



FontMaker

F o n t M a k e r U s e r G u i d e





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FontMaker Version 1.0 User Guide

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Introduction

FontMaker[®] is a utility designed especially for UNIX users of FrameMaker[®] who want to access fonts other than the standard set of fonts that come with FrameMaker. FontMaker converts PostScript (Type 1) fonts into the bitmapped format required by FrameMaker for on-screen display. FontMaker works with FrameMaker 3 and FrameMaker 4.

FrameMaker produces high quality PostScript output that can be printed on any PostScript printer. Because type 1 fonts are PostScript programs, they fit perfectly into the PostScript model for printing. The difficulty lies in getting Type 1 fonts to display on-screen the way native FrameMaker fonts do. FrameMaker fully supports displaying additional fonts, but converting from the PostScript format to the bitmapped format required by FrameMaker is difficult. FontMaker solves this problem by easily converting any Type 1 font to a form FrameMaker can use.

Getting Started

Fonts come in various formats. FrameMaker uses PostScript Type 1 fonts because its output is PostScript based. Type 1 fonts for PC or UNIX systems have two file formats: Printer Fonts Binary (PFB) and Printer Fonts Ascii (PFA). These two formats contain the same information; the PFB is simply a binary version of the PFA file. PFB files are always smaller. FontMaker can handle either type of format.

A related file that usually comes with a PFB or PFA file is an Adobe Font Metrics (AFM) file. The AFM file contains information about the metrics (size) of each character in the font. The AFM file also contains information about kerning. The AFM file is considered optional by some applications that use Type 1 fonts. FrameMaker, however, requires that an AFM file be present for any font that it displays on the screen. This means that you must have a font's corresponding AFM file for FrameMaker to display a particular font. FontMaker will not allow you to convert a font that does not have a corresponding AFM file.

What You Need

In order to convert a font for FrameMaker use, your system must have access to the font. The font can be on your hard drive, on a floppy, a CD-ROM, or on your network. Wherever the font is, it must be on a mounted file system. For example, if you have some fonts on a floppy, the floppy must be mounted so that you can change to the directory that contains the fonts.

FontMaker can handle PFB or PFA font files. If you purchase fonts from Adobe Systems, you will find that they deliver a PFB file and AFM file for each font. You will probably



see some other files that are specific to Microsoft Windows or other applications that do not affect FontMaker and are not used on UNIX systems. Other manufacturers may supply PFA files instead of, or in addition to, the PFB file. To convert a font for use with FrameMaker you must have either a PFA or PFB file and the AFM file.

You will also need access to the FrameMaker installation directory. When FontMaker starts, it looks first for the FMHOME environment variable. It uses this environment variable to find your FrameMaker installation directory. If FMHOME is not defined in your environment, then FontMaker attempts to locate the FrameMaker executable (**maker**) by looking through your execution search path. If **maker** is not found in your search path and FMHOME is not defined, then FontMaker terminates.

How FontMaker Works

FrameMaker uses bitmapped font files to display fonts on-screen. These bitmapped font files are stored in a special font directory named **fontdir**. In this same directory is a file called **fontlist** that contains information about the fonts available in the font directory. The fontlist file is read by FrameMaker at launch time to determine what fonts are to be included in the user's font list selection.

When FrameMaker is installed, the font directory is created with the bitmapped font files (bfont) for each of the standard fonts in each of the default point sizes. The font directory for FrameMaker 4 installation is

<Frame-install-dir>/fminit/fontdir

and on FrameMaker 3 installations is

<Frame-install-dir>/fminit2.0/fontdir

FrameMaker supports an optional per-user fontdir that is located in a user's home directory. When FrameMaker is launched it looks in the user's home directory for a fontlist file. For FrameMaker 4 users it looks in

<HOME>/fminit/fontdir

and for FrameMaker 3 users it looks in

<HOME>/fminit2.0/fontdir

If FrameMaker finds that a fontdir exists in the home directory then it uses the fontlist there rather than the one in the FrameMaker installation directory.

