

MANAGING FONTS AND PRINTING

DEPENDING ON YOUR POINT OF VIEW, PRINTING UNDER WINDOWS IS A GLASS either half-full or half-empty. On the one hand, printing is easier than ever with Windows because all applications print the same way, use the same printer drivers, interact with the Print Manager for printer housekeeping, and have access to a cornucopia of beautiful typefaces. On the other hand, printing remains a major Windows deficiency: The font situation is volatile and complicated; printer management still requires significant hand work and knowledge of printer basics; font management becomes a new headache, particularly for the many business users who don't know much about type; and printing performance can be adversely affected by driver and memory limitations, graphical complexity, and many other factors. In short, printing and fonts represent the kind of Windows situation where tips and tricks make an especially large difference. We wouldn't be surprised if this is one of the chapters at the top of most readers' reference lists.

Font Magic

It used to be so easy. All you could see on a DOS screen was a single font. And all you had to deal with were a few codes for boldfacing or italic. Later, as applications grew more complex, typefaces still were not an issue even for most word processors, and they had virtually no role in other applications.

Under Windows, in a way, every application is a desktop publishing program. Fonts, page design, and other graphical elements play a huge role, in both the screen display and the printed output of every Windows application. As a result, the care and feeding of fonts has become a necessary skill for the sophisticated Windows user. We've broken this skill into three parts:

Font Housekeeping, which involves the loading, unloading, and management of the files that generate on-screen and printer fonts

Advanced Font Secrets, tips that let you do more with fonts than you might have thought reasonably possible

TrueType, tips on the new font standard built into Windows 3.1

Font Housekeeping

Fonts are an area where the basics still remain a bit beyond the understanding of otherwise savvy users. That makes sense, since document design is hardly part of the standard training process for either business or computing. So, we've compiled some advice and strategies to make sure your font basics are well in hand.

Keep Track of the Differences between Screen and Printer

Fonts *Screen fonts* are the letters that Windows creates on your display screen; *printer fonts* are the characters a printer actually puts on paper. Some printers come with fonts permanently installed. Others allow the user to load fonts into the printer. These loadable fonts are called *soft fonts*, since they can be changed.

Screen fonts come in two types: raster fonts and scalable fonts. Raster fonts are of a fixed style and size. Scalable fonts consist of equations that can calculate the look of one style of character in many sizes. In the case of scalable fonts, such as TrueType and PostScript, what Windows draws on the screen is essentially identical to what the printer prints. The screen font matches the printer font. In the case of raster fonts, however, Windows will use the available screen font that most closely matches the selected printer font. This match is not always made in heaven, resulting in documents that may look decidedly different on paper than they did on screen. The simple way to avoid this problem is to move to scalable fonts for your Windows work. TrueType and PostScript, both scalable font formats, are discussed later in this chapter.

Install Screen Fonts You install screen fonts by double-clicking on the Fonts icon in the Control Panel, and then clicking on the Add button. By default, Windows searches your WINDOWS subdirectory for any font files. You can direct it to other drives and files by using the Drives and Directories list boxes at the bottom of the Add Fonts dialog box. Generally fonts are stored in the SYSTEMS subdirectory.

Since fonts usually come on slow floppy disks, you can speed font installation by copying the files for fonts you know you want into the SYSTEM subdirectory before starting the installation.

Load Only the Fonts You'll Use Most printers and many desktop publishing applications come with a starter set of fonts. If you're working in Windows, the list of installed fonts in the WIN.INI file expands every time you load a new font. Sometimes you're asked to specify which fonts to load when you install a new printer or Windows application, but in many cases the installation process simply loads all fonts that come with the product.

Each installed font takes up memory, which can make applications run more slowly. Some programs, such as PageMaker, are slowed even further because, when you use a command that references the list of fonts, they read the specifications of every font. The longer the list, the longer the command takes to execute.

One way to handle font overload is to add and delete fonts through the Windows Control Panel. If you regularly produce documents using different fonts, create a different WIN.INI for each document or department that uses a different font set.

First, make lists of the fonts you need for each set of documents. Say that document set A (reports) uses only Times and Helvetica, and set B (a newsletter) uses only Palatino. Add Helvetica to each list of fonts, since it is used in most Windows dialog boxes and, if you remove it, the dialog boxes will be hard to read.

Next, start Windows and use Notepad or another text editor to make a copy of WIN.INI, which includes all installed fonts, and name the copy WIN.ALL. Then use the Windows Control Panel to delete all the fonts except those you use in set A. WIN.INI is automatically updated. Make a copy of the new WIN.INI and name it WIN.A.

Repeat this step for each document set. In our example, you next use the Fonts icon in the Control Panel to delete all fonts except those used in set B, plus Helvetica, and then copy the new WIN.INI and name it WIN.B.

You now have three versions of WIN.INI-WIN.ALL, WIN.A, and WIN.B-each with a different set of fonts. To start Windows with one font set, copy the file, name it WIN.INI and restart Windows.

NOTE When you change your Windows configuration, you'll change WIN.INI, and you'll have to modify each of your alternates. This may make the solution more trouble than the problem. This tip works best when your Windows setup is stable.

Remember, Removing Fonts Isn't the Same as Deleting Them

One reason to be prudent in loading fonts is that removing a font via the Control Panel doesn't delete its file from the hard drive. The font merely disappears from WIN.INI. To remove a font from the drive, you have to use File Manager or drop down to DOS to delete its files.

