How to embed fonts in a PDF from LaTeX

1. Make sure your LaTeX distribution is up to date.

The newer the distribution, the better chance its default settings embed the fonts in a PDF. For Windows, MikTeX 2.8 and newer does this. Also Tex Live 2009 and MacTeX-2009 and newer have the correct default settings.

2. Decide on a compilation scheme

There are multiple ways to create a PDF from LaTeX. The best and easiest way is to compile directly to PDF using **pdflatex** or **xelatex**. The other option is to first create an intermediate file, either a DVI or PS, and convert that to PDF. A LaTeX editor usually has predefined output profiles for these cases:

LaTeX => (pdflatex file.tex) PDF
LaTeX => (latex file.tex) DVI => (dvips file.dvi) PS => (ps2pdf file.ps) PDF
LaTeX => (latex file.tex) DVI => (dvipdfm file.dvi) PDF

The notation used above is "type of file" => (command to go to new type of file) "new type of file". Of these three schemes, we only recommend the first two, and not the last (LaTeX => DVI => PDF). Decide which compilation scheme you're going to use, and follow the steps below.

3. LaTeX => PDF

The preferred way to create a PDF from LaTeX is to compile directly to PDF without an intermediate step. However, on Windows you cannot use Acrobat (Reader) as a previewer, as it locks the PDF while viewing it. A good alternative is SumatraPDF, which also has support for forward search (jumping to the section of the PDF where you were editing the source) and inverse search (jumping to the section of the source where you were viewing the PDF). On OS X a good PDF viewer is Skim.
Another minor drawback is that you can no longer include EPS images, but these can be converted to PDF with e.g. Adobe's Distiller, or the ps2pdf command from Ghostscript. If you decide to convert your EPS images to PDF with the ps2pdf command, make sure to embed any fonts into the images. The necessary commands are given in section 4.
Furthermore, some LaTeX packages, such as PSTricks, do not work with **pdflatex**. There are usually PDF-compatible alternatives available; TikZ, for example, is an excellent PSTricks replacement.

To ensure that **pdflatex** embeds the fonts in your document, edit the **updmap** config file by locating **updmap.cfg** (for MikTeX it's in MikTeX_install_dir/miktex/config) and editing it. On Linux systems you can also enter the command

```
updmap --edit
```

to edit the config file. Find the lines

```
#
# pdftexDownloadBase14
#
# Should pdftex download the base 14 pdf fonts? Since some configurations
# (ps / pdf tools / printers) use bad default fonts, it is safer to download
# the fonts. The pdf files will get bigger, though.
# Valid settings are true (download the fonts) or false (don't download
# the fonts).
pdftexDownloadBase14 true
```

Make sure pdftexDownloadBase14 is set to true. If it is not, change it, and run **updmap** once. That's it!

4. LaTeX => DVI => PS => PDF

Although this is perhaps not the fastest way to create PDF from LaTeX, it can certainly be used create PDFs with the necessary fonts embedded. The key is to make sure the last step, the conversion from either DVI or PostScript to PDF, embeds the fonts.
In this compilation scheme the **ps2pdf** command from GhostScript is usually used to convert the PS file to a PDF. Adding five switches to the command ensures it embeds the fonts:

```
ps2pdf -dPDFSETTINGS=/prepress -dSubsetFonts=true
     -dEmbedAllFonts=true -dMaxSubsetPct=100
          -dCompatibilityLevel=1.3
           <other switches> file.ps
```

