Usually one has to edit `TEXMFS` and maybe some of the next variables. When running pdfTeX, some extra search paths are used beyond those normally requested by TeX itself:

```
VFFONTS           the path where pdfTeX looks for virtual fonts
T1FONTS           the path where pdfTeX looks for Type1 fonts
TTFONTS           the path where pdfTeX looks for TrueType fonts
PKFONTS           the path where pdfTeX looks for PK fonts
TEXPSHEADERS     the path where pdfTeX looks for the configuration file pdftex.cfg,
                  font mapping files (*.map), encoding files (*.enc), and pictures
```

3.1.2. How do I use pdflatex (how to generate pdflatex.fmt)?

Formats for pdfTeX are created in the same way as for TeX. For plain TeX and \LaTeX it looks like:

```
pdftex -ini -fmt=pdftex plain \dump
pdftex -ini -fmt=pdflatex latex.ltx
```

In ConTeXt the generation depends on the interface used. A format using the English user interface is generated with

```
pdftex -ini -fmt=cont-en cont-en
```

When properly set up, one can also use the ConT_EXt command line interface T_EXEXEC to generate one or more formats, like: `texexec --make en` for an English format, or

```
texexec --make --tex=pdfetex en de
```

for an English and German one, using pdf_ET_EX. Indeed, if there is pdf_ET_EX as well as pdf_E-T_EX, use it! Whatever macro package used, the formats should be placed in the TEXFORMATS path. It is strongly recommended to use pdf_E-T_EX, if only because the main stream macro packages (will) use it.

3.1.3. Why use pdflatex vs (??? i.e. latex2html)?

For documents with complex formatting and mathematical content, which can not be realized satisfactorily or even at all with HTML, pdf is the format of choice. Careful graphic design and skilled use of typography make for an attractive document, but HTML can not accomplish this. Pdf's strengths are particularly evident when the use of fonts is important. Apart from heavily formatted documents, long documents are also suited to being stored in pdf files. In HTML, large amounts of text are often hard to read and can not be printed out satisfactorily. HTML is only suitable for archiving long documents to a limited extent.

3.1.4. How do I compress my PDF files?

Contributed by: Pavel Janik jr

pdf_ET_EX can compress its output, but by default pdf_ET_EX does not (depending on your configuration). You can manually specify compression from 0 to 9 in the source file by the tag `\pdfcompresslevel`:

```
\pdfcompresslevel9
```

or in the configuration file (pdftex.cfg):

```
compress_level 9
```

0 means no compression and 9 is the most (and the slowest) compression.

3.1.5. What can I do with this pdftex.cfg file?

When pdf_ET_EX starts, it reads the Web2c configuration file as well as the pdf_ET_EX configuration file called pdftex.cfg, searched for in the TEXPSHEADERS path. As Web2c systems commonly specify a 'private' tree for pdf_ET_EX where configuration and map files are located, this allows individual users or projects to maintain customized versions of the configuration file. The configuration file sets default values for the following parameters, all of which can be over-ridden in the T_EX source file:

output format This integer parameter specifies whether the output format should be dvi or pdf. A positive value means pdf output, otherwise we get dvi output.

compress_level This integer parameter specifies the level of text and in-line graphics compression. pdf \TeX uses zip compression as provided by zlib. A value of 0 means no compression, 1 means fastest, 9 means best, 2...8 means something in between. Just set this value to 9, unless there is a good reason to do otherwise—0 is great for testing macros that use `\pdfliteral`.

decimal_digits This integer specifies the preciseness of real numbers in pdf page descriptions. It gives the maximal number of decimal digits after the decimal point of real numbers. Valid values are in range 0...5. A higher value means more precise output, but also results in a much larger file size and more time to display or print. In most cases the optimal value is 2. This parameter does not influence the precision of numbers used in raw pdf code, like that used in `\pdfliterals` and annotation action specifications.

image_resolution When pdf \TeX is not able to determine the natural dimensions of an image, it assumes a resolution of type 72 dots per inch. Use this variable to change this default value.

page_width & page height These two dimension parameters specify the output medium dimensions (the paper, screen or whatever the page is put on). If they are not specified, the page width is calculated as $\mathcal{W}_{\text{box being shipped out}} + 2 \times (\text{horigin} + \backslash\text{offset})$. The page height is calculated in a similar way.

horigin & vorigin These dimension parameters can be used to set the offset of the \TeX output box from the top left corner of the ‘paper’.