Access a Host of Special Characters You can enter characters other than the alphabet, such as the ANSI.SYS graphics primitives discussed in Chapter 4 (see "ANSI.SYS Metastrings and Graphic Characters"), by entering them from the numeric keypad. But this technique is cumbersome and doesn't let you see what other, unexpected characters may be available.

Windows 3.1 offers an easy, graphical way to see all the characters available. Go to the Accessories program group and double-click on the Character Map icon. You'll see the display that looks something like a keyboard, with the characters represented by every key, as shown in Figure 8.1. Click on the Font drop-down list box in the upper-left corner, and you'll see a list of all fonts in your system. Click on a font and its characters appear on the keyboard. When you

double-click on a symbol, it appears in the Characters to Copy box in the upper-right corner. When you have selected all the characters you want, as in Figure 8.2, click on Copy and they will be copied into the Clipboard. From the Clipboard you can paste the characters into any Windows program. In some cases, such as Windows Paintbrush, you may have to manually select the font the character comes from in the receiving application before it will appear properly on the screen.

Copy Installed Soft Fonts to a New Printer When you install soft fonts for use by Windows, a listing for each font is placed in the section of the WIN.INI file that contains settings for the specific printer and port you are using. Because these soft fonts are installed for a printer on a specific port, they will not automatically appear if you change printers. Instead of having to reinstall all of the fonts for the new printer, select Printers from the Control Panel and click on Setup. You'll see a dialog box named for the active printer. Click on the Fonts button. Then, choose the Copy Fonts To New Port button in the Font Installer dialog box that appears. The fonts will be copied to the new printer port and will be available for your use.

Troubleshoot HP LaserJet Soft Fonts If you click Printers, Setup, Font Installer but can't get Windows to accept soft fonts for your HP LaserJet printer, make sure that you have installed the HP LaserJet II or LaserJet III. The original HP laser printer wouldn't accept soft fonts.

Retain Soft Fonts When Reinstalling Windows When you install soft fonts to your hard disk through the Windows Control Panel, they are stored in a directory on your hard disk, and an entry for each of them is listed in the WIN.INI file, in the section for your specific installed printer. If you have to reinstall Windows for some reason, you'll lose all of these soft font settings. To avoid having to do this, take advantage of the Control Panel's ability to generate a summary file of all the soft fonts installed on your system. This file, FINSTALL.DIR, will contain all of the necessary WIN.INI settings.

To create this important file choose the Printers icon in the Control Panel, click on Setup and select the Fonts button to bring up Windows' Font Installer. Hold down the Ctrl+Shift key combination while you click on the Exit button. A dialog box like the one in Figure 8.3 will appear, asking if you want to create the FINSTALL.DIR file. You can accept the default directory proposed by Windows or choose your own. It's easiest to use the directory where your soft fonts are located. Each time you add or remove soft fonts from your system you should recreate the FINSTALL.DIR file.

After you have reinstalled Windows, here's how you use the FINSTALL.DIR file to install your font settings: Again in the Control Panel, choose Printers, click on Setup, then select Fonts from the active printer's dialog box, and hold down Ctrl+Shift while clicking on the Add Fonts button. A special dialog box appears in which you can specify the path and filename of your FINSTALL.DIR file. Then a Font Installer dialog box appears, allowing you to select the fonts you want to install. Once you've selected the fonts, choose Move and specify the directory where the fonts are already installed. The fonts will now appear in the Windows Fonts list, showing that they are installed on your system.

Preload PostScript Fonts for Faster Printing If you use PostScript fonts when printing from Windows, you can save time by preloading them. This means that fonts won't have to be downloaded to your printer every time you use them. Of course, you have to download the fonts before you run Windows for them to be available for your entire Windows session.

To stop Windows from downloading fonts on the fly, you have to edit your WIN.INI file. Open the WIN.INI in SysEdit or a text editor and find the section that contains settings for your printer. You'll see a listing of font files that are used by the printer. Notice that a font may be listed twice: once with a .PFM extension and once with a .PFB extension. The file with the .PFB extension is the one that instructs Windows to download the font to the printer each time it is used in a print job. Delete the lines with the .PFB extensions.

If you are using a soft font package, such as Adobe Type Manager, it will probably include a utility to batch-download the fonts you'll use while in Windows. If not, you can use a third-party utility or create your own batch file using the appropriate commands for your system.

Advanced Font Secrets

Once you have a selection of fonts available for your Windows screen and printers, there's no end to the variations you can achieve. The idea behind all the tricks that follow is that every part of Windows is affected by fonts, and that all of those fonts can be managed by you.

Change Font Names If you add to your system a new PCL soft or scalable font (one that supports PCL, the printer control language of HP LaserJets and compatibles) that has the same name as an existing font, you can eliminate confusion for yourself by changing the font name in Windows' HP Font Installer. To access the Font Installer, select Printers in the Control Panel, select the PCL printer, and choose Fonts. From the list of installed fonts, select the one whose name you want to change. Select Edit, and in the dialog box that pops up specify the new font name, as shown in Figure 8.4. (Note that you cannot change the name of a cartridge font.) This new name will appear in the list of installed fonts, as well as in the font list of Windows applications. When you are changing the name of the font, be sure not to change any of the other Font settings unless you are familiar with editing and creating fonts.

