

The mfl logo package

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1 Introduction

This \LaTeX package provides the font declarations needed to access the logo font family in terms of NFSS2, the no-longer-new font selection scheme used in \LaTeX 2 ϵ . It also provides a package file that illustrates how to define the METAFONT and METAPOST logos and some appropriate font changing commands in these terms.

Using this package, there should no longer be a need to define special macros for the slanted version of these logos, and it should be possible to avoid such errors as on page 2 of *The \LaTeX Companion* where the METAFONT logo appears in upright shape within an italics context of a book title.

`\logofamily` Once you have installed the font definition file `ulogo.fd` provided here, you can
`\textlogo` use low-level \LaTeX font commands to access the logo fonts in your documents, even if
you do not plan to use the package file `mfl logo.sty`. Apart from defining the METAFONT and METAPOST logos in terms of \LaTeX font commands this package file also provides a declarative font changing command `\logofamily` and a font changing command `\textlogo` that takes one argument.

2 The METAFONT source files

In this package, we assume that your \TeX distribution includes the METAFONT sources for the logo font family, available from the directory `/systems/knuth/lib` on CTAN archives. These consists of the METAFONT program file `logo.mf` and a number of METAFONT driver files for various font shapes and sizes, all of which are described in *The METAFONTbook*. (Please note that the file `logo.mf` has been updated by DEK in 1993, adding the letters ‘P’ and ‘S’ for the METAPOST logo. If \TeX complains about missing characters in some of the logo fonts while processing this documentation, you should consider updating your copy of `logo.mf` and regenerating all the logo fonts.)

We also assume that your installation has the additional variants of the logo fonts (`logos19` and `logod10`) from the directory `/systems/knuth/local/lib`. Many modern \TeX distributions already have them included, but in case you don’t have them, it shouldn’t be too difficult to retrieve them individually.

Finally, in order to provide a reasonably orthogonal range of sizes and shapes, this package uses another non-standard variant of the logo fonts (`logos18`), which is derived from the existing variants by analogy.¹

The METAFONT source for this font shape is distributed separately with this package since we want to avoid the overhead of DOCSTRIP headers in such a trivial file, which would result if it were generated from the same `.dtx` file as the \LaTeX font definitions and the package file.

¹This is just a simple matter of replacing ‘9’ by ‘8’.

3 Hello, World!

First, we announce the package and the font definition file.

```
1 \package\NeedsTeXFormat{LaTeX2e}[1994/06/01]
2 \package\ProvidesPackage{mflogo}
3 \Ulogo\ProvidesFile{ulogo.fd}
4 \+package[1999/03/10 v2.0 LaTeX package for Metafont and MetaPost logos]
5 \-package[1999/03/10 v2.0 LaTeX font defs for Metafont and MetaPost logos]
```

4 The font definition file: Ulogo.fd

The first thing to do is to declare a new font family logo using an appropriate encoding scheme. According to *The METAFONTbook* the logo fonts have the font encoding scheme "AEFMN^{OT} only" (or maybe "AEFMN^{OPST} only" after the recent changes). Clearly, this is a well-defined encoding scheme, but not one of those presently supported in L^AT_EX. One might be tempted to define some new encoding scheme 'MF', but the letter 'M' is already reserved for 256-character math fonts. Therefore, we will use the encoding scheme 'U' for the font family logo.

```
6 (*Ulogo)
7 \DeclareFontFamily{U}{logo}{}%
```

4.1 Font shape declarations for medium series

Now, we will discuss the font shape declarations for the medium series. We will support sizes in the range from 8 pt up to magstep 5, which should be sufficient to cover the range from \footnotesize to \Huge. We assign the logosl fonts to \itshape because their slant parameter matches that of Computer Modern Italics rather than that of Computer Modern Slanted.² For \slshape we provide a silent font substitution.

```
8 \DeclareFontShape{U}{logo}{m}{n}{
9   <8> <9> gen * logo
10  <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logo10
11 }{}
12 \DeclareFontShape{U}{logo}{m}{it}{
13   <8> <9> gen * logosl
14   <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logosl10
15 }{}
16 \DeclareFontShape{U}{logo}{m}{sl}{
17   <-> ssub * logo/m/it
18 }{}%
```

4.2 Font shape delarations for bold series

Finally, we turn to the font shape declarations for the bold and bold extended series. At present, there are no slanted versions of bold logo fonts, but they could be created easily, if desired. However, we do not attempt to create them here, because the resulting name would be too long to fit into 8 characters and it isn't clear how it should be abbreviated.

