14 Fonts

It might not be too much to say that fonts made the Mac what it is today. In addition to its graphical user interface, what really delighted the Mac's first users was that they could create something on a computer that didn't look like it came from a computer. The Mac's first typefaces, limited as they were, were far better than anything anyone had seen before on the desktop. People soon learned that the typefaces they used for a document had a big impact on the way it was received. And fonts made the Mac *fun.*

The Mac took that promising beginning even further when it adopted PostScript in its first LaserWriter printer, and desktop publishing was born. Desktop publishing made the Mac respectable and brought it into a lot of offices. And today, it's still the fonts—in a number, quality, and variety that the first Mac users never dreamed of—that can make people really passionate about their Macs. Now, as Apple introduces QuickDraw GX, type on the Mac enters a whole new dimension, as designers dream up animated fonts and other surprises.

In this chapter, we'll talk first about the technology of Macintosh fonts, then get into the fine points of using them.

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Contents

What Is a Font, Anyway? (JF/EF)

When you hear people talking about computer-based publishing, you'll hear the word "fonts." Just when you think you're getting the hang of the terminology, someone else will pipe up and say something about "typefaces." What's the difference?

Fonts, Faces, and Families: Some Basic Terms (JF/EF)

Alphabets come in different designs: skinny, fat, formal, casual, ghastly, and gorgeous. An alphabet (accompanied by a slug of numbers, punctuation marks, and so on) with a particular design is called a *typeface*. A *font* on the Mac is a jumble of computer code that creates text in a specific typeface, say Times or Helvetica.

A typeface and a font are not the same thing, any more than a cookie and a cookie cutter are the same thing. So when you want to set some type in a specific typeface, you choose the corresponding font, and your Mac will make the letters and numbers you type appear in that typeface.

HOT TIP

When you see a printed page then, you can say "What typeface is that?" or "What font did you use to make that?" But you can't say "What font is that?" because the font is in your computer, not on the page.

The next term you need to learn is *font family*, which is a group of typefaces that are designed with similar features so they'll look good together on the page. Like most families, font families all go by a single family name (such as Times or Helvetica). A typical font family consists of four members: a regular version (usually used for text) plus a heavier bold version, a slanted italic version, and a bold-italic version. When you're shopping for a font, then, you normally get a disk containing four of them, one for each typeface in the family.

But font families, like human families, come in all different sizes. The Helvetica family, for example, contains over 50 members, varying by degrees of boldness and character width, among other features. On the other hand, some typefaces are one of a kind, woeful orphans with no family to call their own.

If you decide to set a document in Palatino, chances are you won't use just the plain version of the face. Palatino also comes in bold, italic, and bold-italic versions, which you can access from a Style menu or keyboard command. These four *styles* make up the Palatino *family*, a set of related designs meant to be used together.

With these three bits of type jargon—*fonts*, *typefaces*, and *font families*—under your belt, you can wade into the wild world of Mac typography.

Serif and Sans Serif Faces   (EF)

The typeface you're reading now is a *serif* face; it has small counterstrokes, called serifs, at the ends of the main strokes. Serifs are a holdover from type's predecessor, calligraphy, in which letters were capped with flourishes from the calligrapher's pen. Serif faces are often used for long passages of text, since most people find serif type easy to read.

A *sans serif* face doesn't have flourishes at the end of its strokes (sans serif means *"without serif "*). Unlike serif faces, the letters of sans serif faces tend to have a uniform stroke width, making them appear more modern, but also making them harder to read in long passages. (Some people set books or magazines in sans serif type, but this is the exception in the United States.) Most publishers like to use sans serif faces for headings, captions, or other relatively short elements of a publication.

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Using Fonts on the Macintosh   (DD/JF)

As the Mac has grown up, its techniques for handling fonts and type have gotten slicker and more sophisticated. Font technology has followed suit. There are now at least four kinds of Mac fonts out there—four distinct font formats, each with its own way of digitally encoding how letters should be drawn on your screen and on your pages. It can get a little confusing, but it's not as bad as it sounds. A little history will help sort out the story.

Bitmapped Fonts   (DD/JF)

When the Mac was introduced in January 1984, it had just one font format. It used *bitmapped fonts* to display type on screen and to print to the only available Mac printer, the ImageWriter. The Macintosh screen and the ImageWriter both had the same resolution—72 dots per inch—and bitmapped fonts were built to match them.

A Mac font consisted of a set of 72-dpi dot-by-dot drawings of each letter in a typeface. A printed ImageWriter page, then, was essentially a dot-for-dot replication of what you saw on screen, so the font that created your screen type also created your printed type.

But because the position of each dot was pre-defined in the font, you needed a separate font

Manhattan 12

Manhattan 24

For bitmapped fonts to be really readable, a separate 72-dpi font must exist for each size you'll be using. If the right size isn't installed, the Mac will stretch the installed size to compensate. This example shows the difference between the screen versions of Manhattan at 12 points (for which a font is installed) and at 24 points (for which it's not).

for every size of type you wanted to create. If you requested a type size that wasn't installed, the Mac would just stretch or squash letters from an existing font—adding or subtracting bits here and there—which tended to produced some odd and very hard-to-read shapes.

These days, 72-dpi bitmapped fonts for printing are still available from only a couple of sources (most notably Dubl-Click Software, with its World Class Fonts line). For the most part, it's an outmoded format, superseded by the formats we'll talk about next.

PostScript (Type 1 and Type 3)   (DD/JF)

Almost exactly one year after the Mac debuted, Apple introduced the LaserWriter printer and Adobe System's new *PostScript* font format (often referred to as Type 1 or Type 3). The LaserWriter and its 300-dpi resolution not only produced beautiful pages, it also changed the relationship between the Mac and its printer. Instead of simply passing off its screen images for printing, the Mac now passed off files (written in the PostScript programming language) that were reinterpreted by yet another computer inside the LaserWriter, which rebuilt the images at 300-dpi resolution.
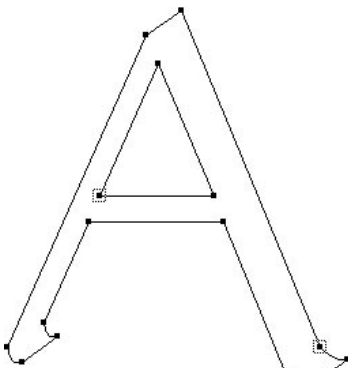
TrueType and PostScript fonts are outline fonts: The font information describes the shape of the letter, which can be scaled to any size and output at any resolution.

PostScript fonts broke the link between screen resolution and printer resolution. The Mac still used 72-dpi bitmapped fonts to create the type on screen, but when you sent the file to the printer, the Mac substituted matching PostScript fonts for use on the page. Instead of storing images of letters as distinct patterns of dots, PostScript fonts stored those images as mathematically described outlines—electronic stencils that could be scaled to any size and then "colored in" by a printer imaging at any resolution. To do the required computations, you needed a *PostScript interpreter*—a computer inside the printer—a feature that makes PostScript printers relatively expensive.

The practical effect of this for Mac owners (in addition to getting snappier-looking print) was that now they had to reckon with two kinds of fonts—72-dpi *screen fonts* plus resolution-independent *printer fonts* (also sometimes called *outline fonts*). This created (and still creates to this day) a lot of confusion. Only with System 7.5 and QuickDraw GX is the need for bitmapped screen fonts for PostScript fonts finally eliminated (see "QuickDraw GX Fonts" later in this chapter). With earlier systems, the only way for your Mac to make a PostScript font available to your applications is for you to install a corresponding bitmapped screen font.

TrueType

(DD/JF)

In 1991, in an attempt to wrest control of type away from Adobe, Apple introduced a new font format called *TrueType*. Like PostScript fonts, TrueType fonts use outlines that can be interpreted for any size and any resolution, on screen or for a printer. And like PostScript fonts with ATM (Adobe Type Manager, software for making text look good on screen at any size), TrueType doesn't need an interpreter in the printer; for TrueType, the interpretation is done by the Mac's own system software. Unlike PostScript fonts, though, TrueType fonts have never needed screen fonts to operate on a Mac, which has made them easier to install and manage.

OpenType

As this book went to press, Adobe and Microsoft announced what could turn out to be one of the most important business ventures since Apple started shipping TrueType fonts as part of their system software. Adobe and Microsoft have decided to combine their respective font technologies: Type 1 (Adobe) and TrueType (Microsoft with Apple), into one font format called OpenType.

The claim from both companies is that the best features of each format (such as font hinting) will be retained in the new format, while some of the less desirable features (Type 1's reliance on both screen and printer font files) will be removed. New features (such as Adobe's Multiple Master axis technology) may possibly be added as well.

The downside to this new format is that the fonts you now own will eventually (several years down the road) not be supported. The upside is that all applications and platforms will support the format, as it is being pushed by two of the biggest software publishers, who happen to own the entire font format industry.

You'll no doubt be hearing more and more about OpenType (or whatever it ends up being called) in the future as we all watch QuickDraw GX fonts become but a footnote in font history.

TrueType runs automatically on Macs with System 7. If you're using System 6, you can use TrueType fonts (System 6.0.5 or later) if you add a TrueType system extension to your System Folder. (Apple does not sell the extension directly, but it is included with some QuickDraw printers such as the StyleWriter II.)

For typophiles, TrueType offers some sophisticated capabilities that potentially place it a cut above the PostScript format. We say *potentially* because most of these Epicurean features are strictly optional and don't always find their way into the TrueType fonts you buy. But TrueType fonts are theoretically capable of crisper resolution at low resolutions (such as on screen) and are built to take advantage of the Line Layout Manager feature of System 7.5, which can provide more professional-looking typesetting in heretofore typographically inept applications such as word processors and spreadsheets.

Almost every font manufacturer now sells its fonts in both TrueType and PostScript Type 1 formats (Adobe, of course, sticks strictly to PostScript), and this has made things more complicated for font users. (More about the problems in choosing

one font format over the other, or in using both, are described in "Deciding on a Format" below.) Ironically, TrueType hasn't been very successful on the Mac—its real success has come on IBM PC compatibles running Windows, which also uses the format.

QuickDraw GX Fonts   (TA)

QuickDraw GX and QuickDraw GX fonts were supposed to have made the Macintosh font community stand on its ear. Instead, they've all but been ignored by the bulk of Mac users.

The idea behind QuickDraw GX fonts is that they were supposed to remove the artificial limit of 256 characters per font, with a new "limit" of 16,000 characters. This would allow fonts to contain fractions and small caps and other special characters that don't fit into a single font at this time.

Unfortunately, developers and users alike have been slow to move towards this new format, possibly due to the confusion that already exists between using TrueType and PostScript fonts. Apple has not abandoned the platform, but then it isn't really pushing ahead with it very strongly either. If you're just getting into the desktop publishing or graphics markets, you'd do well to stay far, far away from QuickDraw GX fonts until they (if they ever do) become more commonplace; service bureaus and printers are strictly Type 1 (PostScript) as of this writing.

Deciding on a Format   (TA/DD/JF)

There's no argument that TrueType and PostScript fonts provide better-quality printed output than do bitmapped fonts. Which of the two outline formats is better, however, is a source of much controversy. But if you judge the quality of a font format by the type you see on the page, there's little debate: Both formats are capable of producing great-quality type at any output resolution.

If you're not using QuickDraw GX, TrueType has an edge in simplicity. TrueType fonts require you to install only one file, compared to PostScript's two. And if you use PostScript fonts, you'll also need to get Adobe Type Manager to see clear screen type at all sizes and to get good quality type from non-PostScript printers.