Utilize Excel's Preview Font in Any Application Excel 3.0 and 4.0 users are certainly familiar with the program's Print Preview feature, but they probably don't know that the typeface used to preview documents can be utilized by other Windows applications. For example, open up Windows Paintbrush, select Fonts from the Text menu and scroll through the list of available fonts. You'll notice that a font named Preview is not among them. Then switch to Excel, open a spreadsheet, and select Print Preview from the File menu. Now, when you switch back to Paintbrush, the Preview font is available for your use.

You can also make sure that the Preview font is always available to those applications that can use it. Start the Control Panel, select Fonts, choose Add, and highlight the Excel directory in the Directories list box. When you select Excel the word Preview appears in the List of Fonts box, telling you that this font is available within that directory, as shown in Figure 8.5. If you are using Windows 3.1, you should also make sure that the Copy Fonts to Windows Directory check box is selected, so that Windows will always find the font. If you are using Windows 3.0, you should copy the font file to your WINDOWS\SYSTEM directory manually to provide for this. Finally, select OK. Now the Preview font will be available to Paintbrush and other Windows applications that will recognize it, regardless of whether or not you use Excel.

Change the System Font Size Windows assigns default system fonts based upon the kind of video display you have. These fonts appear in menus and title bars. Most of the time, the default fonts work fine. However, if you find the system font too small for comfort, you can change it.

The trick is to edit those lines in the SYSTEM.INI file that define default screen fonts. They are in the [boot] section of the file. (This section of SYSTEM.INI was discussed in Chapter 2, and you should review that material if you want to edit these lines.)

If you have a Super VGA display, the most common Windows option, you can enlarge the system font by switching to the font used by IBM's 8514/A video format. To do this, find the following lines in SYSTEM.INI and edit them so they look exactly like this:

```
[boot]
fixed.fon=8514fix.fon
oemfonts.fon=8514oem.fon
fonts.fon=8514sys.fon
```

The first line defines the fixed-width font used by some older Windows applications. Using 8514 here will enlarge the font in Notepad, Windows' built-in text editor, as shown in Figure 8.6.

The second line describes a version of the DOS system font used by the Windows Clipboard. This is the font used if you save data from a Windows program to the Clipboard and then paste it into a DOS program. The third line changes the type in Windows menus and title bars, as shown in Figure 8.7.

If, when you start up this configuration, Windows delivers an error message that it can't find these fonts, expand and load them from Windows installation Disk 1.

Change the System Font Typeface Not only can you control the size of your Windows system fonts, you can vary the type style as well. To do this, you need to add a line to the [Windows] section of the WIN.INI file that describes the typeface you wish to use.

The line you add should appear in the [Windows] section, just ahead of the Beep= statement and should look like this:

```
[windows]
SystemFont=xxx.fon
Beep=yes
```

Here, xxx denotes the name of the typeface you plan to use. You can use any installed typeface for your system font, but not all typefaces work well. Windows has on-screen fonts in both raster (dot-pattern) and vector (line-drawing) forms. Vector fonts create huge letters when used as menu and title type, so avoid them. Raster fonts work much better. Among the commonly installed Windows fonts, Modern, Script, and Roman are vector fonts. Courier (shown in Figure 8.8), Helvetica, Times Roman, and Symbol are raster fonts. Symbol shouldn't be used for system fonts, because it produces an unreadable (though amusing) array of Greek and scientific characters in your menus and title bars. Windows Small font should also be avoided, because it yields menus with type too tiny to read.

Windows raster fonts are specific to various monitors. You should make sure you have the proper version of the font installed for the screen font format you have defined in SYSTEM.INI, as described in the previous tip. The root name for each raster font file ends in a letter that denotes which video format it's for. They are as follows:

- A CGA
- B EGA
- C 60 dot-per-inch printers
- D 120 dot-per-inch printers
- E VGA
- F 8514/A

So, HELVE.FON is the Helvetica font for VGA monitors; HELVF.FON is Helvetica for the 8514/A screen. You'll find all your available fonts listed in the WINDOWS/SYSTEM subdirectory with the file extension .FON.

By using this tip and the previous one you can mix and match system font sizes and styles to fit your individual needs; as an example, see the 8514 Serif font used in Figure 8.9.

Change the System Font for DOS Programs You can alter the font used by DOS applications running under Windows as well. To do this, the DOS program must be running in a window. Load the DOS program. If running in a window isn't the default for the application's

PIF, press Alt+Enter to put the program in a window. Click on the Control menu box in the upper-left corner. You'll see Fonts as a menu option. Select it, and a dialog box offers a selection of available character settings. At the bottom, a small screen area shows how each selection looks. Make your choice, click on OK, and your DOS program will have a new font. If you want this change to be permanent, make sure to check the Save Setting box in the Font Selection dialog box before leaving it.

Change the Font in Icons You can even change the font that appears inside icons, if you wish. Windows defaults to the MS Sans Serif 8-point typeface, which is easy to read when small. But you can make the font bigger if you have a sight problem, or more ornate if you just like to fiddle with the look of things.