map This entry specifies the font mapping file, which is similar to those used by many dvi to PostScript drivers. More than one map file can be specified, using multiple map lines. If the name of the map file is prefixed with a+, its values are appended to the existing set, otherwise they replace it. If no map files are given, the default value `psfonts.map` is used. A typical `pdftex.cfg` file looks like this, setting up output for A4 paper size and the standard \TeX offset of 1 inch, and loading two map files for fonts:

```
output_format      1
compress_level     0
decimal_digits     2
image_resolution   300
page_width         210mm
```

page_height	297mm
horigin	1in
vorigin	1in
map	standard.map
map	+cm.map

Dimensions can be specified as true, which makes them immune for magnification (when set). The previous example settings, apart from map, can also be set during a T_EX run. This leaves a special case:

include_form_resources Sometimes embedded pdf illustrations can pose viewers for problems. When set to 1, this variable makes pdfT_EX take some precautions. Forget about it when you never encounter problems. When all the programs you use conform to the pdf specifications, you will never need to set this variable.

3.1.6. How can I make a document portable to both latex and pdflatex

Contributed by: Christian Kumpf

Check for the existence of the variable `\pdfoutput`:

```
\newif\ifpdf
\ifx\pdfoutput\undefined
  \pdffalse           % we are not running PDFLaTeX
\else
  \pdfoutput=1       % we are running PDFLaTeX
  \pdftrue
\fi
```

Then use your new variable `\ifpdf`

```
\ifpdf
  \usepackage[pdftex]{graphicx}
  \pdfcompresslevel=9
\else
  \usepackage{graphicx}
\fi
```

4. Fonts in pdfTeX

4.1. Fonts in general

4.1.1. What kind of fonts can I use?

The pdfTeX program normally works with Type I and TrueType fonts; a source must be available for all fonts used in the document, except for the 14 base fonts supplied by Acrobat (the Times, Helvetica, Courier, Symbol and Dingbats families). It is possible to use Metafont generated fonts in pdfTeX. It is strongly recommended, however, not to do so if an equivalent is available in Type 1 or TrueType format, since the resulting Type 3 fonts render very poorly in current versions of Acrobat. Given the free availability of Type 1 versions of all the Computer Modern fonts and the ability to use standard PostScript fonts without further ado, this is not usually a problem.

4.2. Type1 fonts

4.2.1. How do I use Type1 fonts?

4.2.2. How do I generate TFM files for Type1 fonts?

4.3. TrueType fonts

4.3.1. How do I use TrueType fonts?

4.3.2. How do I generate TFM files for TrueType fonts?

4.4. pk fonts

4.4.1. How do I use pk fonts?

4.4.2. Why does Acrobat Reader display pk fonts so poorly?

5. Graphics

5.1. Graphics in general

5.1.1. How do I include pictures in pdfLaTeX?

Contributed by: Jody Klymak

Pictures come in two formats, vector or bitmapped. When possible, use vector formats when making a PDF document since they can support an arbitrary amount of magnification. So far, pdfLaTeX supports graphics inclusions in PDF, JPEG, PNG, and MetaPost formats [FIXME: what others? Also which are vector or not?]

As with LaTeX, the best package for image inclusion is graphics/graphicx, available on CTAN. In order to get the graphicx package working with pdf_latex you must get <http://tug.org/applications/pdftex/pdftex.def> and put it in your TeX tree (mine is at C:\TeX\share\texmf\tex\latex\graphics). Then some slight modifications to your source file:

```
%% In the preamble add
\usepackage[pdftex]{graphicx}

%% OPTIONAL: In the main document, immediately after
%% \begin{document}
\DeclareGraphicsExtensions{.jpg,.pdf,.mps,.png}

%% To include a graphics file
\includegraphics{filename_to_include}
```

The package will then search for the filename with the above extensions if one isn't provided. With this package the image can also be scaled or cropped. This uses D. Carlisle's "graphics" package and is available on CTAN at `/macros/latex/packages/graphics`. Note that by not including file-extensions in the `\includegraphics` command, you can maintain PDF and DVI versions of your document, especially if you include postscript figures (see question 5.2.2 and question 3.1.6).

Contributed by: Himanshu Gohel

If you are using an old version of LaTeX, such as the one from TeX 0.4, then you should probably update the graphics package first. Alternatively, you could edit the graphics.sty file as per instructions in pdftex.def to allow the pdf_latex option. Otherwise you will get errors when using the graphics or graphicx package to include figures.

