The `mflogo` package*

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1 Introduction

This contributed package for LaTeX 2ε provides the font declarations needed to access the `logo` font family in terms of NFSS.[1] It also provides a little example package file that shows 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` `\textlogo`

Once you have installed the font definition file `Ulogo.fd` provided here, you can use low-level NFSS commands to access the `logo` fonts in your documents, even if you do not plan to use the example package `mflogo.sty`. Apart from defining the METAFONT and METAPOST logos in terms of NFSS, that package file also provides a declarative font changing command `\logofamily` and a font changing command `\textlogo` with 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 the CTAN network. These consists of the METAFONT program file `logo.mf`[2] and a number of METAFONT driver files for various font shapes and sizes, all of them described in *The METAFONTbook*.

We also assume that your installation has the additional variants of the `logo` fonts (`logosl9` 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 (`logosl8`), which is derived from the existing variants by analogy.[3] The METAFONT source for this

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[1] Throughout this document, the term NFSS should be understood to refer to release 2 of NFSS, i.e. the release that's part of LaTeX 2ε and that's intended to become part of LaTeX3 in the future.

[2] 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.

[3] This is just a simple matter of replacing '9' by '8'. Perhaps some Unix hackers would like to have `logosl8.mf` generated using something like `cat logosl9.mf | sed 's/9/8/' > logosl8.mf` as part of a `Makefile`, but here we prefer distributing the resulting METAFONT file to provide

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

3 The font definition file: `Ulogo.fd`

Before we come to the actual LaTeX package file, let us first turn to the font definition file for the `logo` font family.

```
⟨*Ulogo⟩
\ProvidesFile{Ulogo.fd}
  [1995/08/29 v1.5b LaTeX font definitions for METAFONT logo]
```

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 `"AEFMNOT only"` (or maybe `"AEFMNOPST only"` after the recent changes). Clearly, this is a well-defined encoding scheme, but not one of those presently supported by NFSS. 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`.

```
\DeclareFontFamily{U}{logo}{}
```

3.1 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.[4] For `\slshape` we provide a silent font substitution.

```
\DeclareFontShape{U}{logo}{m}{n}{
  <8> <9> gen * logo
  <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logo10
}{}
\DeclareFontShape{U}{logo}{m}{it}{
  <8> <9> gen * logosl
  <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logosl10
}{}
\DeclareFontShape{U}{logo}{m}{sl}{
  <-> ssub * logo/m/it
}{}
```

3.2 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 TeX

a system-independent solution.

[4] This 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.

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.

```
\DeclareFontShape{U}{logo}{sbc}{n}{
  <8> <9> sub * logo/m/n
  <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logobf10
}{}
```

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.[5]

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.

```
\DeclareFontShape{U}{logo}{b}{n}{
  <8> <9> sub * logo/m/n
  <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88> logod10
}{}
\DeclareFontShape{U}{logo}{bx}{n}{
  <-> ssub * logo/b/n
}{}
⟨/Ulogo⟩
```

4 The package file: `mflogo.sty`

After having discussed the font definition file, we now turn to the example package that shows how to access the `logo` font family by defining high-level macros based on the low-level macros of NFSS.

```
⟨*package⟩
\NeedsTeXFormat{LaTeX2e}[1994/06/01]
\ProvidesPackage{mflogo}
  [1995/08/29 v1.5b LaTeX package for METAFONT logo]
```

`\logofamily` First, we define the declarative font changing command `\logofamily`. This is accomplished using the low-level NFSS 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 LaTeX 2ε releases dated `1994/06/01` or later.

[5] The history of the `logod` font is not very clear. It was first released together with updates for TeX 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.

```
\DeclareRobustCommand\logofamily{%
  \not@math@alphabet\logofamily\relax
  \fontencoding{U}\fontfamily{logo}\selectfont}
```

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

```
\DeclareTextFontCommand{\textlogo}{\logofamily}
```

\MF \MP Finally, we define macros for the METAFONT and METAPOST logos. Since the letters '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 METAPOST as well, if you prefer that.

```
\def\MF{\textlogo{META}\-\textlogo{FONT}\@}
\def\MP{\textlogo{META}\-\textlogo{POST}\@}
⟨/package⟩
```

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 honour 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 the NFSS.