Icon fonts are set in the WIN.INI file, under the [desktop] section (as discussed in Chapter 2). To change the default, enter these three lines in that section (if they don't already exist):

```
IconTitleFaceName=  
IconTitleStyle=  
IconTitleSize=
```

On the first line, you can specify the name of just about any raster or TrueType font—for instance, Times New Roman. (Symbol and Script will not work, however.) If you want boldface your icon type, place a 1 after the equal sign on the second line. On the third line, specify a point size of either 8 (the default), 10, or 12. For icons, 12-point type is enormous; it would be used only for visually impaired users.

Change the Font in Other Windows Elements Changing the font in dialog boxes, list boxes, text boxes, and other windows screen elements is trickier than altering icon fonts. Windows provides no way to change any of these elements independently. You can only change them by substituting a new font for the default MS Sans Serif 8-point default system font. To do this, go to the [fonts] section of WIN.INI. Find the line that describes MS Sans Serif for the monitor you use. For instance, the line for a VGA monitor should look like this:

```
[fonts]  
MS Sans Serif 8,10,12,14,18,24 (VGA res)=SSERIFE.FON
```

To make the font bigger, you could substitute the wider 8514/A version of MS Sans Serif. Then the line would read

```
[fonts]  
MS Sans Serif 8,10,12,14,18,24 (VGA res)=SSERIFF.FON
```

When you save WIN.INI with the new settings and restart Windows (or force Windows to write your changes to disk, as discussed in Chapter 1), the new font will be in place.

TrueType

Windows 3.1 marks a major step forward in simplifying the Windows font situation. In version 3.1, Microsoft has introduced a new font family, called TrueType. TrueType fonts are scalable—that is, a single file can represent characters in many sizes. Raster fonts require separate files for different point sizes. This gives TrueType many of the advantages previously available only through PostScript. However, TrueType fonts don't require special PostScript printers or PostScript interpreters; they work with any printer. Also, since they come bundled with Windows, they provide a unified scalable font approach that any application can utilize. Previously, some applications couldn't run in Windows without the additional expense of having PostScript software and devices installed; other applications couldn't provide the benefits of scalable fonts. TrueType pushes those problems into the past.

Yet, since TrueType is new, it requires new understanding, both of how to derive the greatest benefit and how it affects what has gone before. That's the thrust of this section.

Use Font Substitutions to Avoid Confusion Users who have upgraded to Windows 3.1 will undoubtedly be working with documents that were created under the previous version of Windows. Windows 3.0 didn't have TrueType fonts and, in fact, contained a few fonts that are no longer found in Windows 3.1, such as the Helv font. Or maybe you've been using Adobe Type Manager with Windows 3.1, but you've decided that you'd rather do all your work with TrueType. To be able to work flawlessly with these non-TrueType documents, Windows translates instructions to use these old fonts into requests for corresponding TrueType fonts. This process is controlled by a new section of the WIN.INI file called [FontSubstitutes]. As you can see in Figure 8.10, this section lists the TrueType font on the left side of the equal sign and on the right lists the Windows 3.0 font for which it will be substituted.

You can add new font substitutions to the list by editing your WIN.INI file and adding the names of the TrueType font and the original font. Be sure to follow the format used in the substitutions already listed in the WIN.INI.

How to Keep Font Names Straight If you are a new TrueType user and can't get used to the new Windows 3.1 typeface names, such as Arial, here's a way to keep them straight. Open your WIN.INI file in SysEdit or a text editor and look for the [FontSubstitutes] section. You'll find a listing of the old font names that you were used to using and their new TrueType equivalents. Copy this section to the Windows Clipboard and print it as a handy reference.

Delete Fonts You Don't Use If you are using TrueType along with other soft font collections, such as Adobe Type Manager, save disk space by getting rid of the duplicate typefaces you'll never use. For example, how many different Courier typefaces do you need, especially if you find little reason to use Courier fonts in your documents?

Many Windows applications also include their own soft fonts, which are installed on your hard disk. If these include fonts that you'll never use—for example, entire extended character sets—delete these as well to save precious disk space. You can also save disk and memory space by only keeping certain sizes of each typeface on your hard disk. A recommended range (it should cover your needs) are the following point sizes in each typeface: 6, 7, 8, 9, 10, 11, 12, 14, 18, 24, 30, 48, 60, 72. If keeping all of these fonts on your hard disk still takes up more space than you like, load only the point sizes that you will use regularly for your documents—for example, a 10- or 12-point size in regular, bold, and italic, 14-point bold for headlines, and 6-point regular for footnotes.

If you're using Hewlett-Packard's printer control language (PCL) fonts on a laser printer, you should install bold fonts in sizes of 14 points or greater only. At lower point sizes Windows can simulate bold text effectively. You can also do without loading bold italic fonts, because they aren't used very much, and when you do need them your PCL driver will simulate them.

How to Use TrueType Fonts Only Once you've experimented with TrueType, you may decide you don't want to fuss with raster (bitmapped) fonts anymore. No problem. Open the Fonts section of the Control Panel and click on the TrueType button. Make sure the Enable TrueType Fonts box is checked, and then check the box below it—Show Only TrueType Fonts in Applications. When you return to your application, you'll see only the TrueType fonts installed on your system.