If you used epstopdf to convert your EPS figure to PDF, then your EPS file may be using `%%BoundingBox: (atend)` comment. This is not supported by epstopdf at present (September 1998 version). A workaround is to edit the EPS file and move the actual `%%BoundingBox` line from near the end of the document and replace the `%%BoundingBox: (atend)` with that instead.

5.2. Vector Formats

5.2.1. How do I include PDF pictures?

Contributed by: Carl Zmola

In order to include PDF pictures you need pdfL^AT_EX 0.12n or later. Make sure that the PDF figure is properly cropped. See Question 5.2.3 for how to do this for EPS files. [FIXME: How do you get Distiller to do this?] Then follow the steps outlined in Question 5.1.1.

5.2.2. How do I include EPS pictures?

Contributed by: Jody Klymak

You cannot directly do so. You must convert encapsulated postscript pictures to PDF first, explained in question 5.2.3, and then include them (see question 5.2.1)

5.2.3. How do I convert an EPS figure to PDF?

Contributed by: Colin Marquardt

You can use `epstopdf` (a Perl script which uses Ghostscript for conversion) at <http://tug.org/applications/pdftex/epstopdf> or Distiller to do the work for you.

To use `epstopdf`, you need Perl 5. Usage of `epstopdf` is easy:

```
epstopdf.pl myfile.eps
```

converts your eps-graphic file `myfile.eps` to the file `myfile.pdf`.

Valid options for `epstopdf` (v2.5) are:

Syntax: `epstopdf [options] <eps file>`

Options:

<code>--help:</code>	print usage	
<code>--outfile=<file>:</code>	write result to <file>	
<code>--(no)filter:</code>	read standard input	(default: false)
<code>--(no)gs:</code>	run ghostscript	(default: true)
<code>--(no)compress:</code>	use compression	(default: true)
<code>--(no)hires:</code>	scan HiresBoundingBox	(default: false)
<code>--(no)exact:</code>	scan ExactBoundingBox	(default: false)
<code>--(no)debug:</code>	debug informations	(default: false)

Examples for producing 'test.pdf':

```
* epstopdf test.eps
* produce postscript | epstopdf --filter >test.pdf
* produce postscript | epstopdf -f -d -o=test.pdf
```

Example: look for `HiresBoundingBox` and produce corrected PostScript:

```
* epstopdf -d --nogs -hires test.ps>testcorr.ps
```

Change the line

```
$GS="gs" ;
```

in this script to the name of your Ghostscript executable if it is different, e.g.

```
$GS="gswin32c" ;
```

on a Win32 system.

On some systems it is necessary to invoke Perl explicitly, e.g. with

```
perl epstopdf.pl myfile.eps
```

5.2.4. How do I use Adobe Distiller to create a pdf graphic for inclusion in pdfL^AT_EX?

Contributed by: Mark Wroth

First, create the .eps file. Adobe's Distiller Assistant can be used to create a Postscript file from most applications, which can then be turned into an Encapsulated Postscript file; GhostScript works in this role.

Then invoke Distiller, and process the .eps file normally—*i.e.* set the job options you want, open the .eps file with File/Open, and select the destination .pdf file name in the resulting dialog.

Under Distiller "Job Options" I have been running with Version 3 pdf files enabled, and all compression turned off; I'm not sure if this is a factor in success of the effort or not.

The resulting graphic appears to be centered on a portrait mode page. The whitespace on this page is included in the graphic, so some scaling and an appropriate view port option in the \includegraphics command may be necessary.

Since the page boundary as it appears in the .pdf file is not the same as the bounding box in the .eps file, this is likely to present problems for making the document portable between print and .pdf versions.

Cropping the resulting .pdf graphic in Adobe Exchange using Document/Crop Pages is not effective. Doing this appears to remove the necessary bounding information and apparently other information from the file, with the result that it creates an error in the output file from pdfL^AT_EX.

5.2.5. Why doesn't my pdf picture show up when I include it?

Contributed by: Carl Zmola

You are using Distiller to convert your .eps file to pdf. Distiller does not always set the bounding box correctly. The bounding box of an embedable pdf document must be the page size, and if any part of your figure extends beyond the bounding box, the figure will not show up. There are two solutions.

1. Get texutil.pl from

<http://www.ntg.nl/context/zipped/texutil.zip> and say

```
texutil --fig --epspage file.eps
```

and the file is corrected for distiller. (This solution is from Hans Hagen.)

