

# Everything you always wanted to know about Fonts\*

(\*but were afraid to ask)

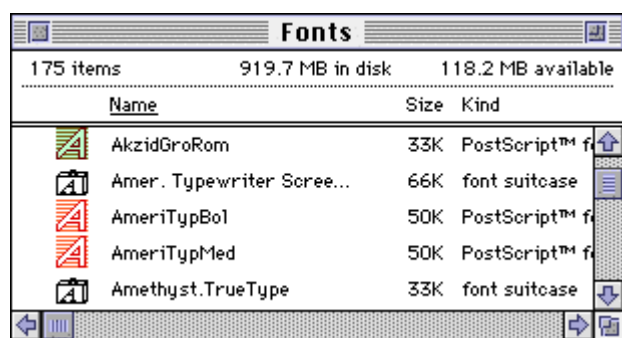
or.. "Using Mac fonts in the Avid Media Composer"

The font system in the Mac isn't necessarily the easiest thing to understand. So, I've tried to simplify things here as much as possible, and I've included lots of pictures to keep it interesting. There may be some exceptions to what I say here and there, but this document is intended to be a quick-start guide to get you on your way to being a font expert. For this document I will refer to the contents of the following fonts folder.

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## The Fonts Folder

In a standard configuration you place all of your font resources in the **Fonts** folder inside the **System Folder**. There is a limit to the number of resources that can be contained in this folder. If you exceed this limit, the system will simply ignore the extra items. I believe the limit is **128 resources**, but I'm not completely sure. (So, I guess I'm not an expert) However, I do know that Postscript printer fonts are not counted as resources in this limit. Notice that I have 175 items in my Fonts folder. That does not mean that I have 175 font resources. A recommended procedure is to create a **Fonts (Disabled)** folder in which to place items that you are not currently using. Then you can move items back and forth between these two folders, just like you do with the Control Panels or Extensions and their Disabled folders.



### Two things to remember:

1. Quit out of all programs before moving items in or out of the Fonts Folder.
  2. You do not have to restart to make these changes take effect.
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## Suitcases



You can think of a font suitcase as a folder that can only contain font items. It is, however, actually a **resource file** which contains system resources (fonts). Also, don't confuse this Macintosh file type with the program called **Suitcase**. The **Suitcase** program adds some functionality to your system, but is not recommended for use with **Media Composer** and won't be discussed in this document. Here are some interesting facts on dealing with font suitcases:

### Font Suitcase guidelines:

1. A font suitcase can only hold bitmapped screen fonts and True Type fonts. Postscript printer fonts will not go inside a font suitcase. (You can have both in the same suitcase by the way)
2. If you try to move a font suitcase inside another font suitcase, you will end up with only one font suitcase with all the items inside it. In other words, suitcases don't contain other suitcases, only resources.
3. Placing font items inside suitcases can trick the system into allowing you to have more fonts than you are normally allowed to have. Thus, a suitcase will typically include all the items for a font family.
4. You can not easily create a suitcase in the Mac without using a 3rd party software package.

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## Mac Font Types

There are 3 standard font types in the Macintosh:

- **Screen fonts (aka Bitmapped Fonts)**
- **Postscript, Type 1 & Type 2 fonts (aka Printer Fonts)**
- **TrueType fonts (aka TrueType fonts)**

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### Screen fonts:



Screen fonts contain a pre-rasterized version of the font at a specific point size. They are typically "hinted" to look the best at that point size on a 72 dpi screen. Also note that each screen font file contains only one rasterized (or bitmapped) version of that font at a particular face (ie. bold) and a specific point size. Most commercial font packages come with many of the "standard" point sizes of the font. Without special software (like **Adobe Type Manager**) if a font size is requested and a screen font for that point size is not available in the **Fonts** folder, the System will do the best it can with what it has. If you only have a 12 point screen font and try to display it at 72 points, it will take the 12 point screen font and enlarge it to 72 points. Obviously this is six times larger and will invariably look very, very "chunky". ("chunky" means pixilated, blocky, jaggi, etc.)

In our fonts folder above there are no screen fonts shown, but there is a font suitcase which contains screen fonts. Double-clicking on the "Amer. Typewriter Screen Fonts" suitcase gives you the "folder" below. You can freely copy or move fonts in or out of a suitcase, just as if it was a folder:

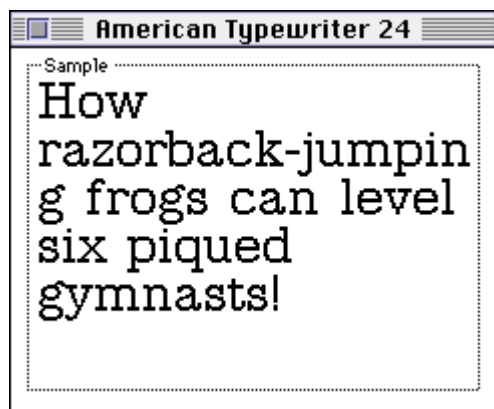
Name	Size	Kind
American Typewriter 10	5K	font
American Typewriter 12	2K	font
American Typewriter 14	6K	font
American Typewriter 18	8K	font
<b>American Typewriter 24</b>	12K	font
B American Typewriter ...	6K	font
B American Typewriter ...	7K	font
B American Typewriter ...	8K	font
B American Typewriter ...	10K	font
B American Typewriter ...	13K	font

We can tell that these fonts are screen fonts in three ways. Not all of these methods are fool-proof, but here goes:

1. The Icon.

2. The name of the fonts contain numbers. This is a clue that each of these fonts contain the respective font size. Also note that the "B" at the beginning of the name refers to it being the "bold" face. Other common nomenclatures: "I" = Italics, "O" = Oblique (italics), "N" = Narrow, "C" = Condensed, "L" = Light, and "D" = Demi (Normal or Roman).

3. The contents of the font file. We can look at the contents of the file by double-clicking on the icon. It will show us the font at the one point size and face contained in that file. See the example below.



It's also important to notice that with screen fonts, not only is there a different file for each point size, but there is a different file for each face. In other words, Roman, Bold, Italics, and Bold-Italics are all stored in different files. The Macintosh operating system can sometimes

"create" the bold or italics versions out of the standard Roman version, but for best results you should have the entire font family.

**Note:** Some people may refer to screen fonts as "Type 1" fonts. If so, this means that it is a Macintosh Type 1 font, which is not to be confused with a Postscript Type 1 font. This is just a conspiracy designed by the font guru geeks to keep font technology a mystery. For this document (and in any other conversation) we will avoid the confusion by calling them "screen fonts" and "Postscript fonts".

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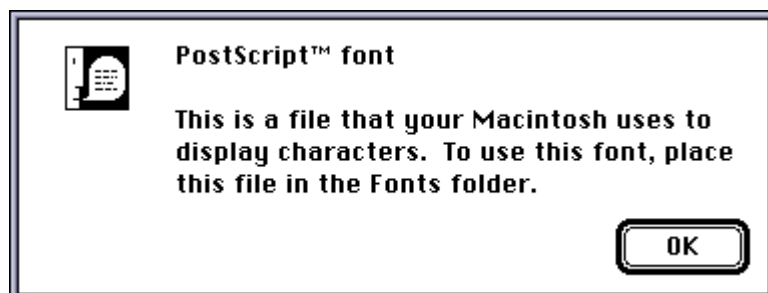
## Postscript Printer Fonts



Postscript fonts contain the outline information required to raster the font at any point size on a Postscript compatible device (like a printer). The icon typically looks like a printer because in essence, these are printer fonts. These files should be either **Postscript Type 1** or **Type 2** compliant and are sent (downloaded) to your Postscript printer when you print a document. In the native Macintosh (ie. without special software loaded), they really do not add any functionality to your Macintosh, they add functionality to your printer. In fact, unless you have an associated Screen font, a postscript printer font does you zero good.

There are three ways to determine that these are Postscript printer fonts:

1. The Icon. Notice the icon variations above.
2. The file type says "Postscript™ font". (Hello!!! Major Clue!)
3. Double-clicking on the font file gives you a warning message. This message will vary depending on whether or not you have ATM (Adobe Type Manager) installed, but the idea is the same. This is the ATM version of the message:



In our sample **Fonts** folder (at the top) we can see 3 Postscript font files. Notice that the file names for the Postscript files that go with the Screen fonts are not always plain English, are not always the same as the screen font names, and are not always obvious. The font suitcase "Amer. Typewriter Screen Fonts" contains the Screen fonts and the next two files ("AmeriTypBol" and "AmeriTypMed") are the associated printer fonts.

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## Adobe Type Manager

**ATM** is a third party System Extension (and Control Panel) which uses postscript printer fonts to actively create screen fonts at whatever point sizes are requested. Since **ATM** uses the postscript font to create these new screen fonts, it makes sense that **ATM** requires the Postscript font to be in your System's **Fonts** folder. **ATM** also requires at least one already bitmapped Screen font to also be present. This is because **the Mac OS doesn't think it can use Postscript fonts as screen fonts** and therefore doesn't even look at them until it's time to print to a printer. So, if the screen font isn't present in the **Fonts** folder, the System doesn't even know that the font exists, and the OS will not show it to you as an available font.

One very common mistake made with Postscript fonts is to miss getting all the necessary files when attempting to copy the font to another system. People quickly grab the suitcase file full of screen fonts and forget to copy the Postscript printer fonts also (or visa-versa). There are two scenarios:

**A.** You are missing the Screen font. As I explained above, the OS doesn't see the Printer font and therefore the font doesn't show up in your list.

