InformINIT 8.1

The Most Comprehensive Guide to System Software Available ANYWHERE

Version 8.1 - Released April, 1998
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MacUser 1997 SHAREWARE AWARDS Winner

MacUser Rating

MacUser 1997 Shareware of the Year.
MacUser's "Five-Mice" Award / MacWorld Online Pick.

The Mac Pruning Pages web site, InformINIT's "home," was chosen as
one of 1997's "Best Mac Web Sites" by MacWorld.

InformINIT has also been featured and/or mentioned in MacUser, MacWorld,

MacWeek, MacAddict, Mac Home Journal, MacFormat (UK), MacLife (Japan), MacWelt (Germany), MacWorld Sweden and other publications.

A book based on InformINIT was published in the UK in July, 1997. It has since been translated into several languages.

Introduction

IN THIS CHAPTER:

• Web browser tips
• Purpose
• Why is it called InformINIT?
• Disclaimer
• Acknowledgements
• How to contact me

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WEB BROWSER TIPS

Throughout InformINIT, you will see "NN" and "IE" buttons:

• If you are running Netscape Navigator, clicking on the "NN" buttons will take you to the
   corresponding URL. You must have Netscape **running** for this to work.
   NN   <- Click on **this** button to launch Netscape Navigator.

• If you are running Internet Explorer, clicking on the "IE" buttons will take you to the
   corresponding URL. You must have Explorer **running** for this to work.
   IE   <- Click on **this** button to launch Internet Explorer.

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PURPOSE

InformINIT has several purposes:

• To help users maintain the cleanest, leanest and newest System software possible.

• To satisfy curiosity as to what each and every control panel/extension/etc. is and does.

• To help Mac users prune their system folders of unnecessary extensions, control panels, etc., in the
interests of both RAM consumption and compatibility issues.

• To provide information on the MacOS and System software to help users get to know their Macs
better.

The contents of InformINIT relating to specific files include descriptions, version numbers, RAM usage figures, incompatibility notes, and a few "secret gems" of info that may surprise you. If there is something listed in InformINIT that isn't on your own computer, it may be because it really doesn't belong there. Or it may be because the item was released later than your version of the system software, in which case you can find it online and install it. You may also see some items on your own computer that according to InformINIT aren't needed any longer. That could be because you have moved files and systems from earlier Macs and/or PowerMacs and haven't been very systematic about transferring stuff from the older system folder to the new one. Or it could be because the Apple software installers often aren't very good about not installing things that aren't needed. Regardless of the circumstances, InformINIT will help you figure out what should (and shouldn't) be there.

The information in InformINIT has been gathered from many different sources: Apple Tech Notes, manuals (imagine that...), ResEdit, various books, members of the Macintosh community (too numerous to mention), and lots and lots of research time.

InformINIT is updated as the Mac OS is updated, and new versions are available from the InformINIT web site:

NN <http://cafe.AmbrosiaSW.com/DEF/InformINIT.html>.
IE

The latest version should also be available at your nearest Info-Mac site and on AOL, although it usually takes a while for them to show up through these channels.

This document is shareware.
Please see the "Please read this..." chapter for details.

And support ALL shareware... it supports you!

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WHY IS IT CALLED "InformINIT"?

Control panels and extensions are commonly referred to as "startup files" since they are loaded by the system software at startup. In the days before System 7, control panels and extensions weren't conveniently located in their own folders (see the next chapter for details). Instead, they were found loose in the System Folder. In order to differentiate between these startup files and other files in the System Folder, they were commonly referred to as "cdevs" and "INITs" ("cdev" is the official file type for a Control Panel and "INIT" is the official file type of an Extension). Over time, many people (incorrectly) began to refer to **any** startup file as an "INIT." This term is still used by many Mac users today to refer to any extension, control panel, or other similar startup file. Since InformINIT began as a guide to extensions and control panels, the name was a play on the word "informant" which, according to my American Heritage Dictionary, means "one who discloses information." Thus, InformINIT meant "something that provides information on INITs." InformINIT has actually outgrown its name, as it now provides information above and beyond control panels and extensions, but the name is widely known, memorable, and people seem to like it... :-)

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DISCLAIMER

Yes, I **had** to put one of these in.

I am providing this product for your use and information. At the time of this writing everything in InformINIT was accurate to the best of my knowledge. I have taken considerable time and care to make sure that the information contained herein is as accurate and comprehensive as possible. However, be aware that there are times when no "official" documentation exists for an item. In addition, even when documentation does exist, sometimes the developers (including Apple) and their documentation are either unclear, contradictory, or just plain wrong. I assume no responsibility for what you, the user, does with this information. I assume no responsibility for your computer, your data, your hardware, your software, you, or your mental well-being. By using this product, you agree not to hold me liable for anything. If you do not agree to these terms, go to the "File" menu and select "Quit." Then throw this file away and forget you ever had it.

Did that cover everything? :-)

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ACKNOWLEDGEMENTS

Although many, many people have provided input and information for InformINIT, I would like to thank the following individuals specifically for their help in editing and testing InformINIT 8.1: Helen Artz, Eric Belsley, Dave Flory, Barry Gold, Do'reen Hein, Jennifer Henderson, Kenneth Kidd, Shawn King, Sue Korlan, William Lobur, Ian McFaul, Randolph Mitchell, Paul Mix, and Toby Moore. I would also like to thank the people in the UCLA GSE&IS ETU for their support and encouragement.

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HOW TO CONTACT ME

Questions, comments, etc. should be directed to me at <frakes@kagi.com>. Feel free to email me with questions and requests; I'll see what I can do. Please be aware that I get over 100 email messages per day. I read every single one; however, there are times when my responses are a bit slower than others. If you don't get a response in a reasonable amount of time, you can re-send your message with the word "RESENT" in the subject. There's a chance that your message didn't get through the first time.

However, that said, before you email me with a question like "Do you know what xxx is?" please make sure you've downloaded the latest version of InformINIT and then use the "Find" command to search for the item. By pressing the "Find" button in the Find dialog repeatedly, InformINIT will search for multiple occurrences of the words you are searching for. You can learn more about how to use InformINIT in the next chapter!

Happy computing!

Dan Frakes

<frakes@kagi.com>

The Mac Pruning Pages & Home of InformINIT:

<http://cafe.AmbrosiaSW.com/DEF/>

How to use it...

IN THIS CHAPTER:

- Brief introduction to System software
- Format of InformINIT
- Notation legend/Key terms (**IMPORTANT**!)
- Tips on transferring files & installing a new System
- Tips/warnings on "trashing" files
- RAM info

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BRIEF INTRODUCTION TO SYSTEM SOFTWARE

This section is intended for beginners who would like to get a bit of background knowledge about System software. If you already know all about it, feel free to skip to the next section...

At the top ("root") level of your hard drive is a folder named "System Folder." This folder contains your "System software." System software is the software that actually makes your computer work. Also known as the operating system or "OS," it is loaded when your computer starts up ("boots") and stays in memory as long as your computer is running, directing all of its operations and functions. There are quite a few different operating systems out there: Mac OS, Windows (both 3.1 and 95), UNIX, NextStep, OS/2, etc. Some of these work on different types of computers, some work on the same computers. More could be listed, but what is important is that there are many different types of computers, and many different operating systems to run them. Fortunately for us, we use the Mac OS.

System File and Finder

The Mac OS consists of two key components, the System file and the Finder, and many smaller files which modify them. The **System file** contains the instructions and code (in Mac-talk, the "resources") which your computer uses to function in the most basic way. It allows your applications to communicate with your computer's hardware, and also controls how each piece of your computer's hardware talks to the rest of the hardware. The **Finder** is the interface you use to work with your computer. It is actually an application which is launched when the computer starts up, and provides the graphical user interface (GUI) with which you interact. It provides a way to take advantage of the functionality of your computer, allowing you to do such things as access files, open and close windows, launch applications, etc. While it is possible to use your Mac without the Finder running, most people won't have the occasion, nor the desire, to do so.

Besides the System and Finder, there are many other files which affect the way your computer

operates and which dictate the extent of its functionality and its specific abilities. The two main types are "extensions" and "control panels." These files are sometimes referred to as "startup files" (because they are loaded when your computer starts up) or as "INITs" (see the section titled "Why is it called InformINIT?" in the "Introduction" chapter).

Extensions and Control Panels

An **extension** is a file that loads code into your System file at startup (before the Finder launches) and temporarily modifies how your computer operates. These modifications can be outright changes in the way the System or particular applications behave, or they can provide added functionality which the System file and Finder alone do not provide. These changes remain in the System file until your computer shuts down. Because of this non-permanence, in order to perpetually gain the functionality which a certain extension provides, it must load every time your computer starts up. Unlike a control panel (below), you typically cannot make changes in the way an extension operates (unless it has a corresponding control panel which provides this functionality). Extensions are located inside your System Folder in a folder called "Extensions."

While the above description is the "official" description of what an extension is, in reality, there are different kinds of extensions: some load at startup as described above, while others wait until they are needed by either the System software or an application (see the "Non-RAM INITs" chapter for examples of these extensions).

There are two different kinds of **control panels**. The first type are files which provide you with the ability to change the way your System software itself operates. These control panels let you change things such as your monitor resolution, the speed of your mouse, and many other System-related attributes. These files don't load code into your System file at startup, and the settings you choose in them are applied even if the control panel isn't "active" at startup. For example, if you use the Mouse control panel to set your Mouse speed, that setting will remain whether or not the control panel is active (see the chapter on Startup File Management).

The second type of control panels are files which, like extensions, load code into your System file at startup and temporarily change how your computer operates. Their "control panel" interface provides you with the ability to make choices about their behavior. They may also allow you to choose how an accompanying extension (above) affects your computer.

Control Panels are located inside your System Folder, in a folder called "Control Panels." When installed ("enabled"), all control panels are accessible from the "Control Panels" item in the Apple Menu for easy access. The "preferences" (your chosen settings) for control panels are located in one of three places:

1) Within the control panel itself
2) In a preferences file in the "Preferences" folder inside your System Folder
3) In what is know as Parameter RAM, or PRAM (see the chapter on PRAM for details)

Which ones do I need?

Depending upon which Macintosh or Mac clone you have, the control panels and extensions you have and need may vary, as some INITs provide functionality which is not needed on all systems, and some systems require files which are not required on others. In addition, many applications and utilities, both Apple and third-party (non-Apple), install control panels and extensions of their own. However, it is often not clear whether or not you need everything you have, or have everything you need. In addition, and this is the cause of some amount of grief for Mac users, many extensions and control

panels conflict with each other, causing strange behavior, crashes and freezes. InformINIT attempts to ameliorate this situation somewhat by informing you as to what various INITs do, whether or not you need them, and whether or not they conflict with anything else. Once you figure out what you need/don't need, you can begin to manage your System software better. This process is covered in the next chapter, "Startup File Management."

Other System-related files

There are many other files which work with your System software and applications to provide added functionality. Most of these are located within your System Folder, and provide support and/or resources. A partial list of these types of files is included in the chapter "System Folder Contents."

SIDE NOTE: What happens when your Mac starts up?

The following is the sequence that occurs when your computer starts up:
• Startup "chime" is played
• The hardware ROM is loaded into memory
• The hardware RAM is tested
• The ADB (keyboard/mouse) port is queried for attached ADB devices and "reset"
• The SCSI port is queried for attached SCSI devices
• The Printer and Modem ports are queried for attached devices
• The PCI expansion card slots are queried for installed PCI cards
• The computer searches for a bootable System Folder. It looks first to the floppy disk drive, then the device selected in the Startup Disk control panel, then internal SCSI ID 0, then 6, 5, 4, 3, 2, and 1, then the external SCSI chain (if your Mac has one) in the same order. **NOTE**: holding the mouse button down at startup ejects any floppy currently in the floppy drive; holding the "c" key forces the Mac to use a System Folder on the internal CD-ROM drive; shift-option-command-delete forces the computer to ignore whatever device is located at SCSI ID 0 (usually the internal hard drive) when looking for a System Folder.
• The smiling Mac is drawn on the screen
• If a System Enabler is present, it is loaded
• Extensions and Control Panels located in the Extensions folder are loaded in alphabetical order
• Extensions and Control Panels located in the Control Panels folder are loaded in alphabetical order
• Extensions and Control Panels located loose in the System Folder are loaded in alphabetical order
• The Finder is loaded/launched
• Items in the Startup Items folder are launched
• File Sharing starts up (if selected)

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FORMAT OF InformINIT

The content of InformINIT is broken up into chapters based on file type/topic. The chapter pull-down at the bottom of this window and the "Contents" menu in the menu bar list these sections. There is also a table of contents which can be browsed by clicking on the box in the lower left-hand corner or by clicking on the InformINIT icon (below). This icon is also located in the top-right corner of every chapter. **NOTE: if you can't seem to find an item, make sure you use the "Find" command and check the "Non-RAM," "Groups" and "Third-Party" chapters.** Many items are included there based on their file type, functionality and developer. **Clicking the "Find" button in the Find dialog repeatedly will search for multiple occurrences of a word or file**

name. I say this because many people write me with a message such as "I couldn't find 'xxx' in InformINIT" when it's really in here. Sometimes a file's location isn't quite where you think it might be (i.e., in the "Groups" or "Non-RAM" chapters).

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IMPORTANT!
NOTATION LEGEND/DEFINITIONS OF SOME KEY TERMS

Throughout this document, various items contain special notations:

• Items which pertain ONLY to Mac OS 8, or were introduced in Mac OS 8, are marked by OS8.

• Items which pertain ONLY to Mac OS 8.1, or were introduced in Mac OS 8.1, are marked by OS8.1.

• Third-party items which are "officially" compatible with OS 8 or OS 8.1 are marked by OS8 COMPATIBLE, or OS8.1 COMPATIBLE, respectively. NOTE: if an item is not labeled as **being** OS 8 or OS 8.1 compatible, and the description does not state that it is **not** compatible, it still **may be** compatible. However, use it at your own risk, as I have not been able to officially verify compatibility.

• I have tried to include the latest version numbers available. However, sometimes the latest version of a file is only available with the purchase of the latest version of the MacOS (i.e. Mac OS 8 or 8.1). Thus, in the Apple sections, if this is the case, I have tried to include the latest non-OS 8 version first, and the version provided by Mac OS 8/8.1 after it, in blue: (v1.2/v1.2.1)

• Items which pertain ONLY to 680x0 machines are marked by 68K (see "680x0 Macs" below).

• RAM consumption figures are noted by [U/R] (see below).

• Beginning with version 7.6 of the System software, Apple stopped calling their system software "System xxx" and officially began using the term "Mac OS xxx." Thus, v7.5.5 is called "System 7.5.5" while v7.6.1 is called "MacOS 7.6.1." This practice is reflected throughout InformINIT.

• When there is an "x" in the name or version number of an entry, computer model number, or System version, it means that the "x" can stand for several different numbers. For example, "System 7.5.x" means any of the various "System 7.5" versions: 7.5.0, 7.5.1, 7.5.2, 7.5.3, 7.5.5. "Performa 57x" could mean a Performa 575, 576, 578, etc. This notation is merely used as shorthand instead of saying "all of the different versions of System 7.5" or "all of the Performas which have a three-digit number where the first two digits are 57."

• Throughout InformINIT, you will see "NN" and "IE" buttons:

  o If you are running Netscape Navigator, clicking on the "NN" buttons will take you to the
     corresponding URL. You must have Netscape **running** for this to work.
  NN   <- Click on **this** button to launch Netscape Navigator.

  o If you are running Internet Explorer, clicking on the "IE" buttons will take you to the
     corresponding URL. You must have Explorer **running** for this to work.
  IE   <- Click on **this** button to launch Internet Explorer.

MAC MODEL DIFFERENCES

There are frequent mentions of "PCI Macs," "PowerMacs," "680x0 Macs," "PowerPC- native," etc. within InformINIT. Just to clarify for those of you who are unfamiliar with these terms, the following is a primer:

• 680x0 Macs: Macs based on the older Motorola 68K processor. The earliest of these chips was the 68000. As you move up through the 68020, 68030, and, most recently, the 68040 chips (there was no 68010 Mac), clock speeds increase and even the same clock speed is faster (i.e. a 68040 chip running at 33 MHz ['megahertz'] is much faster than a 68030 at 33 MHz). The terms "680x0" and "68K" refer to any/all of these chips. Apple no longer produces any computers with a 680x0 chip; the last 68040 computer was the PowerBook 190.

• PowerMacs/PowerPC Macs/PowerMac clones: newer Macs are based on the "PowerPC" processor chip, developed in cooperation by Motorola, IBM and Apple. The PowerPC chip uses a completely different design and architecture, as well as a different kind of "code" for applications (code is the "language" that a program is written in). This chip is **much** faster than the 68K chips, and when applications are written in "native" PowerPC code (code specifically written for the new chip's architecture), the speed increase is very noticeable. Over the past few years, Apple has been gradually moving all of their systems over to the PowerPC. In order to make the transition from 68K to PowerPC as painless as possible, Apple included "emulators" in the Mac System software which allow the PowerPC chip to run applications written for the 68K chips by "emulating" a 68K chip. Unfortunately, 68K applications running in emulation on PowerPC computers can oftentimes run slower than on an actual 68K Mac. Thus whenever possible it is beneficial to have "PowerPC- native" applications.

In 1995 Apple began allowing other computer manufacturers to license the Macintosh architecture and make Macintosh "clones," which are computers not made by Apple, but which run the Macintosh operating system, have Macintosh "ROMs" (the code/ instructions/ information which is actually contained on the computer's logic board), and are basically just Macs made by a company other than Apple. Nearly all, if not all, of these clones use the PowerPC chip.

As with the 68K chips, there are various "models" of the PowerPC chip: 601, 603, 603e, 604, 604e, etc. For the most part, a higher number/ letter means a faster processor, given the same "speed" (i.e. a 100 MHz 604 is much faster than a 100 MHz 601). However, the 603 series is a lower-power and less expensive version of the PowerPC chip (it is used on PowerBooks, Performas, and lower-cost clones), and can at times be slower than the 601 series, given the same clock speed. But this marginal loss in speed has been more than offset by the fact that while the 601 chip topped out at just over 100 MHz, the 603 series has been pushed, at the time of this writing, to 300 MHz. The 604 series of chips are dramatically faster than the 601 and 603 chips, and at the time of this writing offer the fastest performance of any desktop processor in the world.

• PCI Mac: most Macs/Mac clones have "expansion slots" which allow the user to expand the capabilities of their computer. Some examples of these enhancements include video and graphics cards, hard drive interfaces and accelerators, and "MIDI" interfaces. Older Macs use an expansion architecture, called NuBus, which few other computers use (these expansion cards are called "NuBus cards"). Much of the rest of the computer world uses another standard for expansion, called Peripheral Component Interconnect, or "PCI" (these expansion cards are called "PCI cards"). While both the NuBus and PCI architectures have their advantages, the PCI architecture provides speeds up to three times as fast as the NuBus architecture. These performance advantages, in addition to the larger number of PCI cards available and their lower relative cost, led Apple to begin using PCI expansion slots in their computers. The PCI architecture debuted on the PowerMac 9500, then appeared on the 7200/7500/8500 series. Apple has been gradually implementing the PCI bus (the hardware system which uses PCI cards) in all of their new models; there are no longer any desktop Macintosh systems in production which use the NuBus architecture. Most, if not all, Mac clones also use PCI.

There are a few differences with respect to hardware operation and System software because of this different architecture; it is sometimes necessary to refer specifically to these computers. Thus, Macs which use the newer PCI bus are often referred to as "PCI Macs." In addition, since every Mac or Mac clone which uses the PCI architecture also uses the PowerPC chip, all "PCI Macs" are also "PowerMacs" (or PowerMac clones).

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TIPS ON TRANSFERRING FILES / INSTALLING A NEW SYSTEM

If you are installing a new System Folder, or transferring files over from an older Mac to a newer one, the best way to transfer files over from an older System Folder to your new System Folder is this: Don't! For the most problem-free installation, do a "clean" installation of the latest system software for your Mac, apply the appropriate system updates, if necessary, then reinstall all of your peripheral stuff from the original disks. Then, if you don't have fresh copies, transfer over the random extensions and control panels you can't live without. Finally, go through InformINIT and remove/disable the stuff that the System installer installs that you don't need. This is the only way you're assured that you haven't taken something out that you need, nor have you put something in that you don't need.

What is the difference between a "normal" installation and a clean install? A normal system software installation replaces system files which have been updated and adds new ones which are needed, but leaves alone other files which are either still needed or not recognized (i.e. non-Apple files).

If you just click on the "install" button in any Apple system software installer, you will get a normal system software installation. A clean system software installation creates a completely new System Folder on your hard disk. The old System Folder is renamed "Previous System Folder" and remains on your hard drive until you remove it. You can manually move non-Apple extensions, control panel, fonts, etc. from this older System to the new one. Some people don't believe in doing a clean install unless you have problems; I usually take a more proactive approach, and believe that you can avoid problems in the first place by doing a clean install. Your mileage may vary.

For those of you who are unfamiliar with the "clean install" process, there are two different ways to make the installer perform a clean install, depending upon the version of the System software/OS you are installing. In the most recent versions of the OS, there is actually a button in the installer called "Options..." which will provide you with the option of a clean install. In older versions, the trick is to hold down Command-Shift-K from the initial installer dialog box. You will be prompted for either a new system folder or a replacement system folder. If you want the complete, thorough, and extremely loooong instructions, refer to Apple's own Clean Install Tech Note, which is available from the Apple Tech Info Library (see the "Resources" section).

It has been suggested that some conflicts can be avoided by performing a low-level reformat of your hard drive before you install your System software and other files. Personally, I do this whenever I get a new drive, whether it be a hard drive, Zip disk, Jaz disk, etc. However, this is just *my* preference. Many people never do a low-lever reformat, and never have a problem. On an Apple drive, a low-level reformat can be done using Drive Setup (the latest version at the time of this writing was 1.4) or HDSC Setup; for third-party drives, use the latest version of the software that came with the drive. **NOTE: before you do a low-level reformat, be sure to backup all of the data on your hard drive, as the reformat will erase all of your data.** After you reformat, you can restore all of your data, applications, etc. from the backup. **NOTE**: Apple, and other hardware manufacturers, advise against doing a low-level reformat of an IDE hard drive. IDE hard drives are found in many PowerBooks, Mac clones, and newer PowerMacs.

Finally, it is also a good idea not to transfer over all of your preferences from the older System Folder. Preference files can become "corrupted" over time, and it is a good idea to create new preference files once in a while. If at all possible, start over and set your preferences running off of the new System. Note that for applications or utilities which maintain elaborate preferences and/or logs, it may be easier to keep your old preferences. **NOTE**: if you are using the AppleTalk, TCP/IP, and PPP control panels from Apple, you can "Export" your settings to a file. After starting over with a fresh System Folder, you can then "Import" these settings back into the control panels, thus saving yourself the trouble of having to keep track of them!

NOTE: there is a recently-released utility, "Mac OS Installer Helper," which supposedly helps users transfer over preferences, control panels, extensions, etc. after performing a clean install. **I have never used it, so I cannot attest to its effectiveness.** However, it sounds like it could be promising. If you are interested in this utility, it can be found at:

NN   <http://www.QuickTimeFAQ.org/software/>
IE

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TIPS/WARNINGS   ON   "TRASHING"   FILES

As you go through InformINIT, there will be many times you will read the description of a file, and think that it's obvious that you don't need it. You may even have a pressing urge to put the file in the trash and delete it :-). However, if you're ever the least bit unsure, it's always a good idea to keep a copy of the file around. For example, make a folder called "Not Needed?" and put all of the questionable files in there. If your machine runs fine for a while without them, then go ahead and get rid of them. This process will save you a lot of trouble if it turns out you really **did** need a file, but got rid of it.

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RAM   INFO

Throughout this document, I have included RAM info to help you get an idea about how much RAM certain files use and to help you reduce the size of your system file's RAM consumption. The figures following each item are presented in the form of [U/R]. "U" is the RAM (in K) actually used by the item at startup on my system. "R" is the maximum amount requested by the item. There are actually two types of RAM for startup files to use: "system" memory and "high" memory. Since the implications of the two types of memory are the same for most people, I haven't differentiated between the two. At any given time, depending upon the configuration of your system, the amount used can vary. For example, Adobe Type Manager 3.9 will take up more or less memory depending upon how many fonts you have installed. So... "your mileage may vary" -- although for some items, you'll probably never use the full amount "requested." If an item is followed by "[LB]," it means that RAM info on this item isn't discernible due to the fact that it loads, and therefore has allocated memory, before memory statistics can be gathered. If an item is followed by "[NA]," it means that the file does not allocate memory at startup. **PLEA FOR HELP: This info is painstakingly difficult to compile, so your assistance is appreciated. If any readers can provide help with this info, please email   me.**

Startup File Management

IN THIS CHAPTER:

• What files do you have & what does it mean to "manage" them?
• Why should you care which files load at startup?
• Conflict testing
• Making it easier: startup file management utilities
• Utility summaries

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If you've read the "Introduction" chapter, you know all about control panels and extensions. Now that you know what they are, and how they work, how can you manage them better? This chapter gives a brief introduction to startup file management, and presents some information on startup file management utilities.

WHAT FILES DO YOU HAVE & WHAT DOES IT MEAN TO "MANAGE" THEM?

The first step to managing startup files is knowing which ones you actually have. Control panels and extensions are located in special folders within the System Folder. Strangely enough, these folders are called "Control Panels" and "Extensions," respectively. Any INITs that are located inside these two folders will be used by the system (loaded) at startup. There are also two other folders which you probably have, called "Control Panels (Disabled)" and "Extensions (Disabled)." These folders are used by startup file management utilities, such as Apple's Extensions Manager, to "disable" startup files (see below). Any control panel which is moved to the "Control Panels (Disabled)" folder will still be on your computer, but will not load at startup -- it will just sit there. Likewise with extensions, any extension file which is moved to the "Extensions (Disabled) folder will not load at startup. So if you are having trouble with a particular startup file or if you find out that you don't really need it, moving it to the corresponding "Disabled" folder will "turn it off," so to speak. Conversely, moving a file from the Disabled folder to the "normal" folder will "turn it on" by causing it to load the next time you startup your computer.

Any changes made by "enabling" and "disabling" extensions and control panels will not be implemented

until you restart your computer. This makes sense if you think about it -- since an active extension was loaded at startup, if you disable it you have to startup the computer again so that it **doesn't** load. On the other hand, if a file is not loaded at startup, if you enable it you'll have to restart so that it **does** load.

This is what is meant by the term "startup file management." It is managing which extensions, control panels, etc. you want to load at startup.

NOTE: Keep in mind that the ability to enable and disable startup files with such ease is a powerful ability. Make sure that you are comfortable with the process. If you accidentally disable a driver or extension which is needed for your computer to operate, you could have major headaches (for example, if your have an add-on video card which requires special extensions, and you turn these extensions off, your monitor may no longer work until those extensions are turned back on).

WHY SHOULD YOU CARE WHICH FILES LOAD AT STARTUP?

Some INITs don't get along very well, and should not be loaded at the same time. For example, there are several different startup files which give you a "hierarchical" Apple menu, including one provided by Apple with your System software ("Apple Menu Options"). If you later install a third-party file, such as Now Menus, MenuChoice or BeHierarchic, which provides this same functionality, it will "compete" with Apple's file and could cause problems. In this scenario, you would want to disable one or the other to avoid conflicts.

Some startup files actually slow your computer down when loaded. For example, utilities which "watch" your actions, such as an interactive spell-checker which automatically notifies you when you misspell a word, actually slow down your computer by using up processor cycles which could otherwise be used by other applications or the System itself.

Other startup files take up a lot of memory at startup, leaving you with less to use for applications, so you may only want to load them when they are absolutely necessary.

For a comprehensive example, if you are running a PowerBook off of a battery, you probably don't want files loaded which slow your computer down, since the PowerBook already automatically slows itself down to conserve battery power when not plugged in. In addition, you may prefer to have more RAM available to use for a RAM disk when traveling. You could thus speed up your machine, and reduce the amount of RAM used by System files, by disabling all but the essential startup files when running off the battery. When you return to your home or office, where you have an AC outlet, you could then restart with the full complement of files active. Along those same lines, many people choose to turn "off" spurious extensions and control panels when they are using their computers for games, video capture, or other uses which demand the full speed of the processor or lots of free RAM.

You can see from these examples that there are several good reasons why knowing what's in your System Folder and how to deal with these items are important. However, for many people, the most important reason is knowing what to do when problems arise. Which leads me to...

CONFLICT TESTING

As I mentioned above, one reason to be moving startup files around is to solve what are commonly called "extension conflicts." These occur when two or more startup files (not necessarily extensions,

despite the vernacular), for reasons which are too complex to get into here, don't work properly when they are loaded together. This can result in problems as minor as cosmetic blemishes (a menu which doesn't appear in the right place or a window which does not redraw itself on the screen properly) or as major as a "system crash" or "freeze," necessitating a restart.

The Number 1 rule in Mac troubleshooting: if you are having a problem with your Mac, restart and hold the "shift" key down until you see the message "Extensions Disabled." This will startup your computer with **no** extensions, control panels, startup items, etc., including Apple files. If the problem still exists, you've got other problems :-). But if the problem is gone, a conflict between startup files is the most likely culprit for the cause of your problems.

When an extension conflict occurs, the only solution is to find out what combinations of files are causing the problem, and prevent them from loading together. There are two main approaches you can take to this problem:

• **Test newer files**: if the problems you are experiencing have started recently, the chances are good that a recently-installed file is causing the problem. You should disable files that you recently installed and see if the problem goes away. If it does, you can add the newer items one at a time until you find out which one (or more) caused the problem.

Often figuring out which files have been installed recently is difficult, because many software installers will install startup files without informing you, or you may forget about that shareware control panel you installed last week. One suggestion is to put the "Labels" menu to use. While few people seem to use this feature of the Mac OS, it can be very useful in keeping track of files. Using the "Labels" control panel, you can set up a label name for each color. **Before** you have problems, you could name one of the colors "no problems," and label all of your control panels and extensions with this color (open the "Control Panels" folder, press command-a to select all of the files, then select your label color from the "Labels" menu. Then do the same with the "Extensions" folder). If you add new files, and after a few weeks everything is still working fine, label the new files "no problems" as well. This way, if you ever do have problems, you can view your Extensions and Control Panels folders "by Label" and see which files have been added recently, and which files haven't earned your "seal of approval" yet!

Along those same lines, MacUser online offers a neat utility, "MacUser's Install Tracker," which tracks installations and keeps a record of when and where every file gets installed. You can get it from:

<http://www5.zdnet.com/mac/download.html>

Another possibly useful utility is "SysCompare," which helps you keep track of what is installed in the System Folder. You run this utility before an installation, peform the installation, and then run the utility again, and SysCompare lists what file were installed.

Yet another utility which could be useful, at least if you are trying to get rid of an application and its files, is "Yank" v2.0, which can supposedly uninstall any application and associated files created by that application by moving them to the trash. However, be careful with this utility, because it can be dangerous if not used properly.

You can get SysCompare and Yank from any Info-Mac software archive, such as:

<http://hyperarchive.lcs.mit.edu/HyperArchive.html>

• **Test combinations of files**: if the problems you are having cannot be explained by or tracked to newer files, or if you just don't know when and which files have been added, you can methodically test

all files yourself. This approach can take a while, but if done properly can usually isolate a problem file. The process involves testing different "sets" of files until you have isolated the file or files which are responsible. The best way to do this is to start out by loading half of your startup files. If the problem is gone, these files are not causing the problem and can be eliminated from the testing process. If the problem exists, the half that were not loaded can be eliminated. You should then split the "problem" group of files in half, and then test both sub-groups for problems. You should continue this process, eliminating half of the files at every restart, until you have narrowed the conflict down to one or two files. In the past, before the advent of startup file management utilities, this process involved manually moving groups of files between folders, a process which was both tedious and frustrating. However, these utilities have made life easier for many a Mac user, as is discussed in the next section.

It should be noted here that there are times when two or more startup files cause a problem which only shows up when all of them are loaded. In this scenario, it is difficult to manually find the offending files using the above method. This is one area where the commercial utility Conflict Catcher (discussed below) excels.

MAKING IT EASIER: STARTUP FILE MANAGEMENT UTILITIES

If every time you wanted to move System files around, you had to manually open folders and drag files back and forth, and then hope to keep track of it all, no one would blame you for throwing your arms up in frustration and deciding to go back to your Brother word processor. Fortunately, there are quite a few utilities designed to make this process easier. These utilities, which I call "startup file management utilities," allow you to enable and disable various System files from within the utilities themselves. The utilities will then do all the tedious moving for you. They also allow you to set up different "sets" of INITs which you can load in different circumstances.

There are several different startup file management utilities out there, each with different features, each with a different cost, and each designed for different types of file management. The most basic ones merely move files around, and only support the management of control panels and extensions. The more advanced ones provide information on files, allow you to manage things such as application plug-ins, and even automatically test for conflicts. Somewhere in the middle is one that is free and, conveniently enough, already on your Mac: Apple's Extensions Manager.

UTILITY   SUMMARIES

Below I have included a brief summary of each of the major startup file management utilities, including a list of features, price, whether the product is commercial, shareware or freeware, and web site information if available. Take these summaries as advice, rather than gospel: I have gathered this information from each utility's own documentation and "P.R." If you want further information you should contact the author/developer directly. If you were to ask me to endorse a particular product, I personally would recommend Conflict Catcher. Its conflict-solving abilities are unmatched and truly set it apart from the others (I don't work for them, but have been a satisfied user for years).

NOTE: I've also seen a few other startup file management utilities; however, most of them are so old (for example: INITPicker, from 1992) that I have declined to even list them for fear of incompatibilities.

Conflict   Catcher   (v4.1.1)

Casady & Greene
NN   <http://www.casadyg.com/>
IE

Commercial product -- approximately $60-$80

• Mac OS 8.1 compatible
• Allows you to enable/disable startup items.
• Allows you to create "sets" of startup items to load in different circumstances.
• Can be opened at startup to modify the startup process.
• Pre-configured "Apple-Only" sets.
• Allows you to compare two "sets" of startup files side-by-side.
• Controls: extensions, control panels, apple menu items, control strip modules, fonts, files loose in the System Folder, Startup Items, Shutdown Items, web browser plug-ins, Photoshop plug-ins, Contextual Menu Items, Location Modules, AppleTalk extensions, and any other folder of items you choose.
• Automatically tests for startup crashes (i.e. rather than System problems that occur after startup)
• Can save and restore conflict tests.
• Tests are not limited by the number of conflicting files.
• Tests recently installed items first to find out if a new problem is caused by them.
• Easy step-by-step conflict testing process.
• Allows you to delete files directly from within the utility.
• Allows you to open files directly from within the utility.
• Allows you to use the "Get Info" command directly from within the utility.
• Provides the ability to "Find" items in the window by typing in the item's name.
• Allows you to change the load order of files.
• Contains pre-set file "links" (files which are incompatible, or should be loaded together, or which should load in a certain order) and allows you to create your own.
• Supports single-item group links and allows completely overlapping group links.
• Provides information on startup files via a "reference library." Many file information entries include live internet links to web pages, email addresses, software update addresses, vendor addresses and vendor phone numbers.
• Reference library is updated by downloading new library files.
• Supports Internet Config
• Displays the names of startup files at startup.
• Displays files at startup which are usually invisible.
• Allows the following views of file information: name, date installed, date modified, RAM usage, file type, enabled/disabled, folder in which file resides, load order, load time, package (what software package it belongs to).
• Allows you to view two of the above attributes at once via two columns (so you can view files by name, and select any of the above categories for the second column of information)
• Allows you to scan startup files for damaged resources.
• Allows you to protect preferences with a password dialog
• Can test whether or not it is causing any problems
• Provides the ability to restart, shutdown, pause, or bypass all startup files during the startup process via key combinations.
• Provides a detailed System report upon request.
• Supports AppleScript.
• PowerPC native.
• Repairs damaged files installed by the OS 8.1 updater.
• Under OS 8 and 8.1, knows not to disable the Appearance extension and Text Encoding Converter, which are required for operation.

Now Startup Manager
Now Software/Qualcomm
NN <http://now.qualcomm.com/>
IE

Commercial product -- approximately $50-$60

• Allows you to enable/disable startup items.
• Allows you to create "sets" of startup items to load in different circumstances.
• Can be opened at startup to modify the startup process.
• Pre-configured "Apple-Only" sets.
• Controls: extensions, control panels, apple menu items, control strip modules, fonts, files loose in the System Folder, Startup Items, Shutdown Items, web browser plug-ins and Photoshop plug-ins.
• Tests are limited to three conflicting files.
• Allows you to delete files directly from within the utility.
• Allows you to open files directly from within the utility.
• Allows you to change the load order of files.
• Contains pre-set file "links" (files which are incompatible, or should be loaded together, or which should load in a certain order) and allows you to create your own.
• Provides information on startup files via a "reference library." Many file information entries include live internet links to vendor web pages.
• Reference library is updated by downloading new library files.
• Displays the names of startup files at startup.
• Displays files at startup which are usually invisible.
• Allows you to compare two "sets" of startup files side-by-side.
• Supports Apple Guide.
• 24-hour "automated" help desk.

Apple Extensions Manager
Apple Computer, Inc.
Part of the standard System software installation -- FREE

• Mac OS 8.1 compatible
• Allows you to enable/disable startup items.
• Allows you to create "sets" of startup items to load in different circumstances.
• Can be opened at startup to modify the startup process.
• Pre-configured "Apple-Only" sets.
• Controls: extensions, control panels, files loose in the System Folder, Startup Items, Shutdown Items.
• Allows you to use the "Get Info" command directly from within the utility.
• Provides the ability to "Find" items in the Extensions Manager window.
• Provides information on startup files via information which is part of the file itself. If a startup file does not provide this info, Extensions Manager will not show any info.
• Allows the following views of file information: name, enabled/disabled, package (what software package it belongs to), file type, file creator.
• Provides the ability to restart during the startup process.
• Supports AppleScript.

ExAminer
Mike Weasner
NN <http://members.aol.com/mweasner/examiner.html>

IE

Shareware -- $10

ExAminer is an application, rather than a control panel or control panel/extension combination. This has two major consequences, one good, one bad. The good is that since it does not interfere with the System at startup by interrupting the startup process or loading its own code, it cannot cause conflicts itself, nor conflict with other startup files. The bad is that this means it is not available at startup to modify the startup process.

- Allows you to enable/disable startup items.
- Allows you to create "sets" of startup items to load in different circumstances.
- Controls: extensions, control panels, apple menu items.
- Displays different folders of files (control panels, extensions, etc.) separately.
- Supports Apple Guide.
- PowerPC native.

Symbionts   (v2.8.2)
B. Kevin Hartman, Nivek Research
NN   <http://www.kagi.com/authors/nivek/>
IE

Shareware -- $20

- Mac OS 8.1 compatible
- Allows you to enable/disable startup items.
- Allows you to create "sets" of startup items to load in different circumstances.
- Can be opened at startup to modify the startup process.
- Controls: extensions, control panels, apple menu items, control strip modules, fonts, Startup Items, Shutdown Items.
- Allows you to delete files directly from within the utility.
- Allows you to open files directly from within the utility.
- Allows you to use the "Get Info" command directly from within the utility.
- Displays the names and memory usage of startup files at startup.
- Displays files at startup which are usually invisible.
- Provides information on startup files: name, RAM usage, file type, file size, file version, enabled/disabled.
- Provides the ability to restart during the startup process.
- Supports Balloon Help.
- Patches no traps, so cannot conflict with other startup files.

System   Sculptor
Commercial Product -- $29.95
NN   <http://users.aol.com/ccsoftware>
IE

System Sculptor is an application, rather than a control panel or control panel/extension combination. This has two major consequences, one good, one bad. The good is that since it does not interfere with the System at startup by interrupting the startup process or loading its own code, it cannot cause conflicts itself, nor conflict with other startup files. The bad is that this means it is not available at startup to modify the startup process.

• Controls: extensions, control panels, apple menu items, fonts, files loose in the System Folder.
• Allows you to save "sets" only for each type of file: one set for control panels, another for extensions, etc. Some people find this convenient, others find it very inconvenient.
• Allows you to delete files directly from within the utility.
• WARNING: allows you to manage **all** files in the System Folder, including the System file itself, the Finder, the Clipboard, etc., so you could accidentally "disable" the System file!
• NOTE: For every System Sculptor purchased, the authors donate $1.00 to the American Humane Society.

System Versions

IN THIS CHAPTER:

• What is the latest version of the System software? How do I get it?
• Will the latest version of the System software run on my computer?

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WHAT IS THE LATEST VERSION OF THE SYSTEM SOFTWARE & HOW DO I GET IT?

Mac OS 8.1 is the most recent version of the System software. However, it is not a free upgrade except for users of OS 8. Mac OS 8 and 8.1 are commercial upgrades which you must purchase if they did not come with your computer.

There are two ways to get to Mac OS 8.1:

• Install Mac OS 8, then install the 8.1 Update. If your computer came with OS 8 pre-installed, you can just install the update.

• Install the full OS 8.1 from the OS 8.1 installer.

For details on installing Mac OS 8.1, see the "OS 8.1 Info" chapter.

Mac OS 7.6.1 is the most recent version of the System software before Mac OS 8/8.1. Just as with OS 8/8.1, Mac OS 7.6 is not a free update. It is a commercial upgrade which you have to buy if it did not come with your computer.

There are two paths to get to Mac OS 7.6.1:

• Install OS 7.6, then install the 7.6.1 updater. If your computer came with 7.6 pre-installed, you should just install the updater.

• Install OS 7.6.1 from the full 7.6.1 installer. Recent versions of the OS 7.6 System CD will install 7.6.1 directly.

For details on installing Mac OS 7.6.1, see the "7.6.1 Info" chapter.

System 7.5.5 is the most recent "free" version of the System software, although technically you have to have some version of System 7.5, which is not free. If you are running any version of System 7.5, you can update to 7.5.5 by downloading System updates from Apple.

There are two "official" paths to get to get to System 7.5.5:

• On computers running System 7.5, 7.5.1, or 7.5.2: Install "System 7.5 Update 2.0" then install "System 7.5.5 Update."

• On computers which came with System 7.5.3 pre-installed, install only the "System 7.5.5 Update." NOTE: if you go to "About this Macintosh..." under the Apple menu, and it says that you have "System Software 7.5.5," the version of the System software you have pre-installed on your computer is already updated to the latest version.

For details on installing System 7.5.5, or the earlier System 7.5.3, see the "7.5.5 Info" and "7.5.3 Info" chapters, respectively.

WILL THE LATEST VERSION OF THE SYSTEM SOFTWARE RUN ON MY COMPUTER? / WHICH VERSIONS OF THE MACINTOSH OPERATING SYSTEM WILL RUN ON WHICH COMPUTERS?

Below is a list of which Macintosh models are supported by which versions of the Mac OS since System 7.5.3 (or, to look at it another way, which versions of the System software each Mac model can use).

NOTE: Unfortunately, I do not have information on which Macintosh "clones" are supported by which Mac OS versions. If you have a Mac clone and would like to find out this information, you will have to contact the computer vendor directly.

System 7.5.3

The following Macs are supported by System 7.5.3:

Plus
SE and SE/30
Classic, Classic II and Color Classic
The entire II series
All LC models
Macintosh TV
All Centris models
All Quadra models
All Performa models **except** the Performa 6400 series
PowerMac 6100, 7100 and 8100 series
PowerMac 5200 and 5300 series
PowerMac 6200 and 6300 series
PowerMac 7200 series
PowerMac 7500 and 7600
PowerMac 8500
PowerMac 9500 series

Macintosh Portable
All PowerBooks **except** the 3400 series

The following models are supported by System 7.5.3, but require a System Enabler (see the "System Enablers" chapter):

PowerMac 4400/200
PowerMac 5400
Performa 6400 & PowerMac 6400 series
PowerBook 1400

The following models are NOT supported by System 7.5.3:

128K, 512K, 512Ke and XL/Lisa
PowerMac 6500 series
PowerMac 7300 series
PowerMac 8600/200
PowerMac 9600/200, 9600/200 MP and 9600/233
PowerBook 3400

System 7.5.5

The following Macs are supported by System 7.5.5:

Plus
SE and SE/30
Classic, Classic II and Color Classic
The entire II series
All LC models
Macintosh TV
All Centris models
All Quadra models
All Performa models
PowerMac 4400
PowerMac 6100, 7100 and 8100 series
PowerMac 5200, 5300 and 5400 series
PowerMac 6200, 6300 and 6400 series
PowerMac 7200 series
PowerMac 7300, 7500 and 7600
PowerMac 8500
PowerMac 9500 series
Portable
All PowerBooks **except** the 1400 and 3400 series

The following models are supported by System 7.5.5, but require a System Enabler (see the "System Enablers" chapter):

PowerMac 6500 Series
PowerMac 8600/200
PowerMac 9600/200, 9600/200 MP and 9600/233

The following models are NOT supported by System 7.5.5:

128K, 512K, 512Ke and XL/Lisa
PowerBook 1400
PowerBook 3400

Mac OS 7.6

The following Macs are supported by Mac OS 7.6:

Classic II and Color Classic
IIci, IIfx, IIsi, IIvi and IIvx
All LC models **except** the original LC
Macintosh TV
All Centris models
All Quadra models
All Performa models
PowerMac 6100, 7100 and 8100 series
PowerMac 5200, 5300 and 5400 series
PowerMac 6200, 6300 and 6400 series
PowerMac 7200 series
PowerMac 7500 and 7600
PowerMac 8500
PowerMac 9500 series
All PowerBooks **except** the PowerBook 100

The following models are supported by Mac OS 7.6, but require a System Enabler (see the "System Enablers" chapter):

None

The following models are NOT supported by Mac OS 7.6:

128K, 512K, 512Ke and XL/Lisa
Plus
SE and SE/30
Classic
II, IIx, IIcx
LC
PowerMac 4400
PowerMac 5500 series
PowerMac 6500 series
PowerMac 7300 series
PowerMac 8600/200
PowerMac 9600/200, 9600/200 MP and 9600/233
Portable
PowerBook 100

Mac OS 7.6.1

The following Macs are supported by Mac OS 7.6.1:

Classic II And Color Classic
IIci, IIfx, IIsi, IIvi and IIvx
All LC models **except** the original LC
Macintosh TV
All Centris models
All Quadra models
All Performa models
PowerMac 4400
PowerMac 6100, 7100 and 8100 series
PowerMac 5200, 5300, 5400 and 5500 series
PowerMac 6200, 6300, 6400 and 6500 series
PowerMac 7200 series
PowerMac 7300, 7500 and 7600
PowerMac 8500
PowerMac 8600/200
PowerMac 9500 series
PowerMac 9600/200, 9600/200 MP and 9600/233
All PowerBooks **except** the PowerBook 100

NOTE: The PowerMac 4400, 5500, 6500, 7300, 8600, and 9600 series must install the "full" version of 7.6.1; they cannot install 7.6 and then update to 7.6.1.

The following models are supported by Mac OS 7.6.1, but require a System Enabler (see the "System Enablers" chapter):

None

The following models are NOT supported by Mac OS 7.6.1:

128K, 512K, 512Ke and XL/Lisa
Plus
SE and SE/30
Classic
II, IIx, IIcx
LC
Portable
PowerBook 100

Mac OS 8 and Mac OS 8.1

The following Macs are supported by Mac OS 8 and Mac OS 8.1:

All Macintosh computers with a 68040 or PowerPC processor, including:
All Centris models
All Quadra models
Performa models with a 68040 processor
PowerMac 4400
PowerMac 6100, 7100 and 8100 series
PowerMac 5200, 5300, 5400 and 5500 series

PowerMac 6200, 6300, 6400 and 6500 series
PowerMac 7200 series
PowerMac 7300, 7500 and 7600 series
PowerMac 8500 series
PowerMac 8600 series
PowerMac 9500 series
PowerMac 9600 series
PowerMac G3 series
PowerBooks Duo series
PowerBook 500 series
PowerBook 5300 series
PowerBook 1400 series
PowerBook 3400 series
PowerBook 2400 series
PowerBook G3 series

The following models are supported by Mac OS 8, but require a System Enabler (see the "System Enablers" chapter):

PowerBook G3 series
PowerMac G3 series

The following models are NOT supported by Mac OS 8 or Mac OS 8.1:

All Macintosh computers without a 68040 or PowerPC processor, including:
128K, 512K, 512Ke and XL/Lisa
Plus
SE and SE/30
Classic, Classic II And Color Classic
II, IIx, IIcx, IIci, IIfx, IIsi, IIvi and IIvx
All LC models
Macintosh TV
Performa models with a 68030 processor
Portable
All PowerBook 100-series

Workgroup Servers

There are two "sets" of Apple Workgroup Servers, the PowerMac series and the 68K series:

• 680x0 Servers: Workgroup Server 60, Workgroup Server 80, Centris 610 and Quadra 800.
• PPC Servers: Workgroup Servers 6150, 7250, 8150, 8550 and 9150.

Apple will only support certain "official" combinations of versions of the System software, AppleShare software, and Networking software. Below is a list of which combinations are officially supported.
NOTE: this summary has not been updated for Mac OS 8 or 8.1; I could not find "official" data from Apple on Workgroup Server support for 8 and 8.1.

680x0   Servers:

System 7.5.3 running AppleShare 4.0.2 and Classic Networking
System 7.1 running AppleShare 4.0.2 and Classic Networking

NOTE: Apple does not support Open Transport or System software versions 7.5.5 or later on 68K workgroup   servers.

PPC   Servers:

Mac OS 7.6 or later running AppleShare 4.2.1 and OpenTransport v1.1.1 or later
Mac OS 7.6 or later running AISS v2.x and Open Transport v1.1.1 or later **only** with the System 7.5.5 SCSI Server Update and PPC Interrupt Extension installed.
System 7.5.5 running AppleShare 4.2.1 and Open Transport v1.1.1 or later **only** with the System 7.5.5 SCSI Server Update and PPC Interrupt Extension installed.
System 7.5.5 running AppleShare 4.2.1 and Classic Networking **only** with the System 7.5.5 SCSI Server Update and PPC Interrupt Extension installed.

7.5.3 Info

IN THIS CHAPTER:

- About System 7.5 Update 2.0
- Items eliminated by System 7.5.3/System 7.5 Update 2.0
- System 7.5 Update 2.0: Late Breaking Tips from Apple
- Differences between System 7.5.3 (pre-installed) and System 7.5.3 (System 7.5 Update 2.0)
- System 7.5.3 Revision 2
- System 7.5.3 Revision 2.1
- System 7.5.3 Revision 2.2
- Final Notes

NOTE: Some of the information in this chapter was taken from the Apple Tech Notes on System 7.5.3. Please see the notice at the end of the chapter for details.