Printer support for TrueType fonts depends upon the type of printer you have. If you have a PostScript printer, there are plenty of options, all of them buried deep inside the setup dialog boxes for your specific printer driver. Click on the Printers icon in the Control Panel and, with the PostScript driver selected, click on the Setup button. Click on the Options button and then the Advanced button. In the TrueType section of this final dialog box, you choose to download the fonts to your printer as Adobe Type 1 or Type 3 fonts; for best performance, however, use the Fonts Substitutes Table, mapping the TrueType Arial typeface to the printer's native Helvetica, Times New Roman to Times, Courier New to Courier, and so on.

With a Hewlett-Packard LaserJet Series II or III, the tactic is slightly different. You can't download TrueType fonts to the LaserJet, but you can send them as graphics directly to the printer. Choose Setup and then Options from the Printers dialog box; then check the Print TrueType as Graphics box.

Troubleshooting TrueType If an error message tells you that a TrueType font is causing a Windows error, chances are that you have a corrupted font file. But how do you find out which one is the culprit if you are using several fonts at once? Open the Control Panel and select Fonts; then select each entry in the Installed Fonts list and note the line at the bottom of the dialog box that tells you how much disk space the font occupies. TrueType fonts generally take up about 70K of disk space. If you notice that one of the TrueType fonts that you select reports a font size of 0 or 2K, that font is corrupted. Get rid of it by selecting the Remove button and then making sure that the Delete Font File From Disk box is checked in the resulting dialog box. Once you have done this, reinstall the font from your original disks.

Printer Power

Printing under Windows is easier than it was under DOS, but that's like saying that having your fingernails pulled out is less painful than having your arm sawed off. It's still not pretty or even close to automatic. These tips for navigating the shoals of output will come in handy. The tips focus on the Print Manager; loading, changing, and configuring printers; PostScript printing; and printer troubleshooting.

Print Manager Secrets

The Print Manager, located in the Accessories program group of the Program Manager, is Windows' hub for managing the documents you send to the printer. As with so many aspects of Windows, there's a lot more to Print Manager than meets the eye-if you know where to look.

Drag and Drop with Print Manager You can print files quickly by using Windows' drag and drop feature. The files you want to print must belong to an application that is registered in the Registration Editor and whose extensions are associated with their native Windows application. (For information on setting up drag and drop, see Chapter 7; the Registration Editor is covered in Chapter 9).

For you to print a file Print Manager must be running iconized at the bottom of your screen. From File Manager, select the desired file, drag it to the Print Manager icon, and release the mouse button. That's all there is to it. Because you need to have access to the Print Manager icon, it is a good idea to automatically start File Manager at a size that doesn't occupy the entire screen, as shown in Figure 8.11.

Change Your Priorities Print Manager allows you specify how important a print job is by assigning it a priority-low, medium, or high. The priority level you used for the last document you printed will be applied to your current document unless you change the setting. The default setting is medium.

To speed up printing, choose Options from the Print Manager menu and select High Priority. In contrast, if a printing job that is spooled to Print Manager is slowing down your ability to work in other Windows applications, make sure that the setting is Medium or Low Priority, not High.

Batch Print *Batch printing* is the process by which you send several documents to the printer at once, instead of printing them individually. It's especially convenient if you share a printer that's not located close to your desk and you don't want to keep making trips to retrieve your documents, or when the printer you use is busy and you don't feel like putting your print jobs in the printer queue along with everyone else's files. You can wait until the printer is idle-such as in the evening when you leave work-and retrieve your documents from the printer tray in the

morning, when you return. Batch printing can also come in handy when you don't want to spare any of your system's resources while the Print Manager sends a document to your printer.

To accomplish batch printing with Print Manager, you simply set your default printer to pause (Ctrl+P). From within your Windows applications, you can still choose Print just as if Print Manager were ready to send these jobs to the printer. What happens instead is that Print Manager holds them in a queue until you choose resume (Ctrl+R). The documents are then sent to the printer consecutively.

Print to Disk If you want to print a file on another computer that may not have Windows installed, or you wish to carry with you a ready-to-print version of a file, use the print-to-file technique. This method substitutes a disk file for the printer at the end of the process. To use this feature, open the Print Manager and select Printer Setup from the Options menu. Pick the printer you think you'll be using later; it must be installed on your PC, but doesn't need to be currently attached. If you don't know, try HP LaserJet or Epson dot-matrix printers; they are safe options. Click on Connect and then choose FILE as the port to use. Click on OK and close the dialog box.

Another common use of this approach is in high-end desktop publishing. Here, the print-to-file method allows you to create a form of the document that can be transported to distant typesetting-service bureaus or imported into complex design programs. Parameters for the ultimate output device are then set by the application, not by Print Manager.

When you set Print to File, printing from your application will bring up a Print to File dialog box that creates the filename and other basics of your document file. Fill it out and click on OK. Your document will become a file that can be transmitted, printed at any time with the DOS PRINT command, or imported into other applications.

Quickly Cancel All Printing The fastest way to stop all printing under Windows is to exit the Print Manager. Click once on the Print Manager's icon and you'll see the Control menu for the Print Manager. Click on Close and you'll be prompted to confirm the choice. Click on Yes, and every print job beyond what's already loaded in the printer's buffers will go away.