If you run FontMaker as a regular user, it will create (if not already created) the appropriate directory in your home directory as described above. If a fontlist file does not already exist there, the fontlist file will be copied from the FrameMaker installation directory. FontMaker will then copy bfont files into the fontdir in your home directory, and edit the fontlist file in your fontdir. This means that you will not need special



permissions to run FontMaker. It also means that the fonts created by FontMaker will be available to you only.

If you run FontMaker as root, it will copy bfont files and edit the fontlist file in the fontdir in the FrameMaker installation directory. This makes fonts available to all users on that system.

When you install a font, FontMaker performs the following steps:

1. FontMaker checks to see if the font has an AFM file.
2. If the font is a PFB file, FontMaker converts it to PFA format.
3. FontMaker converts each character in the font into a bitmap and stores it in the bfont file.
4. FontMaker converts the font into one bfont file for each size requested.
5. FontMaker copies the bfont files and the AFM file into the font directory.
6. FontMaker updates the fontlist file with the information about the newly added font.

Launching FontMaker

To launch FontMaker, type the following command in a UNIX shell window:

```
% fontmaker
```

If you have not installed a license, FontMaker displays a license information dialog as shown in Figure 1.

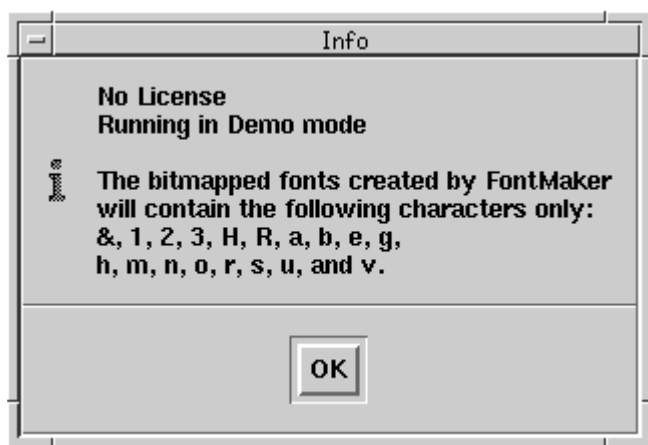


Figure 1 License Information dialog

Without a license, FontMaker runs in Demo mode. In Demo mode, FontMaker is only



partially functional. Any font can be installed for use with FrameMaker, but only a few representative characters in the font are usable. Each font created in Demo mode contains 18 characters.

In addition, FontMaker will fully install four font faces from the Utopia family in Demo mode:

- Utopia-Regular
- Utopia-Bold
- Utopia-Italic
- Utopia-BoldItalic

These four fonts are included with FontMaker and can be fully installed without a license. This gives you an opportunity to see the full functionality and capability of FontMaker.

Installing a License

To acquire a license for FontMaker, call Vivid Solutions at 1-800-868-4843.

Once you have acquired the license, display the FontMaker License dialog by selecting License from the File menu. The FontMaker License dialog is shown in Figure 2.



Figure 1 FontMaker License dialog

Enter the 14-character license into the License field and press Save. FontMaker is now fully functional and will completely convert and install any Type 1 font for FrameMaker usage.

Installing Fonts for FrameMaker

Installing fonts for use with FrameMaker is simple. You must know where the fonts are located. You also have the option of selecting exactly which sizes of the font you want created.



Selecting Fonts

The main window of FontMaker is a modified Motif File Selection Box as shown in Figure 3.