**B.** You are missing the Printer font. In this case, the font does show in your list, but ATM has nothing to work with. So the Mac operates as normal, which means that it takes the closest point size and does the best it can with what it has. Again, if you have a 12 point screen font and try to display it at 72 points, it will look very, very "chunky".

Another common problem is to not get all the different faces of a font. The **Mac OS** will "guess" at what a bold or italic version of a font should look like and will sometimes show you the bolded version, even if the actual bold version of the Postscript font isn't really available. This problem normally only shows itself when you try to print to a printer. In this case, you would "see" the bold version of the font on the screen, but when you print your document, the bolding disappears. Serious DTP-geeks suggest that you don't "bold" the font by choosing "bold" from your word processor menu, but that you select the "Bold" version of the font from the list of fonts. If you are working on something which is going to print, this might be important. For **Media Composer**, what you see on the screen is all anyone cares about.

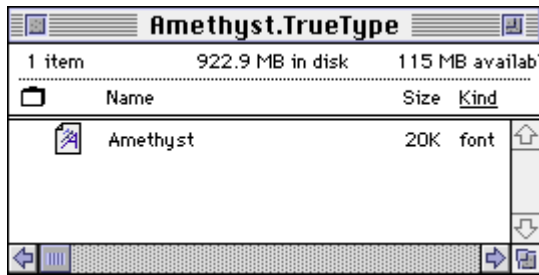
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## TrueType Fonts



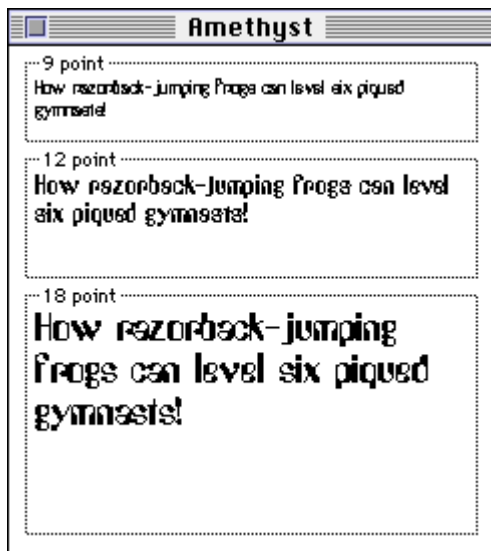
Simply put, TrueType fonts are outline fonts that the Mac OS does recognize. TrueType fonts contain the outline information required to raster the font at any resolution for either the screen or the printer. The Mac OS has built in software for rasterizing TrueType fonts onto the screen or the printer (**ATM** is not required). Hardcore font guru's hate TrueType fonts for some unknown geek reason, but for most applications (including the Media Composer) they are ideal. With TrueType fonts, one file equals one font at one face. This greatly reduces the risk of accidental missing a file when moving the font from one system to another. Worst case scenario, you'll be missing the "bold" or "italic" version, but you won't get "chunky" fonts.

Our fonts folder (on page 1) doesn't list any TrueType fonts, but the "Amethyst.TrueType" font suitcase contains one. If you double click on the suitcase it opens up:



There are two ways to determine that this is a TrueType font:

1. The Icon.
2. The contents of the font file. A TrueType font will always show you the font in 3 different point sizes. Double-clicking on the "Amethyst" font above gives us the following:



TrueType fonts seem to do a better job of "guessing" what the other faces should look like (if they are missing). With Amethyst for example, I only have the one font file. If I choose Italics and it leans the letters over, bolding makes the letters thicker. For best results (and anytime you are printing the fonts) it is better to have the entire font family.

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## Basic Font Terms

**Face** - This refers to "Bold", "Italics", and "Bold-Italics". "Roman" is typically used for the normal face. Another naming convention uses "Demi" for normal and "Oblique" for italics. Other common faces include "Light" for thinner than normal, "Black" for thicker than bold, and "Narrow" and "Condensed" meaning that the letters are taller than they are wide.

**Hints** - At small point sizes, outline fonts can become less readable because the font sizing is a calculated procedure. The math involved does not normally take into account what will look the best. A worst case scenario is that the horizontal line in an "H" could completely disappear. To solve this, anytime there is a screen font available at the desired point size, it will use that information rather than using either the TrueType version, or the Postscript version (by asking ATM to calculate a screen font).

**Kerning** - To make the spacing between letters flow more naturally, many fonts use **Kerning Pairs** to determine how much space should go between a specific pair of letters. For example, the kerning between a "T" and an "A" makes the lower left of the A appear under the top right part of the T (TA).

**Point Size** - There are approximately 72 points in an inch. The point size of a font refers to the height of the font in points. This height is measured from the baseline to the top of the letter. The standard is to use the height of the capital "M".