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ABOUT SYSTEM 7.5 UPDATE 2.0

This update will update any computer running System 7.5, 7.5.1 and 7.5.2 to System 7.5.3. Computers that did not previously need an enabler to work with system software versions 7.5 and 7.5.1 still need the System 7.5 Update file since it contains most of the fixes delivered in this update.

The file called "System 7.5.2 Update" replaces the enabler file on all computers capable of running system software version 7.5.2.

This update includes all of the fixes included with the previously released 7.5.2 Printing Update, the PowerBook 5300 System Software Update, and the PowerBook 2300c Update. You do not need these updates if you install System 7.5 Update 2.0. If you previously installed any of these updates, you should install System 7.5 Update 2.0, since it contains additional fixes.

After you install the update, the About This Macintosh window says "System Software 7.5.3." If you got to System 7.5.3 by installing this update, the window also says "System 7.5 Update 2.0," to indicate the source of the system software.

ITEMS ELIMINATED BY SYSTEM 7.5.3/SYSTEM 7.5 UPDATE 2.0

The Update automatically deletes the files listed below unless you renamed any of them, in which case, you should remove the files:

The following files are now merged into the System 7.5 Update enabler or the System file. The update

deletes the old (stand-alone) versions of these files:

• 040 VM Enabler
• 601 Processor Card Enabler
• 630 SCSI Update
• 7.5.2 Printing Fix
• CFM Updater
• Color Classic Update
• Display Enabler 2.0 (however, AppleVision Software 1.0.2 installs Display Enabler 2.0.2 and Apple recommends this version if you have the AppleVision 1710AV or AudioVision 14" Display)
• EM Sound Update
• MathLib
• Mount IDE Drive
• Network Software Installer (v1.5.1 and later)
• PowerBook 150 Update
• PowerBook 2300c Update
• PowerBook 5300 Enabler
• PowerBook 5300/190 Enabler
• PowerBook 5300/2300/190 Enabler
• PowerPC Enabler
• SCSI Manager
• SCSI Manager 4.3 (a renamed version of SCSI Manager)
• Serial Update 406
• Serial DMA
• Sound Manager
• System Enabler 406
• System Enabler 701
• ThreadsLib
• Workgroup Server Enabler

The following files have been merged into or been replaced by various other pieces of the system. The update deletes the old (stand-alone) versions of the following files:

• Sound & Displays (replaced by Monitors & Sound)
• Apple Multimedia Tuner (rolled into QuickTime 2.1)
• LaserWriter 8.0 (replaced by LaserWriter 8)
• PowerPC Finder Update (renamed in System 7.5 Update 1.0 and merged into the Finder)
• Finder Update (rolled into the Finder)

SYSTEM 7.5 UPDATE 2.0: LATE BREAKING TIPS

If you have been having trouble using the System 7.5.2 Update 2, the following is taken directly from an Apple document which was the result of customer feedback:

"Since releasing Update 2.0, Apple has been monitoring our customers' experience with installing and using it. After receiving a significant amount of feedback on this software release, there is some helpful information that we can provide to ensure that the transition to the new version of System 7.5 goes as smoothly as possible.

1. Read the "Installing This Update" Read Me. It is very important that you follow the directions in

this read me when you install Update 2.0.

2. Use Disk First Aid
Make sure you use the Disk First Aid program to test and, if necessary, repair the disk on which you're going to install the update. On the CD, Disk First Aid can be found by using the path:

System 7.5 Update 2.0
  Installation
    System 7.5 Update 2.0
      System 7.5 Update 2.0 - 1
        Utilities ƒ
          Disk First Aid

On the floppy disks, Disk First Aid can be found on System 7.5 Update 2.0 - 1, in the Utilities folder. For instructions on using Disk First Aid, see the manual that came with your computer.

3. Update your hard disk driver. Make sure you update your hard disk driver to the latest version available. If you are using an Apple driver, both Apple HDSC Setup and Drive Setup are available with Update 2.0. Most 68K computers (the 68K computers that are exceptions are listed below) should use HDSC Setup. All PowerPC computers, and the following 68K computers that have IDE hard disks should use Drive Setup:
    Macintosh LC 580
    Macintosh LC 630
    Macintosh LC 630 DOS
    Macintosh Quadra 630 series computers
    Macintosh Performa 580 series computers
    Macintosh Performa 630 and 640 series computers
    PowerBook 150 series computers*
    PowerBook 190 series computers

Also, if you have a 68K computer and have installed a PowerPC Upgrade Card, you should use Drive Setup.

• Special note about the PowerBook 150 series computers: you do not need to update the driver on your computer (as described in the user's manual) with Drive Setup. (The driver on your computer is contained in it's ROM.)

On the CD, Apple HDSC Setup can be found by using the path:

System 7.5 Update 2.0
  Installation
    System 7.5 Update 2.0
      System 7.5 Update 2.0 - 1
        Utilities ƒ
          Apple HD SC Setup

On the floppy disks, Apple HDSC Setup can be found on System 7.5 Update 2.0 -1, in the Utilities folder.

To use Drive Setup 1.0.4, from either the CD or the floppies, you must first custom install it. This can be done by opening the System 7.5 Update 2.0 Installer, and selecting Custom Install in the upper pop-up menu. Then open the triangle next to "Applications," and select "Drive Setup."

4. Use the Extensions Manager control panel to turn off all non-Apple extensions before installing the update.

To do this, select "System 7.5 Only" if your current system software is 7.5 or 7.5.1, or "System 7.5.2" if your current system software is 7.5.2, then restart your computer. After the update is installed you can then go back and again use the Extensions Manager control panel to turn your extensions back on. See the "Installing This Update" Read Me for complete steps and information.

5. Do not rename or move files around within your System Folder before installing Update 2.0. The Installer makes some assumptions that certain files will be in certain places. If these files are moved or renamed, files that are installed could be placed in the wrong place, or not installed at all.

If you believe you have moved or renamed files, and are not sure how to move or rename them so that Update 2.0 will install correctly, then you should perform a clean install of the system software on your computer. For instructions on how to perform a clean install, see the manual that came with your computer.

6. If you have an AppleVision Display and you have problems after installing the Update 2.0, you should install AppleVision Fix 1.0. This software fixes such problems as:
   • When you press the buttons on the front of the display, you see a message that says "No AppleVision Display is connected."
   • You have a Power Macintosh 7200 and can't find the Monitors & Sound control panel in the Control Panels folder.
   • The Monitors & Sound control panel does not have Geometry, Color, and Monitor Sound buttons. (Note: The Monitor Sound button appears only if you have an AV monitor.)
   • You can't change the resolution of the AppleVision Display or you can't open the AppleVision Setup control panel.
   • Macintosh Guide does not contain information on the AppleVision Software or Display.

7. System 7.5 Update 2.0 will require more RAM, especially on PowerPC-based systems. The increased amount of RAM which System 7.5 Update 2.0 requires will vary greatly depending on which Macintosh system you are updating, and what your system configuration is.

According to tests run by Apple, the RAM reserved for system software for many 680x0-based Macintosh systems will increase less than 100K as compared to System 7.5.1, while the RAM reserved for system software for many Power Macintosh systems will increase 300K-850K as compared to 7.5.1. The results you will see may vary.

8. Use the following tips for these specific situations:

• Using Connectix RAM Doubler on a PowerBook. There is an incompatibility between System Software 7.5.3 and Connectix RAM Doubler and PowerBook computers. On PowerBook computers running System 7.5.3 and RAM Doubler, if you put the PowerBook to sleep and then wake it up, the machine may crash with a Type 8 error. Apple is currently working on this problem, and will have a solution available in the near future. In the meantime, there are two ways to work around this problem. First, the problem will not occur if MacsBug is installed. The MacsBug software can be found on the same on-line services listed above. The path to use is: Apple SW Updates: US: Macintosh: Utilities: MacsBug 6.5.3. Secondly, the problem will not occur if RAM Doubler is turned off.

• Using PCI PowerPC Computers with Ethernet. PowerPC-based computers with PCI slots might have a different physical Ethernet address after you install Update 2.0. The update fixes a bug that caused an incorrect physical Ethernet address to be used in environments where TCP/IP addresses are obtained using BootP, DHCP, or RARP. To see the new Ethernet address after you install the update, open the File menu in the AppleTalk or TCP/IP control panel and choose Get Info. If you install the update and are no longer able to use your TCP/IP-based applications, contact your network system administrator. If you have access to the Internet, detailed information regarding this issue can be found in the article

"System 7.5.3 and Physical Ethernet Address Change" in the Technical Information Library. The Apple Technical Information Library (TIL) is available on the Internet at <http://til.info.apple.com/>.

Apple will continue to monitor any other feedback that we receive from customers using System 7.5 Update 2.0 and provide more information as appropriate."

SIDE NOTE: DIFFERENCES BETWEEN SYSTEM 7.5.3 (DIRECT) AND SYSTEM 7.5.3 (SYSTEM 7.5 UPDATE 2.0)

NOTE: The following section is a comparison between PRE-Revision 2 system software. This is only important to people who haven't updated or will not be updating to System 7.5.3 Revision 2 and/or System 7.5.5. If you have, or intend to, you should skip directly to System 7.5.3 Revision 2, below.

There are some differences between the System 7.5.3 that is pre-installed on some Macs and comes on the accompanying Installer CD, and the System 7.5.3 that is obtained through updating an earlier version of System 7.5 with System 7.5 Update 2. This version of 7.5.3 is not the "Unity" System 7.5.3 that you can order from Apple. It is the version that came pre-installed on early PCI PowerMacs. The following information is taken from an Apple release:

"There are a few differences between System 7.5.3 as it appears on Enhanced PCI-based Power Macintosh computers (Power Macintosh 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150) versus existing Macintosh computers upgraded to System 7.5.3. The files that are different are listed below:

```
Name                              Version in A    Version in B
-------------------------------------------------------------
Apple Menu Options                    1.1.1           1.1.2
Apple Video Player                    1.3.2           1.4
Mouse control panel                   7.5.2           7.5.3
Monitor Resolution control strip      1.0             1.0.1
Apple Modem Tool                      1.5             1.5.5
Open Transport Guide Additions        1.3             1.3.1
Video Startup extension               1.3.2           1.4

A - System 7.5.3 on Enhanced PCI Power Macintosh computers
B - System 7.5 Update 2.0
```

System 7.5 Update 2.0 is focused on fixing issues with computers that came out prior to the Enhanced PCI-based Power Macintosh computers. Bug fixes included in System 7.5 Update 2.0 that may be of benefit to enhanced PCI-based Power Macintosh users are listed below:

• System 7.5 Update 2.0 fixes a memory leak in Standard File, which causes 512 bytes of memory to be orphaned in the application heap, each time a file is opened.

• System 7.5 Update 2.0 fixes an obscure bug in the Power Manager which causes a system freeze under the following scenario:

 - AppleTalk is off
 - Open the AppleTalk or TCP/IP control panels, which turns on AppleTalk

This bug is easily avoidable by turning on AppleTalk from the Chooser before opening the AppleTalk or TCP/IP control panels.

• System 7.5 Update 2.0 fixes an obscure bug where the system may freeze during startup. It only occurs if there is insufficient memory available during startup. Possible scenarios are: majority of memory is used by a RAM Disk, majority of memory is used by the Disk Cache, and/or many memory intensive third party extensions are installed.

• System 7.5 Update 2.0 fixes a bug in the Display Manager. This bug appears when a system with menus that are too large to appear on the screen. For example, using a 640 x 480 screen on a Macintosh with many items in the Apple Menu Items folder could cause this bug to appear.

• System 7.5 Update 2.0 fixes a bug in how the Display Manager saves the preferences file. When this bug occurs, the Macintosh desktop may not appear at startup.

• System 7.5 Update 2.0 fixes a bug in the Notification Manager. Without this fix, the wrong flashing icon could appear in the Application menu. In addition, this fixes issues with the clock and battery level indicators not being redrawn correctly when an alert sound is played.

• System 7.5 Update 2.0 makes the default recording mode on all PCI-based Power Macintosh computers to be the same as other Macintosh computers.

• System 7.5 Update 2.0 includes Apple Video Player 1.4, which fixes a system freezing issue on computers with MPEG cards.

• System 7.5 Update 2.0 includes Apple Menu Options 1.1.2, which has shown to improve compatibility with some third party software."

<END OF "SIDE NOTE">

SYSTEM 7.5.3 REVISION 2

THE FOLLOWING INFO IS FROM THE "READ ME" FILE THAT ACCOMPANIES 7.5.3 REVISION 2:

"Apple is recommending that only customers with specific system software and Macintosh computers update their systems with System 7.5.3 Revision 2. There is no benefit for other customers. The only systems which will benefit from System 7.5.3 Revision 2 are as follows:
• All PowerBook systems using Connectix RAM Doubler™
• All PowerBook 5300 and PowerBook Duo 2300 systems
• All PowerBook 200 or 500 Series systems which have been upgraded with the Macintosh PowerBook Processor Card Upgrade Kit with PowerPC (or upgraded with similar third party products).
• All Macintosh 7200, 7500, 7600, 8500, and 9500 systems

When you install System 7.5.3 Revision 2, you get the following enhancements:

• *Better reliability for PowerBooks using RAM Doubler*
If you have a PowerBook using system software 7.5.3, and use RAM Doubler (version 1.6.1 or earlier), you may have experienced a problem when waking your PowerBook from sleep. This software fixes this problem.

• *Overall performance enhancements for PowerBook 2300 computers and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.*

• *Improved reliability when using PC-formatted floppy disks with PowerBook 500 series or Duo series computers with the PowerPC Upgrade Card installed.*
If you have a PowerBook 500 series or Duo series computer with the PowerPC Upgrade Card installed, PC-formatted floppy disks that were formatted on your computer may be unreadable in DOS or Windows computers. This software fixes this problem.

• *Improved reliability on PCI-based computers (Macintosh 7200, 7500, 7600, 8500, and 9500 computers) and PowerBook 5300 computers, PowerBook 2300 computers, and PowerBook 500 or Duo series computers with the PowerPC Upgrade Card installed.*

• *Improved reliability when copying files to a 1 gigabyte hard disk.*
If you have a PCI-based computer with a 1 gigabyte drive, this software helps avoid problems when copying files to the hard disk.

• *Improved reliability when using the Startup Disk control panel.*
In rare instances, when you turn on a PCI-based Power Macintosh computer it may not start up from the disk selected in the Startup Disk control panel. This software fixes this problem."

SYSTEM 7.5.3 REVISION 2.1

System 7.5.3 Revision 2.1 is a very specific update which is only intended for Performa 6400/180 and 6400/200 computers. It is also pre-installed on newer 6400s. Note that if you have System 7.5.5 installed, it includes all of the fixes in Revision 2.1.

The following fixes were included in 7.5.3 Revision 2.1:
• The LocalTalk DMA 1.0.1 extension, which fixes a bug when transferring files over LocalTalk.
• An updated video driver which fixes a bug with "remaining screen bitmap artifacts" if using an Apple 15-inch display and the computer is put to sleep.

SYSTEM 7.5.3 REVISION 2.2

System 7.5.3 Revision 2.2 is a very specific version of the System software which comes pre-installed on the Performa 6360, the PowerMac 9500/200, and some 9500/180s. Note that if you have System 7.5.5 installed, it includes all of the fixes in Revision 2.2.

FINAL   NOTES

The PowerMac 4400 ships with its own special version of System 7.5.3, which includes System 7.5.3 Enabler 827. This version of System 7.5.3 cannot be updated to 7.5.5. Furthermore, it is also one of several recent models that cannot be updated to 7.6 or use the 7.6.1 Updater. In order to upgrade it past System 7.5.3, you must find the full System 7.6.1 installer.

According to Apple, by installing System 7.5.3 Revision 2 on an "Enhanced PCI-based Power Macintosh

computer," you should be updated to the same state as those who have used System 7.5 Update 2.0, then 7.5.3 Revision 2. However, when you do this you do not get the updated control panels and extensions listed in the table above under "System 7.5 Update 2.0." So it would seem that on "Enhanced PCI-based Power Macs," 7.5.3 Revision 2 only updates the System file and System Enabler. Thus I would recommend installing System 7.5 Update 2.0 before installing System 7.5.3 Revision 2.

On that same note, there was an updated Open Transport DRVR resource that was added in System 7.5 Update 2.0. Apple forgot to include this resource in 7.5.3 Revision 2, so if you do not use Update 2.0 first, you will not have the latest Open Transport Drivers.

To add even more confusion, the very latest Macs have the very latest system software pre-installed. The easiest way to figure out what system software you have is to go to "About this Macintosh..." under the Apple menu.

Finally, none of the above three paragraphs really matters if you are planning on installing System 7.5.5 Update, which contains all of the fixes from System 7.5.3 Revision 2, as well as the extra fixes that Apple forgot to include with System 7.5.3 Revision 2. For information on that updater, see the next chapter.

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Some of the above information is © Apple Computer, Inc. It is provided here as a summary of the available information which is freely available from the Apple Tech Info Library at:
<http://til.info.apple.com/>

7.5.5 Info

IN THIS CHAPTER:

- Who needs 7.5.5/Notes
- What inits, etc. were changed
- What was eliminated
- What was added
- Who needs 7.5.5
- What benefits it provides
- How to install it
- Problems
- Where is System 7.5.4?
- Final notes

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WHO NEEDS 7.5.5/NOTES

System 7.5.5 Update was Apple's last System software update to System 7.5. It includes all of the fixes from System 7.5.3 Revision 2, Revision 2.1 and Revision 2.2, but requires that System 7.5.3 or 7.5.4 be installed. For information on installing System 7.5.3, see the previous chapter.

Apple recommends that anyone using System 7.5.3 should update to 7.5.5. If you are using System software version prior to 7.5.3, you must first update/upgrade to version 7.5.3 in order to update to 7.5.5. (For the best path to 7.5.3 from older systems, please refer back to the 7.5.3 chapter of InformINIT).

Note that you cannot install System 7.5.5 Update on the PowerBook 1400. The System 7.5.5 Update installer will prevent installation on a PowerBook 1400, but will give the error "This Installer will only update System 7.5.3" when it should actually say "This update will not install on this machine." Finally, Users of non-U.S. English systems should NOT download and install the standard System 7.5.5 Update. You should contact your local Apple support center for the availability of a localized version of the Update. For information on which computers can use this version of the Mac OS, see the "System Versions Compatibility" chapter.

Note that to install System 7.5.5 Update on an Apple Workgroup Server (PPC), you must install the 7.5.5 SCSI Server Update and the PPC Interrupt Extension.

WHAT INITS, ETC. WERE CHANGED

The following files were updated to newer versions by 7.5.5:
• Serial (Built-In) to v1.2
• Energy Saver (both the extension and the control panel) to v2.0.2; however, this only applies to version 2.0/2.0.1, and not to version 1.x, as is explained in the "how to install" section
• Mouse control panel to v7.5.4

WHAT WAS ELIMINATED

The following files were eliminated by 7.5.5 (their functionality was incorporated into the System itself):
• System 7.5.3 Enabler
• System 7.5 Update
• Startup Tuner
• Power Format Patch Extension (this file was used only by Macs with a 180 MHz or faster processor to fix problems with floppy disks)

WHAT WAS ADDED

• 54xx/64xx Update (This file is supposed to only get installed on 5400 and 6400 series Macs; however, apparently it gets installed on some other systems by mistake. You should remove it if it gets installed on a model other than these.)

WHAT BENEFITS IT PROVIDES

After installing/updating to 7.5.5, you will supposedly benefit from:
• Significant performance improvements when using virtual memory
• Improved memory management on PowerMacs (supposedly, fewer "out of memory" errors)
• Improved floppy drive performance when using a Mac with a DOS-Compatibility card
• Improved floppy drive reliability on 6100, 7100, and 8100 series computers.
• Better reliability on PCI Macs (5400, 6400, 7200, 7500, 7600, 8500, 9500 series) and PowerPC PowerBooks (2300 and 5300 series)
• Better Ethernet performance when using virtual memory
• Better reliability when using the TV Tuner card found in some Performa models, especially when using the remote control
• LocalTalk performance enhancements
• Better stability when running more than one "background" application (background applications are applications which do not show up in the application menu; they are usually launched at startup)
• Improved stability when accessing a shared network printer
• Fewer system freezes on computers using 180 MHz or faster 604 or 604e processors (including Mac clones)
• Improved Ethernet on 5400 and 6400 series Macs
• Better reliability on Quadra/Centris models with a PowerPC upgrade card when using sound-intensive applications
• Elimination of ONE cause of Type 11 errors on PowerMacs
• Improved reliability when using the Startup Disk control panel
• Improved network performance (especially when using File Sharing) for 5400 series Macs
• Revision in the Energy Saver (2.x only) control panel which no longer mentions the "EnergyStar"

program
• If making a "universal" System Folder, it will now support the 5400 and 6400 series
• Provides the latest IRTalk drivers for applicable PowerBooks. These were formerly part of System 7.5 Update 2.0, so those PowerBooks which shipped with 7.5.3 pre-installed, and then updated using System 7.5.3 Revision 2.0 were missing the latest drivers.

In addition, 7.5.5 incorporates all the "fixes" found in System 7.5.3 Revision 2 (for more information on 7.5.3 Revision 2, please see the 7.5.3 chapter of The InformInit).

HOW TO INSTALL IT

From the reports I've heard and read, it's very important to follow Apple's instructions when installing this update. The safest way (always) to update is to run the updater from a separate disk or volume from the disk that has the System Folder on it (or to use the "floppy" method). You should also make sure that you have 15-20 MB of free space on your System volume. The following is a rough outline of the recommended steps (remember, you must have System 7.5.3 or 7.5.4 installed before you can update to 7.5.5):

1) Run the "Disk First Aid" application to check your hard drive for problems. The latest version of Disk First Aid is on the System 7.5.5 Update, Disk 1. You can also find a version of it on your System software CD and on the "Disk Tools" disk that came with your computer. Also, using the latest version of Drive Setup (v1.2) or HDSC setup (v?) to update your hard disk drivers can avoid a few problems (although most people shouldn't worry too much about this).

2) If your computer has "Energy Saver" control panel version 1.x (use the "Get Info" command to check the version number of it), you must REMOVE IT FROM THE SYSTEM FOLDER. The 7.5.5 Update updates Energy Saver 2.x to version 2.0.2, but cannot update version 1.x. If it (v1.x) is installed, you will get an error message stating that it must be removed. Merely "disabling" it or moving it to the "Control Panels (Disabled)" folder does not suffice; the installer will "update" it to version 2.0.2, but it will no longer work at all! You will get a message that you are trying to open the "Energy Saver Preferences." Thus, you must remove the file (Energy Saver v1.x) from the System Folder altogether. After the update is complete you may put it back in the Control Panels folder. (For more information on the differences between Energy Saver v1.x and v2.x, and what computers each is intended for, please see their entries in the Control Panels section of The InformInit.

3) Using the "Extensions Manager" control panel, choose the "System 7.5.3" set from the "Sets" popup menu. If you are using Now Startup Manager, Conflict Catcher, or some other 3rd-party extension manager, make a set of extensions which includes only the Apple extensions (those written/provided by Apple). If you have any 3rd-party inits which are absolutely necessary (video drivers, network drivers, hard drive drivers, removable media, etc.) you should also turn them "on." On a related note, make sure you haven't renamed any of the Apple control panels, extensions, or System files to something other than their original names.

4) Restart your computer.

5) Run the "Installer" application (make sure that the "destination disk" is the correct disk).

6) Restart your computer.

7) Use Extensions Manager (or your 3rd-party extension manager) to enable/disable your preferred extensions and control panels.

8) Restart your computer.

If you get a system freeze at startup immediately following the update, startup by holding the "shift" key down, delete the Finder Preferences file (in the "Preferences" folder in the System Folder) and then restart.

If this procedure doesn't work, Apple says that the alternative strategy is to start with extensions off (unless you are installing from a CD, in which case you should use Extensions Manager to turn everything off but the "Apple CD-ROM" extension.

PROBLEMS

Below are some problems with System 7.5.5:

• System 7.5.5 blocks access to System 7.5 Update 2.0. After you install System 7.5.5 Update, you will be unable to install any components of System 7.5 Update 2.0. Many users have found the need to install parts of Update 2.0, such as Open Transport 1.1 or Video Startup 1.4. Apple recommends that you perform a "clean" install of 7.5/7.5.2/7.5.3, **then** update using 7.5 Update 2.0 (remembering to install what you really wanted in the first place), **then** install System 7.5.5 Update again (**!**). Because users haven't been very enthusiastic about this procedure, Apple has released a special, unsupported, installer script to allow the custom installation of System 7.5 Update 2.0 components. You can download this patch from the "Unsupported" directory on Apple's support servers. Another workaround is to first install a System 7.5 or System 7.5.2 System Folder (preferably on a different drive than the drive that has System 7.5.5). The 7.5 Update 2.0 installer will then allow you to custom install items on **any** drive.
• According to Apple, you cannot install the U.S. version of 7.5.5 on a Mac with a non-U.S. version of the System Software.
• There is a newer math library (used by the System and applications for certain mathematical routines) in System 7.5.5 which uses a bit more memory than the math library in previous systems. Some applications which call upon the math library may claim that you do not have enough memory to launch them. The solution is to use the "Get Info" command to allocate 23K more memory to those applications which give you such an error message. You do not need to do this for every application; only those which give an "insufficient memory" message when you try to launch them. This can also be a problem with the Finder itself, with the solution being to increase the Finder's "heap," which is the amount of memory the Finder uses. A few utilities which will allow you to do this are available from Ted Landau's "MacFixIt" site (see the address at the end of this chapter).
• If you are using Apple Telecom 3.0, you must install it BEFORE installing 7.5.5. If you install Apple Telecom AFTER installing 7.5.5, you should run the 7.5.5 installer again. System 7.5.5 updates the Express Modem control panel from 3.0 to 3.0.1.
• 7.5.5 does not completely fix the "volume button bug" on 5000, 6000 and 630 series Macs.
• If you use the "Assistant Toolbox" extension on a desktop Mac and you use a RAM Disk, you will not be warned that the contents of your RAM disk will be lost when you shut down.
• There is an incompatibility between 7.5.5, Connectix Speed Copy 1.3.1, and the Motorola Math Library. The bug prevents Speed Copy from working. In order to use Speed Copy, you must remove the Motorola Math Library.
• The control strip module "Control Strip Menu" (a non-Apple module) gives "out of memory" errors under 7.5.5. This is a result of the math library problem discussed above. The solution, again, is to increase the Finder's memory allocation. Version 3.0.2 of Control Strip Menu includes a utility to do this.
• If you have a PCI Mac, the Energy Saver control panel will sometimes interrupt the playback of audio CDs if the "Shutdown instead of sleep" option is selected.
• Users of the "AutoDoubler" utility may find that whenever they attempt to open an "AutoDoubled"

document, the computer will freeze. The workaround is to use the "FinderFixer" utility (available from Info-Mac and AOL) to reset the Finder heap to 256K. You must first restart with AutoDoubler turned off, then use FinderFixer, then restart with AutoDoubler turned on.

• When using Aladdin's Desktop Tools, the "click on Finder windows" feature when in open/save dialogs no longer works.

• 7.5.5 is incompatible with versions of the Sagem GeoPort ISDN adapter control panel earlier than 1.1. If you use a the Sagem adapter, you must get version 1.1 or later of the control panel.

WHERE IS SYSTEM 7.5.4?

It was released to a limited number of customers; however, a bug was found which required a fairly major revision. Rather than releasing 7.5.4 and immediately releasing another update, Apple decided to "recall" 7.5.4 (or never "release" it, depending upon your point of view). They decided to rename the update 7.5.5 so that those users who already had 7.5.4 would be able to identify whether they had the bug fixes or not by looking at their System software version.

FINAL NOTES

Most people have installed 7.5.5 with great success. I've included the summary above based on some of the most common problems people have had. For a better discussion of 7.5.5-related issues, you may want to check out Ted Landau's MacFixIt "Troubleshooting System 7.5.5" page at:

NN   <http://www.macfixit.com/reports/system7.5.5.html>
IE

I'd also like to thank Ted, Apple's Tech Info Library, and numerous InformInit users for providing some of the information for this chapter.

7.6 Info

IN THIS CHAPTER:

• Mac OS 7.6
• What was eliminated
• What benefits it provides/features it adds
• How to install it
•   Problems/incompatibilities
• PowerBook 3400-specific information
• Final notes

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MAC OS 7.6

Mac OS 7.6.1 is a commercial upgrade which you must purchase if it did not come with your computer. Beginning with version 7.6 of the System software, Apple stopped calling their system software "System xxx" and officially began using the term "Mac OS xxx." Thus, this version is called Mac "OS 7.6.x," rather than "System 7.6.x."

There are two "official" paths to get to Mac OS 7.6.1:

• Install OS 7.6, then install the 7.6.1 Update. If your computer came with 7.6 pre-installed, you should just install the updater. For instructions on installing the 7.6.1 Update, see the next chapter.

• Install OS 7.6.1 from the full 7.6.1 installer. Recent versions of the OS 7.6 System CD will install 7.6.1 directly.

This chapter discusses Mac OS 7.6; the next chapter discusses the OS 7.6.1 Update. To avoid problems, you should read this entire chapter and the next (7.6.1 Info) before installing Mac OS 7.6. Anyone who installs OS 7.6 should also install the 7.6.1 update.

NOTE: Do NOT attempt to install OS 7.6 on the following computers: PowerMac 4400, 5500, 6500, 7300, 8600/200, 9600/200, 9600/200 MP or 9600/233. These computers will work with the full Mac OS 7.6.1, but not with Mac OS 7.6. In order to install 7.6.1 on these computers, you need a full 7.6.1 installer (i.e. one which doesn't require you to install 7.6 and then install 7.6.1 Update). This can be obtained from the MacOS Up-To-Date program on Apple's web site.

WHAT WAS ELIMINATED

Mac OS 7.6 automatically deletes the files listed below unless you have renamed any of them, in which case you should remove the files manually. The benefits of these file have been incorporated into the System file itself, or the problems that necessitated these files have been fixed:

7.5.5 SCSI Server Update
Assistant Toolbox
PowerPC Interrupt Extension

WHAT BENEFITS IT PROVIDES/FEATURES IT ADDS

Mac OS 7.6 includes the following new features and improvements:

• New System software installer which walks you through the installation process not only for the main OS, but also for add-ons such as QuickDraw 3D.
• Better Extensions Manager with additional features.
• Enhanced screen capture functionality including partial screen shots and custom selection screen shots.
• Open Transport is required. The "Network Software Selector" utility no longer allows you to select "Classic Networking."
• Better virtual memory performance.
• Better File Manager caching.
• Better PowerPC Resource Management.
• Improved "file mapping" when virtual memory is on.
• Fixes problems with the external volume buttons on 52xx/53xx/62xx/63xx and 63x series computers.
• Multiprocessor card support.
• Improvements to the WorldScript Power Adapter.
• Support for disks larger than 4 GB on Nubus PowerMacs and 68040 Macs.
• Fixes memory problems (present in System 7.5.3 and 7.5.5) where the system software would take some of an application's memory.
• Support for larger volumes (hard drives up to two terabytes in size on PPC and 680x0 computers).
• Better memory management -- you should get fewer "out of memory" messages in the Finder.
• The disk cache will be saved, or "flushed" more often, reducing the chance that a freeze or crash will lose "saved" data or corrupt your hard drive.
• Better resource management (better handling of system and application resources).
• Shorter startup time.
• Reduction in the amount of memory virtual memory itself uses.
• Better performance when using OpenDoc.
• Modern Memory Manager is now always "on." Previously, you could turn it on or off (see the "Modern Memory Manager" chapter. (Whether this is a "benefit" or not is up for debate.)
• The minimum disk cache setting in the Memory control panel is now 96K.
• It also includes all of the fixes and performance enhancements found in the System 7.5.5 update (see the "7.5.5 Info" chapter).

HOW TO INSTALL IT

NOTES:

• *S*ome Performa or Power Macintosh 5200 series, 5300 series, 6200 series and 6300 series computers have a hardware problem which will not allow Mac OS 7.6 to be installed. This hardware problem is covered under the Apple repair extension program. Before attempting to install 7.6 on these computers, use the 5xxx/6xxx Tester utility in the "Utilities" folder of the installation CD.

• In order to install OS 7.6 over a network, you must have AppleShare Workstation software version 3.6.4 installed first. You can find this software in the "Utilities" folder on the 7.6 installation CD.

• In order to install 7.6 (or the 7.6.1 Update) on a Mac with a DayStar Digital 040 card installed, you will need to remove the card, install the System software, then reinstall the card.

• When installing OS 7.6, you will be asked by the installer if you would like to update the disk driver. If you choose not to update the driver, and your hard drive was formatted with Apple HD SC Setup 7.1.2 or older and never updated with a newer driver, all the files on the drive may disappear and the disk may not be able to start up your computer. NOTE: this is only applicable to drives formatted by Apple's utilities. If your hard drive was formatted using a third-party driver, you can ignore this warning and the "update drivers" step in the installation process.

• 7.6 cannot be installed over System 6. You must either install some version of System 7 or 7.5, or you must do a "clean" install.

• 7.6 can only be installed on machines which are "32-bit clean." This means that the computer's hardware supports 32-bit addressing. Using software to provide 32-bit addressing support (Connectix's "Mode32") does not suffice. In addition, computers upgraded with a 68030 or 68040 processor upgrade card are not supported by Mac OS 7.6. For information on which computers are compatible, see the "System Versions" chapter.

• The installer will automatically check your virtual memory settings. On a 680x0 Mac with 16 MB of RAM or more, you settings will remain as they were before installation. On a PowerMac with 16 MB of RAM or more, virtual memory will be turned on and set to 1 + the amount of RAM you have. If you have less than 16 MB on any Mac, virtual memory will be turned on and set to 16 MB.

• OS 7.6 installs Open Transport v1.1.1. However, Open Transport 1.1.2 was released before 7.6. If you have already installed Open Transport 1.1.2, and do not do a "clean" install of OS 7.6, you will get the following error message: "The file 'File Name' already on 'Hard Disk Name' is more recent than what you are about to install. Click Continue to replace 'File Name' with the older version. Click Cancel to leave the disk 'Hard Disk Name' untouched." You should select "Continue" and then reinstall OT 1.1.2 after the installation of 7.6 is complete.

• The latest version of QuickDraw 3D at the time of OS 7.6's release was 1.5. However, the installer for 7.6 installs 1.0.6. You will need to reinstall 1.5.

• If you perform a "universal" install, which will start up any computer that is compatible with OS 7.6, the following files will **not** be installed:
  ° Password Security control panel
  ° ATI 3D Accelerator, ATI MPEG Accelerator, ATI YUV Accelerator, and ATI 6500 Graphics Extension
  ° ATI Graphics Accelerator 1.2.2 (ATI Graphics Accelerator 1.1.4 is installed in the universal System Folder)
  ° Infrared control panel, IrDALib, and IRLanScannerPPC
  ° CDStrip control strip module
  ° TV/FM 1.5.3 software

INSTALLATION:

1) If you are using MacTCP, write down all of your current settings for later entry into OT/PPP. If you are using OT/PPP and are performing a "clean" install, you should "export" your settings to be imported later.

2) If you are installing on a PowerBook, make sure the PowerBook is plugged in and set to "never

sleep." **NOTE**: you cannot install System software onto a PowerBook in SCSI disk mode.

3) Start up your Mac using the Mac OS 7.6 CD-ROM or the "Install Me First" floppy.

4) Run the "Install Mac™ OS" program on the CD and follow all of the steps (see the note about updating drivers above).

5) Choose which software you would like the installer to install. You can get info on each software package, to decide if you want it, by clicking the buttons on the right-hand side of the installer box. **NOTE**: if you would like to do a "custom" install, click on the "Customize" button. If you would like to do a "clean" install, click on the "Options..." button.

6) Install the software.

Troubleshooting   suggestions

• If you get a message from the installer that your hard drive has problems and cannot be repaired, quit the installer, turn File Sharing "off," then try again. Often this will eliminate the problem.
• Installation problems can often be solved by starting up the computer with only the System 7.5.x extensions enabled. Extensions Manager, along with many third-party startup file managers, has a built-in "7.5.x-only" set. If there are any third-party extensions you need, such as drivers for a graphics card or non-Apple CD-ROM drive, you should also keep those active.

PROBLEMS/INCOMPATIBILITIES

The following are known problems with Mac OS 7.6:

• If you choose the "Mac OS 7.6" sets in Extensions Manager (both the "Base" and "All" options), the various Nubus Ethernet card drivers will be disabled, due to a spelling mistake in the "package" field. If you are using one of these cards, this bug will prevent your Ethernet card from functioning properly. You should manually enable the appropriate file from within Extensions Manager.
• You **must** select a printer driver in the Chooser even if you don't have a printer connected; problems which can occur if you do not have a printer selected include phantom system folders, phantom print monitor documents, and possible problems opening the System Folder.
• If ARA Client 2.1 is installed **after** over the Open Transport/PPP installation included with Mac OS 7.6, it will replace the Open Transport/PPP Modem Files, which can cause connection problems for Open Transport/PPP. You should install ARA **before** installing OT/PPP.
• The Apple CD-ROM software no longer supports non-Apple CD-ROM drives.
• PowerTalk is no longer supported by the System software, and is in fact incompatible.
• OS 7.6 mistakenly installs the Video Startup extension and the Apple Video Player on the Macintosh TV. You should remove these files from the Mac TV to avoid problems.
• "Classic Networking" is no longer supported by the System software.
• Any applications which use the CFM 68K Runtime Enabler (see entry in the "Extensions" section) will not be installed by the 7.6 installer. This is because at the time 7.6 was released, the version of CFM 68K Runtime Enabler which was available was problematic. Thus Apple decided to not include it in the System install. You can, however, download the newer version of the file from Apple and then install any application that needs it (OpenDoc, Cyberdog, LaserWriter 8.4, Apple Telecom 3.0) later.
• Related to the above item, if you have a 68040 Mac upgraded to PowerPC, you will not be able to use the LaserWriter 8.4 software when in the non-PowerPC mode. You will have to install LaserWriter 8.3.4 instead.

• OS 7.6 will install AppleVision software version 1.0.4 on 68040 Macs and Nubus PowerMacs. However, this version is not fully compatible with these computers. If you are using an AppleVision monitor on one of these systems, after installing 7.6 you should reinstall your AppleVision software from the original disks that came with your monitor.

• On PowerBook 190 and 5300 systems (and possibly on other PowerBooks with passive- matrix displays), the first time you startup/restart after installing OS 7.6 (and the first time you restart if you ever reset the PRAM) the screen may appear blank. The reason for this is that the PowerBook is resetting the power manager. You should restart once again and the problem will go away. You can do this by holding down the power button (upper right-hand corner of the keyboard) and then pressing return (which will shut the computer down) and then pressing the power button again to startup. You can also press the power button and then press the "r" key to restart. The display should return to normal, or allow you to use the brightness and contrast controls to return it to normal.

• If you use QuickDraw GX, you will not be able to print directly from Cyberdog.

• The 7.6 installer may automatically turn virtual memory on. This will prevent RAM Doubler from loading. If you are using RAM Doubler, be sure to turn virtual memory off in the Memory control panel.

• The Apple Color One Scanner extension 4.1 will not work under OS 7.6 with virtual memory turned on.

• On the Mac LC 575 and use the "Monitors & Sound" control panel (via the AppleVision software or a "universal" system install), the volume buttons on the front of the computer will not register in the control panel.

• On PowerMac 5500 and 6500 models, if external speakers are connected at startup, and later disconnected, the internal speakers will remain muted. The only workaround is to restart the computer **after** disconnecting the external speakers.

• The 3DMF Viewer will not work with QuickDraw 3D 1.5 or later, presenting an "insufficient memory" error. The only solution is to install an older version of QuickDraw 3D.

• Part 1 of the Macintosh Tutorial installed by OS 7.6 will not work on 68030 or 68040 Macs.

• OS 7.6 does not install PC Compatibility software or Apple Telecom software. If you do a "clean" install, you will have to reinstall this software if you need it.

• The Macintosh Easy Open control panel has been renamed "Mac OS Easy Open" to reflect the fact that clone computers are running the Mac OS but are not actually Macintosh computers. Some software installers will install a copy of the older Macintosh Easy Open. You should remove this file.

• Along those same lines, the Macintosh Guide Apple Guide module has been renamed "Mac OS Guide."

• If you use the Network Software Installer v1.5.1, it will install an earlier version of AppleTalk than is included in OS 7.6, preventing Open Transport from functioning.

• If you install the QuickTake 150 software, it will install an older version of the QuickTime PowerPlug extension. Before using the QuickTake 150 installer, move the QuickTime PowerPlug extension out of the Extensions folder. After installation, move the file back to the Extensions folder, replacing the version just installed.

• Sometimes AppleTalk will not release the serial port when switching from a LocalTalk printer to a serial printer. If this happens to you, you will have to restart.

• Installing or removing QuickDraw GX when Adobe Acrobat is installed will cause "missing font" error messages. You must reinstall Acrobat to fix this problem.

• If you own a Quadra upgraded with a PowerPC Upgrade Card, you cannot use the Drive Setup utility intended for PowerPC computers. You will have to use the HD SC Setup utility. However, in order to use this utility, you must restart in 68040 (non-PowerPC) mode.

• Once a drive has been initialized with Drive Setup, you should not use the HD SC Setup utility.

• After installing OS 7.6, your settings for Apple Menu Options, General Controls, Views, and the "Empty Trash" warning will be reset to the default values. You will need to manually set your preferences again.

• Extensions Manager does not support aliases. You will not be able to enable/ disable aliases to files.

• The Assistant Toolbox extension (actually intended for PowerBooks) is supposed to provide the ability to save the contents of a RAM disk at shutdown. However, if the extension is used on a desktop computer, it will not save these contents.

• The Apple System Profiler utility will often provide incorrect information on non-SCSI devices.

• If you use the debugging tool MacsBug, you will need to update to version 6.5.4. All earlier versions are incompatible with OS 7.6.

• The version of the OpenDoc ODFLibrary which is installed by OS 7.6 is older than the version required by many newer OpenDoc applications and the newest OpenDoc part editors. In order to install a newer version, you must first remove the version installed by OS 7.6, then use the installer for one of these newer applications to install the newer version.

• Users who had an "upgraded" trackpad installed on a PowerBook Duo 2300c or PowerBook 190 may experience a conflict between Mac OS 7.6 and the new trackpad. The computer may crash after coming out of sleep when the trackpad button is pressed. This problem only happens with Mac OS 7.6 and non-factory-installed trackpad mechanisms. This problem is fixed in Mac OS 7.6.1.

POWERBOOK 3400-SPECIFIC INFORMATION

The PowerBook 3400 System software CD cannot be used to install Mac OS 7.6 on a desktop machine. It contains specific software for the 3400, and is lacking specific software needed by desktop computers. Conversely, you cannot install OS 7.6 on a 3400 using the System CD that came with a desktop Mac, or the general release version of 7.6 that you would purchase in a retail store.

When you install the 3400-specific version of Mac OS 7.6, the System file itself will claim to be version 7.5.3. This is normal. In the 3400 version of 7.6, the PowerBook 3400 Enabler file actually contains the updated code for OS 7.6. NOTE: this is only true with OS 7.6; when you update to 7.6.1, the System Enabler is no longer needed, and the System file will correctly identify itself as "7.6.1."

The version of Open Transport that is installed by OS 7.6 is version 1.1.1. However, users can download Open Transport 1.1.2 and install it. **However**, Open Transport 1.1.2 is not supported by Apple on the PowerBook 3400. In fact, the only way to use Open Transport 1.1.2 on a 3400 it is to install it and then immediately reinstall the 7.6.1 update (see the next chapter).

When using the internal modem on a 3400, or when the 3400 is waiting for a fax call, the left-hand speaker will be muted somewhat. This is because the left speaker is connected to the modem for audible feedback during modem use. You can change the balance in the Monitors & Sound control panel to even out the sound when the modem is in use.

FINAL NOTES

I have included the summary above based on some of the most common problems people have had. For a better discussion of 7.6-related issues, you may want to check out Ted Landau's MacFixIt "Troubleshooting System 7.6" page at:

NN   <http://www.macfixit.com/reports/macos7.6.shtml>
IE

I'd also like to thank Ted and Apple's Tech Info Library for providing some of the information for this chapter.

7.6.1 Info

IN THIS CHAPTER:

• Who needs 7.6.1
• What was eliminated
• What benefits it provides/features it adds
• How to install it
•   Problems/incompatibilities
• Final notes

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WHO NEEDS 7.6.1

Anyone using Mac OS 7.6 should update to 7.6.1. You must have Mac OS 7.6 installed before installing the Mac OS 7.6.1 Update.

NOTE: Do NOT attempt to install OS 7.6, and then the 7.6.1 Update, on the following computers: PowerMac 4400, 5500, 6500, 7300, 8600/200, 9600/200, 9600/200 MP or 9600/233. These computers will work with the full Mac OS 7.6.1, but not with Mac OS 7.6. In order to install 7.6.1 on these computers, you need a full 7.6.1 installer (i.e. one which doesn't require you to install 7.6 and then install 7.6.1 Update). This can be obtained from the MacOS Up-To-Date program on Apple's web site.

WHAT WAS ELIMINATED

The 7.6.1 Update automatically deletes the files listed below unless you have renamed any of them, in which case you should remove the files manually. The benefits of these file have been incorporated into the System file itself, or the problems that necessitated these files have been fixed:

54xx/64xx Update version 1.0
54xx/64xx Update version 1.1
7.5.5 SCSI Server Update
Assistant Toolbox
PCI Network Legacy Layer version 1.0
PCI Network Legacy Loader version 1.0
PowerBook 1400 ATA Flash
PowerBook 1400 PMU Updater
PowerBook VM Tuner for OS 7.6

PowerMac Format Patch
PowerPC Interrupt Extension

WHAT BENEFITS IT PROVIDES/FEATURES IT ADDS

• Improved stability.
• Most Type 11 errors either eliminated or correctly classified as Type 1 or Type 2 errors (previously, many of these errors were falsely labeled "Type 11"). In addition, Type 1 and Type 2 errors will now often cause only the affected application to quit, rather than "crashing" the whole system (even so, you should always save all of your work and restart when you get the chance).
• Type 112 errors eliminated.
• New CFM-68K Runtime Enabler included for 68030 and 68040 Macs. These computers can now use shared code/library resources (see entry under "CFM-68K).
• Fixes problems with Performa 5400/6400 computers and the PowerBook 3400 where serial devices would not be able to communicate properly with the computer.
• Fixes problems with the infrared port on PowerBook 1400 and 3400 computers.
• Improves reliability when using large QuickTime files, or using QuickTime in low-memory situations
• Printing improved for Performa and Power Macintosh 5400 and 6400 series computers using non-Apple printers over LocalTalk networks.
• Video applications recognize that MPEG is installed.
• Storage PC Cards no longer require a utility program to appear on the desktop.
• Only two low-battery messages displayed on PowerBooks before computer shuts itself down.
• PowerBook 1400 computers now wake from sleep faster.
• Contrast and brightness controls work as expected on PowerBook 1400 computers (under OS 7.6, the controls were reversed).
• On the PowerBook 3400, the CD-ROM drive works correctly if inserted when the computer is on.
• New version of AppleVision software, which improves reliability on computers with use AppleVision monitors.
• Graphics acceleration software works correctly with a universal System Folder
• Additionally, the Graphics Accelerator extension and the Graphics Accelerator 2 extension have been merged into the ATI Graphics extension.
• In the Energy Saver control panel, automatic startup and shutdown settings are now saved properly.
• Fixes a problem where transferring large files between two IDE hard drives would cause a crash.
• Better performance when using video-capture expansion cards and ATI accelerators

HOW TO INSTALL IT

NOTES:

• **If you are installing the FULL version of 7.6.1 (i.e. your System software CD says "7.6.1" rather than "7.6"), you should follow the instructions for installation found in the previous chapter ("7.6 Info"), since the full 7.6.1 installation does not require this update. However, the "problems/ incompatibilities" section below will still apply.**

• In order to install 7.6 (or the 7.6.1 Update) on a Mac with a DayStar Digital 040 card installed, you will need to remove the card, install the System software, then reinstall the card.

• The version of Apple Video Player installed by the OS 7.6.1 Update will cause a crash on 68040

computers using the Apple TV Tuner card and the Closed Caption feature. The version of Apple Video Player from the Mac OS 7.6 installation (v1.4) will not cause this crash. If this problem applies to you, before you install the Update you should move the older version out of the Apple Extras folder on your hard drive so that it does not get updated. If the Update installs a newer version, you should replace it with the older one (version 1.4).

INSTALLATION:

1) Use the Disk First Aid application provided with your computer to make sure your hard drive has no problems (using the "verify" command). Also make sure that you have at least 10MB of free space on the hard drive that contains your System software.

2) If you are installing on a PowerBook, make sure the PowerBook is plugged in and set to "never sleep." NOTE: you cannot install System software onto a PowerBook in SCSI disk mode.

3) Using the Extensions Manager control panel, or any third-party startup file management utility (Conflict Catcher, Now Startup Manager, etc.), choose the set of Mac OS 7.6-only extensions. In Extensions Manager, this set is called "Mac OS 7.6 all." If you have any extensions which **must** load (video graphics drivers, storage device drivers such as the Iomega drive extensions for Zip or Jaz drives, CD-ROM drivers, network card drivers), you should manually turn them on/enable them as well.

4) Restart the computer.

5) If you are using disk images, mount all of the Mac OS 7.6.1 Update disks.

6) If you are using floppy disks, insert the Mac OS 7.6.1 Update "Disk 1" and open the disk; if you are using disk images, open the Disk 1 image. Double-click on the Installer icon.

7) Make sure that the destination disk is set correctly, and click "Install." If you are installing from floppy disks, you will be prompted to insert the other disks.

8) When the update is complete, restart the computer. You will need to use your startup file manager to re-enable non-Apple extensions and then restart again.

9) If you have problems with the Update, as a last resort you can disable all extensions (either by using your startup file manager or by holding down the "shift" key at startup) and then try again.