In the commonly used LaTeX editor WinEdt, you can add these switch by going to Options -> Execution Modes, selecting "ps2pdf", and adding the switch in the "Switches" box as follows:
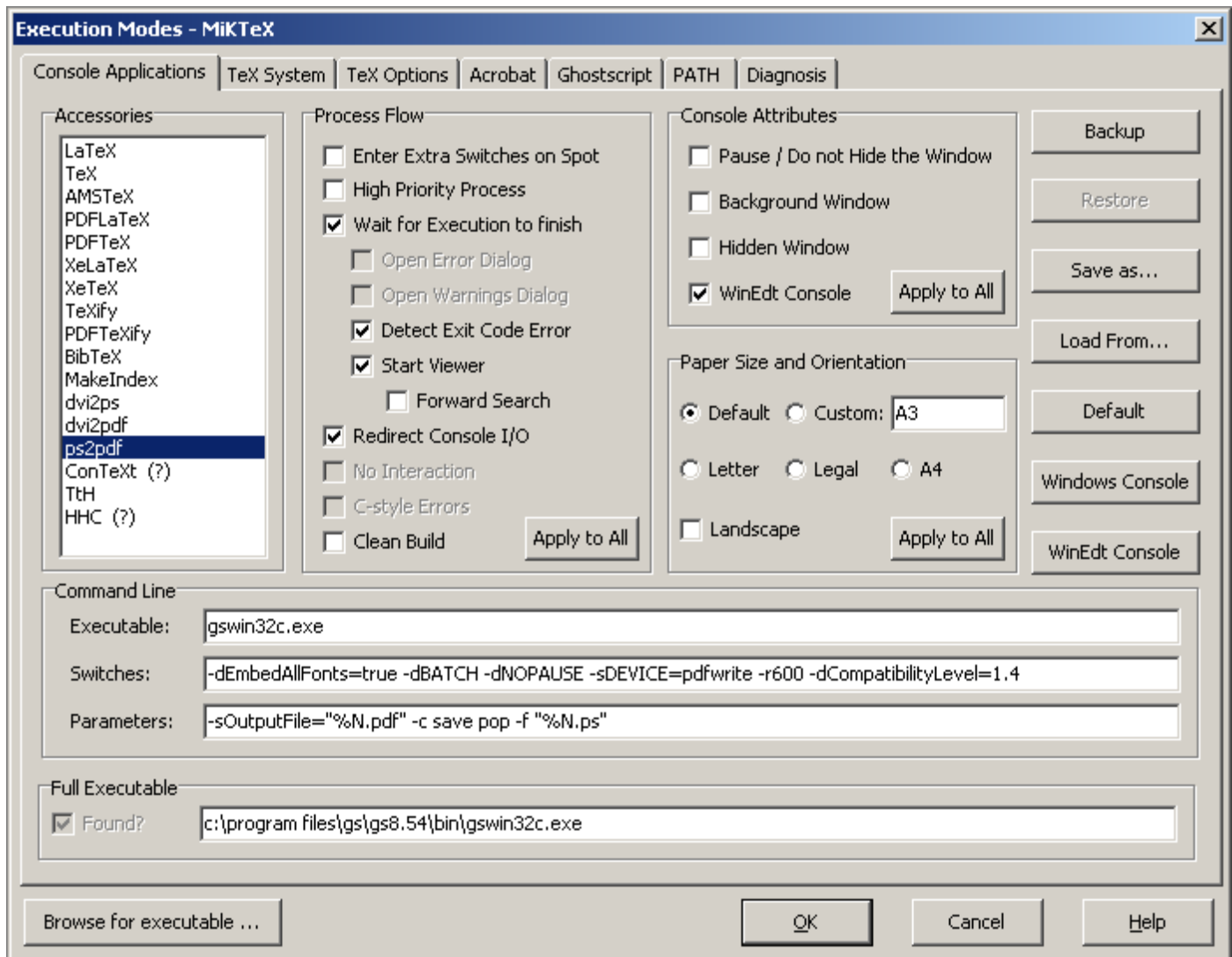
There is also the **simpdftex** command that takes a .tex or .dvi file and creates a PDF out of it by doing the intermediate step, the conversion to PostScript, automatically. The program TeXShop on OS X has a build-in option to use it. To force simpdftex to embed the fonts, add the following switches to its command in the editor:

```
simpdftex <old switches>
          --maxpfb --extradvipsopts "-Pdownload35"
          file.tex
```