On the other hand, for jobs that will be printed on high-resolution imagesetters, PostScript has the advantage. Because it had such a long head start on TrueType, PostScript became the standard for use in professional publishing applications. The result is that imagesetters have built-in PostScript interpreters. On those machines, printing using TrueType fonts can be very slow, because all the image processing has to be done by the Mac, in software—the TrueType image-processing program can't

take full advantage of the PostScript computer. Most service bureaus, then, won't let you near their imagesetters with a TrueType font, although this is changing slowly.

A final problem with TrueType is that you can't use TrueType fonts at all if you're running a System version earlier than 6.0.5, or if you're using 6.0.5 or 6.0.7 but don't have the TrueType extension. Of course, if you're running a computer using such an old version of the system software, many of today's software packages won't even run on them, so using TrueType fonts is the least of your worries.

Multiple Formats on One Macintosh (TA/DD/JF)

Most people end up with a variety of font formats in their systems because they tend to shop for specific typefaces, that is, specific designs, regardless of format. Even if you opt for PostScript as a standard (perhaps because most of your work is eventually output to PostScript imagesetters), you usually end up with a few TrueType fonts, if only because Apple's basic TrueType and bitmapped fonts are installed automatically each time you install or reinstall your system.

This generally causes a problem only when you have PostScript and TrueType versions of the same typeface installed. The Mac has built-in methods for choosing between font versions at print time (described in "Fonts and Printing," later in this chapter), which could result in your ending up with one version of the font when you expected the other. This could produce unexpected line endings or other untoward changes in your printed pages. In some cases, the printer can get so confused it doesn't print anything at all.

The best advice is to pick one font format to work with and stick with it—it just reduces confusion. If you do mix font formats, try not to have different versions of the same typeface installed. (If you buy a font that supplies both TrueType and PostScript versions on the disk, copy just one onto your system.) The greatest

Why Bitmapped Fonts Won't Go Away (RT)

If you use PostScript fonts, you *have* to have the bitmap screen fonts installed in order to view those fonts and use them on your Mac. But if you use TrueType fonts, you shouldn't need a bitmap version, right?

Well, sorta.

One advantage that bitmaps have over outlines (PostScript printer fonts and TrueType fonts) is that they're custom drawn for that point size, making them more legible than fonts generated on the fly from ATM or using TrueType's screen representation generation algorithms. So a bitmapped 12-point font will be more readable on screen than a bitmap display generated from the outline of the font.

Another advantage is that bitmap fonts will more accurately show widths than screen displays generated with outlines, due to the limited number of pixels available for type at small point sizes.

HOT TIP

confusion will arise with the most common typefaces—the ones supplied with the system (including Times, Helvetica, Courier, and Symbol) and the ones built into most PostScript printers (which are often supplied with Adobe Type Manager).

The consensus among graphics and DTP professionals is to use Type 1 PostScript fonts, which are both the standard and the most common of the two formats. Further, the standard manufacturer of these fonts is Adobe, which provides fonts to service bureaus at reduced rates, thus guaranteeing their compatibility.

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Font Files

When you open a font disk, you may be greeted by an alarming array and variety of icons and files. Because each font format is handled differently by your Mac, each kind of font requires a different set of font files, and each vendor may organize its fonts differently on the disks it provides. The following is a guide to what you see on a font disk, and what to do with it all.

Suitcases   (RT)

Fonts are usually grouped into *suitcases*, which contain several different fonts within a font family. For bitmapped and PostScript fonts, a suitcase usually contains several different point sizes for each font in the font family. For TrueType fonts, a suitcase contains one file for each font; different sizes are not necessary.

A suitcase that contains fonts is indeed a strange beast, unique among the Macintosh's typical files and folders. It works like a file, yet contains documents like a folder. Actually, the System file in your System Folder is another example of a suitcase, albeit a different breed of suitcase entirely.

A font suitcase (left) contains various files. In this example, the suitcase is for the PostScript Type 1 font Helvetica, so several bitmapped versions of the font (right) are inside the suitcase.

Font suitcases need to be stored in the Fonts folder in the System Folder to be accessed by your Macintosh under System 7.1 and later. To add a suitcase to the Fonts folder, just drag it into that folder. If you have applications currently running when you do this, those fonts may not show up in the applications until after you've quit them and run them again.

The Organized Type (RT)

Fonts are organized differently depending on their type. TrueType fonts consist of one font file, usually neatly packed into a suitcase. These files have to be in the Fonts folder in the System Folder to be used by your computer. Bitmap fonts also exist in suitcases, but due to their nonscalable nature, you'll need several different files for each font, one file for each point size. Usually all the files with the different point sizes are located in one folder.

PostScript fonts are a little trickier. Like bitmapped fonts, you'll have a suitcase containing several font files for different point sizes (usually two, one for 10-point and one for 12-point). But you'll also have a *printer font,* which is the outline the font refers to in order to achieve a smooth, even appearance when displayed at different point sizes on screen or when printed. Printer font files need to reside in the Fonts folder as well.

You can change the contents of suitcases simply by double-clicking on them and dragging font files in or out. For convenience, you might want to group the fonts by the way you use them, or maybe by client, or by some other method that makes sense for the way you work.

To make a new suitcase in the Finder, you have to take an existing suitcase, duplicate it, empty out its contents, and rename it. Not the most intuitive thing in the world, but it works. Software such as Suitcase and MasterJuggler will create new font suitcases with the click of a button (later in this chapter).

Installing Fonts (RT)

The procedure for installing fonts varies depending on your system software. If you're still using System 6, you might discover that it's worth the hassle of upgrading to System 7.x just to avoid font installation hassles.

Installing Fonts With System 6 (RT/TA)

To load fonts into and out of your system when using System 6, you'll need a utility called Font/DA mover. Font/DA Mover (which comes with most versions of System 6) installs fonts *into* the System file itself. Fonts installed with Font/DA mover are not available until you restart.

TrueType and bitmapped fonts are installed completely this way, but to install PostScript fonts, you have to install the suitcase (screen font) portions of the fonts, and then drag the printer fonts into the System Folder.

Click Remove to remove the selected
font from the suitcase or System file.

Make sure the Font
button is clicked.

This list shows the
fonts installed in your
System file.

Click Copy to install
the selected font in
the suitcase the arrows
are pointing toward.

Select the font you
want to copy or
remove from the list.

You can close the
System file and open
another by clicking
this button.

When you're done,
click Quit.

When you open Font/DA Mover, the fonts already installed in your System Folder are displayed in the box at left.
You open the new font suitcase with the Open button at the right, select the font you want to install, and click Copy.

There is no Fonts folder in System 6, so all printer font files must be installed directly
into the System Folder. This makes for a very messy System Folder, especially if you
have large numbers of fonts.

Because few systems still run System 6, this is probably the last time System 6 font
installation will appear in an edition of *The Macintosh Bible*.

**GOOD
FEATURE**

Installing Fonts With System 7 (RT)

The biggest difference between System 6 and System 7.0 font installation is that
the awful, annoying, buggy, troublesome Font/DA Mover has been put to rest, and
now fonts are installed (still into the System file) by dragging them. Printer font files
for PostScript printers are still installed by dropping them into the System Folder,
loosely, so they clutter up the folder substantially.

Because System 7 is much smarter than System 6, dragging both suitcases and printer
font files *on top of* your System Folder automatically stores them in the proper location.

To remove fonts, open the System file (double-click on it) and drag the fonts out of
the file. To do this you must have no applications running (just quit them all first).

Installing Fonts With System 7.1 or Later (RT)

System 7.1 introduced a quantum leap advance into the world of font management on
the Macintosh. A solution so simple you wonder why in the world they didn't think of
it sooner. Instead of sticking all the fonts and printer font files into the System Folder,
now all fonts go into the Fonts folder, located in the main level of the System Folder.

When you drag font files onto the System Folder, the system determines where the files should go but asks your permission before placing them there.

This little innovation not only made fonts easier to organize and use, but also cleaned up the much-too-messy System Folder in the process.

With System 7.1 and later, dragging font files (both screen and printer font files) to the System Folder automatically places them into the Fonts folder.

Managing Your Fonts (DD)

Installing fonts in the ways just described is easy enough, but depending on how many fonts you have, loading all of them directly into your system can start slowing you down. For one thing, every font you install takes up a small, but perhaps significant, amount of memory. The larger your system grows, the less memory you have to run programs, and because every time you launch a program it has to take inventory of all those fonts, your Mac will be slower starting up, slower opening programs, and slower executing some commands. And another thing: If your system is full of fonts you rarely use, you're probably wasting a lot of time scrolling through mile-long font menus to get to the one or two fonts you generally want.

In either case, it's time to start thinking about managing your fonts.

One way to simplify your font menus and pare down the amount of memory your fonts use is to be more selective about what font files you install. Dragging all the icons on a new font disk over the System Folder will install every file on the disk, but you may not need them all.

If you're using TrueType fonts, you don't need to install the bitmapped fonts at all (see the sidebar "Why Bitmap Fonts Won't Go Away," earlier in this chapter). If you're using PostScript fonts with ATM, you need to install just one screen font for each typeface (any size will do, so pick the smallest). ATM will use the printer fonts (which you *do* need to have available) to create type for the screen and for non-PostScript printers. That's the technical minimum.

Screen Fonts You Don't Need (RT)

Technically, you *can* get away with one point size worth of screen fonts for each font. However, you might be shortchanging yourself in both speed and display quality by not having all the different screen fonts available.

If you don't have the point size of the font you are currently using installed, ATM or QuickDraw has to generate the font on the screen for you on the fly. Due to the zippy performance of these routines, the slowdown isn't noticeable except on the slowest Macintosh computers, or on pages with several different fonts (more than ten). Having multiple screen fonts at different point sizes can speed up your screen redraw considerably if one of the above criteria is true.

However, the more important reason to have more than one point size of screen fonts installed is for display quality. Each bitmap font at each point size is custom designed to be as readable as possible at that point size. If the screen display is generated by ATM or QuickDraw, pixel variances can occur, and at small point sizes letters can become jumbled or illegible.

I usually recommend that you have all the screen fonts smaller than 16-point installed, for maximum readability. After all, they don't take up much disk space.

Using Suitcase or MasterJuggler   (GS)

If you've got just a handful of fonts installed on your Mac, you don't have to read any further.

But if you're a font junky like me, and you need a way to handle all those fonts, you'll want to consider two handy ways to turn your fonts on and off like a light switch.

Alsoft's **MasterJuggler** ($49) and Symantec's **Suitcase** ($99) both let you put the fonts you don't want to use all the time someplace other than the Fonts folder. With either of these programs working you can create a special folder for most of your fonts (on any hard drive that you have available to you when you start your Mac), and use the font manager program to activate the fonts when you need them and disable them when they are no longer needed.

Suitcase 3.0 offers complete font management capability in a Finder-like interface. You can drag fonts from one set to another, have some fonts load when you boot your Mac, and have others load only when you launch a specific program.

Either program will let you group your fonts into *sets* (a collection of fonts). And some Mac programs, such as Adobe PageMaker and QuarkXPress will even recognize fonts that have been switched on or off, and update their font menus accordingly. The resemblance of Suitcase to MasterJuggler more or less ends there, though.

MasterJuggler sports a klunky if serviceable interface that only a mother could love. But the newest version of Suitcase, version 3.0, has truly joined the '90s. Suitcase is now slick and sports all the latest Mac OS features, such as PowerPC native code, Apple events and AppleScript capability, and a Finder-like interface that you can use to drag your fonts from one set to another.

When you use a font management program, don't turn off a font till after you print your document. Otherwise, the font won't be available when the printer needs it, and you'll end up with the wrong font (probably Courier) when your document is printed. Also, if you're using a program that doesn't update a font menu automatically, such as Microsoft Word, be sure to quit the program before you make any alterations to the font lineup.