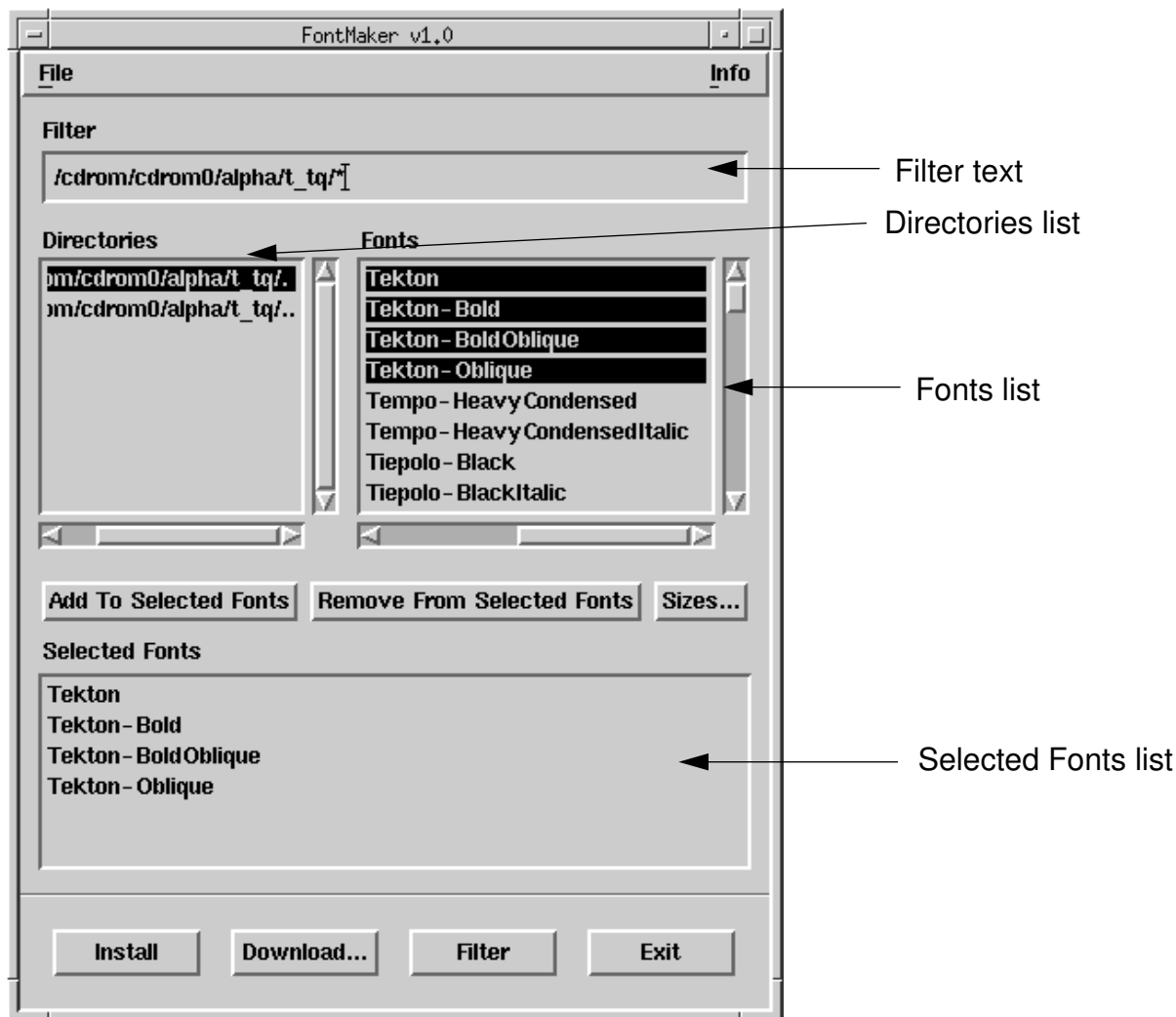


Figure 1 FontMaker Main Window

Selecting a Directory

To select one or more fonts you must first move to the directory that contains the fonts. You can do this in one of two ways:

- **Use the Directories list to choose the directory**
Double-click on a directory in the Directories list. Repeat until you arrive at the



directory that contain the fonts you want to install.

- **Enter the directory in the Filter text field.**
Type in the complete path name of the directory that contains the fonts, and press Return or click on the Filter button.

When you arrive at the directory that contains fonts, the list of fonts in that directory is displayed in the Fonts list.