2. Instead of running distiller, use

<http://www.tug.org/applications/pdftex/epstopdf> (see question 5.2.3)

Another tool that might be of some help is *aimaker*. *Aimaker* is a perl script that is designed to convert generic .eps files into .aieps files that can be read by adobe illustrator. *Aimaker* calculates the bounding box for the eps file. *Aimaker* is available at <ftp://ftp.aos.princeton.edu/pub/olszewsk/aimaker.shar>

5.3. Bitmap Formats

5.3.1. How do I include TIFF pictures?

Use the command: `\includegraphics[options]{filename.tiff}`

5.4. Other Graphics

5.4.1. How can I use MetaPost in pdfTeX?

Contributed by: Radhakrishnan

The usual `\includegraphics` command will work as in other graphic file inclusion. You may have to change the extension of files generated with MetaPost to .mps.

Another option is to use the command `\ConvertMPtoPDF` which derives from the ConTeXt package. The syntax is as follows:

```
\ConvertMPtoPDF{filename}{xscale}{yscale}
```

Yet another option available is the usage of `m-metapo.sty`, which is again part of ConTeXt package. In this case, instead of using `\includegraphics`, one should use its little brother `\includeMPgraphics`. This macro takes the same arguments.

An example of using this module is given below:

```
\documentclass{article}
\usepackage{graphicx}
\usepackage{m-metapo}

\begin{document}
  \includeMPgraphics{file.mps}
  \includeMPgraphics[angle=90]{file.mps}
\end{document}
```

6. Miscellaneous

6.1. Kpathsea

6.1.1. What is this kpathsea?

6.2. Hyperref

6.2.1. What is hyperref?

Contributed by: Pavel Janík jr

The `hyperref` package is a way of adding hyper-references to a \LaTeX document. For instance, a reference to a figure in the text can be marked up with a hyper-link, allowing the user to jump to the figure without scrolling through a lot of text.

The `hyperref` package is available on CTAN (or a CTAN mirror) at <ftp://ftp.ctan.org/tex-archive/macros/latex/contrib/supported/hyperref>

6.2.2. How can I use it?

This package can be used with more or less any normal \LaTeX document by specifying `\usepackage{hyperref}` in the document preamble. Make sure it comes last of your loaded packages, to give it a fighting chance of not being over-written, since its job is to redefine many \LaTeX commands. Hopefully you will find that all cross-references work correctly as hyper-text. In addition, the `hyperindex` option attempts to make items in the index by hyperlinked back to the text, and the option `backref` inserts extra ‘back’ links into the bibliography for each entry. Other options control the appearance of links, and give extra control over PDF output.

6.2.3. My `pdftex.cfg` says to use A4 paper, but the document comes out in Letter format.

Contributed by: Colin Marquardt

You certainly use `hyperref`. This package sets the page dimensions according to your settings in \LaTeX . If you do not specify “a4paper” in your options to `\documentclass`, it assumes Letter paper and overrides the entries in your `pdftex.cfg` file.

6.2.4. I get the message: “Warning (ext1): destination with the same identifier already exists!”

Contributed by: Colin Marquardt

You get this message if you use `hyperref` and have some page numbers more than once, e.g. when re-starting page numbering with each chapter or having an appendix.

Circumvent this with

```
\usepackage[pdftex,plainpages=false]{hyperref}
```

or put

```
plainpages=false
```

into your `hyperref.cfg`.

7. ConT_EXt

7.0.1. What is CON_TE_XT?

Contributed by: Pavel Janík jr

ConT_EXt is a full featured macro package that has built in support for pdfT_EX. More information can be found at <http://www.ntg.nl/context> (manuals, source code, examples).

7.0.2. What do I need to use CON_TE_XT

From the perspective of CON_TE_XT, pdfT_EX does not differ from standard T_EX. However, since pdfT_EX directly produces the final output, you should enable its dedicated driver when in order to get PDF output. By default, CON_TE_XT sets up pdfT_EX to produce DVI output. There are four ways to enable PDF output. The most convenient method is to use `texexec`:

```
texexec --pdf yourfile
```

Alternatively you can specify PDF output in the first line of the file:

```
% output=pdfTeX
```

The third option is to include the driver setting in the file itself:

```
\setupoutput[pdfTeX]
```

Alternatively you can include this command in the file `cont-sys.tex`, in which case you will always get PDF output.