Font Moving and Application Problems (RT)

Moving fonts in and out of the Fonts folder/System file doesn't seem all that special, but to the Macintosh this is a major change in the way it works, and how it works with applications. Fonts added to the system don't necessarily appear in applications until after they've quit, and the Mac won't let you remove fonts while other applications are running.

I've found a clever way to get around this problem in System 7.1 and later, but it can wreak havoc with your system (à la crash) if you abuse it. Simply drag the Fonts folder from the System Folder. Create a new Fonts folder (you have to create it in a different location than where the current Fonts folder is, because no two folders can have the same name). Then copy the fonts from the Fonts folder into the new Fonts folder, and add or subtract fonts from the new Fonts folder until you've reorganized them just right. Then put the new Fonts folder into the System Folder. Many programs will automatically update their font lists. Some won't, and using a font that doesn't exist anymore is a sure way to send your system into oblivion until you restart. Be careful not to remove system fonts (Geneva, Chicago, Monaco) from the Fonts folder when using this method.

Font Display on Your Screen (RT)

It wasn't that long ago that when you increased the point size of type on your screen, that the type did indeed get larger, but it appeared blockier and blockier. At large point sizes (anything bigger than 48-point), type was pretty much unusable. In the fall of 1989, a little *init* (a file that loads at startup and becomes part of the system software) came along called Adobe Type Manager. ATM, as it is commonly known, changed the appearance of type on screen forever. ATM lives now as a control

panel, looking to PostScript printer fonts to create perfectly smooth outlines of all your Type 1 type. If you have TrueType fonts, they're automatically rendered at the point size you choose. Bitmapped typefaces, however, only look as good as the largest point size installed.

Adobe Acrobat and SuperATM   (RT/TA)

Occasionally, when you receive a document from someone, it may use fonts that you don't have installed on your system. This causes much pain and suffering, because then the font is usually replaced with Helvetica, which probably has a different width than the missing font. So not only does the document look bad because it has the wrong font, but the text also fails to wrap correctly, which in long documents can cause either loads of white space at the end of a story or missing text.

SuperATM was created to help prevent these types of problems. SuperATM relies on a few special fonts that are designed to replace your missing fonts, keeping the overall look and the character widths the same.

Adobe Acrobat uses this technology to ensure that documents saved as *PDF* (Portable Document Format) have fonts that closely match the correct fonts, both in appearance and widths. Acrobat is fast becoming the standard format for exchanging documents on the Internet, because it is cross-platform, and any existing document from any software can be translated into a PDF document.

Future versions of Acrobat are rumored to contain full font support, so PDF documents will actually contain font information as part of the file. This means that any platform will be able to see a document with the exact same fonts that were used to create it. (See Chapter 25 for more on Adobe Acrobat.)

Fonts Aren't Part of Most Files   (RT)

While most documents *use* fonts, those fonts aren't actually part of the document file. This is what can cause the most trouble when transporting documents between different computers. When your friend saves a QuarkXPress file that uses New Century Schoolbook and Caxton, those fonts aren't part of the QuarkXPress file. If you open up that QuarkXPress file on your computer, and you *don't* have New Century Schoolbook and Caxton, you'll get a message telling you that "This document uses fonts that are not available on this system." You'll either have to install those fonts or convert the text that is in those fonts into other fonts that are installed on your system, never an enjoyable task.

Fonts and Printing (JF)

Whether you print using PostScript or TrueType, fonts play the same role: They supply character outlines used to create printable text. Generally, documents don't really *contain* any fonts—they simply call for particular fonts to be used and describe how the text should be sized and positioned. (The exception: There are some pure PostScript files, which you can use to deliver your documents to off-site printing services that don't have your fonts in-house. For details on that, <u>see "Using Service Bureaus"</u> in Chapter 21.)

You can create a document perfectly well using only bitmapped screen fonts—your application needs to know only how much space the letters take up (information stored in the screen fonts), not what the characters in the typeface actually look like. But at printing time, the printer fonts for every typeface called for in a document have to be available.

PostScript Printing versus QuickDraw Printing

Whether you use PostScript or TrueType fonts, the font information in your document must be *interpreted*, that is, rendered into a printable image. If you print using QuickDraw, this image processing is done inside your Mac, while PostScript printers use their own built-in image-processing computer. If you're printing with PostScript fonts on a QuickDraw printer, ATM does the interpreting inside your Mac. (ATM is described on page 405; the difference between PostScript and QuickDraw printers is described in Chapter 21.)

In either case, the interpreter has to have access to the fonts you used to create the original page. This is simple for QuickDraw printing, because everything is done in your Mac. The entire image of each page is assembled there and passed to the printer, which needs very little in the way of brain power to reproduce the page image being spoon-fed to it by your Mac.

But when printing with PostScript, you may need to get fonts from your Mac into the printer—a process called *downloading*—where the printer's on-board computer can get to them. (Downloading is described in more detail in the next section.)

Not all fonts need to be downloaded to the printer, because PostScript printers always come with some *resident fonts*—fonts built into the printer's ROM. This is usually a set referred to as the *LaserWriter 35* (<u>see the sidebar "The LaserWriter 35: Fonts *Almost* Everybody Has,"</u> later in this chapter.). Every PostScript printer has at least the Times, Helvetica, Courier, and Symbol fonts built-in to provide a common set of

fonts that all PostScript users can share, regardless of which program or printer they use. You can also attach a hard disk to some PostScript printers for permanently storing large numbers of fonts, in effect adding to the number of resident fonts.

Font Downloading (JK/JF)

When you click OK in the Print dialog box, the Mac calls down to the PostScript printer, "Yo, file coming! You got Palatino down there?" The printer, consulting its list of built-in fonts, might answer, "Always! Send that file!" Whereupon the Mac might say, "You got Frutiger, too?" and get the answer, "Never heard of it; send it down." In which case the Mac downloads Frutiger to the printer, where it's stored in memory. It takes about 15 seconds to download a font over a standard AppleTalk network.

This Mac/printer dialogue and downloading continues until all the necessary fonts are in the printer (in which case your pages print), or until the printer runs out of memory (in which case the printer freaks out, sends an error message to the Mac, and quits in a huff).

This way of getting the fonts you need into the printer is called *automatic downloading*, and fonts sent to the printer this way stay in the printer's memory only until the document has been printed, after which the fonts are dropped to make room for those in the next print job.

Automatic downloading is the easiest way to handle fonts because you don't do anything special—just choose Print. It's also the logical strategy for a workgroup that uses many different fonts—one person's downloaded fonts are automatically cleared out to make room for those needed by a comrade's job.

If you use the same fonts over and over again though, it's a waste of time to have them downloaded and deleted every time you print. It's smarter to download the fonts so they stay resident in memory, a process called *manual* or *permanent downloading*.

Manually downloading PostScript Fonts (JF). Manual downloading copies fonts into the printer's memory so they stay there "permanently" (until the printer is turned off). You manually download fonts with a special program, such as Apple's LaserWriter Font Utility (included with the system) or Adobe's Downloader (free with Adobe fonts). If your printer has a hard disk attached, these programs can also copy your fonts permanently onto it, where they'll stay until you erase them.

The benefit of manual downloading is that your pages print faster because you download the fonts just once (in the morning, say, when you start your printer), not every time you print. Manual downloading also helps your printer pack fonts more efficiently into memory.

The LaserWriter 35: Fonts Almost *Everybody Has* (DD)

Most PostScript printers come with a set of PostScript typefaces, often referred to as the "LaserWriter 35" (they first appeared together in Apple's LaserWriter Plus), built into their ROMs (the printer manufacturers usually also provide the bitmapped versions of these fonts on disk for loading into your operating system). They're also available as part of Adobe's **Type Basics** pack ($200). Except for Symbol, Zapf Chancery, and Zapf Dingbats, all these fonts come in full, four-member families, including plain, bold, italic, and bold-italic versions (that's why they add up to 35 instead of the 11 shown here).

Courier
Helvetica
Palatino
Σψμβολ   (Symbol)
Times
ITC Avant Garde Gothic
ITC Bookman
Helvetica Narrow
New Century Schoolbook
ITC Zapf Chancery
☆✳✂ ❀❁❑❀   (Zapf Dingbats)

The 11 base fonts stored in a laser printer.

How your printer looks for fonts (TA/JF). The Mac and PostScript printers have a fixed routine when it comes to finding the fonts they need to print a page. Here's how the search proceeds:

First, the printer checks the printer's ROM, where fonts that are built into the printer are permanently stored. Next, the printer's RAM is checked, in case the font has recently been downloaded, and is still available. If the printer has a hard drive attached directly to it, that is checked next for fonts. If the fonts are found in any of these places, the font is loaded very quickly, because no files need to be sent across the network. Finally, the printer looks in the System Folder of the Macintosh that originally sent the file to be printed.

If your system doesn't find the required PostScript font in any of those places, the Mac will look for an equivalent TrueType font in the System Folder.

But what happens when your printer or Mac can't find a font it needs for printing? One of two things:

- It will use the screen font to print lumpy-looking screen-resolution type.

- It will substitute another font, Courier, which is so ugly you can't miss the substitution.

If you're using Adobe's SuperATM, the program will create a substitute for the missing font using a generic Multiple Master serif or sans serif typeface. The substitute

<div style="background:#e8e8e8;padding:1em;">

Never Rename Printer Fonts (RT)

If you start digging through your Fonts folder, you might come across PostScript printer fonts with odd names, such as FuturBooObl and ZapfChaMedIta. These are the printer fonts for Futura Book Oblique and Zapf Chancery Medium Italic. They're named that way for a reason, and if you decide, on a whim, to change the names of these printer fonts, they won't hook up with the screen fonts, and they won't end up printing.

Any alteration to the printer font name will "hide" it from the screen font, and both your on-screen display and printouts will suffer.

</div>

won't look exactly the same as the missing font, but at least it will have the correct character widths (also know as *font metrics*) so that your layout will be preserved with all original line endings intact.

Font Manufacturers and Buying Fonts (RT/KT/EF)

You can buy fonts from a dizzying variety of sources. Any given font is usually available directly from the manufacturer or from any number of retailers who have licensed it from its original maker. Software discounters such as CompUSA, MacConnection, MacWarehouse, Egghead, and MacMall all sell fonts, and so do some office supply stores. You can find the names of vendors in books like this one, in design and computer magazines, from on-line services such as America Online, or by word of mouth from your friends.

What sometimes makes things confusing is that a company you tend to identify as a font maker—Adobe, for instance—also licenses fonts from other sources. The thing to remember is that just because you buy a font from Adobe (or Linotype-Hell or Monotype), that doesn't make it an Adobe (or Linotype-Hell or Monotype) font. All of these companies, and many more, license each others' fonts, though not all sell them at the same prices. We're also seeing a new phenomenon: font vendors, such as Precision Type, that make no fonts of their own but sell (usually at a low price) only fonts licensed from others.

How do you find out what typefaces each vendor offers? For starters, you can contact font vendors and ask for their catalogs. If you want to see font samples from many companies, combined with articles on various facets of typography, there are several

publications you can read. *x-height* is a quarterly newsletter/catalog ($18 per year) from FontHaus. *U&lc*, ITC's quarterly journal ($14 per year), just celebrated its 20th anniversary. ITC also publishes ***The ITC Directory of New Typefaces***, which includes specimen pages of new faces from leading foundries and designers ($190 including quarterly updates). The *Directory*'s three-ring-binder format allows you to insert updates, and an index helps you locate faces by category, name, or designer. (See Appendix D for information on how to contact these companies.) ***Font & Function*** from Adobe showcases their newest fonts, contains type-related stories, and includes a complete catalog of their available typefaces.

