

# How to get Type 1 (scalable) fonts in a PS/PDF file

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## 1. General.

PDFs generated from LaTeX files generally do not display well on screen because the fonts that are generated from LaTeX for the PDFs are bitmap images. ACM's current recommendation is generally to use:

- `dvips -P pdf -t letter -o <file>.ps <file>.dvi`

since

- `-P pdf`

is used on more 'modern' systems. However, do note that the file *config.pdf* that is invoked by this option, does many more things than *config.cmz* used to.

If you are using a somewhat 'outdated' system, we suggest you try the following (typical) syntax when creating your PS/PDF file:

- `dvips -P cmz -t letter -o <file>.ps <file>.dvi`

"cmz" is the <printer\_definition\_filename> that is supplied, by default, with certain (though now 'old') versions of LaTeX and TeX (e.g. TeTeX). As you can see the above syntax follows the standard way of creating a Type 1 based file via:

- `dvips -P <printer_definition_filename> -t letter -o <file>.ps <file>.dvi`

Again, the `-P <printer_definition_filename>` argument tells `dvips` to use Type 1 fonts (if your system is so configured, is up to date and no-one has 'renamed' cmz to something else etc.)

Other authors have had success using the basic syntax:

- `dvips -t letter -o <file>.ps <file>.dvi`

however, there's no guarantee with this syntax that Type 1 fonts will be substituted.

Your particular installation / set-up may require a different syntax

Note: Your system administrator can also configure DVIPS to automatically use Type 1 fonts globally for all users by placing the font map entries in a DVIPS system-wide *psfonts.map* file. If you do not already have (or have no knowledge about) a '<printer\_definition\_filename>' or do not know if your system is set-up to perform font (type 1 for type 3) substitutions, then we suggest you talk to your system administrator.

Sometimes the problem with embedded fonts is caused by a few out of the 35 standard fonts (present in every PostScript editor) **NOT** being embedded, into the pdf, by certain LaTeX distributions. The solution is to include the dvips option `"-Pdownload35"`:

- `dvips -t letter -Pdownload35 -o <file>.ps <file>.dvi`

This option 'forces' the embedding of all the fonts. (Note: This option is not available in all dvips versions.)

The following documents (and links) may provide some insight, see:

[Electronic Publishing - Postscript](#), [Embedding Fonts with TeXShop](#) & [Getting Pdflatex To Embed All Fonts](#).

In addition, the American Mathematical Society (AMS) has made a Type 1 version of the Computer Modern outline font freely available for download at its Web site: <http://www.ams.org/tex/type1-fonts.html>

## 2. PDF to Latex -- European (A4) To American (Letter).

Some European authors (or those whose LaTeX system has 'defaulted' to a European setup) have had success using the following to 'output' their article in American 'letter' size, (although we have found that in many systems it produces ERRORS - so be forewarned):

Add

- `\pdfpagewidth=8.5in`
- `\pdfpageheight=11in`

to the document preamble. This, should, effectively, set the output for pdflatex to American (letter) format.

## 3. Linux Syntax for Embedding Fonts.

- `gs -dBATCH -dNOPAUSE -sDEVICE=pdfwrite -sOutputFile=OutputFileName.pdf -c "<< / NeverEmbed [false /Times-Roman /Times-Bold /Courier-Bold] >> setdistillerparams" -f InputFileName.pdf`

The above command can be used irrespective of whether one uses latex+dvipdf or pdflatex to generate the pdf.

## 4. Checking for Type 1 fonts.

There are two simple methods.

- In Acrobat or Acrobat Reader, use 'File' - 'Document Properties' and click on the 'Font' tab.
- From a UNIX command-line, just use the pdffonts program (usually included with xpdf), i.e. `pdffonts my-paper.pdf`