7.0.3. How do I install CON_TE_XT

When you use teT_EX or fpT_EX, there is no need to install CON_TE_XT, since it comes with the system. By default, CON_TE_XT is set up to use the PDF- ϵ -T_EX binaries. By using this one binary, you can produce DVI as well as PDF, and at the same time benefit from some ϵ -T_EX features. pdfT_EX is occasionally updated. After such an update, or after updating CON_TE_XT, you should regenerate a new format file. When CON_TE_XT is properly set up, you only has to say:

```
texexec --make
```

In case of doubt, try to locate the file `texexec.ini` and make sure that PDF- ϵ -T_EX is selected.

7.0.4. How do I install the CONTEXt symbol fonts?

These fonts are included in the CONTEXt distribution. When you unpack the archive file in the `texmf` tree, these fonts automatically end up in the right locations. In order to use these fonts, you need to register the corresponding font mapping file in `pdftex.cfg`:

```
map +context.map
```

Alternatively you can add the next line to one of your local pdfTEX mapping files.

```
contnav ContextNavigation <contnav.pfb
```

7.0.5. How do I activate hyperlinks?

By default, CONTEXt is producing a document ready for printing. When one wants to distribute a document electronically, it makes sense to add hyperlinks. Since support for interactive documents is integrated into the system, you only need to say:

```
\setupinteraction[state=start]
```

You can use this command to set up the colors associated to hyperlinks, as well as enable some special features. The commands that set up lists, registers, menus, buttons and alike, have keys that relate to hypertext features.

7.0.6. How do I set up the papersize?

Since pdfTEX produces the final output, it makes sense to set up both the paper size and the medium. You can do so by providing a second argument to `\setuppapersize`, like:

```
\setuppapersize[A4][A3]
```

When you also want to center the page, and/or want to add crop marks, you can say:

```
\setuplayout[location=middle,marking=on]
```

You can also set up page imposition schemes, like A5 booklets and 16 page folding sheets. Examples can be found in the manuals.

7.0.7. To what extend does CONTEXt support pdfTEX?

In addition to normal typesetting, CONTEXt has built in support for multiple chained references, widgets, JavaScript, graphics, color, and more. Since features like this are part of the CONTEXt kernel, no special pdfTEX related commands are needed. CONTEXt provides features to postprocess PDF files. In the `texexec` manual, one can find more on this.

7.0.8. Where can I find more information on `CONTEXT` and `pdfTeX`?

The functionality of `CONTEXT` is covered in several documents. At <http://www.pragma-ade.nl> and its mirrors one can find manuals for getting started as well as reference documentation. Some more advanced interactive features are described in the `Up-To-Data` documents (especially number 1). At this location you can also find examples of interactive documents as produced by PDF. When you want to make interactive documents, the presentation styles are a good starting point. Their sources are documented and show some more advanced features.

The best resource however, is the `CONTEXT` mailing list, as hosted by the NTG: ntg-context@ntg.nl.

8. Contributors

- Carl Zmola <mailto:zmola@acm.org>
Q5.2.5, 15
- Carl Zmola <mailto:zmola@campbellsci.com>
Q5.2.1, 14
- Christian Kumpf <mailto:kumpf@igd.fhg.de>
Q3.1.6, 11
- Colin Marquardt <mailto:colin.marquardt@gmx.de>
Q5.2.3, 14 Q6.2.3, 17 Q6.2.4, 17
- Himanshu Gohel <mailto:gohel@csee.usf.edu>
Q5.1.1, 13
- Jody Klymak <mailto:jklymak@apl.washington.edu>
Q2.1.3, 6 Q2.1.4, 6 Q2.1.5, 7 Q2.1.6, 7 Q2.1.7, 7 Q5.1.1, 13 Q5.2.2, 14
- Mark Wroth <mailto:mark.wroth@aerojet.com>
Q5.2.4, 15
- Michael Sanders <mailto:sanders@umich.edu>
Q1.1.4, 4
- Pavel Janík jr <mailto:Pavel.Janik@inet.cz>
Q1.1.1, 4 Q1.1.2, 4 Q1.1.3, 4 Q1.2.1, 5 Q2.1.1, 6 Q2.1.2, 6 Q3.1.1, 8 Q3.1.4, 9 Q6.2.1, 17 Q7.0.1, 19
- Radhakrishnan <mailto:cvr@river-valley.com>
Q5.4.1, 16

- Steve Phipps <mailto:slpp@ix.netcom.com>
Q1.1.4, 4