In addition to selling fonts singly, most of the major manufacturers offer package deals that significantly reduce the cost per font. Adobe sells its **Type Basics** pack (the 35 basic PostScript printer fonts described on page 409, plus 30 more faces "specially chosen to complement the 35 printer fonts") for $200. Adobe's **Value Pack**, including 30 text, script, decorative, and display faces, sells for just $60, which works out to a couple of dollars per font. And those are the list prices: You can get these packages and similar ones from other vendors through mail-order companies for about 40 percent less.

Adobe, Monotype, Agfa, and the other vendors with large libraries also offer their entire libraries on CD-ROM. The CD itself is available for a nominal cost (Adobe's Type on Call is included free with most of their major software packages), and most of the fonts are encrypted (unreadable unless you have a code) until you call the manufacturer with your credit card number. In return, the vendor tells you the secret codes that unlock the fonts you want. Most of the font vendors offer bargains to customers who buy fonts this way, charging $25 or so for fonts that may normally retail for $100 or more. Most also offer unlocked CDs, giving you access to an entire library on your desktop. Other font libraries, such as FontHaus and URW, offer their entire libraries for as little as 20 cents per font.

Ares and ElseWare, with their synthetic font technologies, have a new twist on font sales. Their programs each create more than 200 fonts from compact font descriptors, so you buy a whole library of fonts when you buy the software. (At this writing, Ares was acquired by Adobe Systems; the Ares product line will reportedly be folded into the Adobe product line.)

On pages 423–431, we've pulled together a small sampling of fonts in four different categories: text fonts, display fonts, pictorial fonts, and special-purpose fonts. They should at least give you a taste of what's out there. Happy hunting.

Type Manufacturers   (TA)

There are several typeface manufacturers that both sell and design their own type-faces, from Agfa to Monotype to Letraset. One company, however, stands out from the rest of the pack, especially in regard to Macintosh fonts and related technologies.

Adobe Systems Incorporated carries one of the most complete lines of typefaces which can be purchased one family at a time by mail order, right from their Type On Call CD-ROM, or as one giant collection (Font Folio) for a few thousand dollars. Adobe fonts have become the standard for service bureaus, ad agencies, and prepress shops all over the world.

Shareware Fonts   (RT)

Some of the best bargains to be found when font hunting are from shareware-based fonts. Recently, font designers who elect to distribute their fonts as shareware have been charging $10 to $20 per font, a steep price when you consider the lack of extras in many of those fonts. Sometimes, however, you'll run across a gem of a typeface for only $5, such as the following:

Lefty Casual, a handwriting font that in-cludes three different weights (in addition to the standard "casual" weight, there is also LeftyBold and LeftyMarker), is great for a readable "I wrote it by hand" look.

RansomNote is a typeface that consists of mismatched letters and ransom-style words, which resemble words cut from a magazine. Great for hostage negotiations, to show that you're really serious.

The way shareware fonts work is that you get to install the font and use it for nothing. But if you decide you like the font enough to keep it, you're obligated to pay the share-ware fee. This encourages font designers to both update their current fonts and create new ones.

"You know, This is really a very relaxing, casual TypeFace."

"And iT even has a bold variation...whaT do you know?"

"I like This weighT, which looks like a Sharpie™ marker!"

Lefty Casual is a $5 shareware font that sports three weights and professionally kerned pairs. The design is both readable and friendly enough to use in casual correspondence.

If you Ever WANT to see your PreCious PEt ROCK alive again, Send LOTS of $$$ (MILLIONS) to mE! Now!

RansomNote consists of letters and words that appear to have been torn from a magazine.

You can find shareware fonts on on-line services such as America Online, or from huge shareware CD-ROM collections. The quality of the fonts ranges greatly from the professionally designed and kerned typefaces to really ugly, terrible, rotten fonts…you decide how good the fonts are by sending in (or not sending) your shareware fee to the manufacturer.

Specialty Faces (EF)

Specialty faces can be practical (pictorial fonts depicting credit cards, international symbols, or computer **Key Caps**, whimsical (alphabets made up of cats, flowers, or laundry), or ornamental (borders, Dingbats, or other decorative elements). Other specialty faces include foreign-language fonts and fonts for disciplines such as music, math, or chemistry.

theTypeBook (EF)

Even if you use one of the utilities described earlier to display a font's characters on the screen, you still can't tell what a typeface *really* looks like until you print a sample. That's where Rascal Software's **theTypeBook** ($50) comes in. This utility automates the process of printing type-specimen pages, allowing you to create a printed catalog of your PostScript and TrueType typefaces.

The program includes six page layouts, and lets you customize features such as point size and leading for the sample text blocks in the Sample Page layout, and the text of the catalog's headers and footers.

Font Styles

From the beginning, the Mac included not only different fonts but different ways you could style them. Like its font formats, though, the Mac's styles have come a long way since then, resulting in (as usual) both more possibilities and more confusion for users.

Bold and Italic: The Basic Styles (RT)

The most basic of all font stylings are the *bold* and *italic styles*. **Bold is a slight darkening and widening of the plain style.** *Italic is a slanted, curved version of the plain style.* The two can be combined to create ***Bold-Italic, which is a dark, wide, slanted and curved version of the original typeface.***

To apply bold or italic styles to a typeface, most applications have a style menu with Bold and Italic options. Depending on the font, you might be able to choose the bold or italic version of the font you are currently using, right from the font list. Often, these styles show up as "B Times Bold" or "I Times Italic" or "BI Times Bold Italic."

If the font doesn't have a bold or italic version, the Mac does some magic and automatically creates both a bold version (by printing the characters twice right next to each other) and an oblique version (by slanting each character slightly, commonly referred to as italic). Unfortunately, this results in rather ugly looking mutations of the original font. My advice is to avoid bold and italic stylings unless the font already contains those variations.

HOT TIP

Oddly enough, there are different names for bold and italic than just "Bold" and "Italic". Bold can be referred to as "Demi," and italic is often called "Oblique." Some fonts contain several weights, which range from very thin typefaces to very large, dark ones. For instance, weights of Helvetica include: Light, Thin, Medium, Bold, Heavy, and Black. Other fonts have weights such as Ultra Light and Extra Black.

The Custom Styles   (RT)

Of course, bold and italic aren't the only variations of fonts available. Many applications let you create *custom styles*. The styles include:

<u>Underline</u>	This style places an underline under all the characters you type.
<u>Word</u> <u>Underline</u>	This style places underlines under all characters except spaces.
~~Strikethru~~	This style puts a line right "thru" all your characters. The practicality of this style eludes me to this day (unless, I guess, you're a lawyer).
Outline	This style surrounds the font with an outline, leaving the middle empty.
Shadow	This style places a 50 percent tinted shadow just below and to the right of the original text.
Condensed	This style compresses the type into about 75 percent of its original width.
SMALL CAPS	This style changes all lowercase letters to small versions of the uppercase letters.

ALL CAPS	This style changes all lowercase letters to uppercase letters.
Sentence caps	This style changes the first letter in a sentence to an uppercase character, while the rest of the characters in the sentence remain lowercase.
Superscript	This style reduces (usually) the size of the characters and moves them up from the baseline of the type.
Subscript	This is the inverse of Superscript: The characters are reduced (usually) and moved down from the baseline of the type.
Superior	This style dramatically reduces the size of characters and moves them up from the baseline slightly.

Most applications only allow you to apply a few of these styles, though text-intensive applications (word processors, page layout programs) let you apply more than others.

Applying Styles   (RT/TA)

To apply a style to characters, select the characters, and select the appropriate style from the Style menu. The standard keyboard command for bold is Cmd Shift B, and the standard keyboard command for making text italic is Cmd Shift I. Some programs allow you to avoid the Shift key, enabling you to press Cmd B for bold and Cmd I for italic.

A word of caution when using bold and italic styles: Because of the way fonts are designed, bolding a lighter font may not result in the next darker version of that font. For instance, applying a Bold style to Helvetica will result in Helvetica Bold, but applying Bold to Helvetica Light will result in (gasp!) Helvetica Black, a much darker font than Helvetica Bold.

Once again, when it comes to bold and italic, if your font doesn't have these styles built-in as separate fonts, don't apply the generic styles. I'd like to say the same thing about the "condensed" style, but oftentimes there are no condensed versions of type-faces available.

Another thing to be careful of is applying Bold to bold fonts and Italic to italic fonts. This can result in super-dark overprinting fonts, or extra-slanted italics, both of which look terrible.

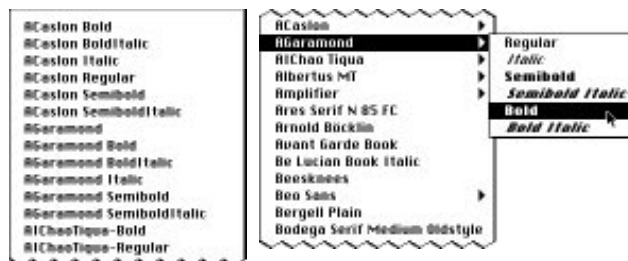## Styles versus Specific Fonts   (RT)

If the font you're using has a separate listing for the Bold or Italic setting, should you select the bold or italic font, or apply the Bold or Italic option to the "base" font? The best thing to do is to apply the Bold and Italic options to the base font, because it makes editing the style in the future much easier. This method allows you to select all the type and change the font, while keeping both your bold and italic styles intact. This also works great if you're using an application's style sheets.

Managing the Font Menu   (EF)

If you have more than a couple dozen fonts installed—and these days, who doesn't?—you may find yourself taking a leisurely scroll down the Font menu to select the font you need. (As far as the Mac is concerned, each weight or style in a font family is a separate font, and warrants its own listing in an application's Font menu.) You may give up on using Zapf Chancery because of the long trek involved to get there.

The following utilities can help you organize your Font menu to make selecting fonts easier and quicker.

Font menus without (left) and with (right) Type Reunion installed.

Adobe Type Reunion. Adobe's **Type Reunion** ($65) extension shortens your Font menu by organizing fonts into families, placing all the styles for each family into a submenu. The figure above shows the same Font menu before and after Type Reunion is installed.

MenuFonts. Dubl-Click Software's **MenuFonts** ($70) is a control panel that groups fonts by family in the Font menu and displays fonts in their own type styles, in sizes from 9- to 24-point. (MenuFonts is smart enough to display pictorial fonts in

A MenuFonts font menu.

Chicago, so you can still read their names in the menu.) MenuFonts includes a number of other nifty features as well. It puts a bar along the edge of the menu that lets you access samples of a font in different sizes. It lets you know whether a font is PostScript, TrueType, or bitmapped by placing *Ps*, *Tt*, or *B* next to the name. And, to save you time when you have a long Font menu, MenuFonts lets you jump to any letter in the alphabetized Font menu simply by pressing a key on the keyboard (press Z and you're whisked to Zapf Chancery et al, for example).

Font Style Shorthand   (SZA/EF/AN)

The weight or style of a typeface supplied by a particular font is often indicated by initials preceding the font name. Here are some of the initials you're likely to see, and what they stand for:

B	bold	*L*	light	*D*	demibold	*S*	semi
Bk	book	*N*	narrow	*E*	extended	*Sl*	slanted
Blk	black	*O*	oblique	*H*	heavy	*U*	ultra
C	condensed	*P*	poster	*I*	italic	*X*	extra

Sometimes you'll see them in combination—*XBO*, for example, stands for *extra bold oblique*.