Print Manager Keyboard Shortcuts

Here are keyboard shortcuts for the Print Manager:

Shortcut	Action
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F1	Brings up context-sensitive help
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F5	Refreshes the screen
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Ctrl+Up Arrow	Moves file up in the print queue
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Ctrl+Down Arrow	Moves file down in the print queue
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Alt+P	Pauses printing
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Alt+R	Resumes printing
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Printer Tips

A common misconception among Windows users is that the Print Manager handles printers. It doesn't. It handles print jobs. Printer control is accessed by clicking the Printers icon in the Control Panel. When the task at hand is loading, changing, or configuring a printer or managing the print drivers, clicking the Printers icon is the key.

Get On-Line Help for Any Printer To get on-line help for any printer you have or are considering getting, go to the Control Panel and double-click on the Printers icon. You'll

see a list of the printers installed on your system. If you want information on a printer not on this list, click on Add and then select the printer you want from the list that appears. Click on Install, and you'll be prompted to insert Windows' Setup disks with printer drivers on them. Follow the on-screen instructions. Finally, click on Connect, even if the printer isn't really attached to your PC.

Once the printer you want to know about is installed, click on Setup or Fonts (the button that appears varies with the printer). Now when you click on Help you'll get pages of information about that printer, its fonts, and its performance.

Find Out about Your PostScript (or Other Kind of) Printer You can find out all sorts of information about your PostScript printer by printing out a little-known file called TESTPS.TXT. You'll find it in your WINDOWS/SYSTEM subdirectory. This file is a PostScript program that, when copied to the port your printer is on, prints your printer's settings.

Another file worth looking over is PRINTERS.WRI, which contains a ton of general information about all kinds of printing with Windows. Topics include International Characters, Switch Settings, Printer Memory, and much more. It's in the WINDOWS directory.

Install the Same Printer Twice You can save yourself the time it takes to reconfigure printer settings by installing the same printer twice, located on the same port, in Control Panel. For example, you can configure the printer with a specific type of emulation and then install it again in its regular native mode. Or you can install the printer once with legal-sized paper and once with letter-sized paper. To install the printer twice, treat each instance as if it were actually a separate printer.

For example, suppose you're using Windows 3.1 and you have an HP LaserJet III with a PostScript font cartridge, and you want to install it twice—first in its own mode with legal-sized paper and then as a PostScript printer with letter-sized paper. To do this, from the Control Panel, choose Printers. Then choose Add and select HP LaserJet III from the List of Printers. Choose Install (you may be prompted to insert a Windows disk with the appropriate driver) and then Setup. In the Setup dialog box, change the paper size to Legal by scrolling through the drop-down list, and make any other changes that you desire. Select OK to return to the Printers dialog box. If the printer is not listed on the correct port, choose Connect and select the port that the printer is hooked up to.

To install the HP LaserJet III as a PostScript printer, choose Apple LaserWriter from the List of Printers. If the driver is not already installed on your system, you will be asked to insert a Windows disk. Choose Install and then Setup. In the next dialog box, choose the options that you require, and then select OK. If this printer is not listed as being connected to the same port as the HP LaserJet, select Connect and assign it to the same port as the previous entry. Remember, while you can have more than one listing of a printer on a single port, only one can be active at a time. To activate a printer, highlight it in the Installed Printers list and click on the Set As Default Printer command button.

In Windows 3.0 you can also configure a printer more than once on the same port, but the buttons that you choose in the Control Panel have slightly different names.

Make Multiple Printers Active on a Single Port You can attach more than one printer to a single Windows port using a switch box. However, to move from one printer to the other, you not only have to flip the switch, you have to access Control Panel to change your active Windows printer. Obviously, this makes having printers share a port hardly worth the trouble. Happily, you can work around this problem by creating aliases for your printer port.

An alias is a statement you add to the [ports] section of the WIN.INI file that matches a port name you create with the actual physical port. To create aliases for an HP LaserJet and a PostScript printer, both on port LPT1, add these lines to the [ports] section of your WIN.INI:

```
LPT1.HP=LPT1:  
LPT1.PS=LPT1:
```

To avoid any unexpected problems, it is wise to name your aliases with a physical port name followed by an extension that indicates the printer type. Since the colon (:) has meaning in this context, don't use this character in port aliases. Finally, note that Windows limits the total number of ports described to ten, including aliases, so make sure you aren't exceeding this limit. If you have more than ten ports listed, only the first ten work. One way to avoid this problem is to remove the lines automatically included in WIN.INI for ports you may not have. (You can also comment them out by putting a semicolon before them) If, for example, you only have one printer port, remove the LPT2= and LPT3= lines from WIN.INI to keep down the number of ports. When you have entered the alias lines, save WIN.INI, and then restart Windows.

Once Windows is restarted, click on the Printers icon in the Control Panel. Select one of your printers from the Installed Printers list box. Then click on the Connect button. This brings up the Connect dialog box, which contains a list of available ports. Among these will be your alias for the selected printer. Click on the alias, and click on OK. Check to make sure the Set As Default Printer button is marked in the Printers dialog box. Then click on Close in this dialog box. Repeat this process for the second printer.

When you are done, either printer will be active and available on LPT1 when you select it from any Windows application. You know the process worked if the Printer Setup dialog box in your application says something like:

PCL/HP LaserJet on LPT1.HP
PostScript Printer on LPT1.PS

One caveat: Since both printers use the same port, only use one printer at a time. Make sure all print jobs on the first printer are complete before changing printers and sending anything to the second; otherwise you'll get trash on both.

If a particular printer won't work when assigned to an alias, simply assign that printer to the actual port name and save aliases for other devices. The actual port and aliased ports can coexist.