Selecting a Font

Now that you're in the directory containing fonts, the list of fonts is displayed in the Fonts list. You select a font for FrameMaker installation in one of two ways:

- **Highlight the font and press the Add To Selected Fonts button.**
The font is added to the Selected Fonts list. This method is particularly convenient if you highlight multiple fonts and want to add all of them to the Selected Fonts list.
- **Double-click on the font.**
The font is added to the Selected Fonts list. This is the quickest method for adding one or two fonts to the Selected Fonts list.

With fonts listed in the Selected Fonts list you are ready either to install the fonts for use with FrameMaker or download the fonts to your PostScript printer.

Removing Fonts from the Selected Fonts List.

If you decide not to install or download one or more of the fonts in the Selected Fonts list:

- **Highlight the fonts and press the Remove From Selected Fonts button.**
Each highlighted font from the Selected Fonts list is removed from the list.

Selecting Sizes

Selecting sizes is an optional step. By default, FontMaker creates bitmapped fonts for on-screen display for each of the default sizes. (The default sizes are specified in your fontlist file). If you want to create more or fewer sizes, use the Sizes dialog.

To display the Sizes dialog, click on the Sizes button. Figure 4 shows the Sizes dialog.

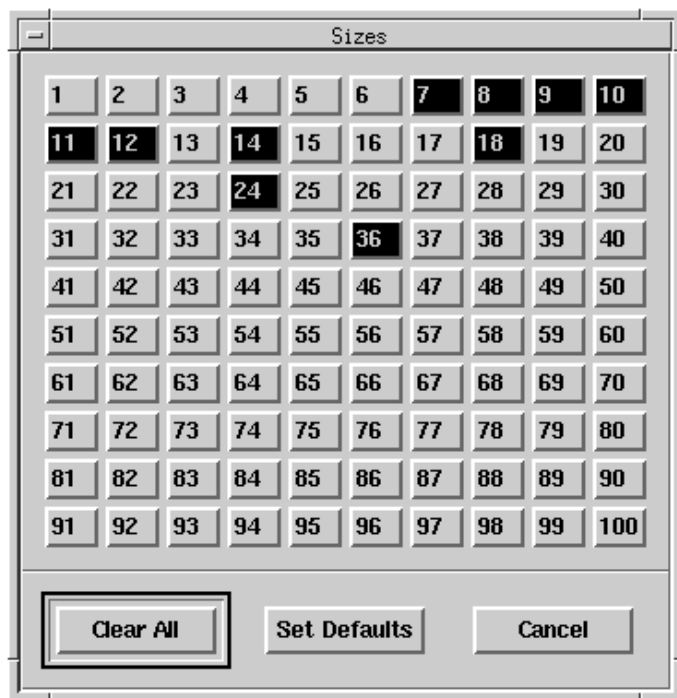


Figure 1 The Sizes dialog.

The selected buttons represent the point sizes that will be created by FontMaker. To select an additional point size, press the corresponding button. For example, if you want a 48-point font to be created, press the button labeled 48.

The Clear All button clears (deselects) all the buttons on the Sizes dialog.

The Set Defaults button sets all the default sizes. It does not deselect any selected point sizes.

The Cancel button dismisses the Sizes dialog.

Installing the Fonts

Now that you have fonts listed in the Selected Fonts list and you have selected the sizes that you want you are ready to install the fonts for FrameMaker usage. To install the selected fonts:

- **Press the Install button**

Each font listed in the Selected Fonts list is converted into a bfont file for each of the specified sizes. In other words, if you select three fonts and 12 point sizes, FontMaker will create 36 bfont files—12 for each font. The bfont files are automatically installed in the FrameMaker fontdir directory and the fontlist file is updated.



Using Large Point Sizes

The bfont files that FrameMaker uses have a size limitation. FrameMaker imposes a limit of 64K bytes to the bitmapped font data within the bfont file. Most fonts will exceed this size at large point sizes. However, you should be able to create most fonts up to about 64 points.