TypeTamer. Like the font-menu organizers just described, Impossible Software's **TypeTamer** ($70) consolidates font families into submenus, making your Font menu easier to navigate. TypeTamer performs a few other handy tricks as well. It places an

icon beside each font name, indicating whether the font is PostScript, TrueType, or bitmapped. It lets you zip to a font in the menu by typing the first few letters of its name. Best of all, the program's TopFonts feature places the names of the fonts you're using at the top of the Font menu, allowing you to reselect them without scrolling down the menu. TypeTamer also lets you create your

TypeTamer's effect on the Font menu.

own font categories for the Font menu, based on the way you work. For example, you might want to place all your script fonts in a category, or maybe divide fonts up by vendor or publishing project.

Fontina. Eastgate Systems' **Fontina** ($70) control panel presents a novel way of displaying your Font menu: It squeezes all your font names into columns, showing the whole menu at once. (Weights and styles are in alphabetical order under each font family's name.) When you select a font, a sample is displayed in large type at the top of the screen. A feature called Personal Font Knapsack lets you place the names of frequently used fonts in the upper-left corner for easy access. If you have lots of fonts, Fontina's small type can be hard to read—but it does save you the trouble of scrolling down a lengthy Font menu.

Fontina's novel approach to font-menu organization can save you a lot of scrolling when searching for a font.

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Special Characters

With the fabulous variety of fonts and styles on the Mac, you can get text to look just about any way you want it to. But what if your imagination—or your business—extends further than the Latin alphabet? Not to worry; the wide, wide world of fonts has something for everyone, and the special characters you need are often lurking right in the fonts you already own.

If you don't want to bother with utilities, the following table lists the keystroke combos that produce some of the most common accents, symbols, and other special characters.

Quick Reference for Special Characters	(EF)
Press	**For**
Option E , then letter	é, á, etc.
Option I , then letter	ê, î, etc.
Option ˜ , then letter	è, à, etc.
Option N , then letter	ñ, ã, etc.
Option U , then letter	ü, ï, etc.
Option C	ç
Option O	ø
Option [	"
Shift Option [	"
Option]	'
Shift Option]	'
Option ;	…
Shift Option –	—
Shift Option K	(not all fonts include this symbol)
Option 2	™
Option R	®
Option G	©
Option 4	¢
Option 8	•

Mnemonics for Special Characters (TA/SZA/AN/JK)

Understanding why certain special characters are placed on certain keys can help you remember where they are. (If the logic isn't obvious, look for a connection that means something to you.) The bullet (•) and the degree symbol (°) resemble the asterisk; all three are on the ⑧ key. The dagger (†), which you get with ⟨Option⟩⟨T⟩, looks like a *T*. The diamond (◊) and the square-root symbol (√), both of which incorporate the V shape, are on the ⟨V⟩ key.

The copyright symbol can't be on the ⟨C⟩ key, since ç and Ç are already there, but its shape is similar to a G and that's the key you'll find it on. The ellipsis (…), which has three dots, is on the semi-colon/colon key, which you'll notice also has three dots. Other easy connections are π and ∏ on ⟨P⟩, ® on ⟨R⟩, µ (mu) on ⟨M⟩, ¢ on the dollar sign, and ¥ (the yen sign) on ⟨Y⟩.

Of course, some keys seem to make no sense at all, such as £ on the 3 key, and ‡ on the 7 key. For these, you can construe your own meanings. For instance, £ is the English Pound symbol, and # (pound) is on the 3 as well. And ‡ has seven segments to it, and it is on the 7 key. I know, it's stretching, but whatever helps you to remember these symbols and their corresponding keys. *[I suppose that's the same as when I think "Velcro" for Paste, which is on the ⟨V⟩ key.—TA]*

How Do You Type That Character Again? (EF)

How many times have you been typing along at lightning speed, only to come to a screeching halt because you can't remember how to type a particular accent, symbol, or other special character? You're not alone; many special characters require you to type finger-tangling key combinations. Fortunately, several utilities can help you find the characters you need.

Key Caps (EF). The easiest way to find special characters is to use Key Caps, an Apple desk accessory that comes with your Mac's system software. When you choose Key Caps from the menu, it displays a representation of a keyboard and puts a new menu title, Key Caps, on the menu bar. Select a font from the Key Caps menu, and that font appears in the Key Caps keyboard display.
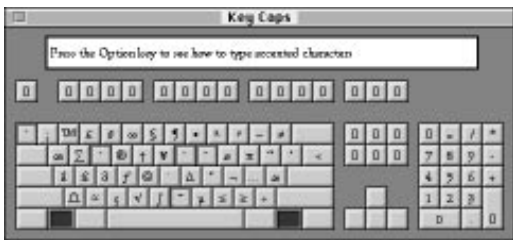
When you hold down the ⟨Shift⟩ key, Key Caps darkens the ⟨Shift⟩ keys on its display and shows you the characters you get in the selected font when you hold down ⟨Shift⟩ and press another key.

The Key Caps menu item.

Pressing [Shift] *while in Key Caps displays the Shift versions of the keyboard keys.*

Pressing [Option] *while in Key Caps displays the Option versions of the keyboard keys.*

But you already know what the [Shift] characters are (except in fonts composed entirely of pictures or symbols). Where Key Caps really comes in handy is in showing you the characters generated by the [Option] and [Shift][Option] keys. When you hold down [Option], Key Caps displays the characters you get in the selected font when you hold down [Option] and press another key.

System 7's version of Key Caps outlines the keys that produce accents that you can apply to other letters. When you press one of these keys, the display outlines the letters to which you can apply the selected accent.

The accent produced by pressing [Option][E] is shown below.

The é accent, accessed by pressing [Option][E] *and* [E] *again.*

You can enter sample text in the box at the top of the displayed keyboard by typing on the (real) keyboard or by clicking on keys in the Key Caps keyboard. You can cut or copy this text into a document, saving you the trouble of remembering a keystroke combination for a special character. (The pasted text won't appear in the font you chose in Key Caps, but you can change the font once you're back in your document.) If you need a string of special characters, you can type them in Key Caps, copy them to your document, and then change the font.

BigCaps (EF). Apple's Key Caps desk accessory is free, and it's right there when you install your system software, but it has its limitations. For example, you may have trouble seeing the characters for some fonts, since Key Caps displays them in only a single size. BigCaps, a utility that comes with Dubl-Click Software's MenuFonts (described in the "Managing the Font Menu" section), takes care of this problem. As its name implies, BigCaps can display fonts at a

The BigCaps display is larger and friendlier than the Key Caps display.

larger size than Key Caps. It has a few additional pluses as well: Its window is resizable, and it can display fonts even if you're not using them and they're not in the menu.

TypeTamer (EF). Impossible Software's **TypeTamer** ($70) control panel, described in the "Managing the Font Menu" section, provides a way to quickly view and insert special characters. TypeTamer can display a window that contains all the special characters in a font. You simply click on a character to insert it into your document. Unlike Key Caps, TypeTamer inserts the character in the correct font, saving you the trouble of changing it in your document.

TypeTamer not only displays the character, but also automatically inserts it into your document in the correct font.

PopChar (EF). If you're on a budget, try **PopChar**, a freeware control panel from Günther Blaschek. PopChar inserts a tiny hot spot on the menu bar. When you want to find a special character, you point to that spot and a window showing every character in the selected font appears. Drag the pointer to the character you want, let go of the mouse button, and the character is inserted into your document.

PopChar enables you to quickly display characters in each font.

theFONDler (EF). One neat little utility, **theFONDler** ($70, Rascal Software), scans the inner workings of your fonts and reports any problems it finds. (The program's name comes from the *FOND* resource, which stands for font family descriptor.) You need to know a bit about fonts to use this utility effectively, because many of its messages are fairly technical (e.g., "Bad Width table offset"). However, theFONDler's manual makes an effort to explain what the diagnostic messages mean, and its ability to spot problems such as damaged or missing font files, duplicate font names or numbers, or poorly constructed fonts, can help even nonexperts cull defective fonts from their collections.

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Special Character Font Sets   (TA)

Because there are only so many special characters in most fonts, some fonts have been created that consist of *only* special characters and symbols. The following sections discuss the different categories of these font sets.

Dingbats   (DD)

Fonts aren't limited to letters and numbers. There has recently been an explosion of *pictorial fonts*, which assign images to the different keys of your keyboard. They're available from almost any font vendor, and several font designers, such as Judith Sutcliffe at Electric Typographer, specialize in such fun and decorative images.

Expert Sets   (EF)

Expert sets, or *expert collections*, are companion fonts for certain typefaces that provide special characters such as small caps, fractions, old-style numbers (the kind that dip below the baseline), and ornate alternate letters. Unfortunately, they exist for only a handful of fonts. The larger character sets allowed by TrueType GX will do away with the need for expert sets; all variant characters can be included in the main font. But it's not clear how you'll be able to get at them all unless Apple adds some additional access keys beyond the Option and Shift keys.

Foreign-Language and Special-Purpose Fonts   (DD)

Some fonts are made just to supply those characters that the standard Latin alphabet fonts don't include. These include foreign-language fonts, such as Kanji, Arabic, Cyrillic, and other non-Latin alphabets, and *pi fonts* that include such utility characters as mathematical symbols, map-making symbols, musical notations, credit card logos, and other useful and decorative shapes.

What's That Funny Box?   (RT)

Occasionally you'll be typing along just fine, and a silly little box will appear. This box is called a *missing character box,* which shows up any time you've typed a special character that isn't part of the font's real characters. For instance, system fonts like Geneva and Chicago don't have very many special characters. Several of the more common Option-based characters in those fonts display the missing character box. Oddly enough, the box doesn't appear when you print.

What's that funny "box?"
What□s that funny □box?□

Strange little empty boxes appear in certain fonts where there is no corresponding character.

Font Sampler: Text Fonts (AJ)

A good text font should be basically invisible. If you read a book all the way through and don't notice the typeface, the typographer has done a good job. If, however, you keep noticing a weird *g* or odd swash capitals, your mind wanders and the author loses his or her grip on your attention.

That's not to say that text types are boring. In fact, there are some beautiful typefaces around that can clearly and unobtrusively display the characters of your text. For short copy such as advertisements, you can afford to get a little more allusive and experimental with the text type.

Text fonts can be divided into several categories, based on the historical period in which their basic design emerged. A flexible font library should include one or more from each category to accommodate all kinds of work.

Old Style

Sabon (Linotype-Hell/Monotype, various prices), designed by Jan Tschichold in 1966, is a quiet and refined version of the classic Garamond model.

Adobe Garamond ($150, expert set $100) is an excellent example of Old Style type that's a little lighter and appears slightly smaller than Sabon.

Old Style types begin with the romans of Francesco Griffo, cut for Aldus Manutius in Venice in the late 1490s. Griffo refined earlier models by increasing the contrast between vertical and horizontal strokes, reducing the height of the capitals, straightening the crossbar in the eye of the *e*, and substituting round dots (such as that over an *i*) for diamond-shaped ones. The Old Style model was perfected in France by the mid-16th century by two men: Claude Garamond and Robert Granjon.

Dutch Old Style

Kis (Bitstream, $50 per weight) is a condensed and tight-fitting version of Kis Janson.

Monotype's Ehrhardt ($95), redrawn in 1937, is a condensed type, more interesting than its Janson.

Dutch Old Style began when Christopher Plantin hired Granjon to design a type that would be more economical to print. To make the type sturdier, the face was made bolder. To fit more on a page, Granjon shortened the descenders and condensed the type somewhat. Then, because the tiny counters of the more-condensed *e* and *a* tended to fill with ink, he enlarged them. Dutch Old Style types make good workmanlike text faces. (This book is set in Adobe's Janson Text, a classic of Dutch Old Style.)

Font Sampler: Text Fonts (continued)

Transitional

Monotype's Bell ($145, expert set $50) is an elegant choice as a basic text type that also looks great in large, display sizes.