Install Multiple Printers on Laptops The secret here is simple: Since your laptop will be many places and you can't know what printers you'll find there, make things easy on yourself by installing several printers. That way, you'll be able to select one that works wherever you are. A good basic set to include would be a Hewlett-Packard LaserJet II, an Epson dot-matrix printer, and a Apple LaserWriter PostScript printer.

You install each printer as described in the tip "Get On-Line Help for Any Printer."

Installing a Printer That's Not Listed in Control Panel

Ideally, there will be a Windows printer driver written for your specific printer in Windows 3.1. If such a driver isn't listed in the Control Panel's printer list, however, there are a few things you can do. If you have upgraded from version 3.0, you can check those Windows disks to see if a driver for that printer was included with the previous version of Windows. Windows 3.0 drivers will work correctly with Windows 3.1. You can also call Microsoft to see if your printer driver is available in their Windows Driver Library, or use your modem to call their Product Support Download Service and download it yourself. If a driver is not available from Microsoft, contact your printer manufacturer and see if they have one available. Many manufacturers have on-line bulletin boards, which are another good source of drivers. If all else fails, check your printer to see what emulation modes it supports, and use the driver for a printer that it emulates. This is the least desirable solution because emulating another printer means that your own printer's capabilities may not be fully utilized.

If you are using a laser printer for which you can't find a driver and it's compatible with a Hewlett-Packard LaserJet printer, use the HP LaserJet Plus driver. If your printer is PostScript-compatible and you don't have the correct driver for it, use the Apple LaserWriter Plus driver. If you're using a color PostScript printer, use the QMS-ColorScript driver. If you're using a 9-pin dot-matrix printer, see if it is IBM- or Epson-compatible. If so, use the IBM Proprinter, the Epson FX-80 (for narrow carriage printers), or the Epson FX-100 (for wide carriage printers) driver. If

you're using a 24-pin dot-matrix printer that's IBM- or Epson-compatible, use the IBM Proprinter X24 or Epson LQ-1500 driver, respectively.

Control Printing for Individual Documents Many Windows applications, such as Word for Windows and Excel, let you control printer settings for a specific document. For example, in Word for Windows you can choose the Page Setup option from the Format menu to set the document for landscape or portrait printing, as well as for specifying the paper source. If your application supports such options, use these settings instead of making changes from the Printer Setup option in the application's File menu or from the Control Panel. This will save you the trouble of changing the printer setup every time you decide, for example, to print a document in landscape mode, and then back to portrait once you are done. This is because Page Setup ties these settings to the document only, not as the new default.

Speed Up Printing by Using Just What You Need You can speed up printing by thinking about what your needs are before you create and print your documents. If your document doesn't require any special style, stick to normal text if you can. Using bold and italic fonts makes for more complex documents that take longer to print. Likewise, documents composed of several different typefaces will take longer to print.

When it comes to printing you'll also want to consider the purpose of the print job. If this is just a rough copy, opt for lower resolution or use a draft mode, if your application offers one.

The Fastest Way to Print Text from Any Program It's often useful to print unformatted output from a word processor or other text-based Windows application. Here is a way to do this from any such application. You'll need to install an additional printer driver, so have your Windows disks handy. Start Control Panel, pick Printers, and then click on the Add button. On the resulting list, the first choice is Generic/Text Only. Double-click to install TTY.DRV from the Windows disk for which you are prompted.

After picking OK, choose the Configure button and scroll the list of ports until you find FILE. Clicking on this entry attaches the Generic Text printer to a disk file instead of a port, and enables you to choose the filename when you print. After choosing OK, activate the printer with the Set As Default Printer radio button in the Printer dialog box.

Most applications let you switch from the default printer to the Generic Text printer without going out to Control Panel. For example, in Word for Windows, use the Printer Setup menu item from the File menu. If you choose the text printer, you'll be prompted for a filename when you print.

NOTE Print only unjustified text this way. The result of printing justified text—at least in some Windows applications—is bizarre.

Speed Up PostScript Printing

To speed up printing on a PostScript printer that supports downloadable fonts, use those fonts instead of TrueType fonts. You'll be able to print faster and use less printer memory. To enable the use of printer fonts, select your PostScript printer in the Printers dialog box. Click the Setup button. In the resulting dialog box, click Options. In the Options dialog box, click Advanced. Click on the check box that says Use Printer Fonts For All TrueType Fonts.

You can also speed up PostScript printing by mapping TrueType fonts to a PostScript printer font by using Font Substitution. For details on how to set up Font Substitutions, see "Use Font Substitutions to Avoid Confusion," earlier in this chapter. If your PostScript printer doesn't support downloadable soft fonts, you'll have to use printer fonts to represent TrueType fonts in documents.

Print PostScript Error Information Windows 3.1 contains an option for PostScript printers that provides a printout of error information when you encounter a PostScript printing problem. This information will be printed after your document has printed, and armed with this information you, or the technical support representative that you call, will be able to get to the

root of the problem more quickly. To choose this option, select Printers in the Control Panel, select Setup, and mark the Print PostScript Error Information check box.