If a font exceeds the size limitation, FontMaker omits some characters from the font so that the total bfont file size does not exceed the maximum. The larger the point size, the more characters will be eliminated from the font. FontMaker first eliminates the highest characters from the character set. As each character is removed from the font, FontMaker prints a message to the screen identifying the character removed.

Making Fonts Available in FrameMaker

After installing fonts with FontMaker you must restart FrameMaker. FrameMaker reads the fontlist file at launch time to determine which fonts are available. If you already have FrameMaker running you must exit and restart it before you will have access to the newly installed fonts. Figure 5 shows FrameMaker's main window with several fonts displayed.

Non-Text Fonts

Some fonts do not contain regular alphabetic characters. The Symbol and ZapfDingbats fonts are two examples of fonts that do not contain text characters.

Fonts that do not contain text characters should be eliminated from spell checking in FrameMaker. If you add a non-text font to Frame Maker using FontMaker you must manually edit the fontlist file to specify that a font is non-text. For example, if you install WoodtypeOrnaments-Two, and you want to specify that this font is non-text, find the other NonText entries in the fontlist file and add the following entry:

```
<NonText WoodtypeOrnaments-Two >
```

Note: FontMaker does not automatically add the NonText entry to the fontlist file because some font families contain faces that are text *and* non-text. The NonText entry in the fontlist file specifies an entire font family. So, you must decide if you want a particular font family as NonText.



Figure 1 FrameMaker with several fonts displayed.

Downloading

FontMaker can also be used to download fonts to PostScript printers. Here are the steps for downloading:

1. Add the fonts to the Selected Fonts list that you want to download.



Use the same techniques that were described above for adding font to the Selected Fonts list.

2. **Press the Download button.**
The Select Printer dialog is displayed as shown in Figure 6.
3. **Select a printer from the Destination Option Menu button.**
Position the pointer over the Destination Option Menu button and press the first mouse button to the display the list of printers from which to select.
4. **Press the Download button on the Select Printer dialog.**
The fonts are downloaded to the specified printer.

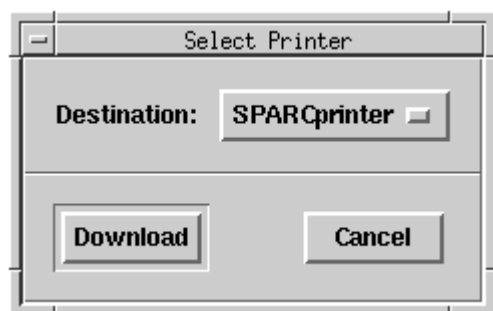


Figure 6 The Select Printer Dialog.

If you turn your printer's power off, the downloaded fonts no longer remain resident in memory. You must download the fonts you want to print each time you cycle printer power.

Note: Some printers have an internal hard disk drive that is used for storing fonts. It is possible to download fonts to the printer's hard drive so that they will be permanently available without having to download them again. FontMaker does not support downloading fonts to a printer's hard drive.

Other Features

This section describes other FontMaker features.

Using Display PostScript (Solaris 2 only)

If you are running FontMaker on a Solaris 2 system that includes Display PostScript (DPS), you may choose to use DPS to do the font creation (rasterization). By default, FontMaker uses an internal rasterization method. To use Display PostScript to do the rasterization. use the *dps* option:



```
% fontmaker -dps
```

The default rasterization method and the DPS rasterization method each create bfont files in the same format. You may notice some slight differences between the characters generated by each of these two methods, but generally they are indiscernible.

Using the DPS method may prove more successful for certain fonts. Of the more than 2,000 fonts in the Adobe Type Library, all but eight of them were successfully converted and installed using the default rasterization method. All the fonts in the Adobe Type Library were successfully converted and installed using the DPS rasterization method.

The *dps* option is not available on SunOS systems.