ATF Bulmer (Bitstream, $50 per weight) has contrast that points the way to modern types.

Transitional types were inspired by the Rococo copper-engraved lettering popular in the 18th century. The French were first to lighten type and restore some of its calligraphic modeling. These types have high contrast and a primarily vertical stress (the narrow parts of letter strokes in characters such as *o* and *e* are at the top and bottom of the letter, not off-center, as is the case with Old Style typefaces).

Modern

Walbaum is a German type that is lighter, wider, more curvaceous, and more read-able than most moderns. The Berthold version (licensed by various vendors) is less severe than others.

Designed to reflect improvements in type cutting and printing technology, including smoother paper, modern types are generally hard on the eyes, having a strong vertical emphasis with marked contrast between thick and thin portions of the letters, and thin hairline serifs. Bodoni is the best-known example of this style.

Sans-Serif

Paul Renner's Futura (Elsner + Flake via FontHaus, $40 per weight) is a clean, modern type that works well in all its weights and styles.

Gill Sans (Monotype, $145 for the text weights) is a humanist type with a bit more personality than Futura.

Hans Ed Meier's Syntax (Lino-type-Hell, $30 per weight) is another family group with great flexibility and readability.

Although any book on typography will tell you that sans-serif typefaces are difficult to read for long stretches, they are increasingly popular for setting text. The best of them (such as the faces shown here) have a lot of variations for setting work that requires different levels of headings as well as different kinds of emphasis.

Ahistoric Faces

Electra (Linotype-Hell, $30 per weight) is an elegant type from W.A. Dwiggins with an understated calligraphic quality.

Eric Gill's Joanna (Linotype-Hell, $30 per weight) is his greatest typeface. Its slab serifs make it appear flashy and angular in large sizes. (Also available in Adobe's Value Pack for $60.)

Bitstream Charter ($50 per style), designed by Matthew Carter, is a quiet type, constructed to be legible in extreme variations of weight.

Swift (Elsner + Flake via FontHaus, $170 for the family or $30 per weight) designed by Gerard Unger in 1985 for newspaper work, has a chiseled look, condensed capitals, and a large x-height.

Many 20th-century designers have devised faces that have no particular historic model in mind. Eric Gill, Jan Van Krimpen, and W.A. Dwiggins produced many wonderful types around mid-century that are still popular. Contemporary designers such as Gerard Unger, Matthew Carter, and Sumner Stone are also producing enduring models.

Fancy Text

Cochin (created by Monotype in 1917, digitized by Matthew Carter in 1977 for Linotype-Hell, $90 from Adobe) manages to look simultaneously like an engraved type from the Rococo period and an Art Deco face from the early 20th century.

Michael Harvey's 1990 Ellington (Monotype, $195) has the consummate confidence and control one would expect from a stonecutter. Its bold weights are also very distinctive.

Koch Antiqua (Alphabets, $25 per weight from FontHaus) or Eva-Antiqua (shown here), based on Koch's Eve (from Spiece Graphics via FontHaus, $40 per weight) are recent re-creations of types cut in Germany in the 1920s that show the heritage of pen-drawn lettering.

Some text faces are a little too fancy for book work but have great appeal for dust jackets or display work. Texts shorter than books, such as greeting cards, announcements, even works of poetry, could use one of these fancier types. You could also use these in headings to contrast with a more sober text type.

Font Sampler: Display Fonts   (AJ)

These are types designed to be used at large sizes to break up blocks of text and grab your attention. They range from quiet, enlarged versions of text types to the wildest faces a type designer can dream up. The strong personalities of display faces can instantly create a mood or impart a sense of time and place. Remember, the more personality a typeface has, the less versatile it will be—but the more appropriate for some specialized use.

The traditional categories are decorated, engraved, script, slab serif, and sans serif. When building a library, it's good to have some reliable standbys (such as the Smaragd shown here) as well as some more goofy ones (such as the Xavier Black or Ad Lib).

Smaragd (Linotype-Hell)

SEE THE TREASURES OF ROME

Gudrun Zapf von Hesse's Smaragd, from Linotype-Hell ($40), is a classy, all-caps in-line face, the subtlest kind of decorated type, which features a white line inside the stroke, making the type appear incised. From here the "decorated" category branches out to letterforms made out of other things, such as cactus, banana peel, Band-Aids, whatever.

Poetica (Adobe Systems)

The Pleasure of Your Company

As a rule, scripts are hard to read and should be restricted to short bursts of text. Sometimes script capitals used with a text face can create a nice effect. Adobe's Poetica ($150, $100 for the expert sets), shown here, is a beautiful calligraphic face with lots of variant forms.

Egiziano Classic Black Antique (FontHaus)

15 Men on a Dead Man's Chest

Dennis Ortiz-Lopez's Egiziano Classic Black Antique, from FontHaus ($40), is one of the best re-creations of an historic slab serif: a style based on geometric letter shapes with bold flat serifs grafted on. The style, which was popular in the late 19th century, can sometimes be extremely dull and heavy.

Bernhard Gothic (Spiece Graphics via FontHaus)

Fly to New York

Spiece Graphics' Bernhard Gothic, from FontHaus ($70 for one weight, $40 for additional weights), is an elegant sans serif dating from the 1920s. It has unusual variant characters, including swash italics and a Greek *e* and works well at all weights.

Xavier Black (Castle Systems)

RHUMBA TO CUGAT'S ORCHESTRA

The wacky Xavier Black, from Castle Systems, is a type you'll want to use for display work at least once. It comes by itself for $50.

Ad Lib (Bitstream)

Phil Silvers as Bilko

ATF's goofy Ad Lib ($25, Bitstream) looks something like Ben Shahn's lettering for "What's My Line?" It is extremely informal and very evocative of the '50s (it dates from '61)

Goudy Stout (Castle Systems)

BEWARE OF THE BULL

Fred Goudy claims that his Goudy Stout ($50, Castle Systems) was a typographic lapse, but I think it's one of his best types. This all-caps face looks like it was conceived after a night of drinking and tango-dancing.

Berthold Lo-Type (Linotype-Hell)

Serenade in Ragtime

Berthold Lo-Type ($110, Linotype-Hell) is a quirky German poster letterform from the turn of the century. Some very unusual characters, such as the *f, g,* and *t,* add to its charm. Its quirky details are best appreciated at large sizes. The Adobe package has several weights and styles.
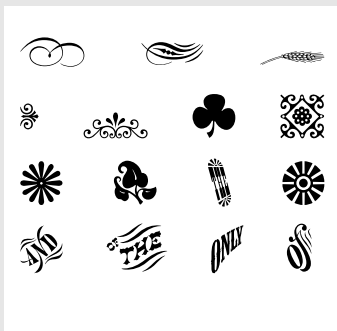
Willow (Adobe Systems)

Wanted! Dead or Alive!

Willow ($100) is a highly condensed type, a member of Adobe's best-selling Wood Type package ($185). (They're called wood types because they're based on late 19th Century American typefaces, which were carved from wood rather than forged in metal.)

Font Sampler: Decorative and Pictorial Fonts   (EF)

Pictorial fonts can be practical (pictures of credit cards, telephones, or cut-on-the-dotted-line scissors to use in ads), silly (kids' drawings or wacky birds), or simply ornamental (borders, fleurons, and other decorative elements). The following samples show just a few of the dozens of pictorial fonts available. (We didn't have the space to show a complete character set for every font, but the sample characters will give you the flavor of each.)
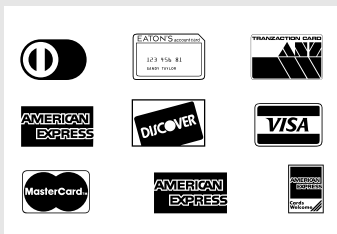
Adobe Wood Type Ornaments 2 (Adobe Systems)

Adobe's Wood Type Ornaments collections provide lots of old-fashioned ornaments. This font is included in the Adobe Type Basics package, which offers 65 fonts for $100, or sold with the Adobe Wood Type package for $95.

Adobe offers other pictorial fonts as well, including audio symbols, map symbols, ornaments, and yet more dingbats.

Credit Cards (Agfa)

If your business welcomes popular credit cards, you'll find this font handy for creating ads, menus, and the like. It costs $35 from Agfa.

Other pictorial fonts from Agfa illustrate astrology, animals, borders, ornaments, business, communications, games, sports, medicine, military, music, transportation, TV listings, logos, dingbats, and symbols.
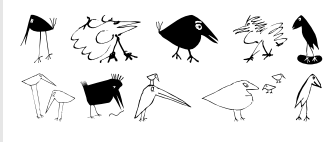
DingBRATS (DS Design)

These dingbats from some of America's youngest type designers are a refreshing change of pace. The font includes 100 charming drawings by kids for $40.

Tommy's Type (The Electric Typographer)

Electric Typographer Judith Sutcliffe based this playful line o' type on some lettering sent to her by Santa Barbara historian Walker A. Tompkins ($45, includes Catastrophe, a font made up of cats). Other pictorial fonts from The Electric Typographer depict masks and petroglyphs.

Birds (FontHaus)

This antic aviary ($40) is just the thing for adding a spot of whimsy to a document. I like a font that makes me laugh.

FrankenFont (Handcraftedfonts Company)

Now you can create your own people without all the muss and fuss of stealing body parts from graveyards. FrankenFont ($45, per weight) consists of 74 parts that can be combined to make 1,000 human figures; each figure is assembled by typing a three-character combination.

Vine Leaves, Volume 1 (Lanston Type Co.)

The Lanston Type Company has brought many classic faces from Goudy, Caslon, and other respected designers into the digital age. To augment these traditional faces, Lanston offers old-style borders, initial caps, and ornaments, including the 128 vine leaves in this font ($75).

Organics (Letraset)

Letraset's Fontek Design Fonts series ($90 per font, $350 for six fonts) offers several pictorial fonts in a variety of styles, inspired by everything from woodcuts to paper cutouts. (Note: Although Letraset has improved the font's performance, placing too many of the intricate Organics on a page might hang up a printer with less than 4MB of memory.)

Linotype Game Pi (Linotype-Hell)

This set of game fonts ($30 per weight, $80 for the set) includes chess, checkers, dice, dominoes, and playing cards (French and English styles).
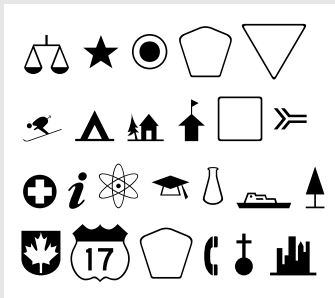
Other pictorial fonts from Linotype-Hell include dingbats, ornaments, maps, warnings, audio symbols, holiday motifs, astrology symbols, and borders.
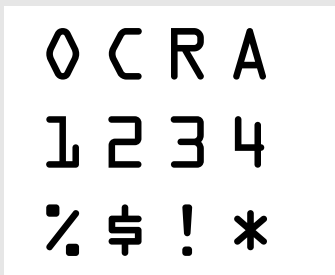
Font Sampler: Special-Purpose Fonts   (EF)

Macintosh fonts aren't limited to the Latin alphabet. If you speak a non-European language, chances are you can find a font for that language. For that matter, Mac fonts aren't even limited to words; you can find fonts for the languages of music, mathematics, and other symbolic systems. This section presents samples of several special-purpose fonts along with information on where to look for others (see Appendix D for company addresses and phone numbers). Because of space constraints, we haven't shown the complete character set for each font.
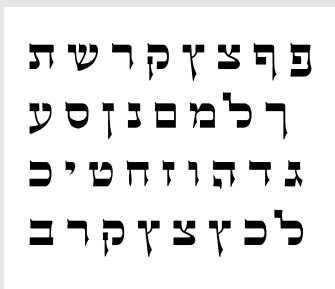
Carta (Adobe Systems)

Carta ($29) is the perfect font for mapmakers, or for those Mac users who suddenly find themselves in need of an Interstate symbol. It includes most of the symbols you need to make a map, including route signage, city and capital markers, and symbols for map-like markers such as rest stops, airports, and hospitals.