Print Every PostScript Document to a Unique File If you are creating PostScript documents under Windows, you have the option of printing directly to a file instead of to the printer. To set up this option, open the Control Panel and choose the PostScript printer from the Installed Printer list. Choose Connect, and choose the port named File in the Ports section of the dialog box that appears. Then choose OK. Next, select Setup, Options, Advanced, and choose Encapsulated PostScript File in the Print To dialog box. Leave the text box that asks for the filename blank so that a Print To File dialog box prompts you for a new filename each time you print to disk, as shown in Figure 8.12. If you're prompted each and every time, you're less likely to overwrite an existing print file. (The Print Setup Options dialog box retains any name entered there.) Also, the Print To File dialog box lets you enter more than twice as many characters for the filename (53 as opposed to 19), which is handy when you've got a filename and path like C:\PROJECTS\PC_COMP\GRAFIC_A.PS.

Printing in Landscape Mode with an HP DeskJet DeskJet printers can't use internal, downloadable, or cartridge fonts to print in landscape mode. To be able to do this, you have to use Windows' vector screen fonts. Create your document using a font such as Modern or Roman so that you can print it in landscape mode.

Printer Troubleshooting

Printers are complicated, finicky devices. Windows, too, is complex. At the juncture of these two multifaceted worlds, many things can go wrong, and isolating the problem can be infuriating. Here are some of the common ills that Windows printing is heir to and some solutions from the trenches.

Responding to Printer Port Error Messages

When you receive an error message telling you that Print Manager cannot write to your printer port, it can be a bit frustrating because Windows' error messages are often maddeningly uninformative. This generic error message usually means the printer has gone off-line. Here's what to check for if you receive this message:

Verify that the printer is receiving power and that it's on-line.

Running out of paper can cause this message to appear, so check the paper tray too.

A loose printer cable may be the problem, so check connections if necessary.

After you have verified that the printer is on-line again, press Ctrl+Esc to bring up the Task Manager; then switch to the Windows Print Manager. If you have more than one printer, make sure the active printer is selected (to select it, just click once on its listing) and then click on the Resume button.

Normally, the rest of your document will print correctly from the point at which the printer stopped.

When You Can Print from DOS but Not Windows If you can't print from within Windows but you can print directly from DOS, here are some troubleshooting tips to help you solve the problem:

Check the printer settings in Control Panel to make sure that everything is set up properly.

Make sure that the printer you are trying to use is designated as the default printer. To check that it is, highlight it and then click on the Set as Default Printer command button.

Click on the Connect button and make sure the correct port is selected. Likewise, choose Setup and make sure that these settings are correct.

Check the TEMP statement in your AUTOEXEC.BAT file. Windows uses temporary files when printing, and if it doesn't have a place to put these files it may be unable to print. Open AUTOEXEC.BAT in SysEdit or a text editor and find the line that starts with SET TEMP=. Make sure that the line points to a directory that actually exists. Many people use C:\TEMP or C:\WINDOWS\TEMP, but any directory will do the trick. If there isn't a TEMP statement in your AUTOEXEC.BAT file, create a directory for the temporary files and then add a SET TEMP line in AUTOEXEC.BAT to point to it. Save your new AUTOEXEC.BAT file, reboot your computer, start Windows, and try printing again.

Finally, recognize that some non-Windows programs aren't "well behaved" in the way they print. These programs may only be able to print when you exit Windows. If that is the case, you'll simply have to live with it, or upgrade to a more modern application.

A Last-Resort Troubleshooting Trick If nothing else works to get Windows operating with your printer, try installing LPT1.DOS, LPT2.DOS, or LPT1.OS2. These designations cause Windows to think that it's printing to a file, but the output will still actually flow to the LPT1 or LPT2 printer ports. Connect to these ports by clicking on the Printers icon in Control Panel, clicking on Connect, selecting one of these options from the Ports list, and then clicking on Connect.

If you don't see these alternatives in the Ports list, open your WIN.INI file, find the [ports] section, and add the lines:

```
LPT1.DOS=  
LPT2.DOS=  
LPT1.OS2=
```

Save the edited WIN.INI, and the names should now appear in the Ports list.

This method often solves problems when printing through an electronic switch or peer-to-peer network.

PostScript Troubleshooting Tip: Is It Connected? It's hard to test whether PostScript printers are properly connected to a PC, because they don't respond to the DOS PRINTSCREEN command, which is a long-valued way to make sure dot-matrix and laser printers alike receive print input from the machine. To get a similar response from a PostScript printer, move to the DOS prompt and type

```
COPY.CON LPT1  
SHOWPAGE  
CTRL+Z ENTER
```

This sends the PostScript SHOWPAGE command out the LPT1 port. On the first line, use whatever port your PostScript printer is actually connected to. If your printer is connected properly, it will process a single blank page. If it doesn't, there's a problem between the printer and the PC port.

Formatting Problems When Printing If your printed document doesn't look the way you think it should, check for these potential problems:

Check out your fonts. If you aren't using TrueType or another scalable font, your printer may be substituting one of its own character sets for the one your application showed on screen. They

may not match. Use the advice in the "Font Magic" section of this chapter to reduce the likelihood of this problem.

Check out the information in the Setup dialog box found under the Printers icon in the Control Panel. Perhaps you have Landscape orientation checked instead of Portrait, or have selected printer options that limit margins or otherwise alter page makeup.

Make sure that your application has the same printer installed as the Print Manager. Occasionally, applications retain printer settings from previous uses that may not match what you set up for this Windows session.