Specifying a Spooler for Downloading

When you download a font, FontMaker sends that font to the specified printer by using the standard line printer spooler. For Solaris 2 systems, FontMaker uses the following command:

```
/bin/lp -c -d<PRINTER>
```

For SunOS 4.x systems, FontMaker use the following command:

```
/usr/ucb/lpr -P<PRINTER>
```

To specify a customized spooler command, use the *spooler* option. For example, if your spooler command is `/usr/local/bin/lpr` you would use the following command to launch FontMaker:

```
% fontmaker -spooler "/usr/local/bin/lpr -P"
```

If you are running the SunOS 4.x version of FontMaker on a Solaris 2 system (in binary compatibility mode) and your Solaris 2 system uses the standard `lp` printer subsystem, you must tell FontMaker to use the `lp` command as follows:

```
% fontmaker -spooler "/bin/lp -c -d"
```

Determining What Printers are Available

In order for FontMaker to determine what printers are available for downloading, it must know which printer subsystem is being used. By default, FontMaker for SunOS 4.x uses the `lpr` systems and looks in the `/etc/printcap` file to determine what printers are



available. FontMaker for Solaris 2 assumes that the lp system is being used and that the lpstat -a command will provide the list of printers available.

To override these defaults use the *lp* or *lpr* options. To specify that printer information can be found in /etc/printcap use the *lpr* option:

```
% fontmaker -lpr
```

To specify that printer information can be obtained using lpstat use the *lp* option:

```
% fontmaker -lp
```

Specifying the FrameMaker Home Directory

FontMaker needs to know where to find the FrameMaker home (or installation) directory. It looks for the FMHOME environment variable. If that is not set, FontMaker looks through each directory in your search path for “maker”. If neither of these are found, FontMaker exits.

To specify the FrameMaker home directory from the command-line, use the *framehome* option:

```
% fontmaker -framehome <FRAME_HOME_DIR>
```

The directory specified must be the directory that contains the fminit (or .fminit2.0) directory.

Special Sizes and Characters

As was mentioned earlier in this document, creating some fonts at large point sizes will exceed the maximum size allowed in a bfont file. In this case, some characters will be eliminated from the fonts. To work around this problem you can specify exactly which characters you want included in the font and at which sizes. Large point sizes are often needed for headings that require only a limited number of characters.

If you need a specific character or set of characters at a certain point size, you can have FontMaker create a special bfont file that includes only the characters you specify. For example, if you want to display the word “Résumé” in SnellRoundhand-BlackScript at 96 point, you will discover that only the “R” is included in the font because so many characters are eliminated due to the size of the font at 96 point.

To solve this problem, you use the *sizes* and *characters* command line arguments when you launch FontMaker. Each of these options takes a comma-separated list of sizes or characters. For example, to specify the characters in the word “Résumé” at 96 point, use



the following command:

```
% fontmaker -sizes 96 -characters R,eacute,s,u,m
```

Both options must be used together. Note that this example specifies only one point size: 96. However, you can specify multiple sizes by separating each size with a comma.

Note: FrameMaker can work with fonts up to 400 points. FontMaker will create fonts at any point size you specify but FrameMaker will not be able to display anything bigger than 400.

Notice that you must use the name of the characters that you want created (eacute is the name for é, for example). For a complete list of characters supported by FrameMaker see Appendix B of the Using FrameMaker manual from Frame Technology. You should also be aware that not all fonts include all the characters supported by FrameMaker. To determine exactly which characters are included in a font, examine the AFM file.

When you use the *sizes* and *characters* option, FontMaker still creates fonts at all the sizes you specify on the Sizes dialog. Any point size specified on the Sizes dialog will be created with all possible characters, regardless of the *sizes* and *characters* options.

Here's another example:

```
% fontmaker -sizes 100,200,300 -characters S,a,l,e,exclam
```

This example creates 3 point sizes of 5 characters each. You still must select the font or fonts as before. Each point size specified on the Sizes dialog will be created with the complete character set (or as many characters as will fit in the bfont file). In addition, a font for each of the point sizes specified (100, 200, 300) will be created with the 5 specified characters.

Note: The bfont file format has a limitation regarding character size. If you create very large fonts, some characters will be too wide to fit in the maximum character width specified by the bfont format. FontMaker will not create these characters.