OCRA (Adobe Systems)

OCRA is a font designed to be easily and quickly read by scanning equipment. While most high-end OCR packages can read most fonts, OCRA will read at 100% accuracy, all the time. You can purchase a set for $79 that includes OCRA, OCRB, and MICR.

Torah Sans Script (Font World)

Font World doesn't simply offer Hebrew fonts; it offers hundreds of Hebrew fonts in a variety of styles. The company's designers have created 36 custom faces that are being used to typeset a new edition of the Talmud (which has been photographically reproduced until now). Font World provides many other fonts as well, including Arabic, Cyrillic, Georgian, Greek, Thai, Vietnamese, and many Western European and Central/Eastern European languages ($100 to $400).

Cyrillic (Linguist's Software)

аАбБвВгГдД
еЕёЁ}{зЗиИ
йЙкКлЛмМ

Linguist's Software offers many language fonts, including Cyrillic (shown here), Arabic, Cambodian, Coptic, Georgian, Greek, Gujarati, Hebrew, Hindi, Inuit, Korean, Laotian, Persian, Punjabi, Thai, Tibetan, and Vietnamese. (Prices range from $80 to $200 per font.)

Stone Phonetic (Adobe Systems)
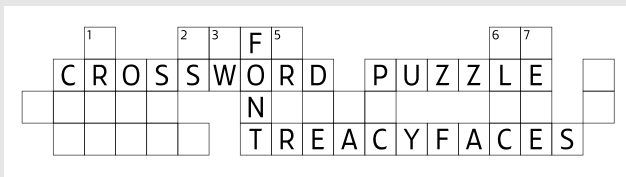
ɑ ɐ ɑ ɒ æ ʌ b ɓ
β ʙ c c̓ ç ɕ t ɕ d
ð ɖ d̓ ʤ đ d z z̧

Adobe's Stone Phonetic ($95) provides the symbols and diacritical marks for the International Phonetic Alphabet (IPA), which represents the sounds of a wide number of languages (or 'l{~gwKDes, phonetically speaking). The font comes in a serif and a sans-serif version.

DruScott and Custom Handwriting Fonts (Lazy Dog Foundry)

Why write when you can type with DruScott?

Remember the days when letters were written by hand? You can revive that quaint custom without abandoning your trusty word processor—just order a custom font made from your own handwriting from Lazy Dog. Depending on how many characters you want (you can probably live without most of the characters invoked by Option or Shift Option), the font will run you between $200 and $500. (Signature Software will also make a custom font from your handwriting, for $110 per font.)

If your handwriting isn't worth immortalizing, you might consider buying one of Lazy Dog's prefab handwriting fonts ($90 each). The DruScott font is shown here.

TF Crossword (Treacyfaces)

Create your own crossword puzzle (with or without the solution) with this clever font.

Typesetting   (AJ/DD)

Working from the Style menu is just the beginning of what you can do to style type. Macintosh software that's designed to work with type (word processing, page layout, and graphics programs) usually offers lots of features that let you precisely control the look of type on the page. There are two important things to remember about using these controls: 1) the default settings aren't necessarily the best for every situation, and 2) to badly apply these programs' controls over tracking, word and letterspacing, and leading can be worse than not adjusting them at all. To get you off on the right foot, here's a crash course in the principles behind good typesetting.

Shape Recognition: The Ideational Unit

Children's books are often set in large sizes of type. Why? Not because kids have poor eyesight. It's because children read words letter by letter. Adults, on the other hand, read whole words at a time, recognizing the words by their silhouette rather than by examining each letter. These letter clusters (called *ideational units*) have to fit together well in order to be easily legible. The best-quality fonts are designed with the proper letter fit to create smooth, easy-to-read ideational units.

Point Size   (RT)

The size of type is commonly referred to as *point size*, because type is most often measured by points ($\frac{1}{72}$ of an inch). Standard point sizes for reading are usually between 9- and 12-point. Headings are commonly 18- or 24-point. Oddly enough, even when type is several inches tall, it is still measured by points, not by inches or even feet.

Leading   (AJ/DD)

The space between lines of type—called *leading* (pronounced "ledding") by typesetters and in page layout programs, and called *line spacing* in some word processors—is often automatically set at 120 percent of the type size. (For 10-point type, for instance, the leading would be set at 12 points.) Although this setting may work fairly well in a lot of cases, it's often worth experimenting with to determine what looks best for the typeface and line length you're using. Typefaces with small x-heights (and longer ascenders and descenders) generally need less leading than do faces with comparatively large x-heights, and pages with short lines of text need less leading than do pages with long lines. (The white space between lines serves as a highway for your eyes to follow when moving from the right-hand margin back to the left.)

Type Size versus Real Size (RT)

It's one thing to have type measured by points instead of good old-fashioned inches, but it's another thing completely for those measurements to always be wrong. Let's say you made a 100-point capital "T" in Microsoft Word. When you'd print it out and measure it, the "T" would only be about 70 points tall!

This unusual behavior is the result of measuring type not from the baseline to the tops of letters, but instead from the *descenders* (such as the bottoms of lowercase g's and y's) to the *ascenders* (a fancy name for the tops of capital letters and lowercase letters like b's and h's). So, even though our "T" doesn't have any descenders, it is still being measured from where a descender would've been if it had one.

You can usually estimate the true height of a capital letter to be between 60 to 75 percent of the type point size.

Alignment (RT/AJ/DD)

People often consider a justified right margin (making all the lines exactly the same length, as in this book) the hallmark of professionally typeset text, probably because this feature was all but impossible to achieve with a typewriter. The truth is, though, that when you ask your Mac to justify your type it has no choice but to mess with the spaces between the letters or between the words in each line, making for inconsistent spacing that can make reading a chore. Many word processing and page layout programs allow you to control the maximum and minimum amounts you'll allow the program to stretch or compress the spaces, but the best amount is none at all. Remember, then, that if you must justify the right margin, you'll need to spend some time adjusting line breaks—and even rewriting sentences if necessary—to get your lines to set smoothly, with consistent-looking spacing.

Many times, you'll have several alignment options, such as Justified (this book), Flush Left (also referred to by old-school typesetters as "ragged right," but this term is frowned upon by the professionals of today), Flush Right (right side is even, left is "ragged"), and Centered (even space on both ends of the line. Typically, the best choice is Flush Left (Cmd Shift L) in several applications).

Force Justifying (RT)

Force justifying is similar to justified type, except that instead of making both ends even by adding or subtracting a little bit of space, it adds a substantial amount of space, making a line of any length stretch out far enough to reach the end of the text area. This is often used for design purposes, and can often be very difficult to read.

Kerning and Tracking   (RT/AJ/DD)

Kerning is the act of adjusting the spacing between individual letters. This makes up for the fact that the letterspacing built into the font just can't work with every possible letter pair. Some fonts have built-in tables of *kerning pairs*—pairs of letters that require special letterspacing adjustments—but the software you use must also be sophisticated enough to put those adjustments into effect (most page layout programs are). In addition, most page layout and graphics programs offer features that let you manually kern pairs of letters individually.

Manual kerning must be done carefully: It's possible to kern too much as well as too little. And once you start kerning, it's hard to stop, because changing the fit of one pair of letters changes the relative relationships of everything else on the line. The best rule is to kern only when the line appears unsightly, when there are eye-catching gaps between letters, or when pairs of letters appear pinched together. It's also important to proof your hand-kerning work on a high-resolution printout; it's hard to judge kerning on screen.

Tracking is also a form of adding or reducing the amount of space between characters, but tracking works on several characters at a time, affecting equally the space between all pairs it encounters. If your text needs both tracking and kerning, it is wise to do the tracking first, and then do the touch-up with kerning.

Horizontal Condensing/Expanding   (RT)

Type can be mathematically condensed or expanded in several applications. This method actually takes the characters and spaces and reduces or enlarges the width of both. Slight modifications such as these are often done for copyfitting purposes. Unfortunately, this mathematical process changes the width not only of the characters, but of the widths of the lines and shapes used to create those characters. This can result in awkward-looking letterforms with uneven strokes.

Small Caps   (RT)

When an application creates small caps as a style, it also mathematically scales the characters to make larger letters appear shorter (and in some cases, wider). Because you now have a reduced capital letter as the small caps character, the line weights that form the smaller caps are thinner than the line weights of the larger caps, resulting in the small caps looking "light" or "thin" in comparison to the rest of the text.

The best thing to do if you need small caps is to use a font that has a small caps variation (the Adobe Expert series of fonts has real small caps).

Creating Special Typographic Effects

There are lots of ways to get type to do crazy things. The PostScript outline format uses the same Bézier curves that create PostScript graphics in a program such as Adobe Illustrator. You can import your type into such graphics programs and stretch it, bind it to a path, or otherwise distort it. Programs specifically designed to manipulate type do a whole lot more (and more easily, too), as the following programs demonstrate.

LetraStudio (EF)

Letraset's **LetraStudio** ($250) lets you place TrueType or PostScript text into "envelopes" of various shapes. You can reshape an envelope to get the effect you want on a particular selection of text and save the modified envelope for later use.

You can also embellish text with color graphics or artwork imported from Illustrator or FreeHand, and LetraStudio's effects can be applied to these graphics as well. LetraStudio provides a limited set of drawing tools (including a line, a circle, and a rectangle); for more complex work, you can paste your text effect into a graphics program and work on it there.

Illustrator or FreeHand (RT)

If you have a PostScript drawing program such as Adobe Illustrator or Macromedia FreeHand, you can create all sorts of special typographical effects from ordinary PostScript or TrueType fonts.

Most of these special effects are due to the little feature in each program that allows you to change type from an editable line of text into editable PostScript outlines. These outlines can be manipulated in various ways to achieve all sorts of unusual and fantastic effects.

So, what types of things can you do to type converted into outlines? Actually, you can do anything you could do to any other artwork in either program. For instance, you can use FreeHand's Paste Inside command or Illustrator's Mask feature to place a full color TIFF image within a series of characters. Or maybe you want to give your type a rough look; use Illustrator's Roughen filter, or a third-party filter like Doodle Jr. to make jagged or rounded, bumpy text. (Illustrator and FreeHand are discussed in depth in Chapter 15.)
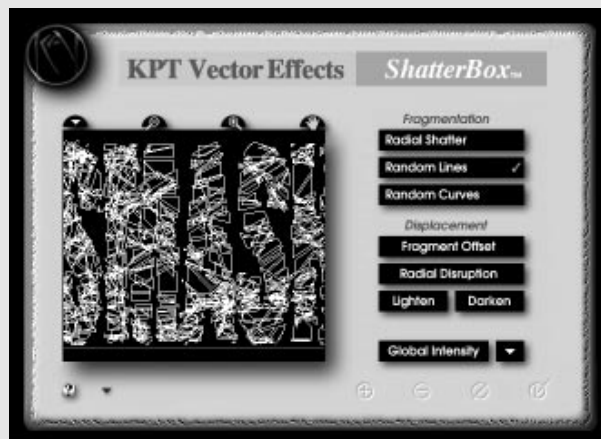
StrataType 3d   (EF)

StrataType 3d 2.5 ($100, Strata) transforms PostScript or TrueType text into 3-D shapes, letting you then add textures (marble, wood, chrome, or ones you create yourself from scanned PICT images), adjust the size and shape of beveled edges, position text (on an arc or in a circle, for example), rotate letters, set a vanishing point, add a background, and position a light source. Then you sit back while the program renders the image.