To change these settings in TeXShop, go the Preferences -> Engine, and add the extra switches in the "TeX + dvips + distiller" box:
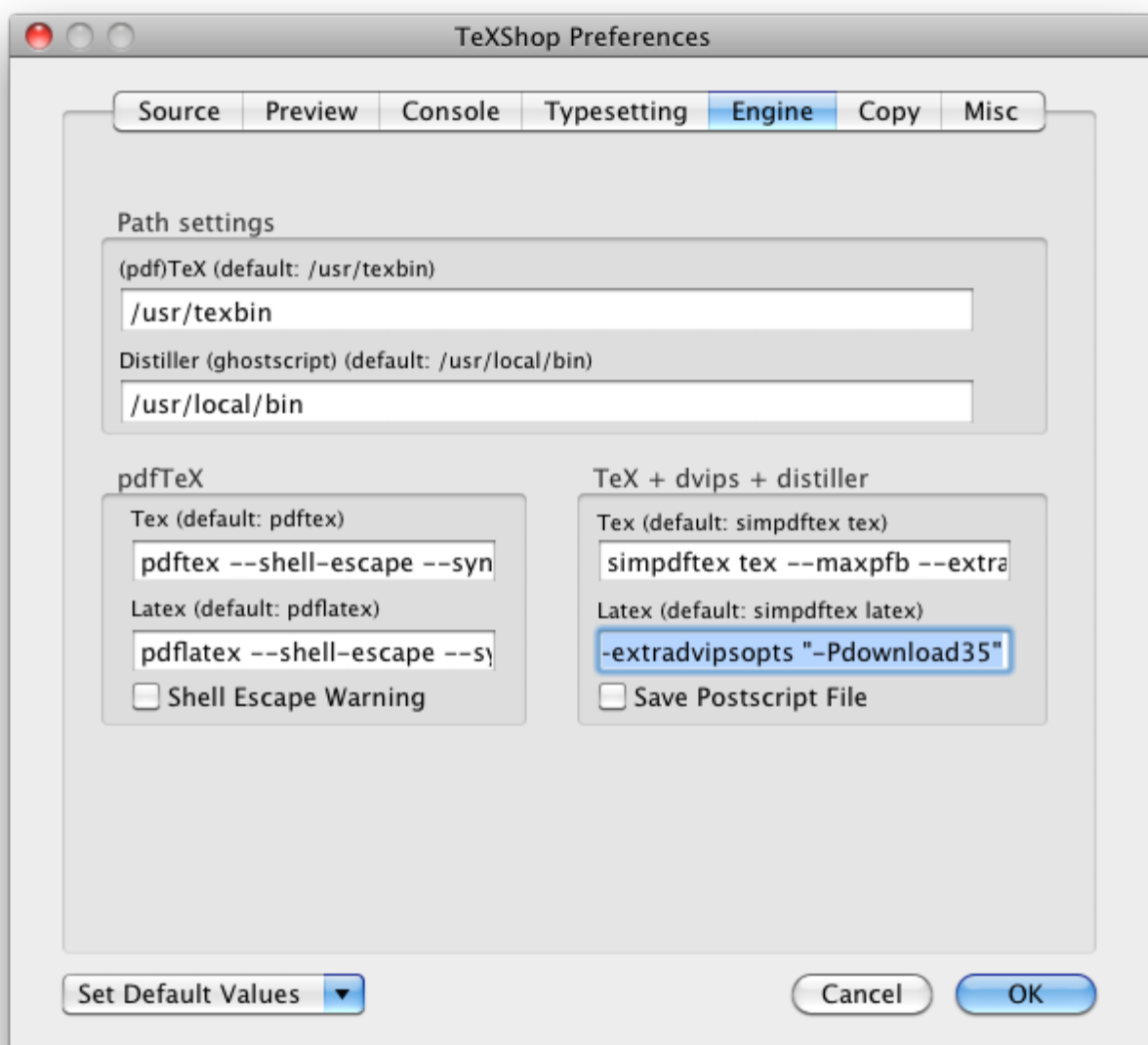
6. Testing for embedded fonts