PROBLEMS/INCOMPATIBILITIES

The following are known problems with Mac OS 7.6.1:

• Once you install 7.6.1 Update, you will no longer be able to use the "Easy Install" option to install OS 7.6. If you wish to reinstall 7.6 at a later time, you will have to use the "Clean Install" option. You can also use the "Custom Install" option if you wish to install specific items.
• If you select the "Mac OS 7.6.1 base" or "Mac OS 7.6.1 all" sets in Extensions Manager, the Monitors control panel will not be enabled. If your computer uses the Monitors control panel (meaning it does not use the "Monitors & Sound" control panel), you will have to manually select it in the Extensions Manager window.
• If you select the "Mac OS 7.6.1 base" or "Mac OS 7.6.1 all" sets in Extensions Manager, the "Printing Lib" file will be disabled, which will not allow you to use the LaserWriter driver to print. You

will have to manually select it in the Extensions Manager window.
• If you've already installed the 7.6.1 Update, and then later try to do a custom install of an item from the 7.6 installer, you will usually get warning message that states "The file xxx already on [name of your hard drive] is newer than what you are about to install. Click Newer to keep the Newer file, Older to replace that file, or Cancel to stop installation." You should choose "Newer." NOTE: according to Apple, you should then reinstall the 7.6.1 Update to ensure that the items you just installed are fully updated for use with 7.6.1.
• The CD-ROM driver installed by OS 7.6.1 Update does not support most third-party SCSI CD-ROM drives. If you were previously using a third-party SCSI CD-ROM drive with Apple's CD-ROM drivers, after installing the update you may no longer be able to use your CD drive. You should either go back to an older version of Apple's CD-ROM software, or install a third-party driver which supports your drive.
• On some computers, the 7.6.1 Update will reset the disk cache in the Memory control panel to 96K, significantly affecting system performance. You should either click the "default" button to reset the cache to Apple's suggested level, or manually set it to your preferred size.
• On some 54xx/64xx computers, the Level 2 cache is disabled under 7.6.1. To solve this problem, you should install the 54xx/64xx L2 Cache Reset extension (see the "Extensions" chapter for details).
• If the Infrared control panel is selected on a non-infrared-capable computer, you will get a "192" error, rather than an appropriate message which states that the computer is not infrared compatible.
• The 3DMF Viewer will not work with QuickDraw 3D 1.5 or later, presenting an "insufficient memory" error. The only solution is to install an older version of QuickDraw 3D.
• On 680x0 Macs, having a RAM disk mounted can cause a freeze at shutdown.
• Printing speed is faster when printing to non-Apple printers over a LocalTalk network, but some PowerMac 5400/6400 computers with less than 200 MHz processors and no Level 2 cache will still exhibit slow printing behavior.
• If you are using the Apple TV Tuner card on a 68040 computer, using the Closed Caption feature in Apple Video Player will cause a crash. The fix is to reinstall Apple Video Player version 1.4 from the Mac OS 7.6 CD.
• The QuickTime MPEG card (the actual piece of hardware) is not properly recognized by the Apple Video Player under OS 7.6 or 7.6.1. To view MPEG files, you should install the QuickTime MPEG extension.
• On the PowerBook 3400, Apple Video Player is not installed.
• On the PowerMac 7100/80AV, installing 7.6.1 can mute the sound when using the Apple Video Player. To solve this problem, click on the "mute" button, then quit and relaunch the Video Player.
• After installing 7.6.1, if you try to import the "AppleVision 1710-9300" profile for ColorSync, you may receive the error "Could not complete your request because a ColorSync error has occurred." The solution is to reinstall the AppleVision software.
• On PowerMac 5500 and 6500 models, if external speakers are connected at startup, and later disconnected, the internal speakers will remain muted. The only workaround is to restart the computer **after** disconnecting the external speakers.
• If you have a 68030 or 68040-based Mac with more than 16MB of RAM, virtual memory will be turned "off" after installing the 7.6.1 Update. You will need to turn virtual memory on and then restart if you wish to use it.
• Under Mac OS 7.6/7.6.1, the command-shift-3 and command-shift-4 screen capture key combinations will not work if At Ease is installed but not active.

The following are known problems with Mac OS 7.6 which were not fixed by 7.6.1:

• If you have installed Connectix Speed Doubler version 1.3.1 or earlier, or version 2.0, it will be disabled when Mac OS 7.6.1 is installed. You should update to version 1.3.2 or 2.0.1.
• The problem with the CFM-68K Runtime Enabler (see the 7.6 Info chapter).
• Under OS 7.6.1 and LaserWriter 8.3.4, if you print to "file" and then later drag that file to a desktop printer, an error message will appear which claims that the print library is not present. The fix is to

update your printing software to LaserWriter 8.4.1, available from Apple's support sites.
• As with most versions of the OS, if you have QuickDraw GX installed, you will not be able to use any printer which does not have a GX-compatible driver. The solution is to get GX driver(s) for the affected printer(s), or remove or disable QuickDraw GX.
• If you install QuickDraw GX after Adobe Acrobat has already been installed, Acrobat will display an error message about "missing fonts" every time you start up. The fix is to either disable Acrobat or reinstall it. Simply turning off GX will not solve the problem, as the GX installer replaces the Acrobat fonts when it is installed.
• OS 7.6 mistakenly installs the Video Startup extension and the Apple Video Player on the Macintosh TV. You should remove these files from the Mac TV to avoid problems. If you install the 7.6.1 Update, these files will be updated, but still will not work.
• The 3DMF Viewer will not work with QuickDraw 3D 1.5 or later, presenting an "insufficient memory" error. The only solution is to install an older version of QuickDraw 3D.
• On the Mac LC 575 and use the "Monitors & Sound" control panel (via the AppleVision software or a "universal" system install), the volume buttons on the front of the computer will not register in the control panel.
• If no desktop printers are created, you may get mysterious duplicate active System Folders. You should go to the Chooser and select a printer, then click the "Create" button.

FINAL NOTES

I have included the summary above based on some of the most common problems people have had. For a better discussion of 7.6.1-related issues, you may want to check out Ted Landau's MacFixIt "Troubleshooting System 7.6.1" page at:

<http://www.macfixit.com/reports/macos7.6.1.shtml>

I'd also like to thank Ted and Apple's Tech Info Library for providing some of the information for this chapter.

OS 8 Info

IN THIS CHAPTER:

• Mac OS 8
• Who can use it
• What was eliminated
• What benefits it provides/features it adds
• How to install it
•   Problems/incompatibilities
• Final notes

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MAC OS 8

Mac OS 8 is a major upgrade to the Macintosh operating system, and as such must be purchased if it did not come with your computer. (Check with Apple about free upgrades for those who recently purchased their Macs.) It combines greater stability and speed with added functionality and a complete overhaul of the "appearance" of the operating system.

WHO CAN USE IT

Mac OS 8 does not work on as many different computer models as previous versions of the system software. Mac OS 8 can be installed only on a Mac OS-compatible computer that has either a PowerPC or a 68040 processor. It **will** run on a PowerBook computer with a PowerPC upgrade card, including the PowerBook 200 and 500 series. It **will** install on a desktop 68040 computer with a PowerPC upgrade card, but **will not** install on a 68030 computer with a PowerPC upgrade card or any Mac upgraded to a 68040.

Should you upgrade? In my opinion, Mac OS 8 is a **must** for any PowerPC computer. The increase in stability and the additional PowerPC-native code are well worth it. On the other hand, the advantages for 68040 users are mainly to be found in the user interface and the "multithreading" Finder (see below). If you have a 68040 Mac, it is really a matter of preference; I would suggest trying out OS 8 on a friend's computer for a while in order to help you decide whether or not to upgrade.

Users with limited RAM may want to think carefully before upgrading. Personally, I recommend having at least 24 MB to 32 MB of RAM if you are planning to install OS 8. (This is just a personal recommendation; many users report that they are happy with 16 MB of RAM.) At the time of this writing, RAM is relatively inexpensive. Upgrading RAM not only allows you to run more applications at once -- it also will provide for a more stable system.

WHAT WAS ELIMINATED

Mac OS automatically deletes the files listed below unless you have renamed any of them, in which case you should remove the files manually. The benefits of these file have been incorporated into the System file or Finder itself, or the problems that necessitated these files have been fixed.

- All GX/QuickDraw GX printer drivers and extensions: QuickDraw GX printing is no longer supported
- Apple Location Mgr GA (Apple Guide mixin)
- AppleVision Guide Additions (Apple Guide mixin)
- Audio Volume Extension (extension)
- Caps Lock (extension): rolled into the Finder
- CFM-68K RunTime Enabler: rolled into the System file
- Color (control panel): incorporated into the Appearance control panel
- Desktop Patterns (control panel): functionality incorporated into Desktop Pictures control panel
- Desktop Printer Extension (extension): rolled into the Finder
- Ext Mgr Guide Additions (Apple Guide mixin)
- File Sharing Monitor (control panel): incorporated into the File Sharing control panel
- Find File Extension (extension): rolled into the System file
- Finder Help (document): incorporated into Apple Guide
- Labels (control panel): incorporated into the Finder Preferences dialog
- Object Support Lib v1.2 (shared library): v1.2.1 is rolled into the System file
- PowerBook 1400 PMU Updater (extension): rolled into the System file
- PowerBook VM Tuner for OS 7.6 (extension): rolled into the System file
- Sharing Setup (control panel): incorporated into the File Sharing control panel
- Shortcuts (Apple Guide mixin): incorporated into Apple Guide
- Sound Manger v3.2.1 (extension): rolled into the System file
- Sound/Monitors Guide Additions (Apple Guide mixin)
- Speech Guide Additions (Apple Guide mixin)
- StdCLib (shared library): rolled into the System file
- ThreadManager (v2.1.5) (extension): rolled into the System file
- Trackpad Climate Control (extension): rolled into the System file
- Views (control panel): incorporated into the Finder Preferences dialog and the View Options dialog
- WindowShade (control panel): options have been incorporated into the Appearance control panel
- WorldScript Power Adaptor (extension): rolled into the System file
- Various "Finder Extensions" (extensions which provide added Finder functionality):
    o Catalogs Extension (extension): PowerTalk is incompatible with OS 8
    o Clipping Extension (extension): rolled into the Finder
    o Desktop Printer Extension (extension): rolled into the Finder
    o Finder Scripting Extension (extension): rolled into the Finder
    o Mail Folders Extension: PowerTalk is incompatible with OS 8
    o Mailbox Extension: PowerTalk is incompatible with OS 8
    o Network Extension (extension): rolled into the System file
    o PC Card Extension (extension): rolled into the System file

In addition, **on 68040 Macs**, the following CFM-68K shared libraries have been rolled into the System file; none of them except for "AppleScriptLib" should be installed on PowerMacs at any time, as they are mainly for the 680x0 implementation of the CFM system (AppleScriptLib is still necessary on PowerMacs):

- AppleGuideGlueLib.68k
- AppleScriptLib
- CollectionsLib
- ColorSyncLib68K
- DragLib
- FoldersLib
- InterfaceLib
- NuDragLib.slb (v1.1)
- NuQuickTimeLib.slb (v2.0.1)
- NuThreadsLib.slb (v2.1.1)
- NuTranslationLib .slb (v1.0.1)
- ObjectSupportLib
- QuickDraw™ GX Enabler (v1.1.4) **NOTE**: GX printing is not supported under OS 8 and later.
- QuickTimeLib
- StdCLib
- ThreadsLib
- Translation

WHAT BENEFITS IT PROVIDES/FEATURES IT ADDS

Mac OS 8 includes the following new features and improvements:

- A multi-threaded Finder which allows the user to perform several tasks at one time, such as copying files, emptying the trash, opening windows, and manipulating files and folders.
- More PowerPC-native System and Finder code, which substantially speeds up many System and Finder tasks on PowerPC computers.
- Contextual Menus, which allow the user to perform certain situation-specific functions depending upon the "context" of the action that called up the menu.
- A new "platinum" appearance throughout the operating system.
- Better Virtual Memory performance by removing 24-bit and other outdated code, using a better compiler, and optimizing Virtual Memory source code.
- Faster AppleScript execution times.
- Faster application launch and re-launch times.
- A faster startup process.
- Many more of the standard Apple "control panels" are now AppleScript-able.
- The "About This Computer..." window now displays the total amount of memory used by the application's memory partition and the temporary memory allocated by the application.
- Under Mac OS 7.6/7.6.1, the command-shift-3 and command-shift-4 screen capture key combinations would not work if At Ease was installed but not active. This no longer occurs under Mac OS 8.
- "Simple Finder" preference that presents limited Finder menu choices for the beginning user.
- The addition of the Mac OS Setup Assistant to allow for quick entry of all important operating system settings, such as date, time, daylight savings time, text, name, organization, geographic location & time zone, Simple vs. Standard Finder preferences, computer name and AppleShare password, File Sharing, and printer/network type.
- Elimination of all "Finder Extensions" (those which add functionality to the Finder itself). These include all PowerTalk extensions, the Clipping Extension, Desktop Printer Extension, Finder Scripting Extension, Network Extension, and the PC Card Extension. The functionality of these files has been incorporated into the Finder itself.
- The ability to view icons as "buttons."

HOW TO INSTALL IT

NOTES:

• You must have AppleTalk turned ON before intalling Mac OS 8 from CD. If it is turned off, an error message may appear during the startup process that states "Sorry, a system error has occurred. Bus Error Type 11. Restart with shift key held down." This error occurs because the OS 8 Install CD expects AppleTalk to be turned on. This is important because if you "zap" the PRAM or if you have a dead motherboard battery, your AppleTalk settings will revert to "OFF." The workaround for this problem is to startup from your normal hard drive, activate AppleTalk, then restart with the CD in the drive, holding down the "c" key to startup from the CD (on some computers, "c" does not work; you must press command - option - shift - delete instead). If you are having trouble turning on AppleTalk, a possible workaround is to reboot holding down the "c" key to start from the CD; as soon as you see the MacOS startup screen, release the "c" key and hold down the shift key to turn extensions off; this will prevent Open Transport/AppleTalk from loading at all.

• If you are using a non-Apple CD-ROM drive (this would mainly apply to Macintosh "clone" computers), you may not be able to startup your computer using the Mac OS 8 CD. If this is the case, you will need to create a new "Disk Tools" disk which will allow your computer to read from the CD-ROM drive. For instructions on how to do this, you should visit the Apple Tech Info Library (see the link in the "Resources" chapter) and search for article #30346.

• Some Performa or PowerMac 5200, 5300, 6200, and 6300 series computers cannot install Mac OS 8 until they have a potential hardware problem fixed. To test if your computer has this hardware problem, use the 5xxx/6xxx Tester utility in the "Utilities" folder on the Mac OS 8 Install CD. This problem does not affect the Performa 5260, 6320 or 6360.

• If you run the Mac OS 8 installer on a PowerBook G3 and choose "Custom Install" or "Custom Remove," the PowerBook G3 Installer will automatically run afterwards to make sure that the System software necessary for the PowerBook G3 remains on the computer.

• Some users have reported that if you have a folder named "Internet" at the root level of your hard drive, the Mac OS 8 installer will replace it with a folder of the same name which contains Mac OS 8's Internet resources. If you do have such a folder at the root level, you should either rename it or move it into another folder.

• The Mac OS 8 installer will only run under System 7.0 or later, so if you have a 68040 Mac running any version of System 6, you will have to install some version of System 7.x first

• On Performa computers, the Mac OS 8 installers do not install GeoPort software or most third-party software which came bundled on the Performa product line. You must perform a clean installation of the original bundled software, then install Mac OS 8.

• If you have "clock-chipped" your Macintosh to run faster than its "official" speed, the OS 8 installer may not be able to figure out which model it is being run on, and will not function properly. You may need to un-accelerate your Mac, install Mac OS 8, then re-install the clock-chipping accessories.

• If you are using non-Apple hard disk drivers on your computer (i.e., FWB HardDisk Toolkit, Charismac, APS PowerTools, etc.), make sure you update your drivers to versions compatible with OS 8. If you are unsure if the versions you have are compatible, contact the manufacturer of the drivers.

• Under OS 8, the "Views" settings are set for each and every window individually, rather than globally as it is under OS 7.6.1 and earlier. If you have global settings you prefer which differ from the Apple defaults, you should set them **before** installing Mac OS 8. OS 8 will use these settings as the default settings for all folders after installation.

• The Mac OS Installer will fail if you have a folder that has the same name as a file it is attempting to install (e.g., "MoviePlayer" or "SimpleText").

• Since PowerTalk is not compatible with Mac OS 8, after installation you will not be able to access your PowerTalk mail or catalogs.

INSTALLATION:

1) Write down your TCP/IP settings; the Internet Setup Assistant will ask you for this information after installation. If you are using MacTCP, write down all of your current settings for later entry into OT/PPP. If you are using OT/PPP and are performing a "clean" install, you should "export" your settings to be imported later.

2) Turn off any disk/computer security software.

3) If you are installing over a network, make sure you are running AppleShare 3.6.4 or newer.

4) If you are installing on a PowerBook, make sure the PowerBook is plugged in and set to "never sleep." **NOTE**: you cannot install System software onto a PowerBook in SCSI disk mode.

5) Start up your Mac using the Mac OS 8 CD-ROM or the "Install Me First" floppy.

6) Run the "Install Mac™ OS" program on the CD and follow all of the steps.

7) Choose which software you would like the installer to install. You can get info on each software package, to decide if you want it, by clicking the buttons on the right-hand side of the installer box. **NOTE**: if you would like to do a "custom" install, click on the "Customize" button. If you would like to do a "clean" install, click on the "Options..." button.

8) Install the software.

9) After restarting your computer and booting from the new Mac OS 8, open the Memory Control Panel and click the "Use Defaults" button at the bottom. This will set your disk cache to the optimal level for Mac OS 8. Setting the disk cache much higher or lower than this amount will result is noticeably degraded performance.

PROBLEMS/INCOMPATIBILITIES

The following are known problems with Mac OS 8.1:

• The Appearance Extension MUST be installed in order for your computer to start up under OS 8. If you remove it from your System Folder, your computer will not be able to start up, and you will have to boot/startup from another disk. Note that starting with extensions "off" by holding the shift key down at startup will NOT cause the Appearance Extension to be disabled; it will load anyway for this very reason, even if it is in the Extensions (Disabled) folder.
• QuickDraw GX printing and PowerTalk are no longer supported.
• If you are running a Workgroup Server 7350 or 9650, you must download the Workgroup Server Mac OS 8 Update package to ensure compatibility.
• Under OS 8, if you have installed OT/PPP, and subsequently install ARA 2.1, you will have to install OT/PPP again, as ARA 2.1 will replace the newer OT/PPP files with older versions.
• After installing Mac OS 8, check your Extensions folder for "ObjectSupportLib." If it is present, get rid of it. As I note above, it is built into the System file under OS 8 and later. Having it installed as a separate file can actually cause problems.
• If you use Norton Utilities on your Mac, you must update/upgrade to version 3.5.1 or later for use with Mac OS 8.
• The Desktop Printer Extension is no longer necessary under Mac OS 8; if it is installed, it may cause

your computer to crash at startup.

• If you have a PowerMac G3 which came with an Ultra Wide SCSI internal hard drive, 10/100Base-T Ethernet card, and/or 128-bit2D/3D professional graphics card with 8 MB of VRAM, you may have to manually install the drivers/software for those options after re-installing MacOS 8.

• If you install OS 8 on a PowerBook 190, 190cs or 5300cs, the display may come up blank the first time you restart after installation. The reason this happens is that the power manager on the PowerBook is being updated. Restart a second time, or shutdown and then startup again, and the display should return to normal. To shut down the PowerBook safely, press the Power button one time (which brings up the shutdown dialog box), then press the Return key.

• Mac OS 8 installs Appearance Extension 1.0. Some applications install Appearance Extension v1.0.2. If you have v1.0.2 installed, and try to double-click on the System file, you will get an error message stating that the System file is damaged. It turns out that this is a bug caused by v1.0.2, and the System file really **isn't** damaged. According to Apple, if you need to add or remove items from the System suitcase (sounds, keyboard layouts, etc.), you should duplicate the System file, open it and make the desired changes, then close the copy of the System. Drag the original System file to the trash, rename the copy of the System file "System" and make sure it is at the root level of the System Folder, then restart. When the computer has finished booting up, empty the trash to delete the old System file.

• There is a bug in Mac OS 8 and Mac OS 8.1 which affects the way fonts display in certain applications. The bug is found in the Appearance Extension provided with the System software. If you experience missing spaces, incorrect copy-and-paste results, characters not displaying properly, or problems with the way the cursor appears when using certain applications, you may be experiencing this problem. This bug was first noticed in Wolfram Research's Mathematica. There is a patch available from Wolfram at <ftp://ftp.wolfram.com/pub/outgoing/Support/AppearancePatch/> which supposedly fixes this problem. **NOTE**: if the Appearance Extension is enabled, the patcher supposedly only works on Appearance Extension v1.0; it will work on v1.0.1 only if the extension is not loaded at startup. It will not update v1.0.2. **NOTE**: according to users, Wolfram's Appearance Extension patcher supposedly also fixes problems with text spacing in Microsoft Office 98, McComCenter Plus 2.1, Extensions Manager.

• Those running any of the Apple Language Kits must download the appropriate Mac OS 8-compatible updater in order to use the Kit under OS 8.

• Under OS 8, some control panels cannot be enabled for use under At Ease. If you wish to change settings from these control panels, you must do it while running the standard Finder, then restart under At Ease.

• According to Apple, some programs will not run if the System font (set in the Appearance control panel) is set to anything but Chicago.

• Under OS 8 and later, some applications may require more memory to run than they did under OS 7.6.1 and earlier. If a program refuses to run or is not as stable after installing Mac OS 8, increase the application's memory allocation by 200K or 300K (via the "Get Info" command in the Finder).

• If you have a 68040 Macintosh, do not install the Apple Telecom software included with Mac OS 8. This version of the Apple Telecom software is PowerPC-only.

• The hard disk drivers installed by the OS 8 installer are not compatible with 68000 computers (Classic, SE, Plus, Portable or PowerBook 100). If you have an external hard disk which is used on both a Mac OS 8 computer and a 68000 computer, be sure **not** to update the hard disk drivers on that drive to the version shipping with Mac OS 8.

• You cannot select multiple items in a "Find File" results window and drag them to the trash. You must drag them to the trash one at a time.

FINAL   NOTES

Throughout InformINIT, items which pertain ONLY to Mac OS 8 are marked by OS8. Items which are "officially" compatible with OS 8 are marked by OS8 COMPATIBLE. If an item is not labeled as **being**

OS 8 compatible, it does not necessarily mean it is **not** compatible (unless the description explicitly states that it is incompatible). It only means I have not been able to verify compatibility. It may work fine, but use it at your own risk.

SPEED ENHANCEMENTS: it has been suggested that the following steps will help make your computer appear faster under OS 8:

• Open the "Memory" control panel and click "Use Defaults" to set the disk cache to its optimal level. OS 8 is the first MacOS that uses the "default" setting in the Memory control panel effectively. It will set your cache to the optimal setting. OS 8 **appears** very slow when the cache is set too low, and ALSO when it is set too high.
• Open the "Appearance" control panel, click "Options" and then select Chicago as the System Font and uncheck the "System-wide platinum appearance" box.
• In the "General Controls" control panel, uncheck the "Protect System Folder" and "Protect Applications folder" buttons.

The summary above is based on some of the most common problems people have had. For a more comprehensive discussion of Mac OS 8-related issues, you may want to check out Ted Landau's MacFixIt "Troubleshooting Mac OS 8" page at:

<http://www.macfixit.com/reports/macos8.0.shtml>

In addition, the MacInTouch web site has a good special report on Mac OS 8 compatibility and bugs:

<http://www.macintouch.com/m8compat.html>

Finally, Apple has its own information page on Mac OS 8:

<http://www.apple.com/macos/>

I'd like to thank Apple's Tech Info Library for providing *some* of the information for this chapter.

OS 8.1 Info

IN THIS CHAPTER:

- Mac OS 8.1
- What was eliminated
- What benefits it provides/features it adds
- How to install it
-   Problems/incompatibilities
- Final notes

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MAC OS 8.1

Anyone using Mac OS 8 should update to 8.1. You must have Mac OS 8 installed before installing the Mac OS 8.1 Update.

WHAT WAS ELIMINATED

- 2400/3400 Graphics Update (v1.0)
- 5xxx/6xxx Floppy Fix
- G3 System Enabler

WHAT BENEFITS IT PROVIDES/FEATURES IT ADDS

- Improved stability.
- Open Transport 1.3 which, according to Apple, provides "general performance improvements, better recognition of serial ports... and numerous tweaks and bug fixes." OT 1.3 also provides what is called single-link multihoming, which allows a Mac with Ethernet to respond to more than one IP address at the same time.
- Better Virtual Memory performance. In addition, under earlier versions of the OS, if the VM preference resource got corrupted, the OS would simply hide the Virtual Memory subpanel in the Memory control panel. Under OS 8.1, the control panel knows how to repair the VM peference file, so users should not get the "disappearing" Virtual Memory section.
- Faster file copying.
- Faster window drawing and redrawing than Mac OS 8.
- Faster application launching and re-launching.
- HFS Plus Volume Format: for details see the "8.1/HFS Plus Info" chapter. In addition to the benefits listed there, HFS Plus also provides support for long Unicode file names; however, under Mac OS 8.1,

you cannot yet use the newer longer file names. Support of these features is included for future versions of the operating system.
• Faster disk cache performance for multiple-block I/O operations.
• A new control strip module that allows you to select the sound input source without having to open the Monitors & Sound control panel.
• A new version of MathLib built into the System file which, according to Apple, speeds up math functions by an average of 30%. It is also supposedly more accurate than previous versions. **NOTE**: on PowerMac 5400, 5500, 6360, 6400, 6500 series computers, PowerBook 2400, 3400 and G3 series, and the Twentieth Anniversary Macintosh, MathLib v2 is loaded from ROM rather than the v3 in the System file. This will supposedly be fixed in the next version of the OS.
• A new version of PC Exchange that now provides support for Windows 95 long file names and the FAT32 disk format, as well as PC-formatted Jaz and Zip disks.
• Mac OS Runtime for Java 2.0, which supports Sun's Java v1.1.3 specification.
• Support for UDF (Universal Data Format), which is the volume format used for DVD; this makes the Mac OS the first operating system to officially support digital video discs.
• The LaserWriter 8.5 package.
• A "sort order" button which allows you to choose whether to sort list views in ascending or descending order.

HOW TO INSTALL IT

NOTES:

• **If you are installing the FULL version of 8.1 (i.e. your System software CD says "8.1" rather than "8"), you should follow the instructions for installation found in the previous chapter ("OS 8 Info"), since the full 8.1 installation does not require this separate 8.1 Update. However, the "problems/ incompatibilities" section below will still apply.**

• Just as under Mac OS 8, if you are using a non-Apple CD-ROM drive (this would mainly apply to Macintosh "clone" computers), you may not be able to startup your computer using the Mac OS 8.1 CD. If this is the case, you will need to create a new "Disk Tools" disk which will allow your computer to read from the CD-ROM drive. For instructions on how to do this, you should visit the Apple Tech Info Library (see the link in the "Resources" chapter) and search for article #30346.

• If you have a Mac which uses the Apple FM Radio, the Apple FM Radio application must reside at the root level of the "Applications" folder on the hard drive, and the "FM Radio" extension must be in the active Extensions folder. If these files are not located in the correct locations, they will not be updated by the Mac OS 8.1 Update, and you will not be able to use the FM radio under OS 8.1. If you cannot find the original files, and do not want to install them manually before performing the OS 8.1 Update, create two empty SimpleText files, and save them as "Apple FM Radio" and "FM Radio," respectively. Place these text files in the appropriate locations described above, and they will be replaced by the actual updated files when you run the 8.1 Update.

INSTALLATION:

The following instruction are for updating Mac OS 8 to Mac OS 8.1.

1) Turn off any disk/computer security software.

2) If you are installing on a PowerBook, make sure the PowerBook is plugged in and set to "never

sleep."

3) Using the Extensions Manager control panel, or any third-party startup file management utility (Conflict Catcher, Now Startup Manager, etc.), choose the set of Mac OS 8-only extensions. In Extensions Manager, this set is called "Mac OS 8 all." If you have any extensions which **must** load (video graphics drivers, storage device drivers such as the Iomega drive extensions for Zip or Jaz drives, CD-ROM drivers, network card drivers), you should manually turn them on/enable them as well.

4) Restart the computer.

5) If you are using disk images, mount all of the Mac OS 8.1 Update disks.

6) If you are using floppy disks, insert the Mac OS 8.1 Update "Disk 1" and open the disk; if you are using disk images, open the Disk 1 image. Double-click on the Installer icon.

7) Make sure that the destination disk is set correctly, and click "Install." If you are installing from floppy disks, you will be prompted to insert the other disks.

8) When the update is complete, restart the computer. You will need to use your startup file manager to re-enable non-Apple extensions and then restart again.

9) If you have problems with the Update, as a last resort you can either choose the "Mac OS 8 base" set of extensions or disable all extensions (either by using your startup file manager or by holding down the "shift" key at startup) and then try again.

PROBLEMS/INCOMPATIBILITIES

The following are known problems with Mac OS 8.1:

• **The Appearance Extension MUST be installed in order for your computer to start up under OS 8.1. If you remove it from your System Folder, your computer will not be able to start up and you will have to boot/startup from another disk. Note that starting with extensions "off" by holding the shift key down at startup will NOT cause the Appearance Extension to be disabled; it will load anyway for this very reason, even if it is in the Extensions (Disabled) folder.**

• When you run the OS 8.1 updater, it updates your Open Transport files (see the "Groups" section). However, when these files are examined by third-party utilities, such as Conflict Catcher or TechTool, you may get a message that they are corrupt. The installer accidentally allocates a bit of extra space to the resource fork of these files. The files are not actually damaged and will function normally. However, if you would like to "fix" them, the newest version of Conflict Catcher will repair the files, as will the ResEdit utility.

On PowerMacs, the affected files are:
• Open Tpt AppleTalk Library
• Open Tpt Internet Library
• Open Transport Library
• OpenTptAppleTalkLib
• OpenTptInternetLib
• OpenTransportLib

- AppleTalk control panel
- TCP/IP control panel

On 68040 Macs, the affected files are:
- Open Tpt AppleTalk 68k Library
- Open Tpt Inet 68k Library
- Open Transport 68k Library
- AppleTalk control panel
- TCP/IP control panel

• Mac OS 8 installs Appearance Extension 1.0; OS 8.1 installs Appearance Extension v1.0.1. Some applications install Appearance Extension v1.0.2. If you have v1.0.2 installed, and try to double-click on the System file, you will get an error message stating that the System file is damaged. It turns out that this is a bug caused by v1.0.2, and the System file really **isn't** damaged. According to Apple, if you need to add or remove items from the System suitcase (sounds, keyboard layouts, etc.), you should duplicate the System file, open it and make the desired changes, then close the copy of the System. Drag the original System file to the trash, rename the copy of the System file "System" and make sure it is at the root level of the System Folder, then restart. When the computer has finished booting up, empty the trash to delete the old System file.
• There is a bug in Mac OS 8 and Mac OS 8.1 which affects the way fonts display in certain applications. The bug is found in the Appearance Extension provided with the System software. If you experience missing spaces, incorrect copy-and-paste results, characters not displaying properly, or problems with the way the cursor appears when using certain applications, you may be experiencing this problem. This bug was first noticed in Wolfram Research's Mathematica. There is a patch available from Wolfram at <ftp://ftp.wolfram.com/pub/outgoing/Support/AppearancePatch/> which supposedly fixes this problem. **NOTE**: if the Appearance Extension is enabled, the patcher supposedly only works on Appearance Extension v1.0; it will work on v1.0.1 only if the extension is not loaded at startup. It will not update v1.0.2. **NOTE**: according to users, Wolfram's Appearance Extension patcher supposedly also fixes problems with text spacing in Microsoft Office 98, McComCenter Plus 2.1, Extensions Manager.
• If you have your drive(s) formatted with HFS Plus/Mac OS Extended format, you **MUST** have the "Text Encoding Converter" extension installed or you will not be able to read your drive(s).
• When running Mac OS 8.1 and using a GeoPort modem adapter, PlainTalk Text To Speech may crash your computer. Apple says that they are working on correcting this problem in the next version of the Mac OS.
• If you attempt to share a CD-ROM disc over a network running Mac OS 8.1 on a PCI Mac, files copied from the CD to another Mac on the network may not copy correctly. For details on this problem, you should visit the Tech Info Library (see the link in the "Resources" chapter) and search for article #22158.
• The newest version of the AppleVision extension is v1.5.5. This version is newer than the one installed by Mac OS 8.1, so if you need this extension, you should reinstall it after installing OS 8.1.
• FWB's Turbo Toolkit does not work with HFS Plus volumes.
• 400K floppy disks are no longer supported under Mac OS 8.1.
• Apple RAID may not be fully compatible with OS 8.1.
• At Ease is not compatible with HFS Plus.

The following are known problems with Mac OS 8 that were not fixed by 8.1:

• You cannot select multiple items in a "Find File" results window and drag them to another location. You must drag them one at a time.
• On PowerBook 2400 and 3400 models, Mac OS 8.1 will only install the updated version of the Password Security control panel if an older version already exists.

FINAL NOTES

Throughout InformINIT, items which pertain ONLY to Mac OS 8.1 are marked by OS8.1. Items which are "officially" compatible with OS 8.1 are marked by OS8.1 COMPATIBLE. If an item is not labeled as **being** OS 8 compatible, it does not necessarily mean it is **not** compatible (unless the description explicitly states that it is incompatible). It only means I have not been able to verify compatibility. It may work fine, but use it at your own risk.

I have included the summary above based on some of the most common problems people have had. For a better discussion of Mac OS 8.1-related issues, you may want to check out Ted Landau's MacFixIt "Troubleshooting System 8.1" page at:

<http://www.macfixit.com/reports/macos8.1.shtml>

In addition, the MacInTouch web site has a good special report on Mac OS 8.1 compatibility and bugs:

<http://www.macintouch.com/m81compat.html>

I'd like to thank Apple's Tech Info Library for providing *some* of the information for this chapter.

HFS Plus Info

Mac Resource Page

A Special Bonus Section by Eric Belsley of the Mac Resource Page:
<http://www.macresource.com/>

IN THIS CHAPTER:

• Primer on disk storage
• HFS Plus
• Compatibility
• Final Notes/Warnings

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PRIMER ON DISK STORAGE

At the most basic level, data on a hard disk is stored as bits -- cells which contain either a zero or a one. A byte is a string of eight bits (00101110, for example); a kilobyte (KB) is 1024 bytes; a megabyte (MB) is 1024 kilobytes; and a gigabyte (GB) is 1024 megabytes. Thus one can think of a 2 GB hard drive as a long string of 2*1024*1024*1024*8 (two to the 34th power) zeros and ones! However, if a system's file manager thought of the hard disk that way, it would perform rather badly.

To make such a huge amount of data more manageable, the storage space of a volume (i.e. a hard disk, a partition of a hard disk, a floppy, a Zip disk, etc.) is divided into 512 byte segments, called "sectors," when formatted. The process of initializing a volume further clumps these physical sectors into equally-sized "allocation blocks." File systems don't move data bit by bit, but block by block, which improves disk performance tremendously.

For example, your Mac saves an 18 KB document on a volume with 4 KB allocation blocks by assigning 5 blocks to it: assigning 4 1/2 blocks is not an option! Although only 2 KB of the fifth block is data directly associated with the 18 KB document, each allocation block may belong to only one file at a time. The file system will store no other file's data in that allocation block until our 18 KB document is deleted.

The original Mac "Hierarchical File System" (known as HFS, or more recently, MacOS Standard) limits the number of allocation blocks (and thus the number of files) per volume to 65,536 -- a limit that used to suffice. However, since most HFS initialization routines use this fixed maximum number of blocks,

larger volumes necessarily have larger allocation blocks. Whereas a 250 MB volume has 4KB allocation blocks (250 MB divided into 65,536 blocks), a 4 GB volume (a standard size today) has 64 KB blocks. Thus our 18 KB document, which uses 20 KB of a 250 MB volume, occupies 64 KB on a 4 GB volume! Imagine a volume with 64 KB allocation blocks filled with 2 KB "ReadMe" files: 62 of each 64 KBs are effectively wasted!

HFS PLUS

Debuting in Mac OS 8.1 is a file system called HFS Plus (or Mac OS Extended), which relaxes the limitation on the number of allocation blocks to 4,294,967,296 (two to the 32nd power). It allows today's larger hard disks to have smaller allocation blocks without partitioning -- the practice of breaking a volume into several smaller volumes which can be separately initialized. This is more than enough blocks, for example, to initialize a 4 GB volume with 4 KB allocation blocks.

Any existing HFS volume over 32 MB, regardless of the utility used to format it, and whether it resides on an Apple-branded or third-party hard drive, can be initialized as a Mac OS Extended volume using the Finder's "Erase Disk..." command under Mac OS 8.1. **NOTE**: this effectively erases the volume! You must backup, first! PlusMaker ($20 from ALSoft <http://www.alsoftinc.com/>, currently at version 1.0.1) is a utility that converts HFS volumes to the HFS Plus format leaving the files upon them intact.

The allocation block size chosen for HFS Plus volumes by the Finder's "Erase Disk..." command is still a function of the volume size, but does not vary nearly as much as it does under Mas OS Standard:

```
      Volume Size, V              Allocation  Block  Size
   32 MB  ≤   V    ≤ 256 MB              .5  KB
  256 MB  ≤   V    ≤ 512 MB             1.0  KB
  512 MB  ≤   V    ≤    1 GB            2.0  KB
    1 GB  ≤   V                         4.0  KB
```

When choosing the size of a Mac OS Extended volume, note that the cutoffs in the Apple HFS Plus allocation block size table above are sharp: the Finder will use 1 KB allocation blocks for a 512 MB volume, but 2 KB blocks for a 524,289 KB volume (1 KB above 512 MB)! Don't be misled by the "Erase Disk..." command which reports that it is allocating a 512 MB volume in either case; it actually rounds volume sizes down to the nearest tenth.

To verify the allocation block size you've obtained, use the Finder's "Get Info" command to determine the size of an empty SimpleText file (one with no data in it!). Since an empty SimpleText document is an example of the smallest file the Mac OS can create, this will tell you the size of a single allocation block. **NOTE**: if you are attempting to verify an allocation block size of .5 KB, you will actually have to "Get Info" on a folder containing two empty SimpleText files. This is because the Finder rounds up to the nearest KB when displaying the "Size on disk" in a "Get Info" window, so a single empty file would appear to be 1 KB in size. If you have two empty files in a folder, and the folder size is reported as 1 KB, you know that each file is indeed .5 KB.

COMPATIBILITY

For compatibility, a Mac OS Extended volume is actually a typical HFS volume containing two files: an HFS Plus disk image where all of the user's data is stored, and a "ReadMe" file. Under Mac OS 8.0 or

earlier, the HFS "wrapper" volume mounts and only the ReadMe file is visible. This ReadMe explains that Mac OS 8.1 is required to access the data on the volume. Under Mac OS 8.1 only the HFS Plus image file mounts on the Desktop, and the ReadMe file is not visible.

NOTE: This includes PowerBook drives in SCSI Disk Mode: if your PowerBook's drive is formatted with HFS Plus, and you mount it as a SCSI drive on a machine running Mac OS 8 or earlier, you will not be able to access its files. However, HFS Plus drives are accessible as usual over an AppleTalk network; you need not be running Mac OS 8.1 to mount an HFS Plus volume via AppleShare.

FINAL   NOTES/WARNINGS

1. Don't put your active System Folder on a Mac OS Extended (HFS Plus) volume unless you have a MacOS 8.1 start-up disk (a restriction that holds under any circumstance for 68040 machines). Otherwise, if you ever have problems with the drive that require you to startup off of another disk, you won't be able to access your files.

2. Be careful about storing important data on a Mac OS Extended volume until your favorite collection of disk utilities (Norton Utilities, etc.) supports HFS Plus. At the time of this writing, only Apple's Disk First Aid 8.1, and MicroMat's TechTool Pro v2.0.2, can repair HFS Plus disks. No optimizers are available.

3. If you are planning on formatting your hard drive with HFS Plus and are using non-Apple hard disk drivers, make **sure** that your hard disk formatting utility is compatible. Those who use FWB Hard Disk Toolkit should upgrade to version 2.5.2; the latest version of La Cie's drivers, SilverLining 5.8.2 and SilverLining Lite 2.2, also support HFS Plus.

4. For Apple's official Tech Note on the HFS Plus volume format, visit:
   <http://til.info.apple.com/techinfo.nsf/artnum/N30344>

5. For Apple's official Tech Note on formatting a volume with HFS Plus, visit:
   <http://til.info.apple.com/techinfo.nsf/artnum/n30339>

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Control Panels
(Apple, ⌘-K)

Below and in the next chapter are descriptions of nearly every Apple Control Panel ever released. If you're curious about what the different control panels do, here's your source. If you're interested in whether or not you need various control panels, use the descriptions below to decide whether or not you want or need them. Most are from Apple; however a few from other sources are so universal that I included them here (for most non-Apple control panels, check out the "Third-Party Control Panels" chapter).

NOTE: Control panels followed by the designation "REMOVABLE" do not need to reside in the System Folder to function. Many of them aren't really even INITs (they don't load any code at startup); they just change values in the PRAM/preferences of your computer, so the Control Panels folder seemed like the logical place to put them. Some are actually applications. **Disclaimer:** Very few of these will actually save you RAM if disabled, and if you throw them away instead of merely disabling/ displacing them, they can be a pain in the rear to reinstall. I am including this info FYI so you can be more knowledgeable about your computer; do with this info as you please.

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• PowerBook Display (v7.5.2): only used on PowerBooks; allows you to "mirror" the images on your PowerBook display on an external monitor. Works on the Macintosh PowerBooks 160, 165c, 180, 180c, 200, and 500 models. Some users report that it is also needed on later models. Has a space at the beginning of its name to force it to load early in the startup process.

• 601 Processor Upgrade: used with the Apple 601 Processor Upgrade cards and some DayStar Digital 601 upgrade cards. These cards provide a PowerPC 601 processor, via an expansion card, for various 680x0-based Macs. The control panel allows you to switch between the PowerPC processor and the standard 680x0 processor. However, you must restart after a switch.

• 8•24 GC (v7.0.1): enables graphics acceleration with the Macintosh Display Card 8•24 GC. Only functional on Systems 7.0.x and 7.1.x and on machines older than the Quadra and PowerMac series.

• Appearance (v1.0.1): actually an application. Under OS 8, provides options for window/dialog accent color and text highlight color (both taken over from the older "Color" control panel), system-wide font, and whether or not you want the OS 8 "platinum" appearance for all applications or just in the Finder. Also incorporates the functionality of the WindowShade control panel. **NOTE**: some users report fewer Finder crashes when "System-wide platinum appearance" is turned off. OS8

• Apple Menu Options (v1.1.2/v1.1.3) [40/97.5]: provides hierarchical sub-menus in the Apple Menu. Any folders, or aliases of folders, that you place in the "Apple Menu Items" folder in the System Folder

will appear in the Apple Menu and benefit from this sub-menu action. Also provides options for "Recent Applications," "Recent Documents" and "Recent Servers" folders in the Apple Menu which contain the most recently used applications, document and servers, respectively. How many of these recent item appear is set by the user in the control panel. **NOTE**: when you install System 7.5.3 or System 7.5.2 Update 2, your preferences for this control panel are reset. You will have to manually reset them. This does not happen with any other update. **NOTE**: it is not uncommon for your Apple Menu Options preferences to become corrupt and cause problems with the Apple Menu. If you are having problems, go to the "Preferences" folder in the System Folder, throw away the Apple Menu Options preferences file and restart.

• AppleTalk (v1.2/v1.3): used to specify AppleTalk settings under Open Transport. **NOTE**: under "Classic" networking (pre-Open Transport), you could turn AppleTalk networking on and off via the Chooser or the Control Strip. However, the Chooser and Control Strip have not yet been updated to be fully Open Transport-compliant. If you are running Open Transport, you need to turn AppleTalk on and off via the AppleTalk control panel. **NOTE**: PCI PowerMacs might have a different physical Ethernet address after installing System 7.5.3, since 7.5.3 corrects a bug that causes an incorrect address to be used when TCP/IP addresses are obtained using BootP, DHCP, or RARP. Fortunately, Open Transport makes it much easier for a user to determine his/her physical Ethernet address -- choose "Get Info" in either the AppleTalk or TCP/IP control panel. **NOTE**: there is a problem under System 7.5.x where AppleTalk is off every time you restart your computer. This is because Open Transport is incompatible with all Assistant Toolbox versions prior to version 1.3. If you have this problem, you should update your Assistant Toolbox extension to 1.3 or above. This problem is fixed in System 7.6. **NOTE**: under Open Transport, it is sometimes not possible to turn AppleTalk on or off via the AppleTalk control strip module or the Chooser. This is because these two methods are not yet fully Open Transport-compatible. You should open the AppleTalk control panel, go to "User Mode..." under the "Edit" menu, and change the user mode to "Advanced." The setting for turning AppleTalk on and off will then be available by using the "Options..." button in the control panel. **NOTE**: some users have found that in order to free up the printer port, they need to turn AppleTalk off (using the "Options..." button as described above) and then restart. A workaround for this is to set AppleTalk to use the modem port instead of the printer port.

• AppleCD Speed Switch: from System 7.1, this control panel allows you to switch between "standard" or "faster" speed. Allegedly this switch is made automatically in CD Software v5.0 and later.

• AppleShareSetup (v1.0.1): allows you to change many of the AppleShare parameters.

• AppleTalk Options (v1.0): part of the Open Transport package, but not installed automatically. You should not install this control panel unless specifically instructed to do so by your network administrator. It is an unsupported utility developed by Apple. According to Apple, it "allows a user to suppress unwanted router-related alerts... [S]ome Ethernet-ISDN bridges used for remote LAN-to-LAN connectivity drop the connection when there is no active data transfer, and dial on demand when there is information to be transferred. If a user's local network does not include an AppleTalk router, a message appears each time the connection is dropped. Use the AppleTalk Options control panel to prevent the alerts from being displayed."

• AppleVision Setup: actually an application. On a PCI Mac, when upgrading to System 7.5.3, this control panel should be automatically removed by the System installer -- if not, you can trash it manually, since all of its functionality is incorporated into the Monitors & Sound control panel. The same goes for non-PCI Macs under System 7.5.5 and later. In fact, on Macs with the Monitors & Sound control panel, if you press any of the settings buttons on the front of an AppleVision monitor, the Monitors & Sound control panel should appear. REMOVABLE

• At Ease Setup: allows you to start up your Mac in a simple, configurable launcher, which replaces the standard Finder. It is especially useful for beginning users and environments with young users, since it simplifies use while at the same time providing some security. Each user can have a password and an

individual launcher. The At Ease Startup extension forces the computer to start up in the At Ease launcher instead of the standard Mac Finder.

• ATM GX: Installed by QuickDraw GX. Only necessary if you actually use GX. Version 3.7 is non-native; 3.8 is native. Supposedly can cause Norton Utilities to falsely report hard drive directory problems.

• Auto Power On/Off (v1.1): allows your Mac to automatically shut down after a specified idle time, reboot after a power failure, and/or start up or shut down at a certain time(s). This control panel works with any Mac that uses "soft power-off" (meaning those that do not require you to actually turn the power switch off) and the "Cuda" (Motorola 68HC05) controller chip. According to Apple this includes the following Macs: IIsi, IIvx, IIvi, Color Classic and Color Classic II, Performa 200, 500, 600, 5200, 5300, 6200 and 6300 series, LC 500, 600, 5200 and 5300 series, Quadra 630, 840AV, 900 and 950, Power Macintosh 5200, 6100, 6200, 7100, 8100 series, and the WorkGroup Server 95 and 8150. For the official Apple document on all the different "energy saving" control panels/applications, visit:
<http://cgi.info.apple.com/cgi-bin/read.wais.doc.pl?/wais/TIL/Macintosh!Software/Energy!Saving!Cntrl!Pnls!!Desc>
`NN`
`IE`

• AutoRemounter (v1.2.3/v1.3): allows remounting of volumes after waking from sleep. Turns off "losing network services" alert that shows up when your PowerBook goes to sleep. An Apple TechNote states that this control panel does not work with the PowerBook 100, 140, 145, 145B, and 170, but some readers have reported that it works fine on these models. The same TechNote (and others) state that this control panel is only for use on PowerBooks. However, a number of people have claimed that it works fine on their desktop Macs to remount shared disks instead of using the AppleShare "mount on startup" option. Apple claims that on desktop Macs, the drives are never "unmounted" during sleep, so it only *appears* as though the control panel is functioning properly.

• Backlight Control: allows 100-series PowerBooks under systems earlier than 7.5 to dim or turn off backlighting completely after a period of inactivity. The screen will turn back on as soon as you hit a key or move the cursor. This control panel is "unsupported" by Apple, but can still be found in various places.

• Brightness (v7.0.2): allows you to set the screen brightness on Macs with software/onscreen brightness control (the Classic series).

• Button Disabler (v1.1 and 1.2): allows you to disable the bezel buttons (volume, brightness, etc.) on the front of certain computer models. Version 1.1 is used to disable the volume/brightness buttons on the front of the LC/Performa 500 series Macs. Version 1.2 is used for Performa or Power Macintosh 52xx, 53xx, 62xx, 63xx, 5400, 6400, 5500, or 6500 series computers running System 7.6.1 or later. At one time, a text document appeared next to the disk image of version 1.2 on Apple Software Update sites that incorrectly stated that it would work with "Performa/LC 5xx series computers." However, Button Disabler 1.2 was updated **only** for compatibility with the above computers and adds no new functionality. Other Macs should still use version 1.1. If you are using one of the above 1.2-compatible machines and see the message "The control panel 'Button Disabler' cannot be used with this computer" make sure you have installed Mac OS version 7.6.1 or later. Version 1.2 of the Button Disabler control panel will not open on versions of the Mac OS before 7.6.1.

• Cache Switch (v7.0.1): for 68040/680LC40 Macs only. Allows you to turn off the 68040 processor caching for compatibility with older apps. A consequence of this "more compatible" mode is a dramatic decrease in performance. Most incompatible apps have been updated or superseded by newer versions. Change takes effect after restarting your Macintosh. To make the change without restarting,

option-click the on/off button. However, the book *Mac SECRETS* warns not to use this trick on a networked Quadra 700. If you hold the option button down and click on the version number in the control panel, you'll get a list of the programmers. REMOVABLE

• CloseView (v7.2.1): magnifies the display for individuals with poor eyesight. Also allows for black/white inversion. According to Apple, this control panel does not work on PowerMacs, but several readers have informed me that it works fine for them.

• Color (v7.1) [0/0]: under OS 7.6.1 and earlier, allows you to change the highlight and window colors. If you click on the "sample text" repeatedly, you'll see the names of the programmers. REMOVABLE Under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the Appearance control panel.

• ColorSync System Profile (v2.1) / ColorSync (v2.5) [0/0]: using the ColorSync system, helps to synchronize the color values between on-screen images and scans/printouts. Useful for users who have a color scanner and/or a color printer, and **also** have the corresponding ColorSync profiles for those peripherals and their monitor. As of the release of ColorSync 2.5, this control panel is simply called "ColorSync." Requires ColorSync extension. **NOTE**: if you use Quark XPress 4.0, Adobe Illustrator 7.01, or Pantene ColorDrive 1.53, and do a clean install of your System software, you **must** launch these applications at least one time each **before** installing ColorSync 2.5. This is because ColorSync 2.5 moves the ColorSync profiles to a different place than these applications expect them to be. The applications need to "find" the profiles before they are moved. Once you have launched the applications, you can then install v2.5, and they will keep track of the new location just fine.