You can save the image as a PICT, TIFF, or EPS file and transfer it to a graphics application or page layout program.

KPT Vector Effects   (TA)

If you are manipulating type in Illustrator or FreeHand, don't stop with their built-in features. KPT Vector Effects ($199, MetaTools) has several effects filters for use in Illustrator and FreeHand that produce amazing effects such as 3D Extrusion, Shadows, and Neon. There's even a filter called KPT ShatterBox (Illustrator only) that smashes your text outlines into millions of pieces.

KPT Vector Effects' KPT ShatterBox gives your text that "glass type dropped from a 13-story building" look that so many designers crave.

Other Type Manipulation Software   (TA)

There are several other packages available that do various manipulations to type. In olden times (the '80s), **TypeStyler** ($220, Brøderbund) was a favorite, but its frustrating interface and the lack of any significant upgrade for almost five years have turned it into a Macintosh has-been. **Effects Specialist** ($200, Postcraft International) is a set of several premade effects, each of them with wacky fun names such as Crash, Shaky, and Vibrate. **Typestry 2.1** ($300, formerly sold by Pixar) takes fonts and performs wonderful 3-D imagery on them. As we go to press, Pixar is shopping Typestry around for a buyer, so it may become available from another software vendor in the near future.

Font Creation and Design

The programs we describe in this section let you customize your fonts in a variety of ways. Some let you translate fonts into new formats for use on PCs or in illustration programs. Others let you add characters to existing fonts, remap your keyboard, or add graphics to your fonts. Yet others let you redesign the fonts you already have or make your own fonts from scratch. (These are the same programs used by many professional type designers to create commercial fonts.)

Metamorphosis Professional (KT/EF)

Metamorphosis Professional (or Meta Pro, as it's familiarly called) from Altsys ($150) converts fonts to and from common Mac and PC formats. It will also open many older Type 3 fonts, enabling you to convert them to Type 1 fonts. Metamorphosis also has the useful ability to fetch outline data from certain PostScript printer ROMs and hard disks (for modifying fonts that aren't even in your Mac). It also lets you convert font outlines into PICT or EPS graphic outlines so you can treat characters as graphic elements in programs such as Canvas, FreeHand, or Illustrator.

FontMonger (EF)

FontMonger ($150, Ares Software) is a multitalented utility that lets you convert PostScript fonts to TrueType and vice versa. (Although you can use PostScript and TrueType fonts together, many people like to standardize on one format or the other.)

You can also use FontMonger to add characters to a font. Let's say you're setting a scientific paper in Palatino and find yourself frequently needing certain Greek letters from the Symbol font, for example. Instead of constantly switching between the two fonts, you can add the Symbol characters to Palatino and then type both the text and symbols from the hybrid font.
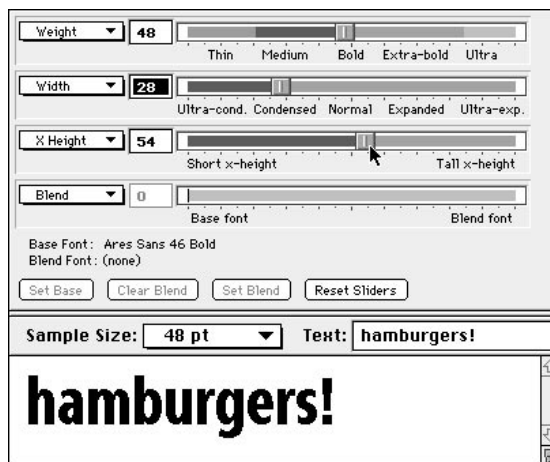
FontMonger can also alter characters in existing fonts to create fractions, small caps, superscripts, subscripts, and narrow, wide, or slanted characters. Of course, these alterations won't look as good as characters created by a living, breathing type designer, but if you don't happen to have a type designer hanging around, this is an excellent alternative.

FontChameleon   (EF)

Ares Software's **FontChameleon** is a unique program that creates *synthetic fonts* from a master outline and instructions called *font descriptors* (215 fonts in FontChameleon, $300; 47 in the FontChameleon Starter Kit, $55). You can use this remarkable pro-

gram to generate fonts that look very much like traditional serif and sans serif designs, or you can alter the font descriptors to create your own custom fonts, altering weight, width, height, or slant— or even (horror of horrors!) concocting a blend of two fonts.

Although synthetic fonts can't match the quality of hand-crafted faces, they have some advantages. Because a single master outline can be used to create thousands of variations, the instructions that describe a particular font can be very small—only 5K or 6K. And because fonts can be gen-

Create synthetic fonts with FontChameleon.

erated from the master, you can send an electronic file to a colleague who has FontChameleon, without worrying whether that person has the same fonts you used.

Fontographer   (SZA/KT)

Fontographer ($500, Macromedia) lets you create your own PostScript or TrueType fonts, letter by letter. If you don't want to start drawing from scratch, Fontographer offers many automatic creation tools (including autotracing of printed or hand-drawn artwork) or allows you to import an existing font and modify the character outlines individually or en masse.

With the current version (4.1), you can create *Multiple Master* fonts (fonts with several user-controlled variations, such as thickness and width), interpolate between weights or other features of two separate fonts, automatically clean up extra Bézier control points (often the result of autotracing), and accept input from pressure-sensitive graphics tablets to create calligraphic fonts. It also offers excellent automated production tools for adjusting font metrics (which define the way the characters fit together), *hinting* (to make the type clear and readable on the screen and on low-resolution printers), and building extensive kerning tables.

FontStudio (KT)

Like Fontographer, Letraset's **FontStudio** ($500) lets you import and alter existing font outlines or draw new fonts from scratch (in either PostScript or TrueType format). It can also save characters as PostScript graphics for modification in Illustrator or FreeHand.

Although it's gone a long time without an update, FontStudio still works, and it has a few advantages over Fontographer. It allows you, for instance, to create anti-aliased grayscale screen fonts, which use pixels of varying brightness to give them fuzzy edges, paradoxically making them easier to read. FontStudio also helps make the mysteries of font hinting understandable through a slick visual interface.

Ikarus-M (KT)

Ikarus-M ($600, URW) is the new Mac version of a font-building program that was used by professional font designers long before the Mac made the scene. It's for people who are really serious about commercial font production and are willing to spend some time learning its rules.

In contrast to the Bézier curve editing used by Fontographer and FontStudio, Ikarus-M relies on a carefully drawn paper-based design with data points marked out in advance and entered by means of a digitizing tablet. Alternatively, you can use the autotracing companion tool (**Linus-M**) for handling automatic input of scanned images ($350, or Ikarus-M and Linus together for $900). Because one person can lay out the points, and another, less-skilled person can enter them into the computer, Ikarus is an excellent tool for big production environments.

Adobe Illustrator (TA)

Taking on the task of creating a font can be overwhelming. Throw learning all about font editing software on top of that, and you might opt to keep your font safely stored somewhere in the dark recesses of your head. Fortunately, if you know Adobe Illustrator already, font design can be quite enjoyable. Illustrator has the most powerful editing and design tools available, and its Pen tool is considered the smoothest and most accurate drawing tool on any platform. Use Illustrator to create the outlines of the font, then import them into your font editing software.

HOT TIP

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Font Troubleshooting Tips   (DD/KT)

HOT TIPS

Let's be honest: Fonts are bound to cause you some trouble. Constant loading, unloading, and reloading of resources from lots of different manufacturers into your precious system is bound to cause some funny business once in awhile. The problems are rarely insoluble, and are usually the result of getting one typeface when you want another. Careful font management is the answer to most of them.

The following is a summary of the font problems we've run across most often, along with advice on how to solve them. We'll start with the easy ones.

Where's My Font?   (SZA/AN/JK)

Sometimes you know you have a font installed, but it doesn't appear in the Font menu. The first thing to do is not to be so sure of yourself—double-check to see that the font is really installed correctly (this is the most common source of the problem). Remember that in Mac systems prior to System 7, fonts you install don't appear in the Font menu until after you've restarted the computer.

If you're using Suitcase or MasterJuggler, fonts may not appear in the menu as expected because you opened the suitcase file the font is in *after* you launched the application you're using. If that's not the case, the problem may arise because you have different fonts with the same ID number in separate open suitcases. ([See the sidebar "Whatever Happened to Font ID Conflicts?"](#) in the next section.)

Bitmapped Font Printouts   (DD)

Sometimes you get output that looks almost right, but the characters in certain typefaces look a little shaky—jagged around the edges, bearing an eerie resemblance to screen type. This problem typically happens when you're using PostScript fonts, and it usually means that your system had the proper screen fonts on hand, but it couldn't find the corresponding printer fonts. In that case, your Mac will often simply copy the bitmapped version of the type from your screen onto your printed page.

To solve the problem, just make sure the printer fonts are installed correctly before you try printing again. Remember that fonts from different manufacturers (or in different formats) may have identical names, so you can have a Bodoni screen font from one manufacturer and a Bodoni printer font from another manufacturer, and they may not work together.

Whatever Happened to Font ID Conflicts? (RT)

Weird, unexplained phenomena involving fonts used to happen on a regular basis involving Font ID conflicts. Suddenly, the conflicts stopped (even before Mulder and Sculley could investigate). Well, it used to be that there were only 256 font ID numbers. Each font on a Mac has to have its own Font ID number. Apple reserved only the first 128 ID numbers for system fonts, leaving 128 left over. There are estimated to be more than 20,000 different fonts available for the Macintosh. Do the math, and you'll figure out that only having 128 ID numbers is a problem. So quite often, fonts with the same ID number would crop up, causing all sorts of trouble.

In 1988, Apple replaced a critical resource (FONT) with another one (NFNT), which was capable of containing up to 16,000 different font IDs. Occasionally there are conflicts, but they're so rare that they hardly ever cause problems.

The Twilight Zone of Typefaces (RT/DD/KT)

Many fonts are published by more than one company; Brush Script, for example, is available from seven publishers. Not all font names are trademarked, however, so although fonts with the same name may look a lot alike, they're not always identical. When you print your documents on someone else's system (say at a service bureau), you've got to be sure your fonts not only have the same name but that they are also from the same manufacturer.

This is further complicated by the fact that fonts from a single *manufacturer* may be sold by different *vendors* under their own labels. Companies that cross-license each others' fonts may not be selling exactly the same font. When you're telling an output service what fonts you've used in the documents you're sending them, give them the name of the typeface, the name of the vendor, and the creation date, if available. (You can get this by selecting the printer font file in the Finder and choosing Get Info from the File menu.)

Printed pages sporting the wrong version of the right font can be hard to spot, unless you're an ace typographer. You may notice, though, that the line breaks of the new output may be different from those on a proof print you created on your own printer, or that the type looks more crowded or more loose than in your original version.

The only way to be really safe is to bring copies of your own fonts to the printing site…a process frowned upon by most font vendors' legal departments.

Corrupted Screen Fonts   (RT)

Some of the most baffling Macintosh system problems are caused by renegade, corrupted screen fonts. Because screen fonts are loaded into the system, they're an integral part of the way your Macintosh operates. When a screen font becomes corrupted, you might start experiencing Type 1 errors, random freezes and crashes, and document corruption. All the standard fix-it tips, like rebuilding the desktop, reinstalling the system software, and running a disk fixer like Norton Utilities have no effect on these little data gremlins. Simply removing these fonts from the Fonts folder can suddenly fix the problem. Of course, finding the bad font isn't always so easy; it's often a process of elimination.