You can check if the fonts have been embedded by opening the PDF in Acrobat (Reader), and going to File -> Properties -> Fonts. This lists all the fonts used in the PDF, and tells you whether or not they have been embedded.
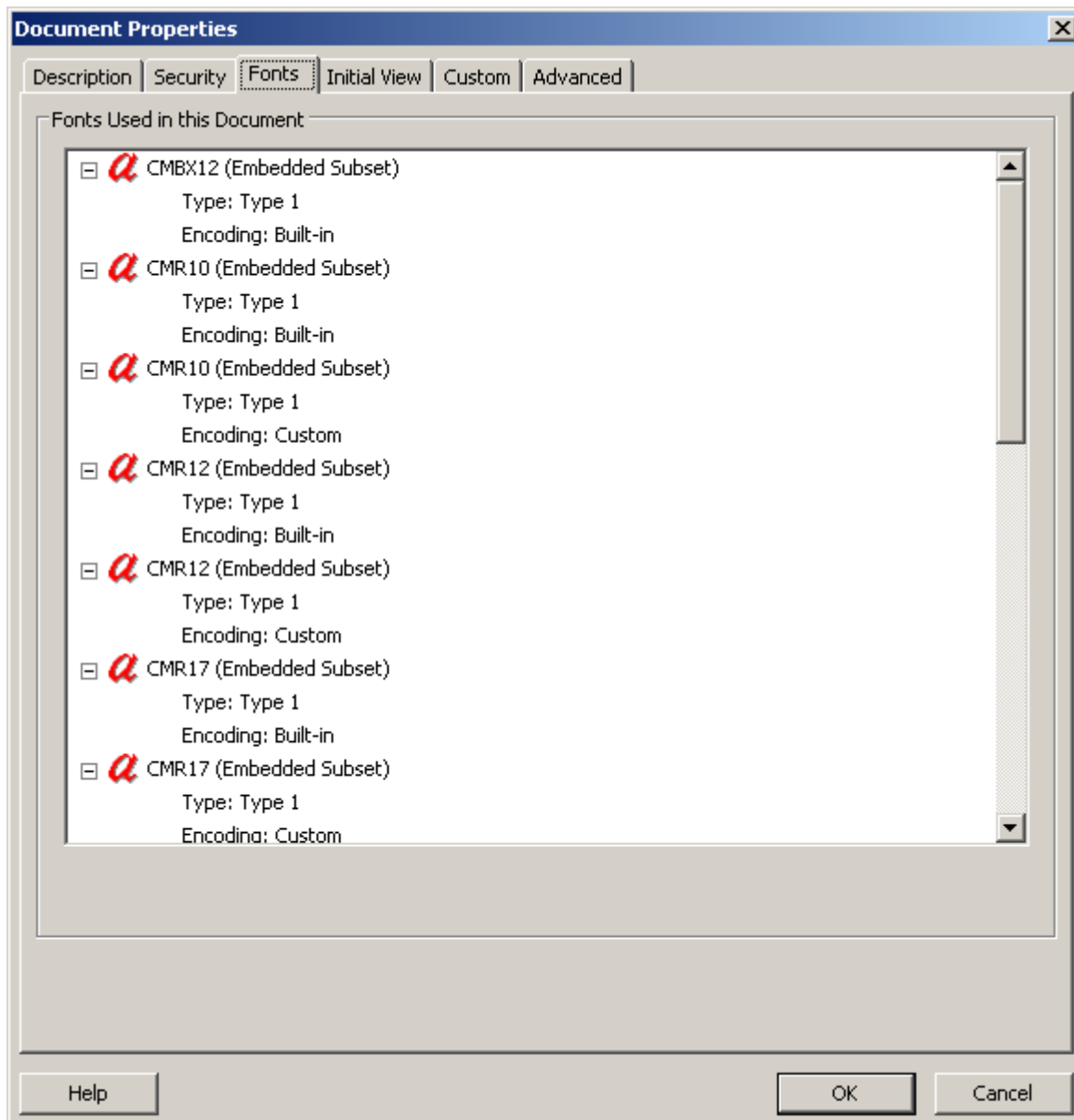
On Linux you can also use the command **pdffonts** to check for embedded fonts.