• Control Strip (v1.4/v1.4.1) [27.5/40]: provides a "strip" of customizable utilities on your desktop. Allows you to turn the Control Strip on or off, set the display font, and set the on/off hot key. You can add new modules by placing them in the "Control Strip Modules" folder in the System Folder. You can move the Control Strip by holding the option button down and dragging the end of the strip to any point on the left/right edges of the screen. Also, by holding option and clicking on a tile, you can drag that tile to another point on the strip, allowing you to rearrange your Control Strip tiles. Tip: if you option click on the "Current hot key" box, the window title changes to the author's name. NOTE: Control Strip sometimes causes problems with certain screen savers. If you have problems with it, be sure to use the on/off "hot key" to turn the control strip off when you aren't using it.

• CPU Energy Saver: allows you to set your Mac to turn off at a specific time or after a specified amount of idle time. It does not allow you to have your Mac start up at a specific time. It is compatible with Macs that can be turned off using "soft power off" (in other words, the "Shut Down" command in the "Special" menu, as well as the keyboard power key, turn the computer completely off without requiring you to manually turn off the power switch). According to Apple, this includes the following Mac models: II, IIx, IIfx, IIci, IIcx, IIsi, IIvi, IIvx, Color Classic and Color Classic II, LC 500 and 600 series, Performa 200, 500, 600 and 5200 series, Centris 650, Quadra 630, 650, 700, 800, 840AV, 900 and 950, and the Power Macintosh 5200 series, 7100/66 and 8100/80. **NOTE**: the PM 7100/80 and 8100/100 shipped with Connectix Desktop Utilities, which fulfilled the functions of CPU Energy Saver. CPU Energy Saver is installed only by System 7.5 and only on those Macs that are not compatible with Auto Power On/Off (above) and ARE compatible with CPU Energy Saver. For the official Apple document on all the different "energy saving" control panels/applications, visit: <http://cgi.info.apple.com/cgi-bin/read.wais.doc.pl?/wais/TIL/Macintosh!Software/Energy!Saving!Cntrl!Pnls!!Desc>
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IE

• Date & Time (v7.5.1/8.0.1) [4.5/16]: allows you to turn the menu bar clock on/off, configure the date/time format, set Daylight Savings Time and your time zone, and set the time and date. It is important that your clock be set correctly, including the "Daylight Savings Time" setting, because your

Mac uses this information to record when files are created and modified. There are a number of reasons why you would want this to be accurate. Hint: if the clock is displayed in the menu bar, you can make it disappear by option-clicking on it. Doing it again will make it reappear. Finally, on a PowerBook, control-clicking on the menu bar clock is supposed to put the computer to sleep, but some users have reported that this feature does not work for them.

• Desktop Patterns (v7.5.1):actually an application. Allows you to change the background of your desktop. If you click "option" and select a pattern, it selects the pattern for utilities such as "Find File." You can delete/add pictures using the cut/paste commands. You can also drag and drop files from the scrapbook and other drag and drop-aware applications. The maximum number of patterns that can be stored (in the Desktop Patterns Preferences file in the Preferences folder) is 226. Replaced by the Desktop Pictures control panel under Mac OS 8 and later. REMOVABLE

• Desktop Pictures (v1.0.1): replaces the Desktop Patterns control panel (above) under Mac OS 8. Provides the same functionality as Desktop Patterns, but also allows you to use a single picture (located anywhere on your hard drive) as your entire desktop (much like the shareware Decor). The types of images that can be used by Desktop Pictures for full-desktop display are PICT, picture "clippings," and any file supported by the QuickTime graphics import components, such as Photoshop, GIF and JPEG files. Requires that the AppleScript extension be installed in order to load a desktop picture, although you can still set the desktop pattern without AppleScript. **NOTE**: the larger the size of the picture being displayed, the more memory is needed. If you are running low on RAM, some larger pictures will not display. **NOTE**: if you are running low on RAM and using virtual memory, the desktop picture will often be loaded from the hard drive during screen redraws, resulting in extrememly slow redraws. **NOTE**: Desktop Pictures is technically an application, so it can conceivably be considered "removable," but if it is not located in the Control Panels folder at startup, it will not automatically draw your chosen picture as the desktop. **NOTE**: if Desktop Pictures cannot find its preferences file at startup, it looks for a picture file in the System Folder called "Desktop Picture" to use as the desktop. **NOTE**: the "utility" patterns option of the Desktop Patterns control panel is not supported by Desktop Pictures; however, you can still use the older Desktop Patterns control panel to set these. **NOTE**: if you are upgrading to OS 8 from System 7.5 or later, and have custom "Desktop Patterns" files, Desktop Pictures will look for the "Desktop Patterns Preferences" file in the Preferences folder in the System Folder. If found, it will load those pattern files into its own preferences file and then move the older preferences file to the trash. OS8

• DOS Compatibility Software Update 1.6.4 / PC Setup v1.6.4: used by Macs with the DOS Compatibility Card (not necessary for PCI Macs with a DOS Compatibility Card). It is recommended that you update your system to at least 7.5.3 for best results with the DOS Cards. NOTE: the Quadra 610 with DOS Compatibility Card requires PC Setup 1.0.2. OS8.1 COMPATIBLE

• Easy Access (v7.2): provides keyboard enhancements and easier mouse input for persons with disabilities. Provides audio and visual feedback on keyboard entries. Supposedly has a bug where, when turned off, pressing a key would sometimes result in a "beep," but no text would appear. When enabled, an icon is displayed in the upper-right corner of the screen

• Emulator (v7.5ß1): when PowerPC computers attempt to use code which is not "PowerPC- native," they must run that code through an emulator. The second generation of PowerPC Macs (and later) had an improved version of this emulator, which uses a certain amount of RAM as a buffer to load the emulator and some amount of 68k code into memory. 68k code which is translated is then loaded into memory and cached for later use. This new emulator can also take advantage of different RAM buffer sizes: the larger the buffer size, the better the emulation performance because more translated code can be cached (the tradeoff is that the larger the buffer, the more RAM is taken up by the System software). Rather than make the average user worry about the correct buffer size, Apple decided to set the buffer size to a good "middle ground" level at the factory. The Emulator control panel was intended for Apple Developers in order to allow them to experiment with the RAM buffer size; it allows

you to increase or decrease the size (changes take effect upon restart). It is not generally available to users.

• Energy Saver (v1.1): allows you to put your external monitor into sleep mode after a specified idle time. Requires an Energy Star-compliant monitor. It was originally designed to work with the built-in video of the following Mac models: LC III, Performa 450 through 467 and the Performa 600, 611x, 6200 and 6300 series. However, according to Apple, it also works with the II series, LC 475 and 630, Centris 610, 650 and 660AV, Quadra 610, 630, 650, 660AV, 800, 840AV and 950, Power Macintosh 6100, 6200, 7100, and 8100 series, and the WorkGroup Server 95 and 8150. Users report that it will work on **any** non-PCI PowerMac. **NOTE**: if this control panel is installed on a Mac that has a non-Energy Star-compliant monitor attached, the monitor **will** go black at the appropriate time, but the monitor will **not** be saving energy (this doesn't hurt the monitor, though). **NOTE**: when using Energy Saver 1.0, your computer itself is still at full power and functioning. The power-saving features of this control panel apply only to the monitor. **NOTE**: when using Energy Saver v1.1 on Quadra computers, "waking" the monitor up by using the keyboard can freeze your computer; you should wake it up using the mouse.

• Energy Saver (v2.0.4/v2.0.7) [53.5/0]: actually an application, and requires the "Energy Saver Extension" to function. This utility combines the features of CPU Energy Saver, Energy Saver 1.0 and Auto Power On/Off, and is only compatible with PCI based PowerMacs (Performa 6400 and Power Macintosh 5400, 7200, 7300, 7500, 7600, 8500, 8600, 9500, 9600, G3 series and later, as well as the WorkGroup Server 9150) running System 7.5.2 or later. It allows you to put your computer to sleep or shut it down after a specified idle time (with separate settings for the monitor and CPU), set your system to start up or shut down at specific times, and auto-save open documents before a scheduled shut down and open them again on startup. It will also allow your computer to restart automatically after a power failure. The sleep mode used by Energy Saver 2 is similar to the sleep mode on PowerBooks, in that your entire system "goes to sleep" instead of just the monitor. If you have a PCI-based Mac, you can technically install both versions of Energy Saver (1 and 2) by renaming one of them, although I don't know why you would want to. **NOTE**: if you have Energy Saver disabled and then install the Apple Displays software, it will install Energy Saver 1.1. **NOTE**: There have been reports that the Apple 15" MultiScan monitor does not work correctly with Energy Saver 2.0.4, but does work with v1.0 (above). **NOTE:** there is a bug in the Energy Saver control panel where preferences are not saved if you close the control panel when the "Scheduled Startup & Shutdown" options are showing. If you have this problem, you should switch the control panel to "Sleep Setup" before you close it. **NOTE:** the Energy Saver settings are not stored in a preference file or in the control panel itself, but rather in PRAM, because PRAM is the only way your Mac can keep information (such as what time to startup automatically) in memory when it is turned off. This is important because if you simply "disable" the Energy Saver control panel and extension, the settings will still be in effect. For example, if you have the control panel set to startup your computer at 2am, this will happen whether the control panel is "disabled" or not. In order to disable the Energy Saver functions, you need to change the settings to "never" using the control panel/application first, **then** disable the extension. **NOTE**: when using a DOS-compatible Mac (a Mac with the DOS compatibility card), the Energy Saver features can prevent you from accessing the Mac side! If you stay in the DOS environment longer than the time set in Energy Saver, the Energy Saver features will shut down the monitor on the Mac side. When you try to switch back to the Mac side, the monitor will not wake up, forcing you to restart the machine. You should set the monitor sleep time to "never" when using a DOS compatible machine. **NOTE:** on PCI Macs using Energy Saver version 2.0.4 and earlier, there is a bug with Energy Saver where audio CDs may suddenly stop playing. If you experience this problem, the only solution short of updating to a newer version of Energy Saver is to deselect "Shutdown instead of Sleep" in the Energy Saver control panel. **NOTE**: version 2.0.5 of Energy Saver conflicts with the Global Village Phone Engine Extension. When both are installed together, Energy Saver cannot shut down your computer. A fix is to use an earlier version of Energy Saver (such as 2.0.4). **WARNING:** an Apple Tech Note states: "AppleVision 1710AV Displays with serial numbers between SG522xxxxxx and SG536xxxxxx inclusive should have Energy Saver mode temporarily disabled using the Energy

Saver control panel until the display can be serviced. Displays within this serial number range may not operate as originally intended while in Energy Saver mode when connected to a Power Macintosh 7200, 7500, 8500, or 9500 computer, or some third-party video cards. [Using Energy Saver may possibly damage the monitor. - Ed.] Monitors with serial numbers greater than SG537xxxxxx are not affected and will function normally with Energy Saver." REMOVABLE. For the official Apple document on all the different "energy saving" control panels/applications, visit: <http://cgi.info.apple.com/cgi-bin/read.wais.doc.pl?/wais/TIL/Macintosh!Software/Energy!Saving!Cntrl!Pnls!!Desc>
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• Extensions Manager (v4.0/v4.0.7): allows (limited) control over which extensions and control panels will load at startup. Also allows you to configure sets of startup files. The " EM Extension" allows this control panel to load before any other startup files and provides the ability to show Extensions Manager at startup by holding down the space key. If you are using another startup file manager, such as Now Startup Manager or Conflict Catcher, these two files will automatically be disabled.

• File Sharing (v8.0): actually an application with some INIT code. Installed by OS 8 and later, and incorporates the functionality of the former File Sharing Monitor and Sharing Setup control panels. OS8

• File Sharing Monitor (v7.1): under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the File Sharing control panel. Under OS 7.6.1 and earlier, it shows who is connected to your Mac, what drives/folders are shared, and whether or not connected users are actively accessing those drives/folders. It can only be opened when File Sharing is active.

• File Sunchronization (v1.1): actually an application. Allows you to synchronize pairs of files, folders and disks, so that they always contain the same contents. Replaces the PowerBook File Assistant application.

• General Controls (7.5.8/v7.7) [14/32]: allows you to choose options regarding the general operation of your Mac. It's here that you can get rid of the annoying "This computer may not have been shutdown properly..." message. If you are having trouble making changes to your System Folder, uncheck the "Protect System Folder" box. Many users have reported fewer crashes/problems if they set "Menu Blinking" to "Off." If in the control panels folder, this control panel loads code at startup; if you move it to the disabled folder, it will perform as usual, but will not load as an INIT (the Mac user's dream!). Bug: on older versions, if "Protect System Folder" or "Protect Application Folder" is enabled, would cause problems with Retrospect Remote; fixed in 7.5.3. **SECRET**: according to a source at Apple, the "Insertion Point Blinking" setting also controls the rate at which the Finder recognizes typing to locate a file (i.e. when you want to find a file in a window or on the desktop by typing the first few letters of its name). **NOTE**: under Mac OS 8/8.1, if you have "Protect System Folder" and "Protect Application Folder" selected, Finder windows may update very slowly. **NOTE**: if the "Protect System Folder" setting is checked, some software installations may not work properly. **NOTE**: some FreePPP users report that they have had problems with FreePPP if this control panel is disabled. **NOTE**: under OS 8, if you have "Application Folder Protection" turned on, your Mac or PowerBook will supposedly not be able to "sleep." REMOVABLE, BUT: if you disable it, the "Show Launcher at system startup" feature does not work.

• Infrared (v1.1): used to switch between the IRTalk and IrDA infrared protocols on supported PowerBooks (see IRTalk, IrDALib and IrLanScannerPPC in the "Non-RAM" section).

• International (vZ1-3.3.1): from System software vZ-6.0.5. Allows you to switch between different international date, time, number, and sorting order formats.

• Keyboard (v7.5.1/v8.0) [0/0]: allows you to set the repeat rate and "delay before repeat" for the

keyboard. Lets you change between keyboard layouts. If you've ever started typing and gotten some weird characters that don't match your keyboard, check this control panel; there is a key combination which if hit changes from the standard keyboard layout to one of the others. Solution? Turn off the key combination in the control panel or open your System itself and trash all of the unnecessary keyboard layouts. Under OS 8, you can choose more than one keyboard layout; if you do, a new "keyboard" menu will appear in the menu bar to allow you to select between the chosen layouts directly. REMOVABLE, BUT: if you have more than one keyboard selected, the keyboard menu will not display unless this control panel is installed.

Control Panels
(Apple, L-Δ)

Below and in the previous chapter are descriptions of nearly every Apple Control Panel ever released. If you're curious about what the different control panels do, here's your source. If you're interested in whether or not you need various control panels, use the descriptions below to decide whether or not you want or need them. Most are from Apple; however a few from other sources are so universal that I included them here (for most non-Apple control panels, check out the "Third-Party Control Panels" chapter).

NOTE: Control panels followed by the designation "REMOVABLE" do not need to reside in the System Folder to function. Many of them aren't really even INITs (they don't load any code at startup); they just change values in the PRAM/preferences of your computer, so the Control Panels folder seemed like the logical place to put them. Some are actually applications. **Disclaimer:** Very few of these will actually save you RAM if disabled, and if you throw them away instead of merely disabling/ displacing them, they can be a pain in the rear to reinstall. I am including this info FYI so you can be more knowledgeable about your computer; do with this information as you please.

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• Labels (v7.1) [0/0]: under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the Finder Preferences dialog. Under OS 7.6.1 and earlier, allows you to change both the label colors and the label text. **NOTE**: unlike any other control panel, changes made in the Labels control panel are saved to the System file itself. REMOVABLE

• LaserWriter Bridge (v2.1f): newer, Open Transport-compatible version of LaserWriter Bridge and LocalTalk Bridge. Allows you to use LocalTalk printers and access LocalTalk networked Macs over an Ethernet or TokenRing network. The control panel allows you to set LaserWriter Bridge on and off and LaserWriter Access as public or private.

• Launcher (v2.8/v3.1): allows you to set up a "palette" window with icons for frequently used applications, documents, etc. Dragging an application, document, etc. to the palette will create a "button" for it. To remove an item, option-drag it to the trash. Alternatively, you can create an alias of an item by option-dragging it to the desktop or to a folder or window. Holding the Command key while clicking in the colored background area will allow you to change the size of the buttons. The "Launcher Items" folder in the System Folder contains the alias files for all the buttons you have installed. Creating folders within the Launcher Items folder, and placing a "•" (option-8) at the beginning of their names, will create different categories or "layers" of buttons, with "tabs" to select the layers. You can access the "Easter Egg" by command-option-clicking on the sides of the Launcher window. Finally, a neat trick courtesy of *Mac SECRETS* (it's really a great book!): Go to the Apple Menu Items folder inside the System Folder. Make an alias of one or more of the following folders: Recent Applications,

Recent Document, Recent Servers. Rename the alias(es) with a "•" (option-8) at the beginning, and drag the alias(es) to the Launcher Items folder in the System Folder. You will now have one or more Launcher pages which automatically update to give you access to these recent items! **NOTE**: some people say this doesn't work, and that to get it to work, they must actually move the **original** folder to the Launcher Items folder, rename it, then place an alias of **this** file back in the Apple Menu Items folder, leaving the original folder in the Launcher Items folder.

• LocalTalk Bridge (v2.0): allows you to bridge Ethernet and LocalTalk networks.

• Location Manager (v1.0.2/v2.0.1): when using a PowerBook, allows you to set up "locations," which can include settings for File Sharing status, networking configuration, sound volume, time zone, Extensions Manager set, default printer, and which files/applications you would like to open automatically when you change locations. You can then switch between locations using the control panel or a provided control strip module and all settings in the location will automatically be changed. Using third-party and Apple add-on "modules" (installed in the Location Manager Modules folder inside the Extensions folder) you can also control OT/PPP and Remote Access settings. Requires that the Location Manager Extension be installed. Version 2.0.1 is required for compatibility with OS 8.1. OS8/OS8.1 COMPATIBLE

• Mac OS Easy Open (v1.1.3) [13/100]: see "Macintosh Easy Open" below.

• Macintosh Easy Open (v1.1.2) [12.5/100]: allows you to select the way a Mac or DOS/Windows file is translated/opened when you don't have the application that actually created it. Renamed "Mac OS Easy Open" under System 7.6 and later to reflect the fact that the System software is now called "Mac OS" and is also run on Mac clones. **NOTE**: this extension may cause your computer to attempt to rebuild the desktop every time it starts up. If this happens to you, the solution is to restart with all extensions disabled except Macintosh Easy Open and manually rebuild the desktop (by holding down command-option just before the Finder loads). Then restart again normally with your normal set of extensions. If you are using AutoDoubler or DiskDoubler, you should also keep those extensions enabled during the desktop rebuild, or your compressed files will end up with generic icons. **NOTE**: some users have reported that when both MEO and MacLink Plus are present, Finder dragging and drag-and-drop operations are slowed down, or even get "stuck" under versions before 1.1.2. **NOTE**: There is a "bug" (or is it a feature?) where double-clicking on a preference file for an application opens up an application that is not in any way related to the preference file. The solution it to click on the "Delete Preferences..." button in the control panel, then check the "Always show dialog box" checkbox. This will clear up the stored preferences and then allow you to specify what application you want to be used to open the file.

• MacIPX (v1.3.1): used with the MacIPX network extensions to provide Mac support for the IPX network protocol. For more information on MacIPX, see the entry for the MacIPX extensions in the "Apple Extensions" section.

• MacTCP (v2.0.6; unsupported v2.0.8): used to configure and connect to TCP/IP-based networks, either locally or via a dial-up connection. Replaced by the TCP/IP control panel under Open Transport. **NOTE**: there are a few third-party patches for MacTCP v2.0.6, which are intended to fix bugs and/or increase performance.

• MacTCP DNR: This file, which is found loose in your System Folder, is not really a control panel, even though that's what it says it is. "DNR" stands for "domain name resolver" and contains part of the information needed by TCP/IP applications. Under System 6.x, control panels were loose in the system folder. Thus any application that needed TCP and/or DNR information would look for the MacTCP control panel in the System Folder. Under system 7.x, all control panels were moved to the "Control Panels" folder. However, some applications still looked for TCP/DNR information in a control panel in the System Folder. To ensure backwards compatibility, MacTCP creates this file to provide information for

those applications. Some applications still look for the info in a control panel, so the "type" code of this file, and the file type listed in the "Get Info" box, is set to "control panel." In fact, even some newer applications still use the MacTCP DNR file directly, instead of using Mac TCP. This file also provides compatibility for applications that are not yet Open Transport-aware. These applications still use the above method for obtaining DNR information, rather than using the MacTCP compatibility model of Open Transport. In order to support these applications, Open Transport provides the MacTCP DNR file in the System Folder. **NOTE**: this file is always provided, so you'll notice that even if you throw it away, it is recreated the next time a TCP call occurs. Supposedly Apple will finally do away with MacTCP DNR under a future version of Open Transpor. **NOTE:** if you are having trouble with TCP/IP connections, or are upgrading to a newer version of MacTCP or Open Transport, it is often helpful to delete this file, along with the MacTCP Prep file in the Preferences folder; you may need to manually re-enter all your settings, so you should be sure to write them down.

• Map (v7.5.1): allows you to select your "home" on the globe. By clicking on a city, or "finding" it, you can see its exact coordinates on the globe. Once you set your "home" city, you can see the distance between it and any other city in the world, as well as the current time in that city. By clicking on the words "Time Zone" you will be presented with the time difference between home and the other city. By clicking on the mi, km and dg units, you can see the distance in miles, kilometers and degrees, respectively. You can add cities to its database if you know the city's coordinates. (If you type "Mid" you will be sent to the "middle of nowhere" in the Atlantic Ocean.) Option-clicking on the "Find" button scrolls through the cities contained in the Map database. By opening the control panel with various modifier key combinations held down (shift and/or option) you will get higher magnifications. If you're traveling with your PowerBook, set the "home" city to your destination. Your clock will automatically be set to the local time! NOTE: If your Date & Time control panel does not have an option to set the local time zone (some older versions didn't), Eudora will freak out if it can't find "Map" in the "Control Panels" folder; it uses the "home" setting for time zone information. **FUN TIP**: older versions of the Map control panel have a black and white map of the world. If yours does, open the Scrapbook DA and scroll to the color map of the world. Select "Copy" from the "Edit" menu. Open the Map control panel and select "Paste" from the "Edit" menu. Voila! You now have a color Map! REMOVABLE

• Memory (v7.5.7/v7.5.9) [0/6]: lets you control settings such as virtual memory, disk cache size, the Modern Memory Manager (see the "Modern Memory Manager Info" chapter), and RAM disks. Turning virtual memory on and setting it to one MB above your actual RAM, or using RAM Doubler, will greatly enhance your system by reducing the amount of RAM that PowerPC-native applications require. On older systems, there is also an option to enable/disable "32-bit addressing." This feature allows your Mac to address more than 8 MB of RAM. However, some older applications are incompatible with 32-bit addressing. In addition, some older Macs (the SE series, II series) cannot do 32-bit enabling on their own, and require either System 7.5 or the freeware "Mode32" to enable 32-bit addressing in the Memory control panel. **NOTE**: on the PCI Macs, if you boot the computer from the System CD-ROM, and the name of the drive is the factory-default "Macintosh HD," virtual memory will be turned on by default. **NOTE**: before System 7.5.3, the default Disk Cache setting in the Memory control panel was 16K for every MB of physical RAM installed. Under System 7.5.3 and later, the default is changed to 32K for every MB of physical RAM installed. **TIP**: to start up normally, but with virtual memory temporarily turned off, hold down the command key at startup. On a related note, if you are using RAM Doubler, to start up with extensions off but RAM Doubler on, hold down the shift and options keys at startup; to start up with extensions on, but RAM Doubler off, hold down the tilde [~] key. **FUN TIP**: by option-clicking on the virtual memory drive menu, instead of getting a list of connected volumes, you will get a pull-down menu of the Memory control panel programmers' names. REMOVABLE

• Monitors (v7.5.6): allows you to configure your monitors (# of colors/grays, resolution, main monitor on multiple-monitor systems) on non-PCI Macs and the 7200 series PCI Macs. Replaced on other PCI Macs by "Sounds & Displays" under System 7.5.2, and by "Monitors & Sound under" 7.5.3 and later. Replaced by Monitors & Sound on **all** Macs under Mac OS 7.6 and later. **NOTE**: by selecting lower bit-depth (# of colors) settings, you can speed up graphics performance; since most users

rarely need "thousands" or "millions" of colors (unless watching QuickTime movies or doing graphics work), setting your monitor(s) to 256 colors can significantly increase the perceived speed of your computer, especially when doing things like scrolling through documents. REMOVABLE

• Monitors & Sound (v1.2/v1.3.3) (formerly Sounds & Displays) [NA]: actually an application. Replaces the separate "Monitors" and "Sound" control panels, providing most of their functionality and more. Apparently, this is only installed on AV PCI Macs under System 7.5.5 and earlier. Some other models may be able to use it under earlier versions of the System software by doing a "custom" install. System 7.6 may install it by default on many others. AppleScript-able, but no longer requires AppleScript. **NOTE**: While this file provides most of the functionality of the older "Sound" control panel, some versions do not provide a way to record new alert sounds. For this functionality, you need to use either the "Simple Sound" application (usually installed by the System software and placed in the Apple Menu) or use a copy of the Sound control panel. **NOTE**: if you do a normal System software install on the PowerBook 1400, the System software will often install "Monitors," "Sound" **and** "Monitors & Sound." You should remove the Monitors control panel and the Sound control panel. If you do a non-custom "clean" install, the installer will neglect to install "Monitors & Sound" and you will need to do a "custom install" to get it. **NOTE**: If you ever get the message "Sorry... Sound & Displays/Monitors & Sounds cannot be used at this time. The required extensions cannot be found. These extensions have either been disabled or are not present. To use this application, first put the Sound & Displays/Monitors & Sounds extensions in your extensions folder, and then restart your Macintosh," the reason is that you are missing the extension "SystemAV". Although this file is stored in the Extensions Folder, it is not listed by the Extensions Manager control panel. However, it **is** listed by some third-party startup file management software such as Conflict Catcher. Make certain this extension has not been disabled or removed from the Extensions folder. If this extension is missing, reinstall it from the System CD that came with your computer. **NOTE**: if you get an error message when you try to open the Monitors & Sound control panel saying that the "System AV" extension needs to be installed, and it already **is** installed, the reason may be that there is not enough memory available to load the extension. You can make more memory available at startup by turning off unneeded extensions and control panels, or by turning virtual memory on in the Memory control panel. REMOVABLE

• Mouse (v7.5.4) [0/0]: Used to set mouse tracking and double-click speed. REMOVABLE

• Network: under "Classic Networking" (i.e. not Open Transport) used to choose the type of AppleTalk network (LocalTalk, Ethernet, Remote Only, etc.). Replaced by the AppleTalk control panel under Open Transport. Only needed if you are running Classic Networking and need AppleTalk networking (this includes using an AppleTalk printer).

• Network Time (v2.0.1): if you are on a network with a "time server," this control panel checks the server and synchronizes your Mac's clock. This is useful for ensuring that all computers on a network are exactly in sync. **STRANGE BUG**: you cannot use this control panel on a NuBus (non-PCI) Mac running Open Transport and the AutoPower On/Off control panel. The solution is to remove the AutoPower On/Off control panel.

• Numbers (v7.1) [0/0]: allows you to specify the format for displaying numbers, including separators and currency designation. Provides 17 pre-set configurations, and allows for other custom configurations. REMOVABLE

• ODBC Setup: stands for Open Database Connectivity. It is installed by Microsoft Office for use when connecting to SQL database servers. Allows you to select your "source" database.

• Panel: allows you to choose screen settings on the backlit MacPortables.

• Password Security (v1.0.6): provides hard drive security through password-based drive access.

Only supported on PowerBook IDE drives. **NOTE**: if you have your hard drive partitioned, only the startup partition will be protected. Version 1.0.6 is compatible with OS 8.1. **NOTE**: PowerBook 2400 and 3400 computers cannot use Password Security under Mac OS 8. They must use version 1.0.6 and Mac OS 8.1. **IMPORTANT:** if you are using At Ease 4.0.x on a PowerBook 3400 and the Password Security control panel is set to "Prevent users from bypassing security by starting up from a floppy disk," it will corrupt your hard disk driver and your computer will not be able to start up. In addition, you will not be allowed to start up from a floppy, CD or other drive, nor by using SCSI Disk Mode. **DO NOT** use this combination! Also, the Password Security control panel was **only designed for PowerBook IDE drives formatted with Apple's Drive Setup utility**; **DO NOT** use Password Security on other drives. OS8.1 COMPATIBLE

• PC Exchange (v2.1.1/v2.2) [18/92]: allows your Mac to read files from MS-DOS and ProDOS disks, including SCSI fixed and removable media. Allows you to format floppy disks as PC floppies. Lets you designate certain applications to open different PC documents. Can also be used to probe for, and mount, SCSI devices (!). Version 2.2, which is provided with Mac OS 8.1, supports Windows 95 long file names. **NOTE**: turning PC Exchange "off" in the control panel only disables it until the next time you restart. To **really** disable it, move it to the Control Panels (Disabled) folder, or use a startup file manager. NOTE: there is a "bug" in v2.1.1 where some floppies which have been incorrectly formatted on a PC will not be recognized by PC Exchange. Version 2.0.7 and earlier of PC Exchange would actually ignore the problem and mount the disks. The current workaround is to either go back to an earlier version of PC Exchange or reformat the PC disks **as** PC disks on your Mac (or upgrade to v2.2!). **NOTE**: in order to view PC CD-ROMs, you must also have Foreign File Access and the corresponding Foreign File Access modules installed. **NOTE**: version 2.2 (which comes with OS 8.1) is not compatible with FWB's Hard Disk Toolkit v2.5. It also doesn't allow some PC Card disks, such as those used by digital cameras, to mount; if you need to mount these disks, you will need to use version 2.1.1, which is the version provided by Mac OS 7.6.1 and Mac OS 8.

• Performa (v7.1Px): included with Performa models running System 7.1P. Provides functionality similar to the General Controls control panel.

• Pointer Mode (v1.0.1): some 7200, 7300, 7600, and 8600 computers experience a problem where the cursor/pointer does not appear when screen shots are taken. This control panel fixes that problem. However, some users find that when using this feature, the pointer flashes when placed over graphics. If you experience this side effect, you can turn the feature on only when taking screen shots.

• Portable Control Panel: used only by Macintosh Portables (not the PowerBooks, but the "Portable") and PowerBook 100, 140 and 170 models running Systems 6.0.7 and 6.0.8. It was used mainly for energy/battery maintenance.

• POWER Emulator (v7.5ß1): when the first-generation PowerPC processors (i.e. the 601) were released, they contained hardware support for "POWER" instructions which provided backward compatibility with the IBM POWER architecture. However, the newer 603- and 604-series processors do not provide this hardware support. The system software now contains low-level code to emulate POWER instructions, but applications which use POWER instructions will run very slowly on non-601 machines. Therefore, Apple recommends to developers that they remove all POWER instructions from their code. This control panel keeps track of POWER instructions which are encountered, and also allows you to disable the POWER emulator (which will cause the computer to return an "illegal instruction" error if a POWER instruction is encountered).

• Power Macintosh Card (v1.0): in 68040 Macs with the PowerMac Upgrade Card, allows selection of either 68040 or PowerPC processor, although you must completely shut down your computer for the switch to take place (a restart won't do it).

• PowerBook (v7.6/v7.6.1): only used on PowerBooks. Allows you to adjust PowerBook-specific

items, including hard disk sleep, system sleep, and screen dimming. You can also set processor cycling and (on certain PowerBooks) reduce processor speed. Also allows you to control backlight intensity and built-in video on some PowerBooks. Versions of this control panel since System 7 Update 3.0 include the ability to save two different configurations for when your PowerBook is operating off battery or AC-power. **NOTE**: you can disable "processor cycling" when using battery power by holding down the option key and clicking the "Easy/Custom" switch.

• PowerBook Setup (v7.3.2): only used on PowerBooks. Allows you to set a unique SCSI ID number for your PowerBook when you are using it in SCSI disk mode. This SCSI ID setting works on all PowerBooks that support SCSI disk mode (all but the 140 and 170 series). On some PowerBooks allows you to turn "Automatic Wake-Up" on and off; this feature allows your PowerBook to "wake" from sleep mode at a user-selectable time and date. On some PowerBooks, allows you to specify a Normal or Compatible modem setting for your PowerBook. "Normal" is for communication applications that are compatible with the Macintosh Communications Toolbox; "Compatible" is for communication applications that are not compatible with the Communications Toolbox. These modem options are visible only on PowerBooks with an internal modem.

• Screen (v1.0.8): used by Macs with a built-in monitor to automatically "sleep" the internal monitor after a specified period of inactivity (15-60 minutes). Also allows you to control brightness and contrast. According to Apple, supported computers include the Mac TV, Color Classic and Color Classic II, LC 500 series, Performa 250, 275, 500 series and 5200 series, and the Power Macintosh 5200 series. **NOTE**: the Screen control panel also shipped with some Performa 630 series computers; it appears to work on these systems, but does not actually save energy -- it merely dims the screen. You should use Energy Saver 1.0 on these computers. For the official Apple document on all the different "energy saving" control panels/applications, visit:
<http://cgi.info.apple.com/cgi-bin/read.wais.doc.pl?/wais/TIL/Macintosh!Software/Energy!Saving!Cntrl!Pnls!!Desc>
NN
IE

• ScriptSwitcher (v1.0b6): provides a quick way to automatically switch the primary script system resources in your System software. Unsupported.

• Scrolling (v7.0.1)[1/0]: an "unsupported" control panel which allows you to set the maximum window scrolling speed. Allows you to customize the time it takes to reach that maximum speed. Provides the option of "live" scrolling in windows (both in the Finder and within applications). **NOTE**: holding down the Option key temporarily restores the standard scrolling behavior. According to the author, Ken McLeod, an employee at Apple, he originally tried to get this control panel included as part of System 7.0.1 (hence the version number), but the "Blue Meanies" at Apple thought that "its functionality was 'too esoteric' and that it would confuse people."

• Serial Switch (v1.2): the Mac IIfx and Quadra 950 used a slightly different serial port which could support faster serial port speeds (i.e. faster than other Macs at the time). On these computers, this control panel allows you to switch between the standard "compatible" configuration or the special "faster" configuration. **NOTE**: under Open Transport, you must set this control panel to "compatible."

• Sharing Setup (v7.1): under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the File Sharing control panel. Under OS 7.6.1 and earlier, it is used to set file sharing options, the network name of your computer, and the owner name and password. When other users on a network use AppleShare to connect to networked machines, your "computer name" will show up in the Chooser. Also, if **you** access your machine from over a network, your "owner name" and "password" will give you full access to the machine if File Sharing is turned on.

• Sound (v8.0.5): used to set the alert sounds, volumes, and input/output options on non-PCI Macs and

the 7200 series PCI Macs. Also allows you to record System sounds. Replaced on most PCI Macs by "Sounds & Displays" under System 7.5.2, and by "Monitors & Sound" under System 7.5.3 and later. Replaced by Monitors & Sound on **all** supported Macs under Mac OS 7.6 and later. **NOTE**: this control panel is often installed on recent machines for use with third-party audio hardware and software which was written to use the Sound control panel rather than with Monitors & Sound. **NOTE**: there is supposedly a bug with the volume control on the Quadra 660AV if you try to use v8.0.5 with System 7.1. REMOVABLE

• Sound & Displays (v1.0): replaced under System 7.5.3 by Monitors & Sound (see above). Avoid this control panel at all costs, as it is one of the most confusing things Apple has ever released!

• Startup Disk (v7.5.3/v7.6.2): selects which disk you wish to use as your startup disk. Actually works by selecting the SCSI ID of the startup disk, which means that it can sometimes have problems with partitions on a single disk. If no disks are selected, the Mac will default to the highest numbered SCSI disk. To startup from a CD-ROM, hold down the "c" key (however, using "c" to startup from a CD does not work on PowerBooks hooked up to an external CD-ROM. Some people have reported that it does not work on the 1400, either). **NOTE**: if your Mac sometimes takes a long time before the "happy Mac" shows up, or if you frequently get a question mark and pause at startup before the computer eventually starts up correctly, it could be because you either have the wrong disk selected in this control panel, or because you don't have a device selected at all. Select the proper device/drive and restart and see if the problem goes away. REMOVABLE

• TCP/IP (v1.2/v1.3) [0/0]: under Open Transport (see the "Groups" chapter), used to configure and connect to TCP/IP-based networks, either locally or via a dial-up connection. **NOTE**: there is a known problem with memory leakage involving the loading and unloading of shared libraries under TCP/IP. One possible solution is to open the TCP/IP control panel, select "Options...", and uncheck the "Load only when needed" box.

• TCP/IP Options (v1.0): part of the Open Transport package, but not installed automatically. You should not install this control panel unless you are specifically instructed to do so by your network administrator. It is an unsupported utility developed by Apple. According to Apple, this control panel "allows you to modify Open Transport/TCP's default behavior to disable the 'Path MTU Discovery' feature and provide compatibility with certain third-party applications."

• Text (v7.1) [0/0]: Lets you change the options for text "script" and "behavior" on your Mac. These settings will affect sorting order, case conversion, and word definitions. REMOVABLE

• Things! (v1.0a2): a hack for early QuickTime developers which would find "components" which were registered with the System software. Supposedly works under Systems 6.0.7 through 7.0.x

• Token Ring (v1.0.1): only useful if you are on a Token Ring network. Under Open Transport, works with the AppleTalk control panel to allow access to a Token Ring network.

• TrackPad (v7.5.7): configures the trackpad behavior in trackpad-equipped PowerBooks. If you keep this control panel **and** the Mouse control panel you can set up separate preferences for the built-in trackpad and an external mouse. **NOTE**: when running Mac OS 7.6 on the PowerBook Duo 2300c and the PowerBook 190, pressing the trackpad button when the computer is "sleeping" will sometimes cause it to crash. This problem is eliminated in Mac OS 7.6.1.

• TV Setup: used to control the TV functions on the short-lived Macintosh TV. Conflicts with the Video Startup extension installed by System 7.6; the MacTV does not need the Video Startup extension, so you should trash it.

• Users & Groups (v7.1/v8.0) [0/0]: used to configure who can connect to your hard drive over a

network under File Sharing. Under OS 7.6.1 and earlier, this control panel can be a bit confusing, because it looks like a Finder window when you open it. Under Mac OS 8, it actually looks like a control panel. It is also AppleScript-able under OS 8.

• Video: part of the AudioVision package for the AudioVision 14" display. Only necessary on pre-7.5 systems.

• Views (v7.1) [0/0]: under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the Finder Preferences dialog and the View Options dialog. Under OS 7.6.1 and earlier, it allows you to select the format used to view files/names of files in Finder windows. Provides options for automatic calculation of disk space used/available and folder sizes. AppleScript-able. **TIP**: Disable "Calculate folder sizes" for faster Finder performance. **TIP**: This control panel includes a pop-up menu of all your fonts. If you have a corrupted font, it may prevent the control panel from opening or it may freeze up your system. On that same note, if you have a **lot** of fonts installed, it can take as long as a few minutes for this control panel to load. **TIP**: If you have "Always snap to grid" checked, your icons will sometimes be moved on top of each other, and it may appear that some are missing! Use the Finder's "View" menu to view by name, and all of the files will then be visible. **TIP**: although this isn't really a control panel tip, it is often helpful when viewing a window by name, to sort by "Date Modified." This will place the most recently altered files at the top of the window. REMOVABLE

• Web Sharing (v1.5): if you have a static IP/Internet address (if you connect to the Internet via a PPP or SLIP connection, you probably don't), provides the ability to use your computer as a miniature web server. When Web Sharing is running, it allows you to select a folder on your hard drive as your web server directory, and allows up to eight connections at a time. You can allow anyone who knows your IP address to connect to your "web site," or use the priviledges set up in the File Sharing control panel. When loaded, Web Sharing actually runs as a background application. OS8

• Window Shade (v1.3.1) [6/0]: under Mac OS 8, this file is no longer necessary, as its functionality has been incorporated into the Appearance control panel. Under OS 7.6.1 and earlier, lets you collapse a window by clicking on its title bar. If you use the ~Aaron extension, you do not need this control panel, since ~Aaron places a window-collapse toggle button in the upper right-hand corner of your windows. **NOTE**: click on picture of mouse button in control panel's window for secret credit box.

• ΔPowerTracer (v1.0a2NoOpt): development tool which patches certain traps and vectors at startup to provide developers with the ability to observe how their applications use the Macintosh Toolbox. Also allows engineers to see how different parts of the Toolbox interact with one another. The delta character at the beginning of the name is there to cause Power Tracer to load late in the startup process.

Extensions (Apple, -B)

As with the control panels section, below and in the next two chapters are descriptions of nearly every Apple Extension ever released. If you're curious what the different extensions do, here's your source. If you're interested in whether or not you need various INITs, use the descriptions below to decide whether or not you want/need them. Most are from Apple; however a few are things that are so universal that I included them here (for most non-Apple extensions, check out the "Third-Party Extensions" chapter).

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• EM Extension (v4.0/v4.0.7): actually starts with a space. Allows the Extension Manager (see the control panels section) to load first in the startup process so that it can control all of the other startup files. Also provides the ability to show the Extensions Manager at startup by holding down the space key.

• !TYC: patches an incompatibility with early PowerMac AV models and the Apple 21-inch monitor

• !PowerAV Update: an update to !TYC

• 040 VM Update: only for 68040 Macs, specifically the LC 57x and LC 63x series; fixes a problem with virtual memory and the 040 processor cache when copying. No longer necessary under 7.5.3.

• 2400/3400 Graphics Update (v1.0): under OS 7.6, 7.6.1, and 8, enhances the graphics driver on PowerBook 2400 and 3400 models to provide added functionality when using an external monitor. If you connect an external monitor or projector to your PowerBook and the display remains black, you need to have this extension installed. It allows you to force a particular video timing to allow the external monitor/ projector to display the picture. **NOTE**: if you use the Control Strip to change the resolution and no external monitor is attached, the screen will go black. In order to recover, press the power key, and when the screen comes back on, click on "Cancel." Another solution is to close the lid to put the PowerBook to sleep, then open it and wake it back up.

• 3-Hole Punch: not really an extension. Part of the QuickDraw GX package, this file enables the "3-Hole Punch" paper type option in the "Page Setup..." window of compatible applications. **NOTE**: GX printing is not supported under OS 8 and later.

• 54xx/64xx L2 Cache Reset: the 54xx/64xx Update extension (below) fixes some problems, but also introduces a problem where the computer's Level 2 Cache is disabled. This causes the computer to run much slower. This extension fixes that problem. It is intended for the same models as the 54xx/64xx Update: PowerMac and Performa 5400 and 6400-series computers, and the Performa 6360.

• 54xx/64xx Update (v1.1): ensures that Avid Cinema runs smoothly on 5400, 6400, and 6360 systems. This extension is installed by Avid Cinema 1.1, and also by the Avid Cinema 1.1 updater. NOTE: see the entry for "54xx/64xx L2 Cache Reset" above.

• 5500/6500 ATA Update (v1.0): needed by PowerMac 5500/225, 6500/225 and 6500/250 computers running System 7.6.1. Improves performance when Virtual Memory is turned on. Available from the "5500/6500 Extras" package.

• 5500/6500 L2 Cache Disable (v1.0): fixes a problem on the Power Macintosh 5500/225, 6500/225 and 6500/250 under System 7.5.5 where a conflict with the Level 2 cache would not allow System software and applications to be installed. This problem is characterized by freezes, Type 10 errors, or the error message "Unable to decompress file 'xxx' because of a data mismatch error." This extension temporarily disables the Level 2 cache.

• 5500/6500 Video Input Update (v1.0.7): enhances system stability when using video capture applications on PowerMac 5500 and 6500 computers and the Twentieth Anniversary Macintosh. Only intended for System 7.5.5, System 7.6.1 and OS 8.

• 5xxx/6xxx Floppy Fix (v1.0): contrary to the name of this file, and its accompanying "Read Me" document, this file only works on PowerMac/Performa 52xx/53xx computers. It is supposed to fix two bugs under Mac OS 7.6, 7.6.1, and 8 where floppy disks would mount very slowly (up to 45 seconds!) and where copying files larger than 700K to a floppy would cause an error such as "The file 'xxx' could not be written because a disk error occurred." This bug occurs on PowerMac and Performa 52xx, 53xx, 62xx and 63xx computers, but after releasing this extension, Apple found that it only addressed the problem on 52xx/53xx Macs. Apple recommends that other users rebuild the desktop on floppy disks (by holding down command-option when inserting them) to speed up mounting times. NOTE: If you are running OS 7.6, Apple recommends you update your System software to 7.6.1 before using this fix. NOTE: Some people report that this fix works better if you delete the Finder Preferences file after installing it. NOTE: Floppy disks which were previously mounted (and took a long time to mount) may **still** mount slowly, even with this extension installed, until you rebuild the desktop on the floppy.

• 630 SCSI Update: on LC/Performa/Quadra 630-series computers, fixes a problem with large block SCSI transfers (such as those that occur when using a backup DAT tape drive) where the system may hang. Supposedly fixed in the latest system update.

• 6360/64xx/54xx Update: fixes a problem with external SCSI devices and adds support for additional Ethernet network protocols. For use only on Performa 5400, 6400, and 6360-series and Power Macintosh 5400 and 6400-series computers.

• 7.5.2 Printing Fix 1.1 [.5/.5]: This is the latest version of the extension Apple previously released to help with printing problems on the Power Mac 7200, 7500, 8500, and 9500 under System 7.5.2. In addition to previous fixes for using busy network printers, version 1.1 corrected a similar problem using LocalTalk to print to a network printer. Please note that this extension requires Open Transport 1.0.7 or later, and the extension isn't of use on earlier Macs. Incorporated into the System or System Update 7.5.2 under System 7.5.3

• 7.5.5 SCSI Server Update (v1.0): fixes a bug with AppleShare 4.2.x and System 7.5.5 where a client computer performing a "Find File" search on the server could cause the server to freeze. It is only intended for PowerPC Apple Workgroup Servers running System 7.5.5, Open Transport 1.1.1 and AppleShare 4.2.x. Apple recommends installing the PowerPC Interrupt Extension on these systems, as well. NOTE: Apple also recommends that those who need this file carefully read and follow the accompanying instructions, as it seems the order in which they are performed is important.

• 7.6.1 Streaming Audio Update (v1.0b): this extension has not been fully qualified, and it is considered "unsupported" by Apple. Alleviates one cause of poor performance when using internet streaming media applications on PowerMac and Performa 52xx/53xx/62xx/63xx computers. Only intended for System versions 7.6.1, 7.6, or 7.5.5; it will not load on earlier system releases, and the fixes will be incorporated into OS8.

• 720K Floppy Disk Formatter: part of System 7.1 Update 3.0. Requires the File System Manager. According to an old Apple document, this was used "to allow you to format low-density floppy disks as 720K MFM disks." Also, Apple was supposedly going to release a non-GCR floppy drive in a low-cost model, and this extension would allow you to create 720K HFS disks.

• 7200 Graphics Acceleration (v1.0.1): supposedly, the 7200, unlike the 7500 and 8500, has a graphics accelerator chip on the motherboard. Without this file, the graphics are run solely by the CPU, while with it certain QuickDraw operations are taken over by the accelerator chip. Thus, not having this extension installed could slow down certain graphics functions. Power Computing's PowerCenter and PowerTower computers use the 7200's chip set, so they also benefit from having this extension installed. According to MacWEEK, this file can boost display speed by up to 20% on computers with the 7200 chip set. The benefits from this extension are much more noticeable if you add an extra MB of VRAM to your 7200. With the stock 1MB of VRAM, the video bus is only 32 bits wide. However, after adding the extra 1MB (so that you now have 2MB), the video data path is 64 bits. This increases the graphics speed of the 7200, even without this extension installed. However, it seems that the 7200 Graphics Acceleration extension really takes advantage of this wider bus, and the difference when it is installed is very noticeable. There is a web site that I have found which gives further information on this extension:

NN   <http://www-leland.stanford.edu/~jeffop/accel.html>
IE

NOTE: If you install a Newer Technologies G3 CPU upgrade card and find that parts of the screen are not redrawn correctly, it may be because you have this extension installed and don't need it. This problem most frequently shows up on Power Computing computers.

• 7200 Graphics Driver: the 7200 Graphics Driver does NOT replace the 7200 Graphics Acceleration extension (above). The two pieces of software are independent of each other, and you should always keep the 7200 Graphics Acceleration extension installed. The 7200 Graphics Driver is used for motherboard video on PowerMac 7200 based systems, which also includes Power Computing (and other clone) systems based on the 7200's motherboard design. The video driver which is built into System 7.5.5 and earlier would sometimes abnormally affect the hardware that updated the "Color Look-Up Table" (CLUT) during active video; "snow" would occur during certain palette animation or when the cursor changed rapidly (or when using custom cursors, such as the one used in the popular FTP application "Fetch"). This "updated" driver supposedly fixes that. However, it does have a side effect in that applications that fade the screen to black may now jump to black immediately. The code for this driver is incorporated into the System file in System 7.6 and later. NOTE: after installing this extension, you may be given more resolution options in the "Monitors & Sound" control panel or on the "Monitor Resolution" control strip module. Some of these are not "supported" and should be used at your own risk. NOTE: if you use this driver and have video problems, restart and hold down "command-shift-N-D" until the "progress" bar is about 1/2 of the way across. Remove the extension and then restart again.

• 7500/8500 Graphics Driver (v1.3.f0): an obscure Apple "unsupported" video driver. From the "ReadMe" file: "used for the motherboard video on PowerMac 7500/8500 based systems... On average, the standard driver would spend 7 ms inside a spin loop each time the color palette was changed. The new driver saves the changes to a global variable and updates the hardware to avoid this delay... Furthermore, 7500/8500 based machines would clear one interrupt too many when updating the CLUT... Hence the mouse would be jerky. Marathon players who use the mouse will notice a dramatic improvement when items are picked up or opponents destroyed (Marathon calls

SetEntries/DirectSetEntries to make the screen flash). Side Effect: Apps that fade the screen to black may now jump to black immediately." Supposedly the 7500/8500 Graphics Driver will be included in the next System Update AFTER 7.5.5. If you problems with this driver, reboot and hold down "command shift N D" until the progress bar is about 1/2 done. Then remove the driver and reboot. You cannot use this version of the driver if you use a version of MacsBug earlier than 6.5.4.

• 950 Color Addition: addresses an obscure video bug in the Quadra 950 on pre-7.1 systems. The fix was incorporated into System 7.1.