We assign the logobf font shape to the semibold condensed series because there are some indications that it was designed to match Computer Modern Sans Serif Demibold Condensed, the font that was used in chapter headings in the T_EX and METAFONT manuals. In sizes below 10 pt, we simply substitute medium series because we want to avoid scaling down fonts below their design size.

```
19 \DeclareFontShape{U}{logo}{sbc}{n}{%
```

²This might be due to the fact that the logosl fonts were first used in combination with Computer Modern Italics in the running heads of *The METAFONTbook*. Thus they may have been tuned for this purpose.

```

20 <8> <9> sub * logo/m/n
21 <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logobf10
22 }{}

```

Since we assume that the extra variants of the logo fonts are available at your installation, we will use the logod font shape in the bold and bold extended series.

As the name logod implies a demibold version, this decision may seem a little odd, but there is a good reason behind it: As mentioned before, logobf was originally designed to match the semibold condensed version of Computer Modern Sans Serif. It also fits well in combination with the bold extended version of that font family because the weight of these two versions is not too different. However, when used in combination with the bold or bold extended version of Computer Modern Roman, the logobf font turns out to be slightly too heavy, and the logod font seems to be a more appropriate alternative.³

For this reason, we assign the logod font to the bold series (only available in Computer Modern Roman) and set up a silent font substitution for the bold extended series, based on the assumption that Computer Modern Roman will be used in bfseries much more frequently than Computer Modern Sans Serif. However, when using bold extended Computer Modern Sans Serif, logod will be the wrong choice and one would prefer logobf instead.

Unfortunately, there doesn't seem to be a completely satisfactory solution to this conflict of interests, short of modifying the standard font definitions for the Computer Modern family in a way that bold extended CM Sans Serif would be classified as ultrabold compared to bold extended CM Roman.

```

23 \DeclareFontShape{U}{logo}{b}{n}{
24 <8> <9> sub * logo/m/n
25 <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logod10
26 }{}
27 \DeclareFontShape{U}{logo}{bx}{n}{
28 <-> ssub * logo/b/n
29 }{}
30 </Ulogo>

```

5 The package file: mflogo.sty

After having discussed the font definition file, we now turn to the package file that shows how to access the logo font family by defining high-level macros based on the low-level L^AT_EX font commands.

`\logofamily` First, we define the declarative font changing command `\logofamily`. This is accomplished using the low-level font commands `\fontencoding` and `\fontfamily` followed by `\selectfont`. If `\logofamily` is encountered in math mode, an error message will be issued.

In the definition of `\logofamily` we now use `\DeclareRobustCommand` provided in the production L^AT_EX 2_ε releases dated 1994/06/01 or later.

```

31 <*package>
32 \DeclareRobustCommand\logofamily{%
33 \not@math@alphabet\logofamily\relax
34 \fontencoding{U}\fontfamily{logo}\selectfont}

```

`\textlogo` Next, we define a font changing command `\textlogo` with one argument using `\DeclareTextFontCommand` also provided in the latest L^AT_EX 2_ε release.

```

35 \DeclareTextFontCommand{\textlogo}{\logofamily}

```

³The history of the logod font is not very clear. It was first released together with updates for T_EX and METAFONT in March 1992. It might have been used in DEK's book *Literate Programming* where bold extended Computer Modern Roman is used in headings.

`\MF` Finally, we define macros for the METAFONT and METAPOST logos. Since the letters
`\MP` ‘P’ and ‘S’ needed for the METAPOST logo were added as recently as 1993, this will
only work if you have an up-to-date version of the logo fonts. To update them, you just
have to install the new version of the METAFONT program file `logo.mf` and regenerate
the logo fonts using exactly the same METAFONT driver files as before.

There should be no doubt that `\MF` is the standard abbreviation for the METAFONT
logo. For METAPOST, we use the abbreviation `\MP`, which also seems to be the standard
abbreviation used for METAPOST input files and the program itself.

According to an e-mail message from John Hobby, he personally prefers the spelling
“MetaPost” (in plain roman) instead of the logo font, but since it was Don Knuth himself
who introduced the alternate spelling, it is acceptable to use the logo font for META-
POST as well, if you prefer that.

```
36 \def\MF{\textlogo{META}\@dischyph\textlogo{FONT}\@}
37 \def\MP{\textlogo{META}\@dischyph\textlogo{POST}\@}
38 \endpackage
```

In order to fix the space factor after the logos in all uppercase letters, we better add `\@`,
which expands to `\spacefactor\@m`, at the end of our macro definitions. This is exactly
how it is done for the `\TeX` and `\LaTeX` logos in the `LATEX 2ε` sources (see `ltspace.dtx`
and `ltlogos.dtx`).

In closing, it should be pointed out that the above definitions of the METAFONT and
METAPOST logos will make them honor all font changing commands just like the `TEX`
logo does and always did. Thus both logos will finally behave identically with respect to
font changes, thanks to `LATEX 2ε` and NFSS2.