**Postscript™** - A computer language that describes how to represent printed information as numbers and instructions rather than pixels. Therefore, postscript files can generally be rasterized at any size at any resolution and still look clean and sharp.

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## Common Font Problems and Solutions

**P: I put the Postscript fonts in the Fonts folder, but they don't appear in my font list.**

**S:** Without or without ATM, Postscript fonts alone will not add the fonts to your font list. Even with ATM you need at least one screen font before the System will recognize that the font is there.

**P: Letters are chunky (without ATM loaded).**

**S:** Without ATM, the system will take the closest screen font it has and resize it to the requested point size. This will almost always look "undesirable." There are three possible solutions: **1.** Get a screen font for the size you need. This isn't a good solution for Media Composer because you would need too many versions. (You'd get a 72 point, and the editor would want a 73 point) **2.** Use TrueType fonts. **3.** Purchase ATM.

**P: Letters are chunky (with ATM loaded)**

**S:** The most common reason is that they have the screen font, but are missing the Postscript version of that font. In this case they need to get the Postscript version and place it in the Fonts folder. Another possibility is that ATM isn't loaded properly. For example if they upgrade from a Quadra to a PCI system and just copy the ATM components to their new system folder, it might not be the PowerMac version of that component. Suggest that they reload it from the original install disks.

**Note: Adobe Type Manager does not come with the Media Composer.** It is a third party Mac application that they need to purchase. It is very inexpensive. It also comes with many other applications such as **Photoshop**.

**P: Letters are sometimes clean and sometimes chunky.**

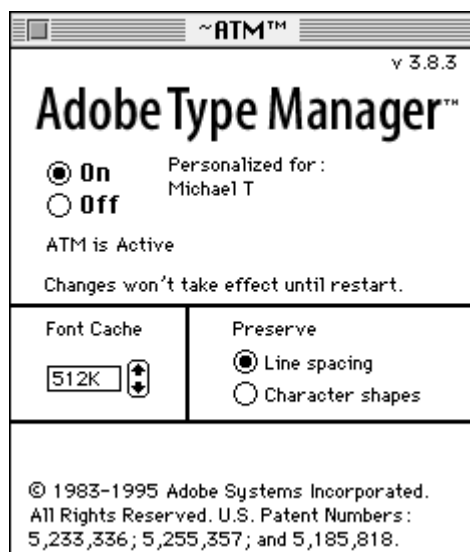
**S:** This usually is evidence of either a font conflict, or some sort of corruption. Fonts are managed by the OS by use of **Font ID's**. (that's my story and I'm sticking to it). If two fonts have the same ID then the system can get confused. The analogy I use is that you are in a room full of people and yell "Hey Mike, come here," a guy walks over, his name is Mike. Later you again yell "Hey Mike come here" and a different guy walks up, his name is also Mike. The system is making these requests and getting different answers each time it makes it (or maybe only under certain circumstances).

A good question to ask is "**where did you get these fonts?**" Did they get them from **America Online**, did they pirate them, or did they purchase them? **AOL and Hack fonts are very typically corrupted or use duplicate font ID's** because they were created by some kid with braces in the middle of the night in his parent's basement. Fonts are very susceptible to corruption and can even house viruses. Unless they purchased the fonts from a reputable font foundry (like ITC, or Adobe), there is no guarantee that the font follows the industry standards of font categorization.

The best solution for flaky fonts is to disable all of the fonts and then place them back in one at a time until the conflict goes away. Keep in mind that a conflict is a combination of two fonts. There are also third party applications which look for font conflicts. You can also suggest that they reload the fonts from the original install disks.

**P: Letters are only chunky at large point sizes (normally only with ATM loaded)**

**S:** Inside the ATM control panel there is a setting for **Font Cache**. If you are doing large point sizes in the **Media Composer**, you might have to raise the Cache size. For best results, keep this value between 256k and 512k. There is also a setting for **Preserving Line Spacing** or **Character Shapes**. For the **Media Composer** it is better to keep this on **Character Shapes** (opposite of below). If you are publishing a magazine or a book, then you'll probably want to put this on **Line Spacing**.



**P: ATM will not Activate. Even after clicking it "On" and restarting it still shows as "Off" (Inactive).**



**S:** Reload ATM from your original install disks.

**P: How do I know which Postscript font files go with a particular screen font (and vice-versa)?**

**S:** That is a good question. Typically there is some type of common nomenclature. A good procedure is to put all the fonts from a family into the same suitcase to help keep those files together. The Postscript printer fonts can not go into suitcases, so they have to be loose in the Fonts folder. Renaming the Postscript printer fonts **might be** allowable since the system uses the Font ID to identify them in the system. Personally, I recommended that people **not** rename font files.

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