• 9600 Graphics Accelerator (v3.8.1): a driver for the IMS video card which comes with the PowerMac 9600. Many 7300, 7600 and 8600 systems also come with this extension installed. It is not necessary on these systems, and the red "X" through the extension's icon that users of these systems see at startup means that the driver was not loaded. Supposedly, System 7.6 and above will not mistakenly install this extension on non-9600 systems, although a "for any Macintosh" install will always install it.

• A/ROSE (v1.2.1): "Apple Real-Time Operating System Environment" -- only necessary for certain older Nubus cards which use the MCP (Macintosh Coprocessor Platform) platform and run the Apple Real-Time Operating System (i.e. Apple's short Ethernet card, Token Ring 4.16 NB card, Serial NB card, and Coax/TwinAx NB card).

• ADBReInit (v1.0): an Apple "unsupported" extension. From the Apple Technote: "The ADBReInit extension prevents memory from being moved at interrupt time, which could cause the PowerBook 140 and 170 models, as well as the Macintosh Quadra 700, 900, 950 models, to hang or crash if "ADBReInit" is called. Informal testing indicates that this is more likely to happen while AppleShare is active (file sharing is turned on). ADBReInit normally is never called on a Macintosh Quadra because connecting ADB devices while the CPU power is on is discouraged. There is a specific instant that the PowerBook uses the call: When coming out of Sleep mode, ADBReInit is called to determine whether or not external ADB devices are attached." This extension is installed by System 7.0.x; it is also provided by Kensington with their TurboMouse and Thinking Mouse for backwards compatibility. It has been incorporated into the System itself since System 7.1, and is no longer necessary.

• ADSP: AppleTalk Data Stream Protocol. Provided networking protocol under pre-7.0 systems. More specifically, it provided data flow and full duplex data delivery over a network. However, in order for the benefits to be realized, both Macs had to be running this extension.

• AMMS MPEG Decoder: part of the Apple MPEG Media System. Hardware driver for the Apple MPEG card.

• Appearance Extension (v1.0.1/v1.0.2) [225/512]: provides and implements the Appearance Manager, which controls and extends the "Apple Platinum Appearance" to various parts of the System software, such as those parts which control dialogs, windows and menus. Version 1.0 is installed by Mac OS 8; version 1.0.1 is installed by Mac OS 8.1; version 1.0.2 is installed by a few third-party applications, such as Eudora Pro 4. **NOTE: the Appearance Extension MUST be installed in order for your computer to start up under OS 8. If you remove it from your System Folder, your computer will not be able to start up and you will have to boot/startup from another disk. Note that starting with extensions "off" by holding the shift key down at startup will NOT cause the Appearance Extension to be disabled; it will load anyway for this very reason, and will even be loaded if it is in the Extensions (Disabled) folder. NOTE**: be sure to see the note in the "OS 8.1 Info" chapter, in the "Problems/Incompatibilities" section, on problems with Appearance Extension. OS8

• Apple 10/100 Fast Ethernet: driver for the 10/100 Fast Ethernet card which comes with some PowerMac G3 computers. **NOTE**: this driver is not installed by the Mac OS installer. Thus, if you

reinstall your system software, this extension will be missing. You will need to manually reinstall it from the "Apple Macintosh CD" which comes with the G3 computers. It is located in the folder called "Important Extra System Software."

• Apple Built-In Ethernet (v1.0.5): supposedly provides support for the built-in Ethernet port on Nubus-based Macs. However, there is some confusion between this file and the "Ethernet (Built-In)" extension (see the appropriate entry). Supposedly needs "EtherTalk Phase II" to function properly under OS 7.6.1 and earlier

• Apple CD-ROM (v5.4/v5.4.2) [61.5/72]: necessary to use your Mac's CD-ROM drive. Version 5.4 provided better support for audio CDs, for better "sleep" mode, and for the use of 12x CD-ROM drives in the PowerBook 1400. Version 5.3.3 and later now load at startup even when the CD drive is not installed at startup (i.e. in a PowerBook expansion bay). Version 5.3.2 and later now mount both the HFS and ISO partitions of dual discs and CD Extra discs. Version 5.3.1 corrected a problem with scanning tracks. Version 5.3 added support for all current Apple drives, but also eliminated support for many non-Apple drives. Version 5.2 added support for ATAPI drives, and corrected a problem where the CD-ROM drive would go to "sleep" while playing a CD and a bug where system errors could occur if a shared CD-ROM was accessed over a network. Version 5.1.7 added support for 6X drives. Version 5.1.6 added support for Apple PC Compatibility Cards for PCI Macs. 5.1.5 fixed a problem with multi-session PhotoCD disks and the Peter and the Wolf CD. Use the newest version necessary for you. **NOTE**: version 5.1.2, which is installed by some of the System 7.5.3 installers, does not support the 8x CD-ROM drives in newer PCI PowerMacs. You should upgrade to a newer version of the CD-ROM software, or to a newer version of the System software. **NOTE**: version 5.3 and later do not support non-Apple CD drives.

• Apple Color SW Pro CMM (v1.0.1): provides alternate color tables for the discontinued Color StyleWriter Pro.

• Apple Enet 10/100D extension: provides support under Mac OS 8.1 for the 10/100 Ethernet PC card supplied with the PowerMacintosh G3 Server. 8.1

• Apple Ethernet LC, Apple Ethernet NB, Apple Ethernet CS (all v1.0.3) & Apple Ethernet CS II (v1.1): these Ethernet drivers are necessary only if you have an LC, NuBus, or "Comm Slot" Mac (any Mac which provides Ethernet support via an installed Ethernet card in the "Comm Slot") using the corresponding Ethernet expansion card**.**

• Apple Event Manager: allows applications (including the Finder) to send commands to other applications (again, including the Finder). For example, in InformINIT, when you click on the little "IE" AND "NN" buttons, InformINIT sends an Apple Event to Netscape telling it to go to the URL listed. This file is incorporated into the AppleScript extension with System 7.5 and above.

• Apple IX3D RAVE Engine / Apple IX3D Graphics Accelerator / Apple IX3D Video Memory Manager: 3D RAVE driver, graphics driver, and memory manager driver, respectively, for the IX3D video card which is installed on some PowerMacintosh G3 computers. **NOTE**: these drivers are not installed by the Mac OS installer. Thus, if you reinstall your system software, these extensions will be missing. You will need to manually reinstall them from the "Apple Macintosh CD" which comes with the G3 computers. They are located in the folder called "Important Extra System Software."

• Apple Multimedia Tuner: enhances QuickTime 2.0 and Sound Manager 3.0. Once you upgrade to QuickTime 2.1 and Sound Manager 3.1, or System 7.5.3/Update 2.0, this is no longer necessary.

• Apple PCI Token Ring (v1.0): provides support for Token Ring networking when using a PCI Token Ring card.

• Apple Raid 1.5.3 Update: required for compatibility between Mac OS 8 and Workgroup Servers 7350 and 9650. **NOTE**: according to Apple, AppleRAID may not be fully compatible with Mac OS 8.1; Apple recommends that you use SoftRAID instead.

• Apple Shared Library Manager: see "Shared Library Manager."

• Apple Token Ring NB (v1.0.2): provides support for Token Ring networking when using a NuBus Token Ring card.

• AppleScript (v1.1/v1.1.2) [48/320]: Allows for "scripting" of system and compatible application functions. Many scripts are provided with your Mac, or you can program your own scripts if you have the patience to learn the language. If the Finder Scripting Extension is installed (it's built into the Finder in OS 8), you can even "script" the Finder. The Apple Events Manager is built into recent versions of this; you can see this when AppleScript loads: first the Apple Events Manager icon appears, then the AppleScript icon overwrites it. NOTE: there is a bug in version 1.1 of AppleScript where using the AppleScript "Script Editor" on a machine with more than 512 MB of real or virtual memory results in the error "result of the numeric operations was too large." This occurs under Systems 7.5.5, 7.5, and 7.6.1. It has supposedly been fixed in v1.1.2.

• AppleShare (v3.7.4) [30.5/37]: allows you to access other MacOS computers over a network. If you are not on a network, you don't need it. If you **are** on a network, you only need it if you want to access other computers' hard drives. Version 3.6.1RevB, was incompatible with Connectix SpeedDoubler 1.1 and earlier, causing problems when transferring files over an ethernet connection, and could possibly be incompatible with other "copy accelerators" such as Copy Doubler. Connectix has updated SpeedDoubler and has also released a patch that can be used with earlier versions of SpeedDoubler and other third-party copy utilities; you can download the patch from <http://www.connectix.com/AppleShare>. However, the Connectix patch is no longer needed under System 7.5.3 Revision 2 and SpeedDoubler 1.1.2 or later. **NOTE**: a few people have claimed that even with System 7.5.5 and Speed Doubler 1.3.1 or later, the above patch can be useful because it may alleviate a problem when copying to a mounted UNIX server where the server thinks that you do not have write permission. **NOTE**: if you install version 3.6.2 of AppleShare using the AppleShare Workstation software, this installer incorrectly sets the bundle bit for AppleShare 3.6.2 to "off." While this is not a major problem, if you run Norton Disk Doctor, you will be alerted to it and should choose to fix it. **NOTE**: some users have reported that AppleShare is required for the Chooser to create a Desktop Printer. **NOTE**: having the AppleShare extension installed will slow down your computer slightly, even if you are not connected to and AppleShare volume.

• AppleShare Workstation Client (v3.7.2): provides file sharing functionality for applications (including the Finder) when your computer is networked with a file server. Most people won't use this file, nor ever even see it. Compatible with System 7.5.3 and later.

• ASFU Fixer [0/0]: A third party INIT from GDT Technologies which disabled the DMA serial driver originally found on PowerMac and Quadra AV machines, reverting to the unused non-DMA serial driver in the ROMs of those machines. Apparently, the newer DMA driver was incompatible with GDT's PowerPrint and the StyleWriter printer. Also needed by a few other products because they were incompatible with the DMA serial driver and GeoPort architecture. However, applications which used the standard GeoPort architecture of these machines could encounter problems of their own when using the "patched" driver. The SerialDMA extension (now a part of System 7.5.3) eliminated the need for this extension.

• Assistant Toolbox (v1.3.1): a set of routines for the PowerBook File Assistant which allow file synchronization, better battery management, and easier mobile computing. It provides support for a persistent RAM disk (normally, you would lose your RAM disk when the computer is shut down) and deferred printing when a printer is not available (if you are using the LaserWriter driver). It provides

better cursor visibility on passive-matrix displays. It allows AppleTalk to be activated without restarting the computer. It also works with PCI Macs to enable deferred printing when a printer is not available (again, only if you are using the LaserWriter driver). This extension may conflict with the LaserWriter Select 310 printer software to block printing. A solution is to turn off background printing in the Chooser. Under System 7.5.x, versions of Assistant Toolbox earlier than 1.3 are not compatible with Open Transport, and will automatically turn off AppleTalk every time you restart. A newer version of Assistant Toolbox has been rolled into the System itself under System 7.6, and thus this extension is no longer needed under 7.6.

• At Ease 7.5 Layer Patch: fixes a crash when using At Ease, and the "Show Desktop" box is unchecked in the General Controls control panel.

• At Ease Startup: forces your Mac to start up in the At Ease launcher instead of the standard Mac Finder (see "At Ease" in the "Control Panels" chapter).

• AudioTuneUp (1.3): needed by PowerMac 5500/225, 6500/225 and 6500/250 computers running System 7.6.1. Fixes a problem where if external speakers were connected during startup and later disconnected, the computer's internal speakers would remain muted. On PowerMac 5500 machines, also automatically disables the built-in speaker when external speakers or headphones are connected to the Sound output port. Provided with the "5500-6500 Extras" package. **NOTE**: some users claim that this file also fixes problems with some games where sound would cut in and out.

• Audio Volume Extension PM: on 5200, 5300, 6200, and 6300 series Macs running Mac OS 7.6.1 and earlier, this file replaces/fixes problems with the Internal Modem Sound extension (actually, a newer version of the IMS extension is incorporated into the Audio Volume extension). Allows modem sounds to be played through the Mac's own speakers (or external speakers). Also loads a new sound driver which fixes a bug with poor sound quality on sounds played from the hard drive or CD-ROM's. No longer necessary under Mac OS 8 and later, as the fixes contained in this file have been incorporated into the System.

• AV Digitizer Options (v1.0b1): "video panel component" for the Quadra 660AV, Quadra 840AV and Centris 660AV. Provides access to some features of these computers which are not easily accessible without the extension (switching the color space of live video from 16bpp color to 8bpp greyscale, selectting different levels of transparency for live video, bypassing the Inverse Gamma lookup table in the Digital Video Scaler). When the extension is installed, you can access these features through the "Video Settings..." menu option of any application which is QuickTime (v1.5 or later)-aware.

• AV Serial (v1.0): only needed on the Quadra 840AV, Quadra 660AV and Centris 660AV. Fixed (a) difficulties when printing with the LaserWriter Select 310 printer; (b) a possible system error when both the serial port and an AppleTalk network connection are being used heavily; and (c) a possible system crash when simultaneously receiving a fax and transferring files over a network. It was supposedly rolled into the System file under either 7.5.3 or 7.5.5.

• AV/PPC Serial Extension: installed by the Global Village modem software on older AV and PowerPC systems. Used on pre-7.1.3 systems to enhance the serial port to allow the higher connect speeds which the Teleports were capable of supporting.

• Basic Color Monitor: on Quadra models 700, 800, 900, and 950, as well as on Centris and Quadra models 610 and 650, some users have had problems with overly-green monitor displays. This extension fixes the bug on all Apple, and SOME non-Apple, monitors. However, on some non-Apple monitors, this extension would cause the screen to go blank. This problem cannot be resolved by simply removing the extension, since the settings are saved to the PRAM of the machine (and since you can't see anything ;-)). The solution is to restart, zap the PRAM a couple times, and immediately start with extensions off. Then remove the extension.

Extensions
(Apple, C-G)

As with the control panels section, below and in the next two chapters are descriptions of nearly every Apple Extension ever released. If you're curious what the different extensions do, here's your source. If you're interested in whether or not you need various INITs, use the descriptions below to decide whether or not you want/need them. Most are from Apple; however a few are things that are so universal that I included them here (for most non-Apple extensions, check out the "Third-Party Extensions" chapter).

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• CapsLock (7.1.5): Mainly useful for PowerBooks which do not have an indicator light on the caps lock key; puts an icon in the menu bar when the Caps Lock key is engaged (some PowerBooks and the Duo series all have a light on the caps lock key to let you know it is engaged; the 100-series and newer PowerBooks don't). This file is no longer needed under Mac OS 8, as it has been incorporated into the System file. Incorporated into the Finder under OS 8.

• CDRemoteINIT: under system 7.1P3, this extension was necessary to use the CD Remote DA.

• CFM Update: Installed by older versions of QuickDraw 3D. CFM stands for Code Fragment Manager. With native-code applications, CFM loads parts of the program as it needs them, one of the vaunted features of PowerMacs. This is some sort of an "update" to the CFM built into the system. Some users have reported less crashing and less hard disk grinding under low-memory situations. Incorporated into the System software under System 7.5.3

• CFM-68K Runtime Enabler (v4.0) [72/544]: integrated into the System file under Mac OS 8 for 68k Macs. Regardless of the version of the OS, this file is not needed on PowerMacs. The file name actually begins with a space to allow it to load early in the startup sequence. Enables the "runtime architecture" for 680x0 implementation of "Code Fragment Manager" support for shared libraries, which was formerly only available for PowerPC computers. Installed by LaserWriter 8.4.x, Desktop Printer 2.0.x, OpenDoc, Cyberdog, the Apple Media Tool, and some versions of AOL 3.0, in addition to some third-party applications. The code fragment manager allows applications to share code through "shared libraries." This extension makes it easier for developers of applications to design their programs to run on both 680x0 and PowerPC computers without having to write separate programs for both processor families. Requires System 7.1 or later and 32-bit addressing to be turned on in the Memory control panel. It does not run on 68000 Macs. **Note that there is a major bug in early versions of the CFM-68K Runtime Enabler (under OS 7.6.1 or earlier).** Some applications which rely on this file will not function properly, which according to Apple can result in crashing and loss of data. Apple recommends disabling these early versions (prior to v4.0). NOTE: Version 4.0 of the CFM-68K package was designed to **fix** these problems, but there is a bug in the latest version (1.2) of

ObjectSupportLib (a component of CFM-68K 4.0) as it relates to CFM-68K. The bug causes system crashes to occur if CFM applications are quit in a different order than they were launched. This whole mess only affects 68K Macs running Mac OS 7.6.1 or earlier. A new version of this file (v4.0 with bugs fixed) is incorporated into the System file under OS 8, so this extension is not needed if you are using OS 8. In fact, if you are running OS 8 and still have this extension installed, it will show up on the screen with a red "X" through it when extensions are being loaded.

• Clipping Extension (v7.1.4) (a.k.a. Finder Clipping Extension) [NA]: no longer needed under Mac OS 8, as it has been incorporated into the Finder file. Under OS 7.6.1 and earlier, allows you to create text "clippings" when you drag selections from Drag & Drop-savvy applications to the desktop. These clippings can be viewed by themselves, or dragged into documents. If this is disabled, drag-and-drop editing within and between applications will still work. Will not load on computers using pre-System 7 Pro system software. Requires the Drag Manager, which is built into the Macintosh Drag and Drop extension under System 7.1.x and built into the system software under System 7.5 and later.

• Color Classic Update: fixes a bug that prevented Apple IIe cards from working under System 7.5. Adds the correct video mode for the Apple IIe-type display to the video driver.

• ColorPicker (v2.0.1/v2.1.1) [25/384]: presents a standard interface for color selection, so that any application can ask the user to choose a color using the standard "choose color" dialog. Also provides additional color "pickers" (i.e. Red/ Green/Blue and Hue/ Saturation/ Lightness) in "choose color" dialogues (i.e. in the "Label" and "Color" control panels when you try to customize the color choices; enacted with the "more choices" button). Version 2.1 adds "eyedropper" support and "Crayon" and CMYK pickers. **EASTER EGG**: under Mac OS 8, open any "choose color" dialog (for example, in the Appearance control panel) and use the Crayon color picker. Examine the crayons. Close the dialog, they go to the Date & Time control panel and move the date a few years ahead. Now go back to the color chooser dialog and look at the crayons again...

• Color SW 2000 Series CMM (v1.0): allows you to use ColorSync with the Color StyleWriter 2400. NOTE: If you have a 68000 Mac, this extension will not allow it to start up. You should start up with extensions off, remove this file, then restart.

• Color Sync (v2.5) [40/384]: enables the ColorSync system (see the "Color Sync System Profile" entry in the "Control Panels" chapter).

• Contextual Menu Extension (v1.0.2) [18/192]: provides support for Mac OS 8's "contextual menus," pop-up menus which vary in their contents/choices depeding upon the context in which they are called upon. Contextual menus are activated by holding down the control key and then clicking the mouse on a file, in a window, etc. For example, when control-clicking in a Finder window, a pop-up menu appears which allows you to choose how to view the window. Additional Contextual Menu functionality can be added via "plug-ins" which are stored in the "Contextual Menu Items" folder in the System Folder. Third-party developer can add their own Contextual Menu functionality via "Plug-Ins" which are stored in the "Contextual Menu Items" folder in the System Folder. **NOTE**: in order for Contextual Menu plug-ins to work properly, the "SOMobjects™ for Mac OS" extension must be installed. **NOTE**: apparently the Contextual Menu Manager, which ADD uses to send commands via Contextual Menus, turns itself off if you are not using a standard keyboard layout. Thus people using custom keyboard layouts, such as a Dvorak keyboard layout, cannot use contextual menus properly. OS8

• Contextual Menu Enabler (v1.0.3): provides support for Contextual Menus in applications other than the Finder. **NOTE**: because of the way this extension works, if an application has its own control-click functionality (which does not follow the "official" contextual menus guidelines), the Contextual Menu Enabler may interfere with this functionality. You should disable Contextual Menus (from the "Help" menu) in these applications. OS8

• DAL: enables network activity using Data Access Language, formerly called CL/1. From Apple's Tech Info   Library:

Data Access Language is Apple's client/server protocol for remote data access and is based on ANSI standard SQL (Structured Query Language). DAL is optimized to provide decision-support applications with uniform access to data, regardless of the different brands of databases, the different host platforms, or the different types of networks.

The DAL client software is included as a part of System 7.0 and can be transparently accessed by applications written to the Data Access Manager API. These applications can access data from DAL servers running on host computers, across all DAL-supported networks. Therefore, with the Data Access Manager and the included DAL client software in System 7, applications can "speak" in an identical fashion to many different types of host databases. Apple Computer Inc. is currently delivering DAL servers through APDA for the following environments:
o VAX/VMS (for DEC Rdb, Informix, Ingres, Oracle, and Sybase)
o MVS/TSO (for IBM DB2)
o VM/CMS (for IBM SQL/DS)

DEC also provides DAL as a part of the DEC PathWORKS product. Apple is also working with software and hardware vendors to extend DAL client and server support to other industry platforms.

• Default Calibrator (v1.0): part of the ColorSync 2.5 package. Adds a new "calibration" option to the Monitors & Sound control panel which allows you to custom-calibrate a ColorSync profile for your monitor. Requires v2.5 of the ColorSync extension and Monitors & Sound v1.3.

• Demo click&drag, Demo drag/lock, and Demo single.click: these files, found in the Extensions folder, are actually QuickTime movies. They are used by the Mac OS help system to demonstrate the use of the TrackPad on PowerBook computers.

• Desktop Manager Fix (v1.0): part of the AppleShare server software package. Supposedly improves desktop interaction in a multi-user environment.

• Desktop Manager INIT (v2.0.1): on older Macs which were supported by Systems 6.0.x and 7.0.x, you could switch between System software versions in order to run applications which were only compatible with one or the other system versions. However, when you switched from 7.0.x to 6.0.x, the system software would automatically rebuild the desktop file. This file allowed you to switch back and forth without the automatic rebuild. This file should be placed in the System 6 System Folder. DO NOT put it in your System 7.x System Folder. NOTE: The Desktop Manager INIT is not available to everyone. It is licensed only to users who have AppleShare 2.0.1. You can find the Desktop Manager 2.0.1 INIT on the AppleShare Server disk inside the System Folder.

• Desktop Printer Extension (v2.0.2), Desktop Printer Spooler (v2.0.2/v2.1), Desktop PrintMonitor (v2.0.2/v2.1): Under LaserWriter 8.3 and higher, these extensions (PrintMonitor is actually an application) allow you to have a printer icon on your desktop, to which you can drag and drop documents to be printed. Double-clicking the icon brings up a PrintMonitor specifically for that printer. If you have more than one Desktop Printer, you can drag and drop/schedule documents between them. Version 2.0 included the option of selecting printers from the menu bar, control strip, or Print dialog box. Also, the desktop printer icons can be moved to anywhere on the hard drive. If you are using this software on a 68k Mac under pre-OS 8 System software, you will also have the "CFM-68K Runtime Enabler" extension installed (see its own entry in this "Extensions" section). **NOTE**: the Desktop Printer Extension is no longer needed under Mac OS 8, as its functionality has been incorporated into the Finder file. The other two files are still necessary for desktop printing to function. **NOTE**: it may be necessary for some people to increase the memory allocation for the Desktop Print Monitor application (using the "Get Info" command) in order to enable background printing with LW8.4.x. **NOTE**: if you have Desktop Printing installed and have not selected a printer in the Chooser, it is possible that

you may see two System Folders on your hard drive. The second is not an actual System Folder, but to be safe, select a printer in the Chooser and restart. **NOTE**: Under OS 8 and OS 8.1, At Ease 4.0.1 will supposedly crash if the Desktop Printing extensions are not installed. **NOTE**: some users have reported that AppleShare is required for the Chooser to create a Desktop Printer. **NOTE**: the Color StyleWriter 4100 & 4500 are not compatible with Apple's desktop printing. This is because they are actually Hewlett-Packard printers with an Apple label. **NOTE**: if at startup you get an "error -192 at 18" message, this means that you have a corrupted print job (i.e. you attempted to print something, and somewhere along the line it got "garbled"). Apple's solution to get rid of this error message is this: disable the Desktop Printer Spooler and Desktop PrintMonitor extensions and restart. At the end of the startup process you should then get a message about a "damaged print job." Choose the button to "delete" the damaged print job. Turn the two extensions back on, restart, and everything should be fine.

• Desktop Printer Menu: provides a menu in the menu bar which enables you to quickly change the default printer without having to use the chooser or manually select the Desktop Printer icon.

• Display Enabler (v 2.2.2): provides multiscan/multisync support, especially for AppleVision monitors. Adds functionality to Energy Saver, and to the Monitors control strip module by allowing you to switch resolutions on-the-fly. Version 2.2.2 corrects a problem where a 1710AV monitor attached to a PowerBook might not be recognized when the PowerBook wakes up from sleeping and the display's external buttons would no longer function. It also fixes a bug where some AV 6100/7100/ 8100 PowerMacs would only be able to display screens at 640x480 resolution. Finally, it fixes a problem on 6300/6400/6500 series computers where the microphone "playthrough" function would be disabled when using the monitor's built-in microphone. While Display Enabler 2.2.2 supposedly works with AppleVision software versions 1.0.2, 1.5.1, and 1.5.3, Apple recommends updating to v1.5.3. Version 2.0 was built into the System under System 7.5.3. However, version 2.0.3 supposedly fixed a bug with Now Startup Manager and incorporated fixes from v2.0.2 for AppleVision and AudioVision displays. NOTE: on the MacFixIt page, Ted Landau has tried to clarify information on this file. I would recommend visiting his site for the best summary of this issue (see the "Resources" section of Chapter 1). This file actually has a space at the beginning and end of its name to allow it to load first in the startup process.

• DoubleTrouble (v1.0): for use under pre-System 7.5 systems. When using a debugging utility, the DoubleTrouble extension will break into the debugger to alert you whenever the code in a project attempts to free a "handle" that has already been freed. An unsupported Apple extension. **NOTE**: do **not** use this extension with System 7.5 or later. It is intended only for pre-7.5 use.

• Drag&Drop Extension (a.k.a. Macintosh Drag & Drop) (v1.1): provides Drag and Drop support under Systems 7.0.x and 7.1.x. These two files are still installed by numerous software packages, such as Now Utilities and ccMail, for universal compatibility, but are not needed under System 7.5 and later. NOTE: Macintosh Drag and Drop is incompatible with the graphics acceleration of the 8•24 GC video card. With the 8•24 card and the 8•24 GC control panel installed, Drag and Drop operations may leave bits on the 8•24-driven screen.

• Dragging Enabler (a.k.a Drag Enabler): provides Drag Manager support under System 7.0 and 7.1. When used with the Macintosh Drag and Drop extension, provides inter-application drag and drop support under System 7.1. Integrated into the Finder under System 7 Pro and later, so it is no longer needed on those systems. **NOTE**: if you have AppleGuide installed under System 7.0 and 7.1, you **must** disable this file. The AppleGuide extension supposedly has a version of Dragging Enabler built-in, and if you have AppleGuide and this file installed at the same time, it may crash your computer.

• Drive Firmware Update Extension (v1.2): only useful for Macs with IDE hard drives. Fixes a bug with audible drive noise. You must restart twice after installing this extension to activate its features.

• Duo Battery Patch: fixed a conflict with PowerBook Duo 210, 230, and 250 computers which had an Express Modem installed and which were using version 1.0 of the PowerBook Duo Enabler. In this configuration, the Duo battery would not recharge. This problem was fixed by a newer version of the PowerBook Duo Enabler, and is no longer needed under System 7.5.5 and later.

• EM Extension (v3.0.3): allows the "Extensions Manager control panel to load before any other startup files. Also allows you to open the Extensions Manager control panel at startup by holding down the space bar.

• EM Sound Update: provides added sound support on 630 series Macs with internal Express Modems, so that your modem's sound will play through your Mac's speaker.

• Energy Saver Extension (v2.0.4/v2.0.7): used in conjunction with the Energy Saver Control Panel. See the "Energy Saver" entry in the Control Panels chapter.

• ENET Compatibility (v1.0.3): fixes a bug with PCI Macs on a Novell Netware network where the computer would crash at shutdown or restart. With this extension installed you will be able to use Netware, but your machine will take quite a bit longer to shut down (like about two minutes!). The delay can be avoided by logging out of the Netware tree before shutting down or restarting. Some users have reported bus errors, "illegal instruction" error messages, freezing, bombing, and crashing which they attributed to having this extension installed when it was not needed. Apparently, some other software, such as the HomeDoor package also require this extension when used on a PCI Mac running Open Transport.

• Ethernet (Built-In) (v1.0.5/v2.0.2): provides support for the built-in Ethernet port on PCI Macs. However, there is some confusion between this file and the "Apple Built-In Ethernet" file (see the appropriate entry). Versions 2.0 and 2.0.1 are used by the newer G3 PowerMacs. Versions earlier than 1.0.4 contained several bugs which have supposedly been fixed in 1.0.4 and 1.0.5. **NOTE**: OS 7.6 and 7.6.1 install v1.0.4 of this extension, while AppleShare IP 5.0.2 and AppleShare client v3.7.2 install v1.0.5. If you have problems with Ethernet access, especially on a PCI Mac, you should try to get a copy of v1.0.5 from a 7.5.5 computer. **NOTE**: Version 2.0.1 is only needed on desktop PowerMac G3 systems (not the PowerBook G3) which shipped with version 2.0. Version 2.0 could cause data corruption when connected to a very busy Ethernet network, and would sometimes fail to attach to a network when connected to an auto-sensing hub. Version 2.0.1 fixes these problems. In addition, some people have reported that it also fixes a problem where the computer would freeze when attempting to access servers through the Chooser.

• EtherTalk Phase 2 (v2.5.7/v2.5.7): driver software which allows you to connect your Mac to an Ethernet network. Supposedly no longer needed under System 7.5.3 and later, but several readers claim that they still need it when running Classic Networking. NOTE: some users contend that it is even needed under Open Transport when using Powerport Platinum PCMCIA cards.

• EtherTalkPrep: on older systems, worked with EtherTalk Phase 2 to establish and maintain Ethernet connections. Supposedly no longer needed under 7.5.3.

• External CD Sound: on pre-7.5.1 systems, allowed you to listen to audio CD's on an external Apple CD-ROM drive. Integrated into the system software under 7.5.1.

• FaceSpan: Applescript Development environment extension that allows you to create graphical user interface (GUI) front-ends to Applescripts.

• Fax Terminal 7.5 compatibility: provides compatibility for Apple's Fax Terminal software when running under System 7.5. This file is not needed if you are using Apple Express Modem Software v1.5.5 or later.

• File Sharing Extension (v7.6.2) [3.5/0]: enables your Mac to share files with other computers on a network. If you are not connected to any other Macs via a network, or if you are on a network but don't need to allow other computers to access files on your computer, this file is not necessary.

• File System Manager (v1.2.4): File System Manager (FSM) is an obscure part of the Macintosh operating system that was proposed for System 7.0 but didn't officially ship until System 7.5.1, when it was part of the System itself. Providing support for external file systems, the extension was used on earlier systems by developers to support FSM functionality and to utilize its features without having to rewrite the entire Macintosh File Manager system. It is used by the System for cross-platform exchange with ProDOS and PC systems and is used by Macintosh PC Exchange. It also supports "plug-in" file for different types of media/file systems.

• Find File Extension (v1.1.1) [0/0]: allows you to access the new System 7.5 "find file" by typing command-F. Without this installed, it brings up the older "Find File" in the system. However, you will still be able to access the newer find feature through the Apple Menu. For some strange reason it also disables the alert box which says that the functionality of "Find File" is limited when the Finder Scripting Extension is not installed. This file is no longer needed under Mac OS 8, as it has been incorporated into the Finder file.

• Finder Help (v7.5.6) [NA]: provides balloon help for the Finder. Most of its info is contained in the newer Apple Guide, but if you plan on installing LaserWriter 8.4, you **must** have this installed (who knows why?). Fortunately, Apple has included a copy of Finder Help with the newer LaserWriter installers. NOTE: Desktop Printing 2.0.1 installs a "new" version of Finder Help (newer than the version included in System 7.5.5), but the version number is still 7.5.5. One neat trick that Finder balloon help provides is that if you open the "About This Macintosh" or "About This Computer" box from the Apple Menu with balloon help turned on, pointing at an application's memory usage will show how much unused memory is being tied up by that application. This file is no longer needed under Mac OS 8, as its functionality has been incorporated into the Apple Guide.

• Finder Scripting Extension (v7.5.5) [0/0]: needed if an application uses Finder functions in its AppleScript. Allows you to write scripts which use the Finder. Also allows you to perform operations on "Find" search results (i.e. dragging a folder/file from the "find" window to the desktop, trash, or to another folder). Supposedly, if this extension is not installed, the Shutdown Items folders in the System Folder won't "work" (i.e. items placed in the folder will not open at shutdown) and multiple desktop printer icons may appear! This file is no longer needed under Mac OS 8, as it has been incorporated into the Finder file.

• Finder Update (v7.5.3) [NA]: formerly called "PowerPC Finder Update" but name was changed in System 7.5 Update 1.0. Provides support for PowerMac native code in the Finder. Corrects some memory-related problems. Also puts that "Memory will decrease by xxx if virtual memory is turned on..." message in the "Get Info" box. With the release of System 7.5.3, this update is integrated into the Finder itself.

• FireWire (v1.0): provides support for third-party hardware and software which uses the new IEEE 1394 High Performance Serial Bus standard (FireWire). FireWire is basically a new standard for high-speed serial devices, such as digital video cameras and printers. Since there are very few FireWire hardware and software products right now, this extension is not installed in the Extensions folder, but is instead located in the Apple Extras folder on your hard drive under OS 8. OS8

• FM Radio(v1.1/v1.2): provides support for the FM radio tuner which is built-in on some Macs. You must have v1.2 under OS 8 and OS 8.1. **NOTE**: v1.2 of this extension is required in order to use the Apple FM Radio under Mac OS 8.1. **NOTE**: if you are using v1.2 of this extension, you must use version 1.4.1 of the Apple FM Radio application; if you use an older version of the application, you will get an

"FM Radio Extension is not compatible with this system" error when you try to launch the application. **NOTE**: if this file is installed on a PowerBook 3400, the computer will crash on startup.

• Font Extension 3 (vJ-1.0.4): prevents one cause of a system hang on systems running Japanese Language Kit 1.2. Included with the Japanese Language Kit as well as with KanjiTalk.

• FontSize Patch (v1.1): fixes problems with font corruption when using the Asian language kits under System 7.5.3 and later.

• Foreign File Access (v5.2) [114.5/153 NOTE: RAM usage will vary depending upon which components are installed (see the description that follows); if you'd like to keep your RAM usage down, you should only activate the components for the file formats you actually use.]: enables your Mac to work with CD-ROM discs which don't use the standard Macintosh file system, by using the corresponding component files. This includes audio CD's, ISO 9660, PhotoCD, and High Sierra formats (see "COMPONENTS"). Note that this means you need this extension **along with** the respective component in order to read a non-Mac format CD-ROM. If Foreign File Access is installed, but no FFA components are installed, you will get an error that you are missing the "File System Access module." If you have the correct components installed, Foreign File Access also allows you to mount both the Mac and PC sectors of multi-format CD-ROMs.

• Frontmost Extension: Frontmost is an application package (that comes with the full AppleScript commercial product) that allows you to create sophisticated user interfaces for AppleScript applications. The Frontmost Extension acts as a run-time assistant for projects saved as miniature applications.

• GetInfo (v1.0b4): for use only under System 7.0. Provides extra information about files which depend on other files by modifying the "Get Info..." box. Only works with applications which use QuickTime. Also, if you have a file that contains data on which another file depends and you drop it in the trash, GetInfo won't allow you to delete the file.

• Global Guide Files: not an extension but a folder. This folder holds Apple Guide mixins which are used by Finder- and System-related applications and utilities or which are used by more than one application (see "Apple Guide" in the "Groups" section). Not all users will have this folder; it is only supported by newer versions of Apple Guide.

• Graphics Accelerator (v1.1): provides video acceleration for PCI Macs using an ATI video card. Version 1.0.5 caused a problem with windows and toolbars in WordPerfect; this bug was fixed in version 1.0.7. Note that this extension conflicts with the ATI XClaim VR graphics card and will cause a freeze at startup. Unfortunately, System 7.6 will often mistakenly install it on machines with an XClaim VR card. If this happens to you, you should restart with extensions off (by holding down the shift key), throw this extension away, then restart.

• GXGraphics (v1.1.3/v1.1.6): provides the advanced graphics, typography and printing capability of the QuickDraw GX system without requiring that the entire GX package be installed. On pre-OS 8 systems (i.e. v1.1.3 of the extension), this includes limited support for QuickDraw GX printing, while under OS 8 and later (i.e. v1.1.6 of the extension), it provides only GX graphics and typography support. Contains both the GXGraphicsLib and QuickDrawGXLib shared libraries for early versions of QuickDraw GX. Only supported on PowerPC machines. **NOTE**: Although QuickDraw GX printing is no longer supported under OS 8, the advance graphics and typography capabilities of QuickDraw GX are still supported, and will eventually be rolled into the standard Mac QuickDraw environment. **NOTE**: there are a few incompatibilities between v1.1.6 and ATM, as well as some slow/garbled printing problems. For complete information, visit the Tech Info Library (see the "Other Resources" section of InformINIT) and read article #1101.

Extensions (Apple, H-P)

As with the control panels section, below and in the previous and next chapters are descriptions of nearly every Apple Extension ever released. If you're curious what the different extensions do, here's your source. If you're interested in whether or not you need various INITs, use the descriptions below to decide whether or not you want/need them. Most are from Apple; however a few are things that are so universal that I included them here (for most non-Apple extensions, check out the "Third-Party Extensions" chapter).

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• Hardware System Update 1.0: part of System 7.1 Update 1.0, this file provided numerous system-level improvements. This file was not designed for use on Performa models.

• Hardware System Update 2.0: part of System 7.1 Update 2.0: Provided system-level improvements to increase overall system reliability. This file was not designed for use on Performa models.

• Hardware System Update 2.0.1: part of System 7.1 Update 3.0: Provided system-level improvements to increase system reliability and performance. For all Macs running System 7.1 except for AV systems, which already have these enhancements built into their ROM.

• IIci/IIsi Monitors: allows the Monitors control panel on the IIci and IIsi to reflect the capabilities of the built-in video card on these computers. Removing this extension will still allow a choice of bit depth, etc. However, some options, such as "gamma" settings, will not be available.

• InLine Filter: Helps AppleScript and PlainTalk Speech Recognition work together. Allows Worldscript users to type scripts "in-line" instead of to a separate text bar. Crashes WordPerfect 3.1, but Novell has released a patch.

• Insomnia (v7.1): originally created for Apple PowerBooks to keep them from "falling asleep." It was never intended to be used on desktop Macs, but it seems that Energy Star Compliant monitors fall asleep when connected to several models of Power Computing desktop computers. Power Computing's answer is to install Insomnia, and include it on their System software CDs. It is also supposedly intended to be used by PowerBooks to prevent them from going to sleep during the System software installation process when starting from the "Install Me First" disk.

• Installer Cleanup: you will most likely see this extension immediately after installing new Apple software. The Apple software installer often places this temporary extension in your Extensions folder to make sure that the installation process was successful and that everything was installed in the proper place. It loads during the restart immediately following installation, and should then disappear

on its own. However, some extension/startup managers will not allow the Installer Cleanup extension to do its thing. In addition, if you're using one of these managers, at some time in the past you may have seen an extension called "Installer Cleanup" and turned it off/disabled it. Even though you may have later deleted it, most extension/startup managers will remember your preference (of turning it off) and automatically disable any identically-named extension which gets installed; in this case, it would be the one that's put in after an installation. So it never gets to do its thing, and subsequently never deletes itself. You should make sure that if you install Apple software and the Installer Cleanup extension is "installed," that you allow it to load at the very next startup. It should disappear. On the other hand, sometimes it doesn't disappear no matter what you do. If you still have this extension after several restarts, or if you just find it sitting there, and everything seems to be working fine, you should be able to trash it.

• Internal Modem Sound: on 5200, 5300, 6200, and 6300 series Macs, this file fixed a problem with internal Global Village modems where no modem sound was heard. It is now a part of the Audio Volume Extension (see above).

• Intelligent Battery Update: updates the battery manager on 500-series computers (actually updates the batteries themselves). The 500-series batteries have a microprocessor built into the battery to monitor the battery's "vital signs." Sometimes the data inside this microprocessor becomes corrupt and causes the System software to receive incorrect information about the battery's status (power remaining, etc.). This extension, along with the Intelligent Battery Recondition application, updates the information in the battery's microprocessor. It should be used if you experience any of the following symptoms: the PowerBook fails to recognized the battery; the battery will not charge; two batteries are installed, but only one is recognized; at least one battery is installed, and the "battery monitor" control strip module shows the icon of a plug and a right facing triangle. NOTE: the application only works on the battery in the right-hand battery bay. If you have two or more batteries, you will have to use the application once for each battery by placing each one in the right-hand bay.

• LC Monitors Extension: adds functionality to the Monitors control panel for LC series Macs.

• Letterhead: not really an extension. Part of the QuickDraw GX package, this extension enables the "Letterhead" paper type option in the "Page Setup..." window of compatible applications. **NOTE**: GX printing is not supported under OS 8 or later.

• LocalTalk DMA (v1.0.1): part of the obscure "System 7.5.3 Revision 2.1," this file fixes a bug with transferring files over LocalTalk on Performa 6400/180 and 6400/200 computers. This fix is supposedly included in the System 7.5.5 Update, and should no longer be needed.

• LocalTalkPCI extension: under Mac OS 8.1, Apple completely rewrote the implementation of LocalTalk networking for the PowerMac G3 series. This rewrite is PowerPC-native and Open Transport-based, and supposedly fixes problems with slow LocalTalk network performance on the G3 models. The new LocalTalk implementation is provided via this extension. It is only useful on PowerMac G3 desktop models. **NOTE**: after installing OS 8.1, which installs this extension, some users are not able to print to, or sometimes even connect to, LocalTalk printers. Users are also sometimes unable to see file servers on a LocalTalk network, and the affected machine may not appear to other users on the network. Disabling this file may alleviate these problems.

• Location Manager Extension (v1.0.2/v2.0): required to use the Location Manager control panel. Version 2.0.1 is required for compatibility with OS 8.1. OS8/OS8.1 COMPATIBLE

• Mac™ OS Licensing Extension (v1.0): provided by Apple to clone vendors, this extension seems to provide support for the Energy Saver system on non-Apple Mac OS computers.

• Macintosh Drag & Drop: see Drag&Drop Extension.

• MacIPX AppleTalk, MacIPX TCP/IP, and MacIPX Token Ring: network drivers which support the MacIPX protocol over the respective network type (i.e. AppleTalk, TCP/IP or Token Ring). Installed by Timbuktu Pro to provide support for IPX data transfers. Installed by Descent, Quake, Doom, Warcraft and other cross-platform network games as part of the MacIPX package to allow play over an IPX network. Also reportedly installed by Filemaker Pro 2's Server software for Mac/PC sharing of Filemaker databases. You must have the extensions (AppleTalk, TCP/IP, Token Ring) installed that correspond to the type of network over which Timbuktu will be transferring data. **NOTE**: Quake supposedly loads with AppleTalk and IPX enabled by default, even if you have AppleTalk turned off via the AppleTalk control panel. If you wish to disable this behavior, you have to launch Quake with the option key held down; in the resulting command-line, type in "-noatalk" to disable AppleTalk or "-nolan" to disable all networking.

• Mac OS Runtime for Java™ (v1.0.2): provides support for the Java runtime environment. Allows applications to include Java functionality and to run applets and applications written in the Java language.

• MacTCP Token Ring Extension: allows you to use the TCP/IP protocol over a Token Ring network.

• MIDI Manager (2.0.2): enables Apple's MIDI Management system. Version 2.0.2 fixes problems on the PowerBook 1xx series.

• MODE32 (v1.2/v7.5): under System 7, gives the Mac II, IIx, IIcx, or SE/30 the ability to run in 32-bit addressing mode. All other Macs either have 32-bit addressing capability built into the ROM, run in 32-bit addressing mode all the time (AV models, PB 500s, and all PowerMacs), or are incapable of running in 32-bit addressing mode (running System 6 or have a 68000 processor). With 32-bit addressing "on," your Mac can take advantage of more than 8MB of RAM. NOTE: Under System 7.5, a new version of MODE32 was released. You **MUST** use MODE32 7.5 if you are running System 7.5.

• Modem Scripts: a folder which contains the modem descriptions/scripts used by OT/PPP and Apple Remote Access to communicate with your modem.

• Mount IDE Drive: allows Macs with IDE hard drives to mount these drives when the Mac is booted from another disk or device.

• Mouse Keys: allows PowerBooks to emulate a numeric keyboard on the standard PowerBook. Once installed, command-shift-escape enables the numeric keypad, which is located in the area surrounding the "K" key; pressing the escape key disables it.

• Multiprocessing: this folder, located in your Extensions folder, contains shared libraries used by Macs with multiple processors. If you do not have a multi-processor system, you can throw away this folder and its contents. The following two files may be found in this folder:
    o Apple Dual Processor HAL: provides support for the "hardware abstraction layer" which is used by some multi-processor-aware applications.
    o Multiprocessing API Library: provides the API (application resources) used by multi-processor-aware applications. The Mac OS does not yet have multi-processor resources built into the System software, so this library provides those extra resources.
NOTE: these files can conflict with Metrowerks' "MetroNub" extension; see that file's entry for details.

• N-Up Printing: part of the QuickDraw GX package, this extension allows you to print more than one page on a single sheet of paper by dividing the page into smaller sections and reducing the printing size. Up to 16 pages can be printed on a single 8.5x11 sheet. **NOTE**: GX printing is not supported under OS 8 and later.

• Network Extension (v7.5.5) [NA]: allows you to choose what type of network your Mac is attached to using the AppleTalk or Network control panels. Also allows you to activate Personal File Sharing from the Finder. This file is used in conjunction with Open Transport or Classic Networking to enable network access. This file is no longer needed under Mac OS 8, as it has been incorporated into the System file.

• Network Launch Fix (v1.0.2): on 68040 Macs, fixed a bug when launching applications over a network. Incorporated into system 7.5 and later.

• PB 1400 PMU Updater: It comes pre-installed on many 1400s; if you later do a "clean" install of 7.6 or 7.5.3, you will need to reinstall this extension.

• PC Card Extension (v2.5): allows newer PowerBooks to use expansion cards that adhere to the PC Standard. This file is no longer needed under Mac OS 8, as it has been incorporated into the System file.

• PC Card Modem Extension (v2.0.7): allows newer PowerBooks to use modem expansion cards that adhere to the PC Standard

• PC Clipboard Translator: on Macs with a DOS Compatibility Card, allows cross-platform Clipboard capability (for example, to "copy" text on the PC side, then "paste" it on the Mac side).

• PC Net Exchange (v1.0.1): works with the PC Exchange control panel to help Mac users share DOS/Windows files over an AppleTalk network with users of the AppleShare Client for Windows software. If PC Net Exchange is installed on a Mac client system, you can "map" files on the Mac to Mac OS documents in the same way that PC Exchange lets you map PC files on locally attached PC disks. Any mapping that you've previously defined is automatically implemented. If PC Net Exchange is installed on a server, files that users have copied or saved to that server by using AppleShare Client for Windows appear as "PC" (text) files, and you can map these files to Mac OS application document types with the PC Exchange control panel. If PC Exchange is not installed, such files appear on the server as "PC" (text) files, but you cannot map these files to Mac OS document types.

• PCI Network Legacy Layer & PCI Network Legacy Loader: there is an update available for 6360/6400/5400 series systems which fixes SCSI problems and provides additional Ethernet support. The "6360/64xx/54xx Update" installs these two extensions to the Extensions folder. If you are using the optional Ethernet CS II card for Ethernet capability, these files provide Open Transport support for the MacIPX and Local Area Transport (LAT) network protocols. (The update is available from Apple's support sites.) **NOTE**: the "6360/6400/5400 Update" also alters some resources in System file, so you cannot simply copy over these two extension; you must use the updater application to install them.

• PCI Timing Update (v1.0): previously released by Power Computing, this file is now maintained and distributed by Apple. Corrects a timing error which could cause intermittent sound problems when using some third-party PCI video cards. Only necessary on Power Computing machines based on the PowerMac 7200 logic board design (PowerTower, PowerCenter, PowerCurve series).

• Power Format Patch Extension: fixed some problems with floppy disks on Macs with a 180 MHz or faster processor. Rolled into the System under System 7.5.5 Update.

• PowerBook 1400 ATA Flash Extension (v1.0): the ATA driver (used to allow the use of ATA flash PCMCIA cards) found in the PowerBook 1400 ROMs has a bug where it will often prompt you to "initialize" a flash card even if it is properly formatted / initialized. This extension installs a new ATA driver at startup and should be installed if you use ATA flash cards in your 1400.

• PowerBook 1400 Floppy Update (v1.0.2): corrects problems that could occur with DOS/Windows-formatted floppy disks on PowerBook 1400c/133 models running System 7.5.3.

• PowerBook 1400 PMU Updater (v1.0.1): used only on the PowerBook 1400 and System 7.6 and below. Fixes bugs under System 7.6 and earlier where the contrast and brightness controls do not work properly (actually, backwards). It comes pre-installed on many 1400s; if you later do a "clean" install of 7.6 or 7.5.3, you will need to reinstall this extension. This file is no longer needed under Mac OS 8, as it has been incorporated into the System file.

• PB 150 Modem Patch (v1.0): supposedly fixes a bug when using an internal modem in the PowerBook 150. When configuring PPP, this bug would not allow you to select "internal modem."

• PowerBook 150 Update (v1.0): under System 7.5, provides modem compatibility for the PowerBook 150 and fixes a problem with third party internal modems not powering off correctly after use. Only necessary under System 7.5.

• PowerBook 2300c Update (v1.0): ensures that the trackpad on the PowerBook 2300c operates correctly when using System 7.5.3 and earlier. **NOTE**: If you reinstall the System software, you will need to manually reinstall this file.

• PowerBook 3400: provides support for System 7.6 on the PowerBook 3400. This file **must** be present for the 3400 to function with System 7.6. It is no longer needed under System 7.6.1, and the support code has been incorporated into the System file.

• PowerBook 3400 Ethernet (v1.0): provides Ethernet support for the PowerBook 3400. NOTE that the file below (PowerBook Ethernet (PCI)) seems to provide the same support.

• PowerBook 3400 Modem (v1.0): provides support for the PowerBook 3400 internal modem.

• PowerBook Ethernet (PCI) (v1.1): used by the PowerBook 3400 for Ethernet support via the built-in PCI-based Ethernet/Modem port.

• PowerBook Monitors Extension (v7.5): provides added functionality for external monitors connected to a PowerBook. Contains the monitor information strings that show the resolution and scan rate for the attached monitor, as well as the PowerBook video card information string. Also provides the option of adjusting the gamma setting on color PowerBooks.

• PowerBook VM Tuner or PowerBook VM Tuner for OS 7.6 (v1.0): used only on PowerBook 1400 computers. Enhances system stability on PowerBook 1400 models when running memory intensive applications with virtual memory enabled and eliminates a problem with moving the cursor during heavy memory use while virtual memory is turned on. Comes pre-installed on many 1400's; if you later do a "clean" install of 7.6 or 7.5.3, you will need to reinstall this extension. Eliminated under System 7.6.1. This file is no longer needed under Mac OS 8, as its functionality has been incorporated into the System file.

• PowerBook ZoomedVideo (v1.0/v1.3): when using appropriate hardware, provides support for "zoomed" video on the PowerBook 3400.

• PowerCD Extension: driver for the Apple PowerCD portable external CD-ROM drive.

• PowerMac Debugger: part of Apple's E.T.O. compiler tools. Used by developers to debug remotely from another Mac. If you have this extension installed and try to use the GeoPort modem, you will get an error that the GeoPort/serial port is already in use.

• PowerMac Format Patch: no longer necessary under Mac OS 7.6.1 and later.

• PowerPC Finder Update: part of System 7.5.0. Provides Finder support for native PPC code. Also prevents the PowerMac's name from being clipped in the "About This Macintosh" dialog box. Under System 7.5 Update 1.0, the name was changed to Finder Update. Under System 7.5.3, both files were incorporated into the Finder itself and are no longer necessary.

• PowerPC Interrupt Extension (v1.0): if you have a PowerPC desktop system and System 7.5.5, you may have experienced your computer freezing for several seconds before returning to normal operation, or completely freezing and requiring a restart. This extension fixes one source of this problem. It is intended for users who have installed the System 7.5.5 Update on a desktop Power Macintosh, PowerPC-based Performa, PowerPC Mac OS-compatible, or on any desktop computer with a PowerPC upgrade card. It is unnecessary on PowerPC PowerBooks. Note: some people have reported extension conflicts with this file. A number of people seem to have **more** problems after installing it! One suggested solution is to make the PowerPC Interrupt Extension load last (by changing its name, or by using a third-party startup file manager). If you do have more problems and can't find a solution, you should probably just remove it. This file is no longer necessary under System 7.6 and later, as it has been incorporated into the System file.

• PowerPC Monitors Extension (v7.5): needed for use of the AV14, AV15 and AV17 monitors; superseded by Display Enabler 2.0 and later. Also needed by PM 6100AV/ 7100AV/ 8100AV models to enable video-out (such as to an RGB monitor) in the Monitors control panel.

• Print Monitor (v7.1.2): if you are not using Desktop Printing (see the "Desktop Printer Extension" entry in this Extensions section), this application (it's not really an extension) allows you to monitor and control your print jobs.

• Printer Descriptions [NA]: this folder in the extensions folder contains printer descriptions for almost every Apple laser printer. It's mainly a waste of space; trash all the descriptions but the ones you use, or might use in the future (how many of us are using a LaserWriter I?)

• Printer Selector (v2.0.1): under LaserWriter 8.4 and above, adds a menu of configured printers to your menu bar for quick printer switching.

• Printer Share (v1.1.3) & Printer Share GX (v1.1.1): Allows your Mac to be used as a print server (i.e. another computer on the network can send a document to your computer and then your computer sends it to the printer; this frees up the processor on their computer--not useful for most people). Also allows you to share non-networkable printers (such as the StyleWriters) over a network. You must install Printer Share onto both the server and the client. **NOTE**: GX printing is not supported under OS 8 and later.

• Processor Info Extension: on 5200, 5300 and 6200 series Macs, fixes a bug where the computer would report the incorrect bus and processor speeds.

• ProDOS File System: allowed pre-7.5 Macs to recognize ProDOS/Apple IIe disks. Incorporated into PC Exchange 2.0.2 and later, and is incompatible with System 7.5.x.

Extensions
(Apple, Q-~)

As with the control panels section, below and in the previous two chapters are descriptions of nearly every Apple Extension ever released. If you're curious what the different extensions do, here's your source. If you're interested in whether or not you need various INITs, use the descriptions below to decide whether or not you want/need them. Most are from Apple; however a few are things that are so universal that I included them here (for most non-Apple extensions, check out the "Third-Party Extensions" chapter).

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• Quadra AV Monitors Extension (v7.5): same as "Quadra Monitors Extension," below, only for Quadra AV- and Centris AV-series computers, so it includes the AV video display options.

• Quadra Monitors Extension (v7.5): allows the Monitors control panel on Quadra- and Centris-series computers to reflect the capabilities of the built-in video. Provides information on the resolution and scan rate for an attached monitor. If you remove this extension, the monitor will work fine; however, the extra "options" such as gamma control will be inoperable.

• QuickDraw GX (v1.1.6): provides support for advanced graphics and typographic services under the Mac OS. On pre-OS 8 systems, if this extension is installed, you **must** also have GX-compatible printer drivers. Under these systems, if you have this extension installed, non-GX drivers will not even show up in the Chooser. If you are experiencing this problem, put the QuickDraw GX file in the "Extensions (Disabled)" folder, or in the trash, and restart your computer. The Chooser should then show all of your normal printer drivers. **NOTE**: Although QuickDraw GX printing is no longer supported under OS 8, the advance graphics and typography capabilities of QuickDraw GX are still supported via the GXGraphics extension, and will eventually be rolled into the standard Mac QuickDraw environment.

• Record Button: provides support for the "record" button on the Apple Adjustable Keyboard. Now incorporated into the AV and PowerMac series' ROMs.

• Scanner (v3.0): driver used by all "Apple-compatible" scanners (basically, all Apple scanners and any third-party scanners which were designed to use the Apple driver).

• Scripting Additions: actually a folder within the Extensions folder. The additions contained in the folder enhance the language of the AppleScript system by adding special features such as the time of day, day of the week, or date. When installed, AppleScript behaves as if these additions are part of the standard language. These items are only required when using a script that incorporates them.

• SCSI Manager 4.3 / SCSI Manager 4.3.1: the new SCSI Manager (4.3.x) system added several new

features (such as SCSI 2 compliance, concurrent asynchronous I/O, and disconnect and reconnect) to the Mac's SCSI architecture. There is a **lot** of conflicting information to be found about these extensions. Even Apple's own Tech Info Library gives contradictory explanations. The following is the best summary I can offer (and it is admittedly confusing): Version 4.3 is part of the ROMs on all Power Macintosh and Quadra AV computers, and is installed as a separate extension by the System 7.5 CD, even on these machines which already have it in ROM. It is incorporated into the System under System 7.5.3 and later. **So anyone running System 7.5.3 or later should not have any version of this extension installed.** The new (4.3/4.3.1) SCSI system is supposedly supported on all PowerPC and 68040 Macs, except for the 630 series and 68040 PowerBooks (including Duos). If your computer doesn't require this extension, you should probably delete it. (In yet another source of confusion, one Apple article claims that having the extension installed when not needed can cause serious problems, while another said that it would not do any harm. This is clearly a situation where too many people at Apple are trying to explain something that **none** of them knows enough about!) **The remaining info is only for people not running System 7.5.3 or later:** Non-QuadraAV 68040 Macintosh computers require the SCSI Manager 4.3 extension under System 7.5, or the SCSI Manager extension under System 7.5.1. The SCSI Manager 4.3.1 extension from System 7.5 Update 1.0 contains software fixes needed only on 68040-based Macintosh computers with the PowerPC Upgrade Card. Even though Apple claims that the new SCSI system is not supported on 630-series and PowerBooks, they also say that version 4.3.1 of the extension is needed on 630 machines, the PowerBook 150, and the Quadra AV models to fix possible data corruption problems. It is also supposedly used on those computers to fix a potential crash problem with some (unspecified) external hard drives.

• SCSI Manager Update (v1.2): previously released by Power Computing, this file is now maintained and distributed by Apple. Fixes a problem where PowerBase computers using external SCSI devices could crash at startup.

• SCSI Update: included with the AppleShare IP 5.0 beta. Supposedly updates the SCSI Manager to allow asynchronous access on machines that don't already support it, such as 680x0 machines and early PowerMacs. The new SCSI Manager is required for products such as the Advanced Driver Toolkit from Dantz for accessing Digital Linear Tapes from within Retrospect.

• Serial Update 406: eliminated by the 7.5 Update 2.0. Part of the Apple Personal Modem package. If used under OS 7.6, your machine will freeze at startup.

• SerialDMA 2.0.2 [17.5/?]: first, a note on the DMA chip: a computer's processor supervises the transfer of data between memory and connected devices (such as a hard drive). This takes time away from other processor functions. PowerMacs and the AV Macs, as well as some newer PowerBooks, have what are called direct memory access (DMA) chips, which handle some or all of this data transfer processing, allowing it to pass directly from connected devices to RAM. Note that in order to use this DMA, the connected device must use a driver which was written to support DMA transfers. SerialDMA v2.0 was originally a rewrite of the serial drivers that shipped with the first AV Macs (the Centris 660AV and Quadra 840AV) and were later carried over to Apple's first line of Power Macs (6100, 7100, 8100) and their derivative models. Version 2.0.2 of SerialDMA patched some remaining bugs and added support for Apple's newer PCI Power Macs. In addition to offering greater reliability, better performance, higher baud rates, and a number of bug fixes, version 2.0.2 offered significant performance improvements on 68040-based AV Macintoshes, as well as fixes for printing problems with StyleWriters on PCI Power Macs. Under System 7.5.2, SerialDMA (both versions) had known problems on PCI Macs with the Serial Port Arbitrator extension that is included with AppleTalk Remote Access (ARA) and with the Port Juggler extension. However, Serial DMA has been incorporated into the System since System 7.5.3, and these incompatibilities have reportedly been resolved.

• Shared Library Manager (v2.0.1) [NA]: supports loading, unloading, and sharing of object-oriented code, including all "shared library" files. Provides support for Open Transport. This extension is

needed on both 680x0 Macs (for universal support) and on PowerMacs (for emulation support). **NOTE**: the Microsoft Word 5.1a installer and the Microsoft Office 4.2.1 installer may remove the latest version of the Shared Library Manager and replace it with an older version! **NOTE**: there is a confirmed conflict between the Shared Library Manager and Mathematica v3.0 and v3.0.1 where a substantial delay can occur after pressing the enter or return keys. While disabling SLM seems to alleviate the problem, it may also disable other functionality on your Mac (such as Open Transport). **NOTE**: In the category of "things that need SLM that you wouldn't expect," Apple's Desktop Printing Utility requires that the Shared Library Manager and (on PowerPC Macs) the Shared Library Manager PPC be installed.

• Shared Library Manager PPC (v2.0.1) [NA]: supports loading, unloading, and sharing of native object-oriented code, including all "shared library" files. Provides PowerPC-native support for Open Transport and other libraries. Both this extension and the "Shared Library Manager" (above) are needed for OT and other shared libraries to function properly on a PowerMac, while 680x0 users only need the non-PPC version. **NOTE**: the Microsoft Word 5.1a installer and the Microsoft Office 4.2.1 installer may remove the latest version of the Shared Library Manager PPC and replace it with an older version! **NOTE**: In the category of "things that need SLM that you wouldn't expect," Apple's Desktop Printing Utility requires that the Shared Library Manager and (on PowerPC Macs) the Shared Library Manager PPC be installed.

• Slow SCSI Extension: addresses a potential conflict between PowerBook 5300 series computers (and possibly other models such as the 190 and 1400) and slow SCSI devices (such as single-speed CD-ROM drives, Zip drives, and other PowerBooks attached via SCSI disk mode) where sometimes the PowerBook will crash and/or freeze. Not all PowerBooks will experience this problem and even PowerBooks that do will not necessarily experience it on a consistent basis (even with different units of the same make and model). The reason for this conflict is due to two peculiarities found in these PowerBooks: 1) the internal hard drives are IDE drives, and as such do not provide an "anchor" for the SCSI chain; 2) the PowerBook does not provide steady termination power to the SCSI chain. When these two factors are put together, activity on the SCSI chain can cause power along the chain to fluctuate, and thus intermittent termination; if too much fluctuation occurs, the PowerBook crashes due to SCSI termination problems. This extension actually slows down data transfer rates along the SCSI chain, dampening these fluctuations enough to avoid the problem. NOTE**:** You should only install this extension if you are experiencing constant freezes or crashes when transferring files with a particular SCSI device, since it will impact performance with ALL SCSI devices by 10 to 50 percent. While the slowdown may not seem significant with an external Zip drive, it will quickly become apparent if you have a 24x CD-ROM drive attached! You can use a startup manager to disable the extension when not needed.

• SOMobjects™ for MacOS (v2.0.8): see the entry under "OpenDoc" in the "Groups" section. **NOTE**: this extension is necessary in order for Contextual Menu plug-ins to function properly.

• Sound Input Amplification (v1.0): adds the "microphone amplification" option to the Sound control panel, which when active amplifies sound input by +25 dB. Some microphones, such as the Apple PlainTalk microphone, produce a "line-level" signal which does not need amplification to be properly received by your computer's sound hardware. However, other microphones produce a "mic-level" signal which needs to be amplified. If you are using a microphone which produces a mic-level signal, you will need to turn microphone amplification on. **NOTE**: according to Apple, this extension was designed for PowerMac 7200 computers, and thus can be found in the "Apple Extras" folder on the hard drive of 7200's or on the 7200 System CD-ROM. **NOTE**: according to Apple, the Sound Amplification Input extension is not supported under System 7.5.3 and later. If you are running 7.5.3 or later, you should use a microphone which supplies the proper line level voltage, such as the Apple Plaintalk Microphone.

• Sound Manager (v3.3) [0/96]: PowerMac native. Version 3.3 is installed as part of the QuickTime

3.0 package. Version 3.2.1 is no longer needed under Mac OS 8 and later, as it has been incorporated into the System file. Sound Manager 3.2, which provided asynchronous sound playback and better Power Mac performance, was incorporated into the System in System 7.5.3. For users of pre-OS 8 System software, Version 3.2.1 is available as part of the QuickTime 2.5 package, and supposedly provides even better low-memory performance and better multi-channel sound via a new sound clock component. Version 3.2 is included in the System file under System 7.5.5. **NOTE**: according to the Mac OS 7.6 Technical Note, Sound Manager 3.2.1 is actually built into the System file under 7.6 and the extension is no longer needed; however, that statement seems to go against all other Apple documentation on version 3.2.1. For the time being, if you are using OS 7.6 or 7.6.1, I would recommend keeping this extension until further clarification can be found. It will not cause any harm to have version 3.2.1 installed even if it has been incorporated into the System. **NOTE**: on a Quadra with a PowerPC card and System Software 7.5.1, you may need to update your System Software to 7.5.3 to use Sound Manager 3.2.x or later. NOTE: under pre-OS 8 systems, the QuickTime 2.5 installer will only "Easy Install" v3.2.1 if an older version is present, so be sure that you have your older Sound Manager extension present before you install, or else do a "custom" install. **NOTE**: on PowerBook 500 series computers which have **not** been upgraded to PowerPC, Sound Manager 3.2.1 prevents sound recording. If you wish to record sounds, you should disable this file and restart. When you have finished recording sounds, you should then re-enable it and restart.

• Startup Tuner [NA]: part of the System 7.5.3 revision, fixes a problem with the Startup Disk control panel where the Mac may not startup from the selected disk. Only useful on the models for which the Revision is recommended (see Chapter 2). Not necessary under System 7.5.5 and later.

• Stationary: not really an extension. Part of the QuickDraw GX package, this extension enables the "Stationary" paper type option in the "Page Setup..." window of compatible applications. **NOTE**: GX printing is not supported under OS 8 and later.

• System 7 Tuner: part of System 7.0, this extension was part of the System Tune-Up disk. It provided better memory management for the initial release of System 7.

• Telephone Manager Extension (v3.0): installed by Apple Telecom software, as well as the USR modem software. Allows you to use your modem and computer together as an answering machine. Also allows you to control your phone line via your computer.

• Text Preview: when using ClarisWorks 4.0, and other compatible applications, shows previews of TEXT files in the preview window of the "open" dialog box. NOTE: The Text Preview extension conflicts with the "file preview" feature when selecting MPEG files in Open/Save dialogs. While this does not affect the ability to view MPEG files, you will not be able to preview them in Open/Save dialogs.

• Thread Manager (v2.1.5): This file is no longer needed under Mac OS 8 and later, as it has been incorporated into the System file. Thread Manager is an addition to the Macintosh Toolbox that enables "concurrent programming" for real multitasking within an application. Supports cooperative and preemptive threads of execution at the application level, but not at the system level -- sort of the Mac's version of "multi-tasking" (although true multitasking occurs across applications and includes System operations). Version 2.1 of this extension, which is what the Finder and most applications still use, has been incorporated into the System since System 7.5. However, the installer for Apple's QuickTime MPEG Extension installs a newer version of Thread Manager (2.1.5) which is required for QT MPEG support under OS 7.6.1 and earlier. **NOTE**: The LaserWriter 8.4.1 and Desktop Printing 2.0.1 installers delete the newer (v2.1.5) Thread Manager extension; the various Color StyleWriter software installers actually delete it and replace it with the older v2.1! If you are planning to install the LW 8.4.1 or Color StyleWriter software, disable or remove Thread Manager 2.1.5, and then enable or replace it after the installation.

• TokenTalk Phase 2 (v2.5.7): driver used by the Apple Token Ring card and the Network/AppleTalk

control panels.

• TokenTalk Prep (v2.5.2): provides added support for the TokenTalk Phase 2 driver.

• Trackpad Climate Control (v1.1): reduces unexpected pointer movements caused by humidity or moisture on the trackpad. Only works on the PowerBook 190, 1400, and Duo 2300. You should not use this extension if you don't have pointer movement problems, as it could actually make the pointer less responsive. This file is no longer needed under Mac OS 8, as its functionality has been incorporated into the System file.

• TrueType: needed by System 6.0.7 and all subsequent versions of System 6 to print TrueType fonts, as well as to display them on screen.

• UDF Volume Access (v1.0): provides support for Universal Disk Format (specifically, it provides support for volumes recorded at the "Optical Storage Technology Association UDF 1.02" specification level). Installed by Mac OS 8.1 for support of DVD™ disks. **NOTE**: does not provide the ability to read Adaptec DirectCD discs; for this functionality, the "Adaptec UDF Volume Access" extension is needed. OS 8.1

• Video Digitizer Update: part of the Apple MPEG Media System. Provides the software interface between the built-in video and the hardware MPEG card.

• Video Out Default (PAL) (v11.2): used by the Apple Video Player. On the standard U.S. System, the default video-out for the Apple Video Player is NTSC. Outside of the U.S., the standard video format is PAL; this extension changes the Apple Video Player default to PAL.

• Video Startup (v1.6/v1.7.1) [22/0]: provides support for the Apple Video Player; needed to use the AVP. **NOTE**: if you have differing versions of the Video Startup extension and the Apple Video Player, the Video Player will not work. **NOTE**: the following is a list of OS versions and the appropriate version of the Apple Video Software for it: System 7.5.3 - v1.4; System 7.6 - v1.4.2; Mac OS 8 - v1.6.3; Mac OS 8 on the PowerMac G3 - v1.7; Mac OS 8.1 - v1.7.1. **NOTE**: version 1.4.2 is available online at Apple SW Updates as "Video SW Install 1.5.1." **NOTE**: If you disable the "Video Startup" extension on a Performa 6300CD the Volume-Up button on the front of the CPU will not work. The Volume- Down continues to work. **NOTE**: If you are going to install System 7.5 Update 2.0 (ignore this part if you have OS 7.6 or later), first check the version number of both Video Startup and the Apple Video Player. During the installation, you may get a message that says something like "a newer version is already installed." However, chances are it really isn't, and you **do** need to install. If you **did** already have 1.4 installed, leave it. If you have a version prior to 1.4, ignore the installer's warning and install the "older" version. This is a bug in the 7.5 Update 2.0 installer. You should end up with v1.4. If not, you should go back and do a custom install of only the Apple Video Player software.

• Voices: folder which contains voices for use by Speech/ PlainTalk/ Text-to-Speech. NOTE: Apple has made available three "high-quality" versions of the Agnes, Bruce and Victoria voice files. These voices are supposedly more lifelike and more easily understandable. However, they only function with MacinTalk Pro. If you are not running the MacinTalk Pro extension, you cannot use the high quality voices.

• Web Sharing Extension (v1.5): supports Personal Web Sharing under Mac OS 8 and later. OS 8

• WGS SCSI Manager Update 2.0: required for compatibility between Mac OS 8 and Workgroup Servers 7350 and 9650.

• WindowPicker (v1.1): older "unsupported" utility which provides the ability to bring any open window to the front via a pop-up menu and/or arrow keys. Does not work with System 6.x.

• WorldScript Power Adapter (v7.5.3): see entry in the "WorldScript" section of the "Groups" chapter.

• °AppleVision (v1.5.5): only used for support of AppleVision displays, such as the 1710AV. Previous versions (1.0.2, 1.0.4) were plagued by compatibility problems. The version number was upped to 1.5.3 and, subsequently, 1.5.5 for continuity with the entire AppleVision 1.5.3 and 1.5.5 packages (see entry under "Groups").

• ~AudioVision: part of the AudioVision 14" monitor software package. Only needed on pre-7.5 systems.

• • Shutdown Items enabler: provides support for the "Shutdown Items" folder under System 7 Pro. The extra bullet in this item is actually part of the extension's name so that it will load last in the startup process.

Non-RAM INITs

(Shared Libraries, Documents & Components)

These "INITs" (shared libraries, documents, and components) do not take up RAM at startup in and of themselves; they are used and/or loaded by other extensions and applications whenever they are needed. Some are actually loaded at startup by other extensions, while some just sit there waiting to be used, either by another INIT or by an application. When loaded, they do take up RAM. What this means is that removing them may not take away functionality directly, but instead may prevent something else from working later. Be sure that you don't need them before you remove them. NOTE: some other non-RAM files are included in the "Groups" section because they are used directly by one or more of those groups.

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SHARED LIBRARIES

Also known as Dynamically Loaded Libraries or DLL's. They are called "shared libraries" because they provide sets of common code (API's) which can be used by different applications, rather than each application having to contain the code within itself. They are loaded only as needed, not necessarily at startup, and must either be in the Extensions folder (if placed there by their installer) or in the same folder as the application that uses them:

• AppleScriptLib (v1.2.2): I originally thought that like most "Lib" files, this file provided native code AppleScript support. However, an Apple employee who has worked on the AppleScript system claims that there **is no** native version of AppleScript. AppleScriptLib is basically a "glue library" for calling on the non-native AppleScript code from within native code (in an application, for example). It also implements the AppleScript Open Scripting Architecture (OSA) component. PowerPC native applications which utilize AppleScript, as well as AppleScript itself, need this. Version 1.1 is installed by the latest system software; version 1.2.2 is installed by Apple Telecom 3.0.

• ColorSyncLib 68k (v2.0.1): Code Fragment Manager file for the Color Sync software included with the LaserWriter 8.4 installation on 680x0 Macs (see the "Nuxxx.lib" files below). Only needed when using ColorSync v2.0 through v2.1 on a 680x0 Mac.

• DisplayLib (v1.0): provides backwards compatibility for Display Manager 2.0 functionality on pre-7.5 systems. The Display Manager allows users and applications to dynamically change the arrangement and display modes of monitors attached to the computer. For example, a game which automatically changes the bit-depth of the display, or the ability to change resolutions on-the-fly.

Display Manager 1.0 functionality was built into System 7.1.2 and later. Non-PPC Display Manager 2.0 functionality is built into System 7.5 and later. **NOTE**: A newer version of DisplayLib, which isn't included in the System file, is distributed by many games as part of the Game Sprockets system. It adds automatic resolution switching (from within a game) and updated versions of other services.

• Display Library: used by PowerPC-native applications which use the Display Manager 2.0 features (see above). Some applications which need this support actually have this file built into them; others include the file in the same folder as the application. Supposedly not needed on 68k Macs.

• DragLib: at one time this may have been a file used for development, but it is actually not a separate file anymore. It is a "drag and drop" support library which is incorporated into the Macintosh Drag and Drop extension. Under pre-7.5 systems, some applications will display an error such as "Can't find DragLib" if Macintosh Drag and Drop is not installed. This library is included in the System software under System 7.5 and later.

• File Sharing Library (v8.0): shared library which provides support for the File Sharing control panel, allowing you to share your computer's storage volumes and files over a network. This file is new to Mac OS 8; it is only necessary under OS 8 and later. OS 8

• Game Sprockets: the game sprocket system was developed as a way for game developers to directly access certain features of the System software, such as networking, video and audio, and also to provide added game-oriented functionality to these areas. The individual sprocket modules provide shared library support for their respective features:
    o DrawSprocketLib (v1.1)
    o GoggleSprocketLib (v1.0)
    o InputSprocket AppleJack (v1.2)
    o InputSprocket CH (v1.2)
    o InputSprocket Gravis (v1.2)
    o InputSprocket Kensington (v1.2)
    o InputSprocket Keyboard (v1.2)
    o InputSprocket Mouse (v1.2)
    o InputSprocket SideWinder 3D Pro (v1.2)
    o InputSprocket Speech (v1.2)
    o InputSprocket Thrustmaster (v1.2)
    o InputSprocketLib (v1.2)
    o NetSprocketLib (v1.0.3)
    o SoundSprocketLib (v1.0): see also the "SoundSprocket Filter" entry under "Components."

• InterfaceLib: provides support for Display Manager 1.0 features. The newer "DisplayLib," which is built into System 7.5 and later, contains support for Display Manager 2.0 features and supersedes this file. This file has also been included in the PowerMac ROMs, so it has never been necessary on PowerMacs. However, some users get a message that this file is "missing" when they attempt to launch AOL v3.0.

• Internet Access (v1.0): shared library required by the Internet Dialer, Internet Setup Assistant and other Apple supplied internet assistants and applications. Part of the Apple Internet Connection Kit and the Mac OS 8 internet access kit. Works with the Internet Config preferences file to specify internet settings.

• IRTalk (v1.4), IrDALib, and IrLanScannerPPC (v1.1): provide support for infrared data transfers on PowerBooks with an infrared port. There are two different protocols for infrared file transfers supported by the Mac OS: IRTalk (an adaptation of AppleTalk) and IrDA. IRTalk is an Apple-only technology which works on all PowerBooks with an infrared port. IrDA is a cross-platform standard for infrared communications, used by various printers, PDA's, and computers, but it is only supported

by the 2400, 3400, and G3 series of PowerBooks. Thus, on the PowerBook 5300 and 1400, the only supported method of infrared transfers is IRTalk. On these two PowerBooks, only the IRTalk extension can be used. Installing IrDALib, IrLanScannerPPC, or the Infrared control panel will crash the computer at startup. On those PowerBooks which support IrDA, all of the above files can be installed, and the Infrared control panel is used to switch between the different protocols. The first two files (IRTalk and IrDALib) provide support for the two respective protocols. IRLanScanner takes care of registering a network over the InfraRed port (InfraRed Local-Area-Network Scanner).

• LibMotoSh (v1.0): a third-party shared library from Motorola which updates the System software's standard math library. This file accelerates mathematical operations on PowerMacs by providing more efficient PPC-native shared library code for floating-point math operations. It is useless on 680x0 Macs, but on PowerMacs it will improve the performance of applications which use a great deal of floating-point calculations (such as rendering/ray-tracing apps, statistical software, and graphic imaging programs) as long as the applications are PPC-native. Also, QuickDraw 3D will gain some noticeable speed. On the other hand, word-processing, DTP, database work, etc. will gain very little from using MathLibMoto. It also conflicts with some software under System 7.5.5, such as the GeoPort/Express Modem software, because of the small bit of extra memory it requires. Motorola has outlined solutions/explanations at:
NN   <http://www.mot.com/SPS/PowerPC/library/fact_sheet/libmoto_faq.html>
IE

These problems are supposedly fixed under System 7.6 and later. **NOTE**: unlike most shared libraries, this library is usually loaded at startup. This is because it actually updates the standard MathLib in the System file, and any extension which uses MathLib (such as QuickTime) will cause LibMotoSh to load as well. **NOTE**: I have seen several reports that the math routines used in LibMotoSh, while faster, are less accurate than those included in the System file. While this may not be a major issue for most people, those doing mission-critical (i.e. "important") calculations should probably avoid using non-Apple math libraries. In addition, several games, such as Carmegeddon and Myth, will not function properly because of these errors.

• MathLib (v2.0.1 / v2.0.3?): provides PowerPC numerics routines for native applications. Installed with system update 7.5.1, but version 2.0.1 is incorporated into the system in 7.5.2 and later. This is the "math library" discussed in the LibMotoSh entry above. **NOTE**: one report has version 2.0.3 being installed by CodeWarrior Pro. However, I am fairly confident that if you are running System 7.5.2 or later, there is little reason to have this library installed. **NOTE**: v3.0 of MathLib is included in the System file under Mac OS 8.1. See the note about MathLib in the "OS 8.1 Info" chapter.

• MathLibMoto: a third-party (non-Apple) shared library extension which updates the System's standard math library. According to Motorola, the author used Motorola's developer version of Libmoto (see "LibMotoSh" above) as the core for his library; the code added by this author is completely his own and has not been verified by Motorola for performance or accuracy. As such Motorola will not support this library. Motorola has asked those distributing this extension to stop because the distribution is in violation of the Libmoto license agreement. Motorola's official version is called LibMotoSh (see above). You can see more about this file from the author's web site:
NN   <http://users.aol.com/granger/MathLibMoto.html>
IE

• AppleGuideGlueLib.68k
• AppleScriptLib
• CollectionsLib
• ColorSyncLib68K
• DragLib
• FoldersLib
• InterfaceLib
• NuDragLib.slb (v1.1)

- NuQuickTimeLib.slb (v2.0.1)
- NuThreadsLib.slb (v2.1.1)
- NuTranslationLib .slb (v1.0.1)
- ObjectSupportLib
- QuickDraw™ GX Enabler (v1.1.4) **NOTE**: GX printing is not supported under OS 8 and later.
- QuickTimeLib
- StdCLib
- ThreadsLib
- Translation

These files are CFM68K shared libraries which are only useful on 68K machines with the "CFM-68K Runtime Enabler" extension installed (see an important note about this file in the "Extensions" chapter). Code Fragment Manager (CFM) is the PowerPC standard method for loading code from a file into RAM and preparing it for execution. The 68K Code Fragment Manager is the part of the Mac OS on 68K machines that loads 680x0 code fragments into memory and prepares them for execution. These files, when used with the above extension, provide CFM functionality on 680x0 machines. They are loaded by the CFM-68K Runtime Enabler extension if a CFM68K-based application needs them. The CFM68K libraries are identifiable by the prefix "Nu" (".slb" is the older way of naming shared libraries). The CFM68K system is also part of OpenDoc (see the "Groups" chapter) and is needed by the various OpenDoc "parts." The "QuickTime," "ColorSync" and "Threads" libraries are also installed by the LaserWriter 8.4.x package. CFM68K is not usable on PowerMacs, and not necessary, as the Code Fragment Manager is part of the standard PowerPC operating system code. **NOTE**: Mac OS 8 has a new version of the "CFM-68K Runtime Enabler" (v4.0) built into the System file for 680x0 computers. Under Mac OS 8, the above libraries are rolled into the System software and applications themselves and the separate files are no longer needed. **NOTE**: I have had reports that NuQuickTimeLib.slb (v2.0.1) conflicts with the LaserMerge (v2.0.1f) package. **NOTE**: you may notice that even though these files are used by 680x0 machines and CFM68K, some of them are named similarly to the shared libraries used by PowerPC machines. Under Mac OS 7.6.1 and earlier, having them in your System Folder won't hurt either set of machines: the 680x0 machines can use them, and PowerPC machines will ignore them. Under Mac OS 8 and later, they are rolled into the System file on both sets of machines, so you can get rid of them.

• ObjectSupportLib (v1.2): provides services to allow applications to send, receive and exchange Apple Events that conform to the "object model" as well as implementing the Open Scripting Architecture (OSA) object model. For example, how to refer to a word of a paragraph of a document. Under OS 7.6 and earlier, ObjectSupportLib (OSL) was installed only as a PowerPC library. However, under OS 7.6.1, to provide support for the 680x0 Code Fragment Manager, OSL was a "fat" library. **For Mac OS 8 users:** This file is no longer needed under Mac OS 8, as a newer version (v1.2.1) has been incorporated into the System file. If you have **any** version of this file in your Extensions folder, you should get rid of it. Since it is now built into the System file, many application installers think it isn't present and install another copy. Having more than one copy (including the copy in the System file) can cause various problems, including frequent Finder crashes. The System is supposed to check for older versions and disable them, but it does not appear to do this consistently, so the best bet is to throw them away yourself. **For users of Mac OS 7.6.1 and earlier:** There are a number of versions of this library floating around, but the "best" version, and the only "new" one officially supported by Apple, is version 1.2. Quite a few applications seem to install variations of ObjectSupportLib with different version numbers. You should get rid of all other versions and download version 1.2 from Apple's support sites, as having multiple copies of ObjectSupportLib installed can cause problems such as constant Finder restarts and hangs. Version 1.2 fixes four problems, according to its documentation: [1] An application works as usual but stops being scriptable. [2] An application refuses to load, saying that some resource is unavailable. [3] Some time after loading or unloading an application, the system 'freezes' or 'crashes'. [4] An application fails to find some file or resource (e.g. its preferences file). **NOTE**: there is a conflict between OSL v1.2 and Strata Studio Pro that forces you to use v1.1.8 with at least 48 MB of real RAM. **NOTE**: Avid Cinema conflicts with some earlier versions of OSL, causing

most of the menus to be inaccessible. **NOTE**: if you attempt to run America OnLine v3.0 on a 680x0 Mac under Mac OS 7.6.1 or earlier without ObjectSupportLib installed, you may get an error that the "InterfaceLib" is missing.

• OEMCLib (v8.5.1): installed by Adobe's PDF Writer and PS Printer v8.5.1 for additional support of the postscript printer drivers.

• PowerMgrLib (v1.0): part of the Macintosh Program. Workshop. If you're not a programmer doing development and debugging, you probably don't need this file.

• PrintingLib (v8.5.1): provides shared libraries needed by the LaserWriter 8.4.x and 8.5.x software and Adobe's PS Printer 8.5.1. Contains libraries which provide support for QuickDraw to PostScript conversion, PPD parsing, and other specialized functions. Needed on both 680x0 Macs and PowerMacs.

• QuickTimeLib: actually not a separate file, but a shared library which is incorporated into the QuickTime PowerPlug extension. On a PowerMac, some applications, such as Graphic Converter, will display an error such as "Can't find QuickTimeLib" if QuickTime PowerPlug is not installed.

• Serial (Built-in) (v1.2.2/v1.3.3): configures the serial ports/allows the serial ports to be used by communications programs and Open Transport. Installed by the GeoPort/Express Modem software on 5400/ 5500/ 6400/ 6360/ 6500/ 20th Anniversary series computers using the GeoPort Telecom Adapter. **NOTE**: if you have a Mac with an internal GeoPort modem card (Macs such as the PowerMac 5500 and 6500, and the 20th Anniversary Macintosh with internal modems), and are running Mac OS 7.6.1 or later, the Serial (Built-in) file must be loaded at startup. If it is not, your computer may freeze at startup.

• SoundLib (v3.2): actually not a separate file unless you are a software developer. A "dummy" shared library which tells PowerPC-native applications where the actual library files are located within the Sound Manager extension (3.1 or later). Developers can use this feature to check the sound support in their applications as they are writing them. Some applications, such as Sparkle 2.4.5, will display an alert like "Can't find SoundLib" if the Sound Manager extension is not installed.

• SpeechLib: not an actual file, but a library of speech routines which is incorporated into one of the Speech extensions (see the entry for "Speech/PlainTalk" in the "Groups" section). Some applications will display an alert such as "Can't find SpeechLib" if the Speech extensions are not installed.

• Text Encoding Converter (v1.2/v1.3): a shared library which provides support for converting text between character encoding standards, including the Mac OS, Windows, ISO-8869, EUC, and Unicode 2.0. The most common use of this functionality is when Internet applications need to handle text (such as Windows Latin-1) which is not encoded in a standard Mac text format (Mac OS Roman, for example). Requires the "Text Encodings" folder in the System Folder, which contains modules for different encoding standards. To use this library and its features on 680x0 computers, you need the CFM-68K Runtime Enabler system. **NOTE**: under Mac OS 8.1 and later, this file is **absolutely necessary** if your drives are formatted with HFS Plus; one symptom that it is not installed properly is that on an HFS Plus drive, aliases can no longer find their originals. **NOTE**: Supposedly conflicts with the Java functionality of Internet Explorer 3.0.1. **NOTE**: the following files are "dummy libraries" used by developers of TEC-aware applications; they are not needed and should be discarded as their functionality is actually contained in the Text Encoding Converter library:
   o TextCommon.68K
   o TextEncodingConverter.68K
   o UnicodeConverter.68K
   o TextCommon
   o TextEncodingConverter
   o UnicodeConverter

• ThreadsLib (v2.1.2): Provides native Thread Manager support for PowerPC-native applications (cooperative threads only). Provides additional information for developers on PowerMacs. Incorporated into the System or System Update 7.5.2 under System 7.5.3.

• Video Digitizer Update (v1.1): Video Digitizer Component which supports the YUV protocol on older Macs with the built-in AV board.

• XTND Power Enabler (v1.0b6): a Power Macintosh shared library system extension enabling native Power Macintosh applications to call the Claris XTND System (the XTND System is designed to allow Claris applications to open files created in other applications). Only the interface library has become native, the remaining parts of XTND, like Claris XTND System remain the same 68K code. **NOTE**: removing XTND Power Enabler will supposedly cause the PowerMac version of MacWrite Pro to crash whenever you attempt to save a document.

DOCUMENTS

Similar to Shared Libraries, these are used by the Shared Library Managers, and are not loaded into system RAM at startup:

• PowerBook ZoomedVideo (v1.1/v1.2): document which provides support for ZoomedVideo PC cards on PowerBook computers. **NOTE**: at the time of this writing, the only PowerBooks which supported ZoomedVideo were the 2400, 3400 and G3 series.

• Serial Extension (v2.3): installed by the QuickTake package to enable the serial port to be used by the QuickTake camera. Also installed by the Apple GeoPort/Express modem software on the PowerMac 6100/7100/8100 series.

• SNMP Macintosh Agent, SNMP MacTCP Agent, SNMP Manager, SNMP TCP/IP Transport (all v1.0.2): these files, along with the MacSNMP Client, were installed for SNMP support by the MacTCP 2.0.2 Installer. They are no longer needed if you have the latest version of MacTCP (2.0.6). Supposedly not needed under Open Transport.

• StdCLibInit: there is a version of the StdCLib shared library contained in the ROMs of all PowerMacs. In addition, the System software itself often contains updated versions of the library. However, some applications installers, such as CodeWarrior, the Dayna CommuniCard software, and some USR modem software, install an extension which supposedly provides updates to the library. For example, this file is supposedly necessary in order to run the PPC-native version of MPW (Macintosh Programmer's Workshop). The file is actually more than just updates: it is a full replacement library with a small INIT code resource to install the replacement library (the INIT code is needed because of a combination of a bug in the PowerMac ROM-based Code Fragment Manager (CFM) and the fact that the ROM/System already contain a previous update to the basic StdCLib library--the update library is incompatible with the replacement library and CFM gets very confused when it tries to apply the update to the replacement library in StdCLibInit). Most versions of this extension are actually no longer necessary under OS 7.6.1 and later, as the version incorporated into the System contains all of the updates. If you have this file installed, you will see a red "X" through the icon at startup. The same thing will happen under OS 8, since it also has the newest version of the file (v3.4.4) incorporated in the System file.

COMPONENTS

These are used by other apps/INITs. They are loaded at startup, but most don't take up system RAM until they are called upon (the exception being the Foreign File Access Files; see the Foreign File Access entry in the "Extensions" section for details). They must either be in the Extensions folder (if placed there by their installer) or in the same folder as the application that uses them:

• Apple Photo Access (v2.1): necessary only for KODAK PhotoCD access. Needs the Foreign File Access extension in order to function.

• Audio CD Access (v5.2): necessary to listen to audio CD's in your Mac's CD-ROM drive. Needs the Foreign File Access extension in order to function. NOTE: The Audio CD Access extension can prevent you from viewing the video portion of MPEG movies which are stored in the Video CD format. If you are having trouble with MPEG video on VideoCD discs, remove the Audio CD Access extension and restart.

• AV Setup (v1.0): under 7.5.2, allowed the Sound & Displays control panel to talk to the Mac's hardware; also allowed control of the AppleVision displays. However, Sound & Displays has been replaced by Monitors & Sound which no longer needs this file.

• High Sierra File Access (v5.2): for CD-ROM's encoded in the High Sierra language (fairly rare nowadays). Needs the Foreign File Access extension in order to function.

• Internet Config Extension (v1.2): used by certain Internet applications, such as Anarchie and Claris Em@iler; allows you to use standard preferences across all compatible applications. See documentation for details.

• ISO 9660 File Access (v5.2): for CD-ROM's encoded in the non-HFS ISO 9660 standard (again, rare for the average user). Needs the Foreign File Access extension in order to function.

• KODAK files: installed by some graphics programs (Photoshop, etc.).

• MacinTalk 2/3/Pro (v1.4): part of the Speech installation, allows the computer to read text in human voices (2 and 3 require Speech Manager and the "MacinTalk 2/3 Voices" files; Pro requires Speech Manager and the "Voices" folder in the System Folder with voice files installed); . Pro is for 68040 and PowerPC Macs; 3 is for 68030, 68040, and PowerPC Macs; 2 is for 68020 Macs and Macs running pre-System 7 system software. For more information on Speech, see the "Groups" chapter.

• SoundSprocket Filter (v1.0): when used with games that incorporate the "SoundSprocket" Game Sprocket, this file acts as an effects filter used to produce 3D audio (see "Game Sprockets" under "Shared Libraries").

• SystemAV (v1.2/v1.3.3): provides components for the A/V capabilities of your Macintosh. Allows the Monitors & Sounds (and the older Sound & Displays) control panel to talk to the Mac's hardware; also used for audio-video input on the PCI Macs. Note: if you get an error message when you try to open the Monitors & Sound control panel saying that the "System AV" extension needs to be installed, and it already **is** installed, the reason may be that there is not enough memory available to load the extension. You can make more memory available at startup by turning off unneeded extensions and control panels, or by turning virtual memory on in the Memory control panel.

Non-RAM INITs

(Communications Tools, Chooser Extensions & Modem Files)

These "INITs" (communications tools and chooser extensions) do not take up RAM at startup; they are used by other extensions and applications whenever they are needed. When loaded, they do take up RAM. What this means is that removing them may not take away functionality directly, but instead may prevent something else from working later. Be sure that you don't need them before you remove them. NOTE: some other non-RAM files are included in the "Groups" section because they are used directly by one or more of those groups.

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COMMUNICATIONS TOOLS

Communications Tools work with the Mac's built-in "Communications Toolbox." They are used by communications applications for various connectivity. They don't take up system RAM, and apart from the clutter factor, there is no reason to get rid of them, as they do not affect your System software in any way.

• Apple ADSP Tool (v1.0.1): enables ADSP (Apple Data Streaming Protocol) connections under pre-7.0 systems. Allows Comm Toolbox connections over an AppleTalk network. Allows ADSP data transfer (including game playing) over a remote network. Installed by the Newton software to allow ADSP transfers between the Mac and Newton. Needed for Macs that run ResNova server software. Built into the system since System 7.1, but some older applications don't recognize the built-in version, and require that the actual extension be installed (for example, some Newton connection utilities and older versions of ClarisWorks). In order for the benefits to be realized, both Macs must be running this extension.

• Apple ISDN Telephone Tool (v1.0.2): for use with the Apple ISDN NuBus Card. This version is part of the Telephone Manager 1.1.1 update.

• Apple Modem Tool (v1.5.6): supports 115.2K and 230.4K connections on those Macs that support SerialDMA (for SerialDMA information, see the SerialDMA entry in the "Extensions" chapter). Supposedly has most of the functionality of the Serial Tool (below) plus the ability to more extensively control a modem. Applications which call the Communications Toolbox can take advantage of these

capabilities: setting the dialing properties (phone number, redial), specifying the number of rings after which it will answer, specifying modem configuration information (modem type, error correction), specifying the same kind of port information as the serial tool except that it supports 11 fewer baud rates and two additional, faster, baud rates.

• AppleTalk-DECnet Tool (v1.1): used to communicate with servers running the VMS operating system from Digital (also known as VAX/VMS, Alpha/VMS, or DEC VMS/UNIX). DECnet is a network protocol used by VMS to copy files, establish terminal sessions, etc. with VMS servers (similar to TCP/IP in the UNIX/Internet world). There are a few rare emulators which use this file. If you are using one of them, you'll know. Most people nowadays use TCP/IP to communicate with these machines.

• AppleTalk-LAT Tool: used to communicate with servers running the VMS operating system from Digital (also known as VAX/VMS, Alpha/VMS, or DEC VMS/UNIX). LAT (Local Area Transport) is a non-routed network protocol used by VMS. Allows an Mac running AppleTalk to communicate to an AppleTalk-LAT gateway server. It is used only to establish terminal sessions with VMS servers. There are a few rare emulators which use this file. If you are using one of them, you'll know. Most people nowadays use TCP/IP to communicate with these machines.

• Claris Kermit Tool (v1.0v1): necessary for Kermit file transfers under the ClarisWorks terminal program.

• CRC TelePort TelTool: allows you to use the MegaPhone software with an internal Global Village Teleport Platinum modem.

• DAL: an extension from System 7.0.1 that allows you to access databases on UNIX platforms that support the DAL (Data Access Language) protocol. Chances are, unless you have a DAL server ($4000 or more) and know how to set it up, you'll never need this extension. This extension was originally developed/ owned by Apple, but was later sold to another company.

• Express Modem Tool: allows communications over the Apple Express Modem.

• Kermit WRQ: tool for Kermit file transfers installed by terminal emulation software from Walker, Richer & Quinn.

• LAT Tool (v1.3.2): communications tool which provides driver support for the LAT system (see the "LAT" entry in the "Third-Party Control Panels" section).

• MacPAD: allows AppleTalk access to MacX25 servers using the X25 protocol (PAD technically stands for "Packet Assembler-Disassembler"). It serves no useful function unless it is actually selected as a comm tool from with a communications program. So unless you are actually using it for a network connection, you can get rid of it. How does it get installed? Probably by Claris Emailer. Why? AppleLink is run over X25. In order to retrieve mail over AppleLink, Emailer users at Apple's main campus must use the MacPAD tool to allow Emailer to connect to AppleLink. Although most users at Apple should already have the MacPAD tool installed, it is included in the Emailer installation to ensure that all Emailer users at Apple would have it. Unfortunately, lots of non-Apple people also get it.

• MacTCP Tool: part of the MacX system. Provides TCP support for computers running MacX.

• Serial Tool (v1.0.2): the main Communications Toolbox "tool." It provides low-level serial connectivity via the System's Communications Toolbox over the serial ports (i.e. modem and printer ports). Allows applications to open a path to a serial port. More technically, it provides asynchronous serial connection services to Communications Toolbox-aware applications. The Serial Tool also provides support for any applications which use the serial port, such as the Visioneer PaperPort software, and specialized hardware/software packages which access the serial port. However, the

Serial Tool does not provide any device or protocol-specific support. For this additional support, other Communications Tools are necessary. For example, the Apple Modem Tool provides modem support and modem commands, but does not provide the actual serial connectivity. If the Serial Tool is used by itself with a modem, it forces you to (or allows you to, depending upon your point of view) issue your own AT commands rather than having the application issue them for you. When the Apple Modem Tool is used **together** with the Serial Tool, communications programs can more effectively communicate with modems and can issue commands. As with the Apple Modem Tool, other Communications Tools (the XMODEM Tool, Claris Kermit Tool, Text Tool, etc.) work with the Serial Tool to communicate via the serial ports. Many "terminal" applications and Internet connectivity applications use combinations of these tools to communicate with your modem. Serial Tool is also used by PowerTalk allow the PowerTalk software to make a modem connection automatically. **NOTE**: despite the functionality provided by the Serial Tool, many third-party applications decline to use the Communications Toolbox and incorporate their own serial port support.

• Serial Tool WRQ: Serial Tool installed by terminal emulation software from Walker, Richer & Quinn.

• TCPack for AOL / TCPack for SalesAgent / TCPack for eWorld / TCPack for Compuserve: allow you to access these services over a direct TCP/IP connection, instead of having to directly dial into them.

• Text Tool (v1.0.1): allows direct, uncorrected file transfers. Used to send files directly as text. Nearly obsolete.

• TTY Tool (v1.0.1): provides support for a teletypewriter-emulation connection. Also provides an alternative to ANSI and VT-120 protocols when connecting to a BBS or for direct modem-to-modem connections.

• VT 102 Tool (v1.0.2): presumably allows your Mac, using compatible telecom software, to emulate a VT102 terminal.

• XMODEM Tool (v1.1): provides support for transferring files using the XMODEM protocol.

• XMODEM WRQ: XMODEM Tool installed by terminal emulation software from Walker, Richer & Quinn.

• ZMODEM Tool: provides support for transferring files using the ZMODEM protocol.

• ZMODEM WRQ: ZMODEM Tool installed by terminal emulation software from Walker, Richer & Quinn.

CHOOSER EXTENSIONS

These are extensions which allow access/connection to various types of networks, services, printers, etc. using the Chooser. If you have them installed, they do not take up any RAM or "load" in the traditional sense. As with communications tools above, there is little reason to get rid of them, as they do not affect your System software in any way. However, some people don't like having unneeded chooser extensions installed since it "clutters" the Chooser with drivers and choices that aren't needed or used.

• PD Printers (v4.8.2): chooser extension used to select printers via the PortDoubler hardware/ software package, which allows you to hook up two printers to a single printer port. This file has a space at the beginning of its name to cause it to load before other Chooser Extensions. Requires the Printer PortDoubler extension.

• AdobePS (v8.5.1): version 8.5.1 of the "PSPrinter" chooser extension (below).

• Apple Color Printer (v1.0): Chooser extension for the Apple Color Printer.

• Apple ColorOne: chooser extension which is required if using the supplied Dispatcher application software to scan using the Apple ColorOne scanner.

• AppleScan: chooser extension for use with the older Apple One Scanner and other third-party scanners which use the same drivers. Supposedly requires the "Scanner" extension. **NOTE**: some older versions of this chooser extension will not allow you to scan with virtual memory turned on. You should make sure you have the most recent version from Apple's ftp servers.

• AppleTalk ImageWriter (v7.0.1): Chooser extension for ImageWriter II dot matrix printer. This is the extension required for using the ImageWriter II as an AppleTalk printer. For serial printing, you must use the "ImageWriter" or "ImageWriter GX" extensions (below).

• CG Maker 1.1.2: a chooser extension which allows you to prepare a "Common Ground" document for distribution. Similar to the Adobe PDF Writer (below).

• Color SW 1500 (v2.2.1): Chooser extension for the StyleWriter, StyleWriter II, StyleWriter 1200 and Color StyleWriter 1500.

• Color SW 1500 GX (v1.0.2): QuickDraw GX Chooser extension for the StyleWriter, StyleWriter II, StyleWriter 1200 and Color StyleWriter 1500. **NOTE**: GX printing is not supported under OS 8 and later.

• Color StyleWriter 2200 (v2.1.1): Chooser extension for the Color StyleWriter 2200. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 2500" extension (below) for the Color StyleWriter 2200.

• Color StyleWriter 2200 GX: QuickDraw GX Chooser extension for the Color StyleWriter 2200. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 2500 GX" extension (below) for GX printing with the Color StyleWriter 2200. **NOTE**: GX printing is not supported under OS 8 and later.

• Color SW 2400 (v2.1.1): Chooser extension for the Color StyleWriter 2400. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 2500" extension (below) for the Color StyleWriter 2200.

• Color SW 2400 GX: QuickDraw GX Chooser extension for the Color StyleWriter 2400. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 2500 GX" extension (below) for GX printing with the Color StyleWriter 2200. **NOTE**: GX printing is not supported under OS 8 and later.

• Color SW 2500 (v2.2.1): Chooser extension for the Color StyleWriter 2200, Color StyleWriter 2400 and Color StyleWriter 2500.

• Color SW 2500 GX (1.0.2): QuickDraw Chooser extension for the Color StyleWriter 2200, Color StyleWriter 2400 and Color StyleWriter 2500. **NOTE**: GX printing is not supported under OS 8 and later.

• Color StyleWriter Pro (v1.5.2): Chooser extension for the Color StyleWriter Pro.

• Color StyleWriter Pro GX (v1.0): QuickDraw GX Chooser extension for the Color StyleWriter Pro. **NOTE**: GX printing is not supported under OS 8 and later.

• Color StyleWriter 6000 (v3.1.1): Chooser extension for the Color StyleWriter 6000.

• CSW 4000 Series (v1.1): Chooser extension for the Color StyleWriter 4100 and Color StyleWriter 4500. This version of the extension is intended for using the CSW 4100 or 4500 as a serial printer. For AppleTalk printing, you must use the "CSW 4000 Series (AT)" extension (below).

• CSW 4000 Series (AT) (v1.0.3): Chooser extension for the Color StyleWriter 4100 and Color StyleWriter 4500. This version of the extension is intended for using the CSW 4100 or 4500 via AppleTalk. For serial printing, you must use the "CSW 4000 Series" extension (above).

• eDOC Creator 2.0: part of the eDOC electronic document package. Chooser extension which allows you to "print" a document as an eDOC application file, rather than actually printing to a printer.

• Epson drivers: there are various Chooser extensions for the various Epson inkjet printers. **NOTE**: there is a possible bug between the Apple Menu Items control panel and Epson printer drivers. If at startup the Epson driver finds that the previously selected port (printer or modem) is not available, it will attempt to display an alert message. Sometimes, Apple Menu Options will not allow this message to display properly, and the computer will freeze. If you have this problem, you may want to consider using one of the several third-party utilities for providing a hierarchical Apple Menu.

• Epson Stylus 800: used for printing to the Epson Stylus 800 printer. **NOTE**: when "chosen," this Chooser extension conflicts with Nisus Writer and will cause a crash whenever a cut, copy, or paste command is executed. One workaround is to select a different printer driver in the Chooser until you are ready to print.

• Fax Sender: a chooser extension which allows faxing from within applications using the GeoPort modem.

• Fax Sender GX: a QuickDraw GX chooser extension which allows faxing from within applications using the GeoPort modem. **NOTE**: GX printing is not supported under OS 8 and later.

• FaxAction Printer (v1.0): chooser extension installed by the Megahertz CruiseCard modem software to provide the ability to fax directly from any application via the "File" menu.

• Genigraphics: a chooser extension which allows you to prepare files for Genigraphics service bureaus. Genigraphics is a computer graphics system which started in the late 70's. They have service bureaus which will take your Genigraphics files and convert them to professional quality prints and slides. However, in many industries, PostScript files have taken over as the dominant file format. This file is installed by Microsoft PowerPoint and Office, as well as by Astound 2.0.

• GlobalFax: if this driver is chosen in the Chooser, the "Print" command in applications will be replaced by a "Fax" command. If you would like to do occasional faxing, hold down the Option key as you select the "File" menu, and the "Print" command will temporarily change to "Fax."

• GlobalFax GX: The QuickDraw GX driver for direct faxing. If this driver is chosen in the Chooser, the "Print" command in applications will be replaced by a "Fax" command. If you would like to do occasional faxing, hold down the Option key as you select the "File" menu, and the "Print" command will temporarily change to "Fax." **NOTE**: GX printing is not supported under OS 8 and later.

• ImageSaverIll: chooser extension installed by Delrina Fax PRO which allows the File: Print command to send a fax message.

• ImageWriter (v7.0.1): Chooser extension for the ImageWriter and ImageWriter II dot matrix printers. This extension is used for serial printing; for AppleTalk printing with the ImageWriter II, you

must use the "AppleTalk ImageWriter" extension (above).

• ImageWriter GX (v1.1.1): QuickDraw GX Chooser extension for the ImageWriter and ImageWriter II dot matrix printers. This extension is used for serial printing; for AppleTalk printing with the ImageWriter II, you must use the "AppleTalk ImageWriter" extension (above). **NOTE**: GX printing is not supported under OS 8 and later.

• ImageWriter LQ GX (v1.1.1): QuickDraw GX Chooser extension for the ImageWriter LQ. This extension is used for serial printing; for AppleTalk printing with the ImageWriter LQ, you must use the "LQ AppleTalk ImageWriter" extension (below). **NOTE**: GX printing is not supported under OS 8 and later.

• LaserWriter 300/LS (v1.2): Chooser extension for use with the Personal LaserWriter 300, Personal LaserWriter LS, and the LaserWriter Select 300.

• LaserWriter 300/LS GX (v1.1.1): QuickDraw GX Chooser extension for use with the Personal LaserWriter 300, Personal LaserWriter LS, and the LaserWriter Select 300. **NOTE**: GX printing is not supported under OS 8 and later.

• LaserWriter 8 (v8.5.1): Chooser extension for the Personal LaserWriter NT, Personal LaserWriter NTR, LaserWriter, LaserWriter Plus, LaserWriterIINT, LaserWriterIINTX, LaserWriterIIf, LaserWriter IIg, LaserWriter Select 360, LaserWriter Pro 600, LaserWriter Pro 630, LaserWriter Pro 810, LaserWriter 4/600 PS, LaserWriter 16/600 PS, LaserWriter 12/640 PS, LaserWriter 8500, Color LaserWriter 12/600 and Color LaserWriter 12/660. Version 8.5.1 is a full installation of the newest LaserWriter 8 package. It is PowerPC native (but works on 680x0 Macs as well), features IP printing, collating multiple copies, single-pass printing, and includes the new Print and Page Setup dialog boxes, introduced in 8.4.3, which work better with desktop printers. The installation also includes the latest version of the Desktop Printing software. **NOTE**: if you have any language kits installed under OS 8, you must read the LaserWriter 8.5.1 notes before installing v8.5.1 in order to avoid "internal system errors" when using the "Page Setup..." options dialog. **NOTE**: the "Finder Help" extension is required for LaserWriter 8.4 to install properly; if it is not present, the LW 8.4 installer won't run. If you are missing this file, it can be found on Disk 2 of the the LaserWriter 8.4 installation disks. Drag it to the Extensions folder and then run the LW 8.4 installer again. **NOTE**: If you are using Open Transport, in order to print to a LaserWriter you need the Shared Library Manager, Shared Library Manager PPC (if you are on a PowerMac), and the appropriate Open Transport and Open Transport AppleTalk files for your machine (see "Shared Libraries" and "Documents" above). **NOTE**: the 8.4.x package installs a number of shared library files in your Extensions folder, one of which is the CFM-68K Runtime Enabler. Be sure to read the description of this file in the "Extensions" chapter. **NOTE**: Version 8.4.3 or later is recommended for anyone using System 7.5.3 or later and/or anyone with a PCI-based PowerMac. **NOTE**: version 8.4.3 or later is required for compatibility with Windows NT 4.0 servers in a mixed PC/Mac environment.

• LaserWriter GX (v1.1.2): QuickDraw GX Chooser extension for use with all printers supported by the LaserWriter 8 driver, except the LaserWriter 12/640 and the LaserWriter 8500. Also supports the LaserWriter Select 310, which is not supported by LaserWriter 8. **NOTE**: GX printing is not supported under OS 8 and later.

• LaserWriter IISC GX (v1.1.1): QuickDraw GX Chooser extension for use with the Personal LaserWriter SC and the LaserWriter IISC. **NOTE**: GX printing is not supported under OS 8 and later.

• LaserWriter Select 300 (v1.2): Chooser extension for the LaserWriter Select 300.

• LaserWriter Select 310 (v7.0.1): Chooser extension for the LaserWriter Select 310.

• LQ AppleTalk ImageWriter (v7.0.1): Chooser extension for the ImageWriter LQ. This extension is used for AppleTalk printing; for serial printing with the ImageWriter LQ, you must use the "LQ ImageWriter" extension (below) or the "ImageWriter LQ GX" extension (above).

• LQ ImageWriter (v7.0.1): Chooser extension for the ImageWriter LQ. This extension is used for serial printing; for AppleTalk printing with the ImageWriter LQ, you must use the "LQ AppleTalk ImageWriter" extension (above).

• HP Accupage (1.08): a chooser extension used by the Hewlett-Packard ScanJet 4C.

• HP LaserJet (8.2.1): a chooser extension used with HP laser printers.

• MacX25 2-1.3: allows you to connect to a MacX25 server.

• PaperPort Writer (v3.5.1): allows you to "print" documents as PaperPort Viewer files, which can then be viewed by anyone with the PaperPort Viewer application.

• PDD Maker GX: a GX chooser extension which allows you to create a PDD file when printing from applications. **NOTE**: GX printing is not supported under OS 8 and later.

• PDF Writer: a chooser extension which you can select to "print" (save) documents in the Adobe ".pdf" format (Portable Document Format) using the print dialog. The file can then be sent/copied etc. in a form readable by the Acrobat Reader (freeware) on anyone's machine, no matter what application created it. (Holding down the control key when selecting "Print..." from the file menu is the usual temporary shortcut, instead of using the Chooser). This is installed by PageMaker, Acrobat, and other Adobe products, and requires Adobe Type Manager.

• Personal LaserWriter SC (v7.0.1): Chooser extensions for the Personal LaserWriter SC and the LaserWriter IISC.

• Portable StyleWriter (v1.0.1): Chooser extension for the Portable StyleWriter.

• Print2Pict: shareware Chooser extension which prints web pages to a PICT file for later viewing.

• PSPrinter (8.3.1): a chooser extension, originally developed by Adobe, used by some third-party postscript laser printers, such as the Texas Instruments line of printers. Also supports Apple-branded printers. In addition to the standard laser printer features, it also provides "virtual printer" support, allowing you to print to a PS file without having a printer connected.

• Replica Creator: installed by Replica Viewer, an application which creates stand-alone documents. By choosing Replica Creator in the Chooser, you can create Replica documents by "printing." If you have recently used or installed the Replica Viewer and are having trouble printing, check to make sure the Chooser hasn't been set to Replica Creator.

• StyleWriter 1200 (v2.1.1): Chooser extension for the StyleWriter 1200. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 1500" extension (above) for the StyleWriter 1200.

• StyleWriter II: Chooser extension for use with the StyleWriter II. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 1500" extension (above) for the StyleWriter II.

• StyleWriter GX (v1.1.1): QuickDraw GX Chooser extension for use with the StyleWriter and StyleWriter II printers. **NOTE**: Apple currently recommends that you use the "Color StyleWriter 1500 GX" extension (above) for GX printing with the StyleWriter and StyleWriter printers. **NOTE**: GX printing is not supported under OS 8 and later.

MODEM FILES

These are documents installed by various telecom applications/devices which are used to allow connections over various modems.

• Modem LinkTool Personal documents: these files are used to connect over ARA using various modems. They do not show up in any startup manager utilities. However, they are stored in your "Extensions" folder and have a telephone handset on their icon. If you "Get Info" on one of these files, the "Kind" will be listed as "Modem LinkTool Personal document." When you use the "Remote Access Setup" control panel, the pull-down "Modem" menu will list these files and allow you to choose the modem you are using. For the most part, you can remove any of these that do not correspond to a modem you are using (or might use!).

Groups
(Apple - CyberDog)

The following items are listed in groups because the are only used together. Chances are that if you aren't using one, you aren't using any, so you can disable them all. However, make sure you read the description of each item carefully, because some items are installed by, and may be needed by, more that just the group under which they are listed. I have tried to note whether each item is an extension, control panel, shared library, etc. by noting the type after the item's name. For more detail on what shared libraries, documents, etc. are, see the "Non-RAM" chapter.

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The following "Groups" are summarized in this chapter:

Apple Data Detectors
Apple Guide
Apple Remote Access
Apple Displays Software/AppleVision
At Ease
CoolTalk
Cyberdog

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APPLE DATA DETECTORS

Since it is difficult to describe exactly what the Apple Data Detectors (ADD) system does, here is a quote directly from the *Apple Data Detectors User Guide*: "Apple Data Detectors is a new technology that enables your computer to recognize and then act on certain types of information, or *data*, in your documents. For example, if you have a word processing document that contains several e-mail addresses, Apple Data Detectors can quickly scan the document, identify all the addresses, and then open a new e-mail message addressed to the one you select." ADD will do similar things with World Wide Web URLs, ftp addresses, and other types of Internet-related addresses. In addition to the Internet Data Detectors, newer Data Detectors which have recently been released include ones which scan text for currency and for geographic locations. **NOTE**: Apple Data Detectors requires Mac OS 7.6 or later and a PowerPC processor. **NOTE**: apparently the Contextual Menu Manager, which ADD uses to send commands via Contextual Menus, turns itself off if you are not using a standard keyboard layout. Thus people using custom keyboard layouts, such as a Dvorak keyboard layout, cannot use contextual menus properly. Since ADD uses contextual menus, this also means that ADD will not work properly.

The following startup files are installed by Apple Data Detectors; several are also installed by Mac OS 8/8.1, so don't get rid of them all if you get rid of Apple Data Detectors:

• Apple Data Detectors Extension (extension): see entry in the Extensions section.
• Apple Data Detectors (control panel): allows you to choose which Data Detectors are active, and what actions you can perform with each Detector.
• Contextual Menu Extension (extension): see entry in the Extensions section. Also installed by Mac OS 8/8.1.
• Contextual Menu Enabler (extension): see entry in the Extensions section.
• SOMobjects™ for Mac OS (extension): see entry under "OpenDoc" in this section. Also installed by Mac OS 8/8.1.
• Text Encoding Converter (extension): see entry in the Extensions section. Also installed by Mac OS 8/8.1.

In addition, Apple Data Detectors installs the "ADD for Contextual Menus" contextual menu plug-in.

APPLE GUIDE

Apple Guide is the "help" system first implemented under System 7.5. Only the Apple Guide extension takes up system RAM; the individual modules, called "mixins," are documents used by the extension. In order to use Apple Guide, you need the Apple Guide extension installed, as well as the mixins for the particular applications or actions you wish to use the Apple Guide with. For those of you who just want to keep things neat by reducing the number of stray files on your hard drive, you can remove the mixins which you never use. **NOTE**: the more "Additions" files you have installed in the extensions folder (see below), the longer it will take Apple Guide to launch. **NOTE**: there is a known bug in Apple Guide. If you are having trouble with Apple Guide functioning properly, make sure you don't have mixins installed for items that are not on your computer. Some examples of this: having the "PowerBook Guide Additions" on a desktop Mac; "Speech Guide Additions" on a Mac not running PlainTalk; AV-related mixins on a non-AV Mac. To solve the problem, just remove the offending mixins. (Thanks to Bob LeVitus and Chris Breen for this tip.) **NOTE**: under newer versions of Apple Guide, some Apple Guide mixins are located inside the Extensions folder in a folder called "Global Guide Files." This folder holds mixins which are used by Finder- and System-related applications and utilities. The same caveats apply to these mixins. **NOTE**: according to Apple information, Apple Guide requires the AppleScript extension to function properly, although I have not confirmed this. **NOTE**: having AppleGuide installed will slow down your computer slightly.

• Apple Guide (extension) (v2.1.1/v2.2.1) [20/64]: provides an interactive help system for the Mac's system software and "Apple Guide-Savvy" applications. When installed, you can access the Apple Guide system from the Apple Guide menu at the upper right of the screen (the ? next to the Finder's application menu). Version 2.1 is the latest general release. Version 2.1.1 is part of the Apple Telecom 3.1 package.
• Apple Guide Debug (v2.1.1): used by developers in designing Apple Guide modules.
• Apple Guide Enabler (also known as "7.0/7.1 Apple Guide Enabler"): on pre-System 7.5 systems, this file is needed for Apple Guide to function. In addition, AppleScript is also required on these systems. **NOTE**: if this file is installed, you should disable the "Dragging Enabler" extension.
• Apple Guide Glue (v2.1.1): tool used by developers for debugging Apple Guide modules.
• AppleGuideGlu.PPC: see "Apple Guide Glue" above. A shared library used only on PowerPC machines.
• AppleGuideGlueLib.68K: see "Apple Guide Glue" above. A shared library used only on 680x0 machines.
• AppleGuideGlueLib.PPC: see "Apple Guide Glue" above. A shared library used only on PowerPC

machines.

MIXINS:

• 7200 & 9500 Guide Additions (v n/a): info specific to the PM 7200 & 9500
• 7500 & 8500 Guide Additions (v1.0): info specific to the PM 7500 & 8500
• 9500 Guide Additions: info specific to the PM 9500
• AV Monitors Guide
• About Apple Guide (v1.3): help for the help system (amusing, I think)
• AppleCD Audio Player Guide
• Apple IR File Exchange Guide
• Apple Location Mgr GA: eliminated under Mac OS 8
• AppleVision Guide Additions (v1.1): eliminated under Mac OS 8
• AV Guide Additions
• AV Monitors Guide (v2.1.2): found in the Global Guide Files folder
• AV Monitors Guide Additions (v1.1)
• DigitalColor Meter Guide (v1.1.2): found in the Global Guide Files folder
• Display Guide Additions (v1.0.1)
• Energy Guide Additions (v1.1.1)
• Energy Saver Guide Additions (v1.2.1)
• Ext Mgr Guide Additions (v1.0): eliminated under Mac OS 8
• IR File Exchange Guide (v1.1): help on Infrared networking on newer PowerBooks
• Keyboard Guide Additions (v1.4)
• Macintosh Guide (v1.3.2): the general help file for the Finder
• Mac OS Guide: same as above, but with the name modified to reflect the fact that the Mac OS is also used by non-Macintosh computers (clones)
• Manual Eject Guide Additions (v1.4)
• Monitors & Sound Guide (v2.2.1): found in the Global Guide Files folder
• Monitors & Sound Guide Additions (v1.0): for the new control panel
• Network Guide Additions (v1.3): info on networking
• Open Transport Guide Additions (v1.4.2): info on Open Transport
• PB 500 Upgrade Guide Additions (v1.3)
• PB 190 Guide Additions (v1.3)
• PB 190 Upgrade Guide Additions
• PB 2300 Guide Additions (v1.3)
• PB 5300 Guide Additions (v1.3)
• PB 2300 Upgrade Guide Additions
• PB 5300 Upgrade Guide Additions
• PowerBook 1400 Guide Additions (v1.3)
• PowerBook Guide Additions (v1.3)
• Shortcuts (v1.4.1): a help file which documents keyboard commands and other shortcuts in the Finder. Eliminated under Mac OS 8
• SimpleText Guide (v1.0.2)
• Sound & Display Guide Additions (v1.0.1): replaced by Monitors & Sound Guide Additions
• Sound/Monitors Guide Additions (1.3): eliminated under Mac OS 8
• Speech Guide Additions (v1.5.2): eliminated under Mac OS 8
• Tutorial Items: used by the Mac's built-in tutorial system
• TV Tuner Guide Additions (v1.4)
• Video Guide Additions
• anything with "guide" in the name is probably an Apple Guide module

You may see Apple Guide modules that come with other applications; unless they are installed in the extensions folder, or you are specifically told to move them to the extensions folder, leave them where they are. Some modules belong in particular places, in which case the application tells the Apple

Guide system where to look.

APPLE REMOTE ACCESS

There are two major recent versions of ARA: v2.1 and v3.0. Listed below are files from both versions, appropriately noted. NOTE: if you are using Open Transport, additional files are installed as part of the ARA package. These files can be found in the Open Transport/PPP group listing, and are shown as version 3.0

NOTE: under OS 8, if you have installed OT/PPP, and subsequently install ARA 2.1, you will have to install OT/PPP again, as ARA 2.1 will replace the newer OT/PPP files with older versions.

NOTE: the standard ARA 3.0 installation will not allow the Global Village Fax software to receive faxes. This is because the Global Village Fax software depends on the Link Tool Manager extension which was part of the ARA 2.1 installation, but is not part of the ARA 3.0 package.

• Apple Remote Access Client (extension) (v2.1) [NA]: enables the Apple Remote Access system. Allows you to connect to a Remote Access server. Not needed under ARA 3.0.
• Dial Assist (application posing as a control panel) (v2.1/v3.0) [NA]: allows you to set options such as your city, country, area code, and dialing prefixes (such as long distance, call waiting disable, etc.) and suffixes (such as a calling card #).
• Link Tools Manager (extension) (v2.1) [NA]: supposedly improves the error correction handled by ARA. A reader provided the following description of this file, and it is the only bit of detailed information I have been able to find on it: it provides registration services for modem CCL scripts, providing a waystation for programs such as Apple Remote Access that use them. Not needed under ARA 3.0.
• Modem Link Tool Personal (extension) (v2.1) [NA]: uses the "Modem LinkTool Personal" documents to allow ARA to work with various modems. Not needed under ARA 3.0.
• Remote Access (control panel) (v3.0) [NA]: under ARA 3.0, replaces both the Remote Access Setup and OT/PPP control panels. Provides a common interface (based on the OT/PPP interface) for accessing both PPP and ARA networks. For some tips on configuring your connections, see the PPP entry under the Open Transport/PPP group.
• Remote Access Aliases (extension) (v2.1) [28/35]: if you create an alias of an ARA-networked volume on your own computer, allows you to later connect to the volume by automatically dialing up the ARA server and logging onto the volume when you double-click on the alias. Not needed under ARA 3.0.
• Remote Access Setup (control panel) (v2.1) [7.5/0]: lets you set up your modem correctly for use with Apple Remote Access. It also allows you to setup Remote Access to answer phone calls if your version of ARA offers that option. Replaced by the Remote Access control panel under ARA 3.0.
• Remote Only (extension) (v2.1/v3.0) [NA]: extension to the Network control panel. Allows you to turn on AppleTalk networking when both the printer port and the modem port on your computer are already in use. Allows you to use AppleTalk over Apple Remote Access without dedicating a serial port to AppleTalk (for example, to use AppleTalk over the modem only when using ARA). If you are unable to print to an AppleTalk printer, you may have chosen this as your network option.
• Serial Port Arbitrator (extension) (v2.1) [NA]: provides ARA with the ability to prevent other applications from using the serial port while ARA is active. Allows more than one application to use the serial port if ARA is configured to answer the phone. Incompatible with Serial DMA before System 7.5.3. Newer version of Serial DMA, which is built into 7.5.3, is compatible. Not needed under ARA 3.0.

APPLE DISPLAYS SOFTWARE/APPLEVISION

AppleVision software was originally intended for the AppleVision line of monitors; Apple Displays Software is the newer name and is intended for most Apple color/multiple-resolution monitors. It provides multi-resolution support, color matching, and convenient changing of user preferences. The latest version (v1.5.5) is supported on 68040 and PowerPC-based computers running System 7.5 or later (AppleVision 1.5.3 or earlier can be used with System 7.1.x). Version 1.5.5 includes the following extensions and control panels. For information on the actual functionality of these files, see their entries in the appropriate chapters. **NOTE**: Not all of these files are AppleVision- exclusive; many of them are also installed by the system software or by other software. **NOTE**: If you install the AppleVision software, and then upgrade your system software, you may need to reinstall AppleVision software. Check the version numbers of the AppleVision software which is installed by the system upgrade to make sure it hasn't installed older versions. **NOTE**: If you are upgrading from an earlier version of the AppleVision software and have custom color settings that you have entered, you must export the settings as "ColorSync" profiles before upgrading. After the upgrade, you can import these settings. If you do not do this, your custom settings will be lost. **NOTE**: if you are running low on memory, when opening the Monitors & Sound control panel you may get a message that the "System AV" extension is not installed. Turning on virtual memory should get rid of the message. **NOTE**: if you previously used the Radius Soft Precision Color extension for multi-resolution support on a Quadra or Centris computer, you no longer need it after installing the Apple Displays Software.

• Display Enabler (extension) (v2.2.2): note that this file has a space at the beginning of its name to force it to load early in the startup process
• 73/75/76/8500 Graphics Driver (Ext) (v 1.4)
• Apple Guide (extension) (v2.1.1)
• ColorSync™ (extension) (v2.1.2)
• ColorSync™ System Profile (control panel) (v2.1)
• Control Strip (control panel) (v1.4.1)
• Energy Saver (control panel) (v1.1): only installed on non-PCI Macs
• Monitors & Sound (control panel) (v1.3.2)
• PANTONE® Color Picker (extension) (v2.0)
• Sound Manager (extension) (v3.2.1)
• SystemAV (extension) (v1.3)
• °AppleVision (extension) (v1.5.5): While the other files above all serve a purpose on non-AppleVision monitors, this file is ONLY needed with an AppleVision display.

AT EASE

At Ease allows you to set up your computer so that users can only use certain applications/ folders/ documents. It also prevents them from accessing and reconfiguring the system. When running At Ease, the Finder is replaced by a simple "launcher"-type interface, which is configurable using the "At Ease Setup" application so that different users (or groups of users) have their own custom setups. **IMPORTANT:** if you are using At Ease 4.0.x on a PowerBook 3400 and the "Password Security" control panel is set to "Prevent users from bypassing security by starting up from a floppy disk," it will corrupt your hard disk driver and your computer will not be able to start up. In addition, you will not be allowed to start up from a floppy, CD or other drive, nor by using SCSI Disk Mode. **DO NOT** use this combination! **NOTE**: there was a bug in pre-4.0.1 versions of At Ease where the System software's Command-Shift-3 or Command-Shift-4 screen shot capability did not work when At Ease

was used with System 7.6.1. This bug was supposedly fixed in At Ease 4.0.1.

• At Ease: this file is actually located in the System Folder. The "At Ease Startup" extension (below) looks for this file at startup, and if it is not present, At Ease is unable to launch.
• At Ease 7.5 Layer Patch (extension): when "Show Desktop when in background" is not checked in the General Controls control panel, the System software "hides" the Finder when another application is in the foreground. At Ease, on the other hand, tries to stay visible in the background when an application is launched. When using version 2.0.3 of At Ease under Systems 7.5 and 7.5.1, and both of these circumstances occur at the same time (using At Ease with the "Show Desktop" box unchecked), the Process Manager in the System software can't decide whether or not to "hide" At Ease and crashes. This patch fixes this problem (but, again, it is only necessary for version 2.0.3 of At Ease when used under Systems 7.5 and 7.5.1).
• At Ease ATA Extension (v1.0): ?
• At Ease Items: this folder, stored in the System Folder, contains all the user info and preference files for At Ease.
• At Ease Startup (extension): extension which causes the computer to startup in At Ease instead of the Finder. Requires that the file "At Ease" (above) be present in the System Folder.
• Control Panel Handler: used by older versions of At Ease (v2.0.3 and earlier) to allow access to control panels when At Ease is enabled. If disabled, you will get an error message that states "this item cannot be opened by at ease." Also necessary to have it installed if you select "Go To Finder" from at ease, and then want to run Apple Menu Items.

AT EASE FOR WORKGROUPS (v4.0.1):
• If you are using At Ease for Workgroups, the "At Ease Items" folder (above) may be named "At Ease Items WG."
• At Ease Server (extension): under At Ease for Workgroups, this extension is located on the At Ease AppleShare server. It allow the server and workstations to communicate with each other without the workstations actually having to log into the server.

COOLTALK

CoolTalk is a real-time audio internet conferencing system developed by Netscape in cooperation with Apple. It offers two-way audio conferencing, an interactive on-screen "white board," text "chat" module, and "answering machine." It works either as a stand-alone product or in conjunction with Netscape. CoolTalk uses Apple's QuickTime Conferencing technology for Mac support. It requires a PowerMac using System 7.5.3 or higher, but you can conference with people using CoolTalk on other platforms (Windows, HP-UX, IRIX, OSF1, Solaris, SunOS). The latest version as of this writing is 1.5. Note that CoolTalk has a possible conflict when the Apple Video Player is running. It also has problems when the extensions for the Avid Cinema Card are installed.

• Video Startup (v1.4.2): this is newer than the latest version installed by Apple's software.
• Voxware (v1.0.2) (document)
• SNMP QTC Agent (shared library) (v1.5): provides SNMP support for QuickTime Conferencing technology.
• QuickTime Conferencing (component) (v1.5)
• QTCComponentDV (component) (v2.0)
• PPP (extension) (v2.5.1): works with the "Config PPP" control panel to allow PPP connections using MacPPP.
• Netscape GSM Codec (component) (v1.0): an audio compressor/decompressor (codec) that enables communication with CoolTalk on other platforms.

• H.261 (component) (v1.0.4): for an explanation of this file, see the entry for it under "QuickTime Conferencing."
• Apple GSM Codec (component) (v1.0)

CYBERDOG

Cyberdog is Apple's all-in-one "component" solution for email, web browsing, Usenet reading, AppleTalk browsing, FTP exchanges, and Telnet sessions. The Cyberdog package installs the following files in the Extensions folder:

• Internet Config (v1.4): see entry in the "Third-Party Extensions" chapter. Note that the newest version is 1.3.
• Text Encoding Converter: see entry under "Shared Libraries" in the "Non-RAM" section.
• VT102 (v1.0.2): see entry in the "Non-RAM" chapter.

Groups
(GeoPort - OT/PPP)

The following items are listed in groups because the are only used together. Chances are that if you aren't using one, you aren't using any, so you can disable them all. However, make sure you read the description of each item carefully, because some items are installed by, and may be needed by, more that just the group under which they are listed. I have tried to note whether each item is an extension, control panel, shared library, etc. by noting the type after the item's name. For more detail on what shared libraries, documents, etc. are, see the "Non-RAM" chapter.

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The following "Groups" are summarized in this chapter:

GeoPort/Express Modem & Apple Telecom Applications
OpenDoc
Open Transport
Open Transport/PPP

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GEOPORT/EXPRESS MODEM & APPLE TELECOM APPLICATIONS

The GeoPort Telecom adapter/modem and the GeoPort software apparently only work on PowerMacs, PowerPC Performas, and the Centris/Quadra AV models, which all have the enhanced GeoPort serial ports. Version 3.0 of the software added support for 33.6 connections. Note: If you are using a GeoPort Telecom Adapter on a Power Macintosh 7200, 7500, 7600, 8500, or 9500 series, Apple's Telecom software will not work if you have any LocalTalk devices connected to your Mac. Simply turning off AppleTalk will not solve the problem; you must physically disconnect any LocalTalk devices. Serial printers can remain attached. I have been told that after updating to Apple Telecom 3.03 this problem no longer occurs, but the problem is still listed in the documentation for Apple Telecom 3.1.

Note that if you install System 7.5.5 Update, and then install Apple Telecom 3.0 or Express Modem 3.0, your Express Modem will not function. You must install the System 7.5.5 Update **again**, since it will update your Express Modem 3.0 file to v3.0.1. If you are using Apple Telecom v3.1, this is not a problem, as the Express Modem software installs version 3.1.

There are actually two "sets" of extensions installed by Apple Telecom 3.x: the GeoPort/ Express Modem software and the Apple Telecom software. They are listed below. If an item is followed by a

configuration, it means that the item is only installed on systems with that configuration. Note that both packages also install other files in your System Folder. You should read the "ReadMe" files which are installed to find out more.

NOTE: Apple officially does not support the Telecom 3.0 software on the PowerBook 3400's internal modem.

GEOPORT/EXPRESS MODEM:

According to the documentation that accompanies the latest Apple Telecom (v3.1) installers, the GeoPort/Express Modem software is only supported on the following system configurations:

   o Original GeoPort Telecom Adapter or GeoPort Telecom Adapter II: Performa 6360, all
      PowerMacs, all PowerPC Performas (except the 5200, 5300, 6200 and non-6360 6300
      models).
   o GeoPort Internal Modem: Performa 6360 and the 5400, 6400 series.
   o Apple PowerBook Duo 14.4 Modem (internal): PowerBook Duo 2300 (including 200-series Duos
      with the PowerPC logic board upgrade).
   o Apple PowerBook Express Modem II Card (internal): PowerBook 500-series with the PowerPC
      processor upgrade.

If you are using the GeoPort Telecom Adapter on a Quadra 660AV/840AV, it seems that you should stick with version 3.0.x.

• AudioTuneUp (extension): fixes a distorted sound problem that occurs when using MegaPhone on some Performas and/or GeoPort modems on PowerPC Macs (only automatically installed on 9500s with System 7.5.2; supposedly helps some other configurations, in which case you have to do a "custom install").
• Apple Telecom Modem (document) (v3.0.3) [NA]: enables the GeoPort pod and serial port.
• Express Modem (control panel) (v3.1.1) [160.5/949]: displays modem status info for the Apple Express Modem and provides settings options. Tricky setting: if you are using a GeoPort modem, you should select "Express Modem" rather than "External Modem" even though the GeoPort is an external modem. Go figure. Well, actually, the GeoPort is an "internal" modem... it uses the Mac's processor as the modem hardware. The "pod" that attaches to the serial port merely converts the analog phone signal to a digital signal that the Mac's processor can understand, and vice versa. Version 3.1.1, part of the 3.1.1 update, provides support for V.34 protocols and speeds up to 33.6 Kbps.
• Express Modem Tool (comm tool) (v3.1) [NA]
• GeoPort for Power Macintosh (shared library) (v3.1) [NA]: GeoPort configurations only. Installed by both the GeoPort modem and the QuickTake camera. Needed on all PowerMacs, including the newer PowerBooks, for the GeoPort modem and/or QuickTake camera to work.
• GeoPort Extension (extension) (v3.0): Installed by Apple Telecom 3.0 for GeoPort/660AV/840AV configurations only. Since v3.1 no longer supports the 660AV and 840AV, this file is not updated.
• GeoPort Serial Driver (shared library) (v2.0) [NA]: GeoPort configurations only. Installed by both this software and the QuickTake camera software. Supports the use of the serial port by the GeoPort modem.
• GeoPort Telecom Adapter (shared library) (v3.1) [NA]: GeoPort configurations only. Enables the DSP in the AV machines and the PPC chip in PowerMac machines to emulate a modem.
• GeoPort Telephone Tool (comm tool) (v3.1) [NA]: GeoPort configurations only. Allows the GeoPort modem to distinguish between voice calls and fax calls. If you don't use your Mac to receive both fax and voice calls, you don't need this file.
• GeoPort/Express Modem: Apple Remote Access CCL/modem script
• GeoPort/Express Modem CNG: Apple Remote Access CCL/modem script which adds calling tones to

the modem signal. If you dial into a system that handles data, voice, and fax calls, these tones allow the machine you are calling to detect if the call contains data.
• Serial Extension (shared library) (v2.2) [NA]: GeoPort and 6100/7100/8100 series only (v3.0.x also installs this file on GeoPort 660AV/840AV configurations).
• Serial (Built-in) (v1.2.2/v1.3.3) (extension) (GeoPort/5400/6400/6360 series only).
• Shared Library Manager (extension) (v2.0.1): GeoPort configurations only. See entry in the "Extensions" chapter. Note that this extension is also installed by other software, including Open Transport, so don't remove it unless you're sure you don't need it.
• Shared Library Manager PPC (extension) (v2.0.1): GeoPort/Power Macintosh configurations only. See entry in the "Extensions" chapter. Note that this extension is also installed by other software, including Open Transport, so don't remove it unless you're sure you don't need it.
• Telephone Manager Extension (extension) (v3.0.3) [1/0]: installed on GeoPort configurations only. Provides support for using your Mac as a fax machine and answering machine. Note that this file is also installed by the Global Village and US Robotics speakerphone modem software and the Megaphone telephony package.

APPLE TELECOM APPLICATIONS:

The latest Apple Telecom software package (v3.1) includes fax and phone software for use with PowerMacs, PowerPC Performas, and PowerPC PowerBooks and PowerBook Duos running System 7.5 and higher. Although it was originally intended to work with some 680x0 Macs, problems with the "CFM-68K Runtime Enabler" extension (see entry in the "Extensions" chapter) prevented Apple from supporting the software on non-PowerPC computers.

• AddressBookLib.ppc (shared library) (v1.03) [NA]: Power Macintosh computers only. Provides support for the Fax/Phone address/phone number book.
• AddressBookLib.68K (shared library) (v1.02) [NA]: with earlier versions of the Apple Telecom software, this file was installed on 680x0 computers.
• Apple Fax Gateway (extension) (v3.x) [NA]: only installed on systems which have PowerTalk installed. Allows you to send faxes over PowerTalk, rather than over the phone/modem.
• Apple Phone Extension (appe/Ext) (v1.04) [1/0]: actually a "background application"/extension, it runs in the background watching for incoming phone calls. If you want to disconnect your GeoPort adapter, you should run the "Quit Apple Phone Extension" script first. After you have re-connected the adapter, use the "Launch Apple Phone Extension" script to restart the appe. These two scripts are located in the "More Phone Scripts" folder in your Apple Telecom folder.
• AppleScriptLib (shared library) (v1.2.2): See entry in the "Non-RAM" chapter. Note that this shared library is also installed by other software, so don't remove it unless you're sure you don't need it.
• CFM-68K Runtime Enabler (extension) (v1.0.4): installed by Apple Telecom 3.0.x on 68K computers only. Allowed 680x0 Macs to use the Code Fragment Manager. You should remove this file from your computer (see the entry in the "Extensions" chapter for details).
• Fax Extension (extension) (v3.0.6) [71/128]: enables fax capabilities using the GeoPort modem
• Fax Sender (extension) (v3.0.4) [NA]: chooser extension which allows faxing from within applications using the GeoPort modem.
• Fax Sender GX (extension) (v3.0.4) [NA]: a QuickDraw GX chooser extension which allows faxing from within applications using the GeoPort modem. **NOTE**: GX printing / faxing is not supported under OS 8 and later.
• Log Extension (shared library) (v3.0.3) [NA]
• ObjectSupportLib (shared library) (v1.1/v1.0.2): version 1.1 is installed by Apple Telecom 3.0; version 1.0.2 is installed by Apple Telecom 3.1. Version 1.0.2 is more recent; however, version 1.2 is now available. Note that this library is also installed by other software, including AppleScript, so don't remove it unless you are sure you don't need it. **NOTE**: see "Shared Libraries" in the "Non-RAM" chapter for complete details on this file.
• PCMCIA Class 2 (extension): installed by Apple Telecom 2.3.3 to provide support for Class 2 PCMCIA

modem cards.

OPENDOC

Explaining OpenDoc is a challenge, so here's a quote from the "About OpenDoc" file:
"OpenDoc is a new plug-in software architecture that lets you extend the usefulness of your applications by easily adding new functionality. OpenDoc uses software components -- called parts -- that can be dragged-and-dropped into documents created by any OpenDoc-aware application. You can combine parts from different Mac OS software developers to add tables, graphs, outlines, and even live Internet resources into your documents. Since OpenDoc is a cross-platform technology, documents created with OpenDoc can work across different computer platforms, including Mac OS, Windows, UNIX, and OS/2." Note that OpenDoc development has officially been suspended by Apple. Version 1.2 requires a 68030 or 68040 Mac running System 7.1.1 or higher, or a PowerMac running System 7.1.2 or higher. The latest version is 1.2.1, and requires Mac OS 8 or higher.

• CFM-68K Runtime Enabler (v1.0.4): important: see entry in the "Extensions" chapter.
• Editor Setup (v1.2.1): allows you to configure the various editors used in the OpenDoc architecture.
• Editors: actually a folder found loose in the System Folder. Contains "part editors" for OpenDoc which are actually "mini-applications" that can each work with different types of data. According to Apple's documentation, "Once an editor is installed, it works something like a system extension -- its functionality is available but you don't open or use the editor itself."
• NuDragLib.slb (v1.1): see the "Non-RAM" chapter.
• NuThreadsLib.slb (v2.1.1) : see the "Non-RAM" chapter.
• NuTranslationLib.slb (v1.0.1) : see the "Non-RAM" chapter.
• OpenDoc Libraries: again, a folder, but this one is found in the Extensions folder. It contains the following files used by OpenDoc:
    o Memory Manager (document)
    o OpenDoc Dialogs Lib (document)
    o OpenDoc System Data (document)
    o OpenDocLib (document)
    o OpenDoc (application)
• SOMobjects™ for MacOS (v2.0.8): a MacOS implementation of IBM's Standard Object Model (SOM). SOM allows components and component software written in different languages to exchange data and instructions. It allows "objects" to break free from ties to a specific programming language. A quote from IBM explains further: "SOM's language-neutral character not only allows robust software objects to be easily used and reused wherever they're needed, it also enables a greater degree of openness than ever before in the development and use of object-oriented programming (OOP) facilities across multiple operating platforms. What's more, SOMobjects incorporates Distributed SOM technology, which provides a base for OOP development and use over entire networks." According to Apple, some users have experienced a Type 11 error when launching OpenDoc v1.0. There is an incompatibility between some systems and version 2.0.7 of the SOMobjects file, which is installed by OpenDoc 1.0. The next release of OpenDoc will address this bug. If you are experiencing these problems you should install the SOMobjects for MacOS 2.0.8 extension, available from Apple, until the next release of OpenDoc is available. **NOTE**: this file is also installed by Mac OS 8, and must be installed in order for new Contextual Menu Plug-Ins to function properly.

NOTE: On pre-7.5.1 systems, the following files are installed (see their entries in the "Non-RAM" chapter):
    o MathLib
    o ThreadsLib

OPEN TRANSPORT

Open Transport is Apple's newer networking/communications package, replacing the older "Classic Networking." It offers substantial increases in speed and reliability.; however, it installs quite a few new files. NOTE: on non-PCI Macs under System 7.5.5 and earlier, if you are using Open Transport, the files for Classic Networking are actually still present on your machine, but are invisible. If you want to go back to Classic Networking you can use the "Network Software Selector" which was installed on your hard drive. By selecting the "use Classic Networking" option, the older networking architecture will be enabled, and all Open Transport files will be made inactive and invisible. Note that under System 7.6 and later, Apple only supports Open Transport. NOTE: the Apple software that dims the PowerBook Duo screen when it is docked will crash if used with Open Transport. You should use a third-party screen saver instead.

NOTE: some versions of the Mac OS 8.1 update install "corrupt" versions of the Open Transport v1.3 files. While these files work just fine (the corruption is actually only an incorrectly reported file size/length), some disk test/repair utilities report that they are damaged. Apple has released a patch which updates the files to "v1.3.1." In addition, the latest version of Conflict Catcher will "repair" the files if you run a "Scan for Damaged Resources."

NOTE: some users report getting an error that "OTUtilityLib" is missing when using Mac OS 8. I actually have not heard of any solution to this error, other than making sure that all of the appropriate Open Transport files are installed.

SHARED LIBRARIES:

• "OpenTpt xxx Lib" files implement Open Transport services on PowerPC machines. In particular, the "Lib" files below contain the modules and APIs for native PowerPC applications. They are needed on all PowerMacs for Open Transport to function.

> o OpenTptAppleTalkLib (v1.3): necessary for native AppleTalk support under Open
> Transport. According to Apple, if you are not on an AppleTalk network, and are not using an
> AppleTalk device (such as an AppleTalk printer), you do not need this file; however, if you are
> using dial-up PPP connections, you do need this file due to a bug in OT.
> o OpenTptInternetLib (v1.3): necessary for native TCP/IP support under Open
> Transport; if you are not using any TCP/IP (Internet-related) services, you can remove
> this.
> o OpenTransportLib (v1.3): necessary for basic (core) Open Transport functions on
> PowerPC machines.

• 68K "Open xxx 68K Library" files are used for the 680x0 implementation of Open Transport. They are necessary on 680x0 Macs for Open Transport to function. They are NOT needed on PowerPC computers and will actually cause them to slow down, since they end up emulating 680x0 code when native PowerPC code is available. Thus, they should be removed from PowerMacs. Note that "680x0" really means 68030 and 68040 Macs, since Open Transport is not compatible with 68000 and 68020 Macs.

> o Open Tpt ATalk 68K Library (v1.3) 68K: necessary on 680x0 Macs for AppleTalk
> support under Open Transport. According to Apple, if you are not on an AppleTalk network, and
> are not using an AppleTalk device (such as an AppleTalk printer), you do not need this file;
> however, if you are using dial-up PPP connections, you do need this file due to a bug in OT.

o Open Tpt Inet 68K Library (v1.3) 68K: necessary on 680x0 Macs for TCP/IP support
under Open Transport; if you are not using any TCP/IP (Internet-related) services, you can
remove this.
o Open Transport 68K Library / OpenTransportLib.68K (v1.3) 68K: necessary on 680x0 Macs
for basic Open Transport functions.

• OTGlobalLib: actually not a separate file, but part of the OpenTransportLib file. If OpenTransportLib
or OpenTransportLibrary are not installed and you try to open the AppleTalk control panel, you may get
an error message that OTGlobalLib could not be found.

• Serial (Built-in) (v1.3.3): code resource to allow access to built-in serial ports by Open Transport
and OT-aware applications.

DOCUMENTS:

• "Open Tpt xxx Library" files implement 680x0-emulated Open Transport service on PowerPC
machines. In particular, the "Library" files below contain the modules and APIs for 68K applications
running in emulation, and provide backwards compatibility with MacTCP. They are needed on all
PowerMacs for Open Transport to function. They are used not only by non-native applications, but also
by the System software, which is not yet fully native.

o Open Tpt AppleTalk Library (v1.3): necessary for 680x0 emulation AppleTalk
support under Open Transport. According to Apple, if you are not on an AppleTalk network, and
are not using an AppleTalk device (such as an AppleTalk printer), you do not need this file;
however, if you are using dial-up PPP connections, you do need this file due to a bug in OT.
NOTE: this file supposedly causes a problem where attempting to start a PPP connection will
result in a "serial port is busy" message. If you experience this problem, try putting a space
at the beginning of this file's name to cause it to load earlier in the startup process.
o Open Tpt Internet Library (v1.3): necessary for 680x0 emulation TCP/IP support
under Open Transport; if you are not using any TCP/IP (Internet-related) services, you
can remove this.
o Open Transport Library (v1.3): needed for basic (core) 680x0-emulated TO
functions.

CONTROL PANELS:

• AppleTalk (v1.1): see "Control Panels"
• TCP/IP (v1.3): see "Control Panels"

EXTENSIONS:

• Shared Library Manager & Shared Library Manager PPC: see "Extensions."

OPEN TRANSPORT/PPP

Open Transport/PPP (a.k.a. OT/PPP) is Apple's Open Transport-native version of the popular PPP
(point-to-point protocol) for connecting to the internet. It provides a method for establishing a TCP/IP
(internet) connection over a dial-up modem or ISDN line. Note that Open Transport/PPP requires Open
Transport 1.1.1 or later.

NOTE: if you have installed ARA 3.0, it replaces both ARA 2.1 and Open Transport/PPP with a consolidated system for remote/Internet access. Listed below are files from both OT/PPP 1.0 and ARA 3.0 noted appropriately.
NOTE: under OS 8, if you have installed OT/PPP, and subsequently install ARA 2.1, you will have to install OT/PPP again, as ARA 2.1 will replace the newer OT/PPP files with older versions.
NOTE: versions of 3.0 below are installed by the latest Remote Access software, which combines OT/PPP and Apple Remote Access.
NOTE: at the time of this writing, there is an incompatibility between OT/PPP 1.0 (or Remote Access 3.0) and the Global Village PowerPort Platinum Pro PC Card.

SHARED LIBRARIES:

• OpenTpt Modem (v1.0/v3.0) [NA]: provides native PowerPC support for PPP modem connections under OT/PPP. Only necessary for PowerPC machines.
• OpenTpt Modem 68k (v1.0/v3.0) [NA]: provides 680x0 support for PPP modem connections under OT/PPP. Only necessary for 680x0 Macs.
• OpenTpt Remote Access (v1.0/v3.0) [NA]: provides native PowerPC support for PPP connections over an Apple Remote Access network. If you have access to an ARA network which provides TCP/IP "tunneling," this file is necessary to access the internet. Supposedly, if you use a straight modem connection for internet access, this file is not necessary. However, some readers report being unable to make a PPP connection with it disabled. Only necessary for PowerPC machines. NOTE: if your startup disk (the disk which has the active System software on it) is locked, Open Transport Remote Access will cause your Mac to crash at startup.
• OpenTpt Remote Access 68k (v1.0/v3.0) [NA]: provides 680x0 support for PPP connections over an Apple Remote Access network. If you have access to an ARA network which provides TCP/IP "tunneling," this file is necessary to access the internet. Supposedly, if you use a straight modem connection for internet access, this file is not necessary. However, some readers report being unable to make a PPP connection with it disabled. Only necessary for 680x0 Macs. NOTE: if your startup disk (the disk which has the active System software on it) is locked, Open Transport Remote Access will cause your Mac to crash at startup.
• OpenTpt Serial Arbitrator (v1.0/v3.0) [NA]: only useful if you have fax software set to monitor for incoming faxes. Allows the Open Transport Serial module to open the serial port for a PPP connection even which it is being used (monitored) by the fax software. NOTE: There are various conflicts with this file, such as with the ValueFax faxing software, where an "unimplemented trap" error occurs at startup. According to Apple, when this extension is installed, **any** extension or control panel which attempts to access/open the serial ports when the computer starts up will cause a crash. One suggested solution to these errors is to remove/disable this library (although you will lose the fax software serial port functionality). Another possible solution to these errors is to change the load order of the extensions so that this file loads later in the startup process that those extensions which open the serial ports. Note that if you use Conflict Catcher to find the cause of the above problem, it will identify the Shared Library Manager as the source of conflict. This is because the Shared Library Manager is what actually loads this shared library. NOTE: There is a conflict between this library and the serial port version of the Wacom Tablet control panel; the Wacom web site has a fixed called "OpenTpt Serial Arbitrator Update."

CONTROL PANELS:

• Modem (v1.0/v3.0): allows you to configure your modem settings under OT/PPP, including choosing the serial port and modem type, turning modem sounds on or off, and choosing tone or pulse dialing. As with the TCP/IP control panel, you can save multiple configurations by choosing "Configurations..." from the File menu.
• PPP (v1.0): allows you to change your PPP configurations and establish/disconnect connections. The main screen of this control panel is almost identical to the Apple Remote Access connection dialog. Again, as with the Modem control panel, you can save multiple configurations. NOTE: some people have

wondered how to create a "script" for connecting. To automate your connections, first enter your phone number, etc. in the main PPP window. Then go to "Options..." "Protocol." Click on "Connect to a command-line host: Use terminal window." Click OK and then Connect. When the terminal window appears, click on "Settings..." and then "Prompt to save Connect Script on close." You can then continue to enter your name, password, etc. in the terminal window, and once the connection is made, you will be prompted to save the script you have just entered. Later, you can use the "Import Script..." option in the Protocol dialog to import that script and automate your connections. Replaced by the Remote Access control panel under ARA 3.0.

Groups
(PC - WorldScript)

The following items are listed in groups because the are only used together. Chances are that if you aren't using one, you aren't using any, so you can disable them all. However, make sure you read the description of each item carefully, because some items are installed by, and may be needed by, more that just the group under which they are listed. I have tried to note whether each item is an extension, control panel, shared library, etc. by noting the type after the item's name. For more detail on what shared libraries, documents, etc. are, see the "Non-RAM" chapter.

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The following "Groups" are summarized in this chapter:

PC Compatibility
PowerTalk
QuickDraw 3D
QuickTake
QuickTime
QuickTime Conferencing
Speech/PlainTalk
WorldScript

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PC COMPATIBILITY

The PC Compatibility software is intended for Macintosh computers which have a PC Compatibility card installed. NOTE: The PC Compatibility installer also installs the "Ethernet (Built-In)" extension, and may install it over the version already on your comptuer, so you should check to make sure that it did not replace a newer version.

• PC Clipboard (extension): provides for a cross-platform clipboard, so that you can cut-and-paste between the PC and Mac environments.
• PC Network Extension: allows the PC side of your PC-compatible Mac to use your Macs built-in networking capability.
• PC Print Spooler (extension): allows you to print from the PC environment to your Mac's printer.
• PC Setup (control panel) (v1.0.7/v1.8.4): provides options for PC compatibility. Version 1.0.x is

used by Macs with the 610 PC and DOS Compatibility Cards and is replaced by the DOS Compatibility Software Update 1.5 (not necessary for PCI Macs with a DOS Compatibility Card). **NOTE**: after installing System 7.6 and OT/PPP 1.0, there is a chance your PC Setup Preferences file may become corrupt, causing a message which reads "Sorry, a System Error Occurred. PC Setup, Unimplemented Trap." The solution is to startup with all extensions off, throw away the "PC Setup Preferences" file, and restart.
• PC Setup Switch: ?

POWERTALK

NOTE: PowerTalk is incompatible with Mac OS 8 and later. When you install OS 8, the entire PowerTalk system (including extensions) will be either deleted or "disabled" by the installer.

• Apple Fax Gateway (extension) (v3.x) [NA]: not installed by PowerTalk, but by the Apple Telecom Software. Allows you to send faxes over PowerTalk.
• AppleTalk Service (extension): allows PowerTalk to maintain catalogs of users & groups over a network. Provides access to an AppleTalk network using PowerTalk catalogs.
• DigiSign (extension): enables the "digital signature" features of PowerTalk.
• Mail Folders Extension
• Mailbox Extension: provides "Mailbox" support and enables the Mailbox icon to appear on your desktop.
• Catalogs Extension (v1.1.1): provides the desktop catalog, as well as enabling the "Catalogs" menu.
• PowerTalk Extension: provides support for PowerTalk services. Also contains information used by the PowerTalk "keychain."
• PowerTalk Manager (extension): provides management support of the AOCE Mailbox and services.
• PowerTalk Guide (extension) (see above)
• PowerTalk Setup (extension): allows you to enable/disable mail collaboration services.

QUICKDRAW 3D (v1.5.3)

The QuickDraw 3D system provides support for three-dimensional graphics and movie rendering, via both software and hardware. It also provides a common file format (3DMF) for exchanging 3D documents. Although the software contains 68k code, it is really intended for PowerPC machines, as 3D rendering takes significant processing ability. Version 1.5.3 is downloadable from Apple and included with the retail version of OS 8.1. Version 1.5.4 of many files is included with the QuickTime 3.0 package.

• Apple QD3D Driver: an older version of the QD3D driver which was only used by Apple-brand QuickDraw 3D Accelerator Cards. It was not compatible with all 3D applications. Not needed with any recent version (1.5 or later) of the QD3D software.
• QD3DCustomElements (v1.5.4) and QTML Custom Elements (v1.5.4): these files provide the ability for QuickDraw 3D applications to add information such as WWW URLs or text to 3D objects and shapes.
• QuickDraw 3D (extension) (v1.5.4): basic QuickDraw 3D extension which allows the system and applications to take advantage of the QuickDraw 3D system by supporting reading and rendering of 3D models, as well as by supporting cutting and pasting them between documents. It is useful if you want to browse VRML web sites, and is used and installed by certain 3D graphics packages (such as Strata

Studio Blitz 1.75) and 3D games because it makes them run faster by working directly with the system. Contains both PPC and 680x0 code.
• QuickDraw 3D Accelerator (document) (v.1.0.3): contains PowerPC-native patches to the basic extension. **NOTE**: this file is supposedly only installed on systems where the installer detects a hardware accelerator card, but some people have reported seeing it without having a card installed. **NOTE**: under QuickDraw 3D 1.5.3 and later, this file does not seem to be necessary.
• QuickDraw 3D IR (library) (v1.5.4): provides support for the QuickDraw 3D Interactive Renderer. The interactive renderer is the component of QD3D that does the real-time rendering that is one of its key benefits. Starting with QD 3D 1.5, there are also third-party renderers which work in conjunction with QD3D.
• QuickDraw 3D RAVE (extension) (v1.5.4): stands for "Rendering Acceleration Virtual Engine." Allows applications to use QD3D hardware accelerators (PCI/Nubus cards) with their existing 3D rendering engines.
• QuickDraw 3D Viewer (document) (v1.5.4): provides viewing support for QD3D applications. This includes the standard icons for switching between rotation, translation, etc. Also contains the code for the graphics interface which permits viewing 3DMF objects. For example, SimpleText uses this interface when loading a 3DMF object.

Also, if you have an Apple QuickDraw 3D Accelerator Card installed in your Mac when you install the QD3D software, the following files will be installed to provide QD3D support for the card:
• Apple QD3D HW Driver (v1.5.4)
• Apple QD3D HW Plug-In (v1.5.4)

QUICKTAKE

NOTE: the QuickTake system also requires the following files: Foreign File Access, GeoPort™ Serial Driver, Serial Extension, and the appropriate Shared Library Manager extensions. For more information on these files, see their respective entries.

• Apple QuickTake 150 and Apple QuickTake 200 (extensions) (v1.0 and 1.0.2, respectively): components of the QuickTime IC system (see "QuickTime™ IC" below) that allow QuickTime IC-aware applications to interact directly with the QuickTake cameras. Only installed by the QuickTime IC installer.
• QuickTake™ Access (component) (v2.0.1): allows you to access the QuickTake camera from the Mac desktop. Requires Foreign File Access.
• QuickTake™ Camera (extension) (v2.0): allows you to connect the QuickTake camera to your Mac.
• QuickTake™ Image (component) (v2.0.1): allows your Mac to display QuickTake compressed images. The PICT images produced by the QuickTake camera are compressed in a proprietary format; in order to view them, you need this extension or you need to manually save the images as normal PICT files.
• QuickTake™ Image Access (control panel) (v2.0.1)
• Serial Extension (v2.2): enables the serial port to be used by the QuickTake camera.
• QuickTime™ IC (v1.0.2): provides support for applications to communicate, view, and manipulate images from image capture devices, such as the QuickTake camera. Installed by the QuickTake 200 software.

QUICKTIME

NOTE: if you have the SAS statistical package installed, you must either have **both** QuickTime™ and QuickTime™ PowerPlug installed, or **neither** of them. If you only have the QuickTime™ extension installed, you will get either a memory or illegal instruction error message when you try to launch SAS.

NOTE: while QuickTime is neat enough on its own, it turns out installing it can actually fix problems! When using versions of the System software from 7.5.2 to 8.1 on any PowerPC Mac or PowerBook, as well as on the Quadra AV models, users can experience a bug which, in technical terms, affects the CopyDeepMask API call. In user language, the bug can cause a freeze/crash when using an application or utility which alters the appearance of certain windows. It turns out that while Apple plans to fix the bug in a future version of the OS, QuickTime 2.5 and 3.0 both fix the problem when installed.

• QuickTime™ (v3.0) [48/384]: Provides built-in multimedia support for your Macintosh. Provides CD quality MIDI sound support. Provides support for importation of various graphics formats. Provides support for AutoPlay of appropriately formatted CDs. **NOTE**: certain CD-ROM and multimedia applications will attempt to install an older version of QuickTime, or will even attempt to install the older version along with the newer one already present. Make sure that you have not replaced a newer version with an older version. **NOTE**: under System 7.6 only, there is a bug where the computer may crash when using high-end video editing programs and large QuickTime files. The solution is to increase the memory allocation for the editing application. This bug was fixed in System 7.6.1.

• QuickTime 2.0 AMMS Update: part of the Apple MPEG Media System. Provides MPEG support within QuickTime 2.0. **NOTE**: under QuickTime 2.1 and 2.5, this functionality is provided by the QuickTime MPEG Extension.

• QuickTime™ MPEG Extension (v1.1) [.5/0]: works directly with QuickTime to enable playback and control of MPEG movies by allowing MPEG-based multimedia files to be viewed from within QuickTime-compatible applications. When installed, opening an MPEG movie will automatically import it into a QuickTime movie as a single MPEG track which contains the audio and video streams of the original MPEG file. However, this extension does not contain an MPEG compressor, meaning you cannot use a QuickTime-based application to compress a QuickTime file using MPEG compression. Requires that the QuickTime v2.5 extension be installed. Also requires the new version (2.1.5) of Thread Manager (see the Thread Manager entry). **NOTE**: you must use the Movie Player application to view MPEG files, as the Apple Video Player application does not support MPEG sound. **NOTE**: Performa 6205CD computers will freeze when playing long MPEG movies. **NOTE**: if you have an Apple or third-party MPEG video card installed, you should remove the QuickTime MPEG extension. **NOTE**: the "Audio CD Access" extension can prevent you from viewing the video portion of MPEG movies which are stored in the Video CD format. If you are having trouble with MPEG video on these discs, remove the Audio CD Access extension and restart. **NOTE**: there is a bug with some CDi and Video CDs which have dual audio tracks where a separate track is played in each speaker. To work around this problem, you should use the MoviePlayer "Get Info" command on the file, choose the "Volume" option, then pan the volume control all the way to the left or right channel to eliminate the unwanted audio track. **NOTE**: the "Text Preview" extension conflicts with the "file preview" feature when selecting MPEG files. While this does not affect the ability to view MPEG files, you will not be able to preview them in Open/Save dialogs.

• QuickTime Music (control panel): not widely available. When used with QuickTime 2.5, allows you to choose between the built-in MIDI synthesizer, MIDI input from the modem or printer port, and a plug-in synthesizer.

• QuickTime™ Musical Instruments (v3.0) [<.5/0]: provides support for MIDI sound files under QuickTime 2.5. Versions prior to 2.5 were actually "components." However, with the release of QuickTime 2.5, this file was, for whatever reason, "changed" to a standard extension.

• QuickTime™ PowerPlug (v3.0) [0/384-uses the memory allocated to QuickTime] PM: provides native code support for QuickTime when used in combination with QuickTime 2.0 or later. Dramatically improves compression performance on PowerMacs. The shared library QuickTimeLib is a part of this extension. On a PowerMac, some applications, such as Graphic Converter, will display an error such as "Can't find QuickTimeLib" if QuickTime PowerPlug is not installed.

• QuickTime™ PowerPC: apparently the precursor to QuickTime PowerPlug, provides PPC-native

support for QuickTime. Will not work with QT PowerPlug; in fact, it will prevent QT PowerPlug from being loaded at startup.
• QuickTime™ Settings (v3.0): actually just an application which changes the preferences for QuickTime. Allows you to select music/MIDI settings and Audio CD/CD-ROM "AutoPlay" options (see the "QuickTime" extension entry). NOTE: for the "CD-ROM AutoPlay" feature to work, the CD-ROM must be coded to allow auto-play. At this point in time, very few CDs are encoded this way.
• QuickTime™ VR (v2.1): used with QuickTime to provide support for QuickTime VR (virtual reality) files from within most QuickTime-compatible applications. Requires QuickTime and QuickTimeVRLib.
• QuickTimeVRLib: shared library which provides support for QuickTime Virtual Reality.

QUICKTIME   CONFERENCING

QuickTime Conferencing allows users with a video camera and TCP/IP connection to communicate with others using "live" video and audio. The most recent version of QTC is 1.0.3. The QuickTime conferencing system only works on Quadra AV, PowerMac AV, or PowerMac AV-upgraded systems.

• QT Conferencing Template (v1.0.2) (document)
• QuickTime Conferencing (v1.0.3) (document): when used with the Apple Media Conference application, allows you to set up video conferences, send and receive live audio and video, and use a local or TCP/IP network to interactively collaborate on a project and/or share information.
• SNMP AppleTalk Transport (v1.1) (shared library)
• SNMP Manager (v1.1) (shared library)
• SNMP TCP/IP Transport (v2.0.4) (shared library)
• SNMP QTC Agent (v1.0.2) (shared library)
• Whiteboard: supposedly provides support for a joint "whiteboard" which both members of the video conference can alter and share.

There are several "industry-standard" compression formats for video conferencing. The following three files, called "codecs" because they provide **co**mpression/**dec**ompression support, enable QuickTime to use each protocol for QuickTime video conferencing. They are all "documents" which are only loaded when needed. They are also PowerPC-only because of the processing power required. Supposedly, for each one that is loaded, you need 1MB of free RAM.
   o **H.261** (v1.0.2): note that version 1.0.4 is installed by CoolTalk.
   o **H.263** (v1.0)
   o **G.728** (v1.0)

SPEECH/PLAINTALK

There are two parts to the Speech/PlainTalk system, English (or Spanish) Text-to-Speech, and Speech Recognition. I have included both parts in the summary below. I have not included information on Spanish Text-to-Speech as I have been told that the INITs which are installed are the same.

NOTE: The Speech software can cause a Mac Plus (which does not support speech) to hang during startup. To avoid this problem, restart with extensions off, remove the Speech software, and restart.
NOTE: on PowerMac/Performa 5200/5300/6200/6300 computers with an internal modem, Speech Recognition/Speakable Items and a modem TCP/IP (Internet) connection cannot be used at the same time. This is because the sound chip and I/O (in/out) circuitry used by the computer for speech is the

same as that used by the computer for modem sound processing. If you attempt to use Speech Recognition and/or Speakable Items and TCP/IP over a modem at the same time, the speech functions will take precedence, and you will lose your TCP/IP connection and get a "No DNS Entry" error. **NOTE**: the preceding problem (with internal modems) has also been reported with external modems. I do not know if this is accurate, but include it here for your information. **NOTE**: there is a conflict between the PlainTalk package the the GeoPort modem. If you attempt to use the GeoPort modem while PlainTalk is installed, it may cause a crash. **NOTE**: Speech Recognition is not "officially" supported on PowerMac G3 systems. On these computers, the following problems have been found: The non-Pro voices (those other than the "high-quality" Victoria, Bruce or Agnes) "break up" when Virtual Memory is on. In addition, if you have external speakers which are located too close to the PlainTalk microphone, you may get feedback. Finally, if your PowerMac G3 has an audio card option, you may get an error that the microphone is disconnected when you attempt to turn on Speakable Items. The solution is to use the Monitors & Sound control panel to select a source other than the microphone, then turn Speakable Items on, then select the microphone as a source again.

• MacinTalk 2 / MacinTalk 3 / MacinTalk Pro (extension) (v1.4): a "document" which actually provides the voice synthesizers to allow the computer to read text in human voices. MacinTalk Pro is for PowerMacs and 68040 Macs (both running System 7.0 or later); MacinTalk 3 is for PowerMacs, 68040 Macs, and 33MHz or faster 68030 Macs (all running System 7.0 or later); MacinTalk 2 is for 32 MHz or slower 68030 Macs, 68020 Macs, and Macs running pre-System 7 system software. The quality of speech improves in each successive version. MacinTalk 2 requires the Speech Manager extension, Speech control panel, and the "Voices" folder in the System Folder with voice files installed. MacinTalk 3 and Pro require the Speech Manager extension, the Speech control panel, and the "Voices" folder in the Extensions folder with voice files installed.
• MacinTalk Español Mexicano (control panel) (v1.4): when using the Mexican Spanish Text-to-Speech package, this files takes the place of the "MacinTalk" files (above).
• My Speech Macros: supports the Speech Macro Editor to allow you to create your own speech items.
• Speakable Items (v1.5) [NA]: when used along with the other software here, allows your Mac to recognize spoken commands.
• Speech (control panel) (v1.5) [0/0]: allows you to change between installed voices in applications which allow "speaking" (i.e. the "speak selection" option in SimpleText); also used to set options for giving your computer spoken commands.
• Speech Manager (extension) (v1.4) [7/320]: when used along with the other software here, allows your Mac to speak written text.
• Speech Recognition (extension) (v1.5.1) [45/52]: enables speech recognition. Version 1.5 fixes bugs with PowerPC PowerBooks using the built-in microphone, fixes a bug with PowerPC Performa models where sound output would be muted, and includes other minor fixes. It is available for download from the following URL as part of a special "full" install:
NN <http://speech.apple.com/ptk/ESR.hqx>
IE

or you can visit the PlainTalk home page:
NN <http://speech.apple.com/speech/ptk/ptk.html>
IE

• SR Monitor (extension): used to monitor and interpret speech.
• System Speech Rules (extension): supports voices and speech dialects.
• InLine Filter (extension): Helps AppleScript and PlainTalk Speech Recognition work together (also installed by other applications, such as KanjiTalk--see "extensions" section).
• Voices folder (found in the "Extensions" folder): contains voices for use by Speech/ PlainTalk/ Text-to-Speech. NOTE: Apple has made available three "high-quality" versions of the Agnes, Bruce and Victoria voice files. These voices are supposedly more lifelike and more easily understandable. However, they only function with MacinTalk Pro. If you are not running the MacinTalk Pro extension, you cannot use the high quality voices.

WORLDSCRIPT

InputBackSupport, World Script II, & Power Adapter, and the Japanese Language Kit extension are all a part of the Japanese Language Kit and the WorldScript Updater, and (except for the JLK extension) presumably other language kits as well. If you are using the standard English system, and not using anything like one of the language kits, you can trash these.

Note: when attempting to install the Chinese Language Kit v1.0, some users experience an error message that the installer "cannot install onto this version of Performa software" despite the fact that they don't even **have** a Performa (Performa owners also get this message, so it's not always wrong!). The solution in either case is that to install the Kit under System 7.5.x, you must first remove the Launcher from the Control Panels folder. Note that you will also need to install the Chinese Language Kit Update 1.1.1 to be compatible with System 7.5.x.

• Font Extension 3 (vJ-1.0.4): prevents one cause of a system hang on systems running Japanese Language Kit 1.2. Included with the Japanese Language Kit as well as with KanjiTalk.
• InLine Filter (extension): provides support for "inline" input of characters, as opposed to manual entry into the input bar.
• Inline Support (extension): provides support for "inline" input of characters, rather than typing it into a floating window which would then send it to the proper place.
• InputBackSupport (extension) (v7.5.3): provides support for two-byte fonts. Allows complex character entry, including text pre-processing to allow multiple keystrokes to be used to generate a single character. Also supports Japanese fonts already in use that aren't TrueType fonts. Provides backwards compatibility with Japanese 6.x input methods.
• Language Kit Extension 7.5.5 (extension): for one, allows a non-Japanese system to recognize double-byte fonts as eligible system fonts.
• WorldScript I (extension) (v7.5.3): used for complex one-byte processing of languages such as Arabic and Hebrew. Allows the display of complex 1-byte script systems, including those which read right-to-left and top-to-bottom.
• WorldScript II (extension) (v7.5.1): used for two-byte processing of languages such as Chinese, Japanese, and Korean. Allows the display of 2-byte script systems, again including non-Roman display parameters.
• WorldScript Power Adapter (extension) (v7.5.3): Contains routines common to 1- and 2-byte script support. Also, contains PowerPC code for general script utilities; on PowerPC Macs, this file speeds up operations when working with text. If you've deleted this file, you can "custom install" the latest version from System 7.5 Update 2.0. Unfortunately, it cannot be custom installed from the System 7.5.3 installer, and if you've already installed 7.5.5, Update 2.0 won't work. If you've already installed System 7.5.5 Update, see the "7.5.5 Info" chapter on how to use the Update 2.0 installer under 7.5.5. That said, there may be a problem with the WorldScript Power Adapter which causes "Type 11" errors. While this "bug" is not confirmed, a number of people have said that removing this file eliminated many of these errors. **NOTE**: Under OS 8, this file is incorporated into the System file and is no longer necessary. Even if you have it present, installing the OS 8 Language Kit Updater will remove it.

Third-Party Control Panels (A-H)

Below and in the next two chapters are many non-Apple control panels. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

_____

• AdminLAT (v1.3.2): administration tool of the LAT system (see the "LAT" entry in the "Third-Party Control Panels" section). Allows you to lock LAT settings so that users can not change them. Allows the network administrator to specify LAT control group codes for the LAT driver.

• Adobe Type Reunion Deluxe (v2.0.3): actually an application. Font menu utility, similar to Now WYSIWYG Menus, which groups font families together in hierarchical sub-menus and shows font names in their respective fonts. **NOTE**: this control panel was formerly an extension called "Adobe Type Reunion." **NOTE**: there are reports that this control panel conflicts with the font menu functionality of Microsoft Word 98.

• ACTION Utilities™ (v1.0): actually an application. Provides the ability to set preferences for the various ACTION utility packages. At the time of this writing, the only utility was ACTION Files, which is similar in functionality to the older SuperBoomerang, but is compatible with Mac OS 8.1. Supposedly other ACTION utilities will be released which will also use this file to change settings.

• After Dark (v4.0.3) [150-? (RAM usage depends upon which "module" you are using)]: popular screen saver. This control panel has been known to conflict with many things, and can cause quite a few crashes under certain configurations. Use with caution, especially older versions. One example is when using Energy Saver 2.0.2 and After Dark 2.x, there is a good chance that you will not be able to wake the computer from "sleep" mode. OS 8 COMPATIBLE

• After Dark Files: not a control panel, but a folder within the Control Panels folder. This folder holds the modules and support files for After Dark.

• Alias Assistant (v2.0.7): provides the ability to automatically delete all aliases to a file when the file itself is deleted via the Trash.

• Apple Macintosh 24AC: used by the Radius Display Card 24AC.

• ApplWindows (v2.0.2): allows you to easily navigate through multiple windows by adding a sub-menu of open windows for each application in the Finder's application menu. Also provides the ability to switch between windows within an application and between active applications using keyboard shortcuts.

• Argus (v1.0): much like Program Switcher, allows you to switch between active applications using a keyboard combination.

• ArtValve™ (v2.0) [.5/.5]: allows AOL users to avoid the long "downloading art" periods by replacing all art/images with a generic "AOL" graphic.

• ATI Displays (v2.0.4) [NA]: actually an application, allows you to monitor the ATI graphics cards and change their settings.

• ATM™ GX: Adobe Type Manager for QuickDraw™ GX. Provides support for display of Adobe Postscript fonts with QuickDraw™ GX installed. **NOTE**: GX printing is not supported under OS 8 and later.

• Auto Menus Pro (v3.5): allows you to have "sticky" menus that either stay down once clicked (much like Windows menus) or which automatically drop down when the mouse is placed over them. Also allows "multitasking" when using menus (i.e. the computer can continue with other processes while a menu is pulled down).

• AutoBoot (v1.6): restarts your Mac after a freeze or crash. Mainly intended for servers or machines which need to be running without interruptions.

• AutoGuest INIT 2.0: if this extension is installed, users who log into a Mac over an AppleTalk network using "Guest" access will automatically have full access to all files and folders.

• AV Turbo ROM: intended only for the Quadra 840AV, this control panel allows you to copy the AV ROMs into RAM, increasing performance since the CPU can access RAM faster than ROM.

• Back2TheFolder™ (2.1.4): provides similar functionality to Now SuperBoomerang (see the "Now" entries in this section).

• Bail: allows you to cancel the launching of an application by holding down the mouse button or pressing command-period. Allows you to select applications which are not affected by Bail.

• Basic Black [3.5/0]: a simple shareware screen saver.

• BeHierarchic (v3.1): much like Apple Menu Options and MenuChoice, enables "hierarchical" sub-menus in your Apple Menu. Also enables a "Desktop" sub-menu which shows all the items currently on the desktop. Version 3.1 added OS 8 contextual menu support, as well as support for the KeyQuencer macro system. OS8.1 COMPATIBLE

• Better Backlight Dimmer (v1.2.0): part of the "A PowerBook Suite" package. Automatically dims the backlight on your PowerBook after a user-definable period of inactivity. Also allows you to invert the screen image and fade external monitors, as well as control the backlighting from the keyboard. Finally, if you are not using Open Transport, it allows you to force the loading of AppleTalk at startup in case you have previously turned it off, thus saving you the trouble of having to restart again.

• Better Edit Keys (v1.1): allows you to use the shift, option and control keys along with the arrow

keys and correction keys (clear, delete, forward delete) to edit text more efficiently. Many word processors allow you to do this already (i.e., Word and Word Perfect allow you to jump forward a full word by pressing option-right arrow, or select text while moving the cursor by holding down shift), but this control panel enables this functionality in any standard text editing field.

• Better Menu Clock (v1.2.0): part of the "A PowerBook Suite" package. Enables a "better" menu bar clock with timer functions that can be moved anywhere in the menu bar. On PowerBooks, also provides info on battery status and instant sleep and hard drive spin-down functions.

• Cache 040 / Meteor+ Control Panel (v1.1): used by NewerTech's 128k Cache 040 card and the Meteor+ accelerator

• Cache Blaster (v1.0): deletes the contents of Netscape Navigator and/or Microsoft Internet Explorer cache folders at user-definable intervals. There is a potential cosmetic problem with the control panel's pop-up menu when Kaleidescope is installed. **NOTE**: this product is no longer produced due to legal action over its name.

• CacheCow Control Panel: part of MacUser's CacheCow utility, which helps you keep your web browser cache under control by deleting cache files that are older than the number of days you specify. Also deletes files larger than a certain size (which you can choose) and files smaller than your hard drive's minimum allocation block size, thus saving disk space. CacheCow has a "security" feature that will not delete non-cache files, just in case you accidentally put a valuable file in the cache folder. Requires the accompanying "CacheCow Engine" extension.

• CalComp (v3.1.1): provides the driver, and the ability to change settings, for CalComp drawing tablets.

• CapsBeep (v1.0) [<10]: for those that accidentally hit the Caps Lock key without realizing it (especially PowerBook users), allows you to set an audible beep to sound when Caps Lock is activated. Also allows you to reverse Caps Lock by pressing the shift key (to allow you to type in lower-case letters when it is depressed).

• CapsLight (v1.1): intended mainly for PowerBook users, displays an icon in the menubar if the caps lock key is engaged. **NOTE**: this same behavior is provided by Apple's CapsLock extension under Mac OS 7.6.1 and earlier, and is built into the System under Mac OS 8 and later. OS8 COMPATIBLE

• CD Menu [42/43.5]: places a menu in the menu bar which allows you to control the CD player when playing audio CDs.

• cd-key (v1.1): provides the ability to control the playback of audio CD's using the function keys.

• CDU (Connectix Desktop Utilities) [154/192]: adds numerous functionality enhancements to your Mac, such as password security, Energy Saver-compatibility, and keyboard control of menus. **NOTE**: incompatible with Mac OS 7.6 and later. Some of the features provided by CDU have been incorporated into Connectix's SpeedDoubler 8.

• CD-ROM Driver (v2.0): control panel and driver for use with AIWA CD-ROM drives.

• ChooserUser (v1.3.1): lets you control who can change the owner name for your computer. Also allows the owner name to be changed at startup, either manually or automatically. Useful in public computer labs.

• Click Pad II (v2.2.3): provides PowerBook 500 and 5300 series users with the click, drag and drag-lock trackpad functionality of the 1400 series and later.

• ClipAppend (v1.0): freeware which allows you to append text to the contents of the clipboard rather than replacing its contents completely. However, its utility is limited to text editors such as SimpleText, CodeWarrior IDE, BBEdit, etc. (apparently it does not work with Microsoft Word and other "word processors").

• ClipFiler (v2.4): saves selected sections of text, from any application, to a text file using an FKEY. Separates "clips" of text with line separators, date/time stamps, or both.

• Cohiba (v1.0): allows you to automatically log into a Netware Directory Services (NDS) tree during startup.

• ColorSwitch Pro (v1.2.1) [171/0]: provides the ability to change settings for color depth, monitor resolution, volume, network configurations, and dial-up connections, as well as providing controls for audio CDs, all from a single menu. Also allows "sets" of settings.

• Config PPP (v2.1.4): if you are using MacPPP, this control panel allows you to specify settings for your PPP connection. It requires the "PPP" extension.

• Conflict Catcher (v4.1.1): a commercial alternative to Apple's Extensions Manager (see the chapter on startup file management utilities).

• ContourMouse (v1.2.0) [14.5/31]: driver for the Contour Design ergonomic mouse. Allows you to choose preferences for the mouse speed and buttons.

• CoolViews (v1.1) [15]: enhances list views in the MacOS 8 Finder by allowing you to resize columns, change the window background color, get rid of shaded sort columns and row separators, change date formats, and set global list view preferences. Also allows you to add columns for file type and creator. NOTE: as of version 1.0.1, the developer has reported two minor conflicts: a cosmetic bug between Kaleidoscope, MacOS 8 and CoolViews on 680x0 machines which prevents you from removing row separators; and a minor cosmetic conflict with Window Monkey 1.2.2 and earlier. Both bugs should be fixed in newer versions. OS8.1 COMPATIBLE

• Copy Doubler (2.0.7): part of the Norton DiskDoubler package. Under System 7.6.1 and earlier, speeds up Finder copying and trash emptying, and also allows these functions to occur in the background so that you can perform other tasks at the same time. Similar to the SpeedCopy component of the Connectix Speed Doubler utility.

• CyberAssistant (v1.3): using Apple's PlainTalk software, gives your Mac a "personality" which can talk to you and provide various verbal feedback on various functions. Can also be used to automate various startup tasks.

• Default Folder (v2.8.2): enhances Open and Save dialog boxes by providing many of the features of Now SuperBoomerang (below) and Directory Assistance (see "Third-Party Extensions"). Allows you to set up a "default" folder for applications, switch between recently used folders, see the space available on each volume, switch between volumes, click on a Finder window to cause the dialog box to jump to that folder, get information on items in the dialog, move items to the trash from within the dialog, jump back to the last file you used (useful when opening a file), change the "Replace" default to "Cancel" when an identically-named item already exists, and turn off custom color icons in the dialog to speed up the display of items. OS8.1 COMPATIBLE

• DeskPicture (v4.5): allows you to replace your desktop pattern with a picture or graphic of your choice (not a picture pattern, but a single, large picture).

• Desktop Strip: shareware which gives all Mac models the functionality of a "Control Strip-like" utility (formerly, only PowerBooks and PCI Macs could benefit from this functionality).

• Dialog View (v2.3.1) [21/30]: shareware which expands open/save dialogs to let you see longer file names and view more files at once. Also allows you to choose which fonts and what kind of icons are used in open/save dialogs.

• DiskExpress II (v2.21a) [211.5/232]: a disk de-fragmentation utility. Version 2.2 contained two bugs which were fixed by individual "Helper" extensions (see the section on Third-Party Extensions); these bugs were fixed in version 2.21. NOTE: there is a conflict between versions 2.20 and 2.21 of the DiskExpress II control panel and OS 8. Alsoft has released a patcher utility which fixes the bug and updates the control panel to v2.20a or 2.21a, respectively.

• DiskLight: enables a blinking icon in the menu bar to indicate disk access. This control panel is notorious for causing INIT conflicts and crashes.

• DOS Mounter 95™ (v1.0.1): part of the DOS Mounter 95 utility. Allows you to transfer files between your Mac and a mounted DOS/Windows volume, automatically renaming them so that the file type is correctly preserved. In other words, if you transfer a Microsoft Excel file from your Mac hard drive to a mounted PC volume, it will automatically be renamed with the correct three-letter suffix for the PC. Likewise, an Excel file transferred from the PC disk to your Mac will have the correct file and creator type. Requires the MultiMounter extension.

• DoubleScroll (v2.2) [22/63.5]: adds up and down scroll buttons at both the top and bottom of scroll bars (so you don't have to go to the bottom of a window to scroll down, or vice versa). **NOTE**: conflicts with Exposure Pro 2.

• DragAnyWindow (v4.2.1): allows you to drag windows, including modal dialogs, Open and Save dialogs, and any other window which is not usually movable, around the screen using a user-definable key combination. It is also helpful for computers that use the older 9" screens because it allows you to re-center windows on the small screen (many applications are set with a 14" default center, so dialogs are often partly off-screen on these computers). Version 4.0 of the control panel enables "solid" dragging of the entire window rather than just dragging the outline. NOTE: some applications do not redraw their screens according to Apple's guidelines; these applications do not work correctly with DragAnyWindow.

• Dynamic Desktop (v3.3): used with older Radius Pivot monitors to set options for desktop orientation (these monitors can actually shift 90 degrees and offer dynamic switching between page view and landscape view). Supposedly, this control panel will not be updated/ supported any longer by Radius and/or Portrait Display Labs (the current owner of the Pivot line of monitors).

• Ephemerid (v1.1): provides the current date and time in a pop-up window -- a solution to situations where you cannot see the date and time when running an application with a lot of menu items.

• Extension List (v1.0.1): as your computer starts up, this file lists each extension by name in a window so that you can identify them. It also displays the time it takes it file to load. The one catch is that only extensions and control panels which load *after* Extension List are displayed. The solution is the accompanying extension, " Run "Extension List"," which has two spaces at the beginning of its name to cause it to load very early in the startup sequence. This extension causes the Extension List control panel to load when the extension is loaded.

• Extra Menu (v1.2.0): part of the "A PowerBook Suite" package. Enables an extra Finder menu which provides instant access to the state of File Sharing, AppleTalk, and the internal modem, as well as instant access to screen color and resolution settings.

• EventLogger (v1.0): monitors the usage of your computer. You can use it to monitor unauthorized use, or as a "backup" system which records each and every keystroke, mouse click, menu command, and application use to a log on your hard drive.

• FileSaver (v3.5.1): part of the Norton Utilities package. Works in conjunction with the Disk Doctor, Volume Recover, and UnErase modules of Norton Utilities to repair/ recover damaged/ lost files.

• Find Pro Key (v1.1): allows you to automatically launch the Find Pro III utility via a keyboard combination.

• Finder View Settings (v1.1): allows you to set the folder view settings for all of your folders instead of just the folder currently in view. Also allows you to pick and choose which folders should be set.
OS8.1 COMPATIBLE

• Finder Windows/Finder Windows Pro (v1.2.2/v?): adds a "Window" menu to the Finder's menu bar which lists all currently open Finder windows. Also allows you to arrange Finder windows by stacking them, alphabetizing them, etc. Finder Windows Pro also allows you to stack, tile, zoom, and cycle through the Finder's windows. You can also add your own items to the menu and customize it to suit your needs. **NOTE**: according to the author, may cause odd window positioning in the Finder under Mac OS 8.

• FinderPop (v1.5.9): extends the Mac OS 8 Finder's contextual menus through user-selectable contextual menu fonts/sizes/icon sizes, automatic contextual menus without having to press the control key (by clicking and holding), and optional submenus which list such things as processes, contents of selected folder, Finder windows, FinderPop custom items, and the contents of the Desktop.
OS8.1 COMPATIBLE

• FindFile Chooser (v1.0.1): normally when you choose "Find..." from the "File" menu (and you have the "Find File Extension" installed), or press command-F, you are presented with Apple's "Find File" application. This control panel allows you to select a different application for performing "Find" searches, such as File Buddy, DiskTop, etc. Applications such as the excellent File Buddy allow for more complex and powerful searches. Note that you still must have the "Find File Extension" installed, and it must load before FindFile Chooser.

• Folder Jumper (v1.0): provides the ability to automatically jump to user-defined folders as you type a file's name in Open/Save dialogs. box. An example would be if you want all files which begin with "Project 1" to be saved in the same folder.

• Fonts Manager (v3.6.8 large and small): allows you to load/unload "sets" of fonts, much like startup file managers (see Chapter 2) allow you to enable/disable extensions and control panels. It's actually an application, so you don't need to have it installed or "active" at startup. Available in two versions, one for small screens and one for larger screens.

• FreePPP Setup (v2.6): Part of the FreePPP package, which provides dial-up access to many PPP (Point-to-Point Protocol) servers for Internet access. If you are using FreePPP, this control panel (actually an application) allows you to specify settings for your PPP connection. Requires the "FreePPP" extension. **NOTE**: there is a bug in Open Transport where OT is unloaded from memory under certain circumstances; this bug can affect FreePPP. For details, and a possible fix, see the "OpenOT" extension entry.

• FunKeys (v1.5): allows you to assign actions to the function keys, such as launching applications, opening files, running AppleScripts, and typing text.

• G3 Cache Utility v1.0 / G3 Cache Control v1.1.7: on PowerMacs with the new PowerPC 750 processor, allows the backside cache speed to be increased, by changing the divisor ratio used by the PowerPC 750 backside cache register. Works on most, but not all, PowerMac G3 233s, and a few of the PowerMac G3 266. It will also work on the PowerBook G3. Distributed by PowerLogix.

• Gamma (v2.0.1): allows customization of gamma settings on monitors and PowerBook screens.

• Global Village PC Card (v2.5.9c): allows you to choose settings for Global Village PC Card modems. Also allows you to "reset" the modem if necessary.

• GoMac (v1.5): imitates the Windows 95 Start Menu, Keyboard Switcher, and Program Bar. Also allows "sticky" menus which stay down once you click on them (i.e. you don't have to hold the mouse button down). According to the developers, GoMac works best with System 7.5.3 or later, but will run with some limitations under System 7.0. You must have "Apple Menu Options" installed in order to use the "Recent" menu. **NOTE**: there are a few bugs between GoMac and Now Menus; see the documentation for details. **NOTE**: supposedly causes a crash with the Network Assistant component of Apple's Network Administrator Toolkit. **NOTE**: according to the developers, v1.44 may actually be more stable for 680x0 Macs than v1.5. OS8.1 COMPATIBLE

• Greg's Buttons (v3.8): shareware which allows you to change the menu bar color, button appearances, system text color/font, and other aspects of the user interface.

• Helium (v3.0) [28/?]: allows you to assign a hot key to turn balloon help on/off, rather than having to toggle it on/off from the menu bar.

• HelpLess Control (v1.1.1): deactivates the "help" key on extended keyboards for those people who frequently hit it on accident when attempting to hit other keys, such as the delete key. When HelpLess is installed, hitting the help key will just produce a beep; you can still get help when you need it by pressing a modifier key. Requires the " !HelpLess Extension".

• Hidden Finder Features (v1.0.3) [<.5/0]: enables features which are actually built into the Finder, but for some reason not activated by Apple: control-dragging to make aliases; command-R to reveal an alias' original file; command-delete to move an item to the trash; and disabling the Finder's "zooming" rectangles. The control panel allows you to enable/disable each feature individually. There are two extensions, Secret Finder Features and Finder Extensions Enabler, which activate the first three features, but don't give you the option of turning them on or off.

• HotSync (v1.0): used in conjunction with the PalmPilot personal organizer to turn HotSync serial port monitoring on and off. When turned on, the control panel watches the serial port for a synchronization signal from the Pilot. Also allows you to set preferences for synchronization, including backing up your Pilot over a modem connection.

• HQD Accelerator (v1.1.4): provides support for the PDS graphics card from microconversions; enables "hot keys" for pan and zoom in QuickTime views.

Third-Party Control Panels

(I-P)

Below and in the previous and next chapters are many non-Apple control panels. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

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• IconWrap Cleanup: control panel component of the IconWrap package (see "IconWrap" in the Third-Party Extensions section). When startup is complete, corrects the patching done by the extension.

• In Use (v2.0): places an icon in the menu bar that flashes the SCSI ID# of each device when it is accessed.

• InterSLIP Control (v1.0.1): control panel component of the InterSLIP package. Allows you to configure your SLIP connection settings.

• Iomega Drive Options (v1.4): actually an application, provides options for Iomega drives such as sleep time, disk-write verification and disk ejection.

• Kaboom: allows you to assign different sounds to different events, such as copying a file, emptying the trash, restarting, etc.

• Kaleidoscope (v1.8.2): shareware which allows you to completely change the appearance of your Mac's interface. Combines some features of "Aaron" and "Greg's Buttons" plus additional enhancements. Supports user-creatable "schemes" for adding new designs and interfaces. **NOTE**: as with other utilities which patch the appearance of your system, make sure that you are running the latest version of Kaleidoscope by visiting the Kaleidoscope web site.

• Keep It Up (v1.4): automatically restarts your Mac after a freeze or crash. Useful for servers and other computers which always need to be running.

• Kensington MouseWorks (v5.0.4): not actually a control panel, but an alias to the actual MouseWorks application on your hard drive. Provides support and setup options for Kensington mice and trackballs.

• Key Commander (v1.0): allows you to add command-key equivalents to frequently-used menu items in both the Finder and applications. **NOTE**: according to the author, the PowerPC version of KeyCommander can cause out of memory warnings in the Finder in MacOS 7.5.5 and higher if "Finder Heap Fix" (another third-party INIT) is not installed.

• Keyboard PLUS: allows you to map the extra keys on an extended keyboard to any key or key combination. This would allow you to use function keys, for example, on a standard keyboard or on a PowerBook without function keys.

• Keys Off (v1.2.2): disables your Mac's keyboard and/or mouse to prevent unauthorized access and/or modifications. Even though the keyboard is "off," you must type in your password to regain access. OS8.1 COMPATIBLE

• Label Secrets/Label Secrets Pro: a control panel which replaces the "Essential, Hot, In Progress" text under the "Labels" menu in the Finder with a new Mac "secret" every time you restart/ start up your Mac. This file is only available with the book Macworld Mac SECRETS by David Pogue and Joseph Schorr.

• LAT (v1.3.2): LAT (Local Area Transport) is a networking system from Digital, installed by its PathWORKS package, which allows Macs to connect to DEC VMS/UNIX systems via AppleTalk. Also allows you to run a terminal session on a VAX machine using the Mac. Requires the "LAT Tool" communcations tool.

• LiteSwitch (v1.0): allows you to switch between running applications using the keyboard, much like the Alt-Tab feature in Windows. LiteSwitch is actually built into the GoMac utility from the same developers.

• LockVol™ (v1.6): allows developers to test their software's compatibility with locked volumes (hard drives, etc.), both when accessing these volumes and when run from these volumes.

• Mac GamePad (v1.0.6) [1.5/0]: driver/ settings for the Gravis Mac GamePad. If this control panel is installed and you have the GamePad plugged into an ADB port at startup, the keyboard restart (control-command- power key) will not work (it has been suggested that this is only true for those computers which have a software-implemented keyboard power key; the Quadra/LC/Performa 600-series and the Performa 6000-series have the keyboard power key implemented in hardware (ROM), and supposedly do not have this problem).

• Mac Identifier 2.2: under System 7.5.x and 7.6.x, the "About This Macintosh..." window will oftentimes not show the correct model number and/or icon for your Mac. This control panel fixes this problem by examining your computer's hardware and displaying the correct information. Since the Mac model information is stored in a database in the control panel, newer Mac models released after the current version of Mac Identifier may not be correctly identified; the control panel therefore gives you the option of "custom" naming.

• Mac Restart (v2.0.3): automatically restarts your Mac at a user defined time or interval. Since it is always a good idea to restart once in a while, even for servers or other computers which need to be running constantly, Mac Restart is useful because it allows you to schedule such restarts at times when the computer would most likely not be "busy" (like the middle of the night). OS8.1 COMPATIBLE

• MacALLY Joystick: provides the ability to import and export settings and control set selections for the MacALLY joystick.

• MacEKG (v3.0.1): the "command center" for MicroMat's MacEKG diagnostic utility, which analyzes your computer's "health" at shutdown, startup, and/or other user-defined times.

This control panel allows you to decide when automatic tests should occur, and what tests should be executed.

• MacEnvy 2.1: an older control panel (1990) which displays info about your machine, as well as a neat "game of life" display.

• MacLinkPlus Setup and MacLinkPlus Setup CW(v9.7): allows you to setup preferences for the MacLinkPlus document translation system. **NOTE**: some people, after installing OS 8, get an error message that "Your Demo version of MacLink Plus has expired." This is due to a mixup with version numbers and the OS 8 installer. The solution, if the version installed on your machine is v9.0.2 or lower, is to delete the "MacLink Plus Setup" control panel, the "MacLinkPlus for Easy Open" extension, and the "DataViz" folder inside the System Folder. Then re-install MacLinkPlus from the OS 8 CD (the installer is in the "MacLinkPlus" folder inside the "Software Installers" folder). **NOTE**: the version of this file with "CW" at the end of its name is installed by Claris Works 5.

• MacSLIP (v3.0.3) [<.5/244]: commercial product from Hyde Park Software used for dial-up SLIP and PPP connections. The control panel allows you to choose settings for your modem and computer, as well as to set the SLIP/PPP variables for your internet provider. Requires the Slip Extension file (see "Third-Party   Extensions").

• MagicalKeys (v1.3.4): allows you to open up to four frequently-used applications, documents, folders, etc. using key combinations.

• MAXpowr PRO Control Panel 1.3: used with Newer Technologies' MAXpowr PRO processor cards in order to change the ratio of the backside cache speed.

• MegaDial (v1.5): installed by the MegaPhone software package. Provides support for automatic and manual dialing via the MegaPhone "speaker phone."

• Menuette (v2.0.1): alters the appearance of menu titles in the menu bar by replacing the names of the menus with small icons representing the functionality of each menu.

• MenuChoice (v2.1): much like Apple Menu Options and Be Hierarchic, enables "hierarchical" sub-menus in the Apple Menu. Enables a "Desktop" sub-menu which shows all the items currently on the desktop. Also allows you to perform Finder actions on menu items.

• Monaco Tuner (v1.1.1) [3/0]: allows you to select a font to be used in place of Monaco. [Monaco 9 has some drawbacks for programmers and I personally find it a bit hard to read in any application. I use this control panel to substitute ProFont, my favorite mono-spaced font, in place of Monaco. -Ed.]

• MountAlias (v1.0): automatically creates aliases to AppleShare volumes every time an AppleShare volume is mounted. You can temporarily disable MountAlias, so that you can mount a server without making an alias to it, by holding down the control key (it will beep to indicate when you can safely release the key). Requires System 7.0.x or later.

• Mouse2 (v1.4a) [<1/0]: doubles the speed of the mouse settings in the Mouse control panel.

• MouseStick II (v3.3.1): driver/ settings for the Gravis MouseStick II.

• Mousigator Control (v0.5.5): when used with the "Mousigator" extension, implements "cursor focusing," which allows you to bring a window to the front by simply moving the cursor over it for a second or so, rather than having to click the mouse button. On some other computing platforms, this behavior is called "X-Mouse."

• Mt. Everything (v1.1.1): allows you to mount any SCSI device or partition at any time, as well as unmount any device without having to shut down or restart. Also provides the ability to view partition maps.

• Navi iRae (v1.0): provides the ability to command-click in windows from within applications much like you can do in Finder windows. Navi iRae will show the path to the frontmost document on your hard drive. **NOTE**: requires Mac OS 8 or later.

• Net-Print Settings (v8.0.8): allows you to print or save highlighted/selected text in any application. You can even select multiple "chunks" of text in a single document and print or save it. Especially useful on web pages where you only want to save or print certain parts of the web page. When printing from a web browser, can also annotate the URL, title of the web page, and date printed. Finally, it will also print labels for Zip disks. Requires the Net-Print extension.

• NoChooser: installed by Delrina Fax PRO. Allows you to select a key combination to use in conjunction with the "File: Print" command which temporarily switches from the printer selected in the Chooser to the Delrina Fax PRO driver.

• NoDesktopCleanup (v1.5): adds a confirmation dialog (or a macro) to any menu item in any application. The name stems from an earlier version of the control panel which was intended to add a confirmation dialog to the "Clean Up Desktop" and "Clean Up All" commands in the Finder, in case you accidentally chose them. OS8.1 COMPATIBLE

• Now Utilities: the following control panels are part of the Now Utilities package. There are also three extensions which are installed by Now Utilities. Although you can pick and choose which of the Utilities you wish to install, all of them require the "Now Toolbox" extension. Note that there are quite a few conflicts with the Now Utilities which Now has summarized in a "Compatibility Notes" document on their web site. **NOTE**: the Now Utilities package is **not** compatible with OS 8 or OS 8.1.
  o NSM Toolbox 7.0: required to run version 7 of Now Startup Manager. Used in addition to Now Toolbox v6.7.1. Has a space at the beginning of its name to cause it to load early in the startup process.
  o Now Auto Type (v6.7.1): allows you to assign key combination/abbreviated "shortcuts" for frequently-typed or long text. When the shortcut is entered, it is automatically expanded to the full text.
  o Now Folder Menus (v6.7.1) [59/?]: provides similar functionality to PopUp Folder, the shareware utility. Allows you to browse folders without actually opening them by creating a hierarchical menu when you click on a folder. Also allows you to place files in folders using the same hierarchical menus.
  o Now Menus (v6.7.1) [138/234]: adds hierarchical menus, custom menus, pop-up menus, and hot-key capabilities to your Mac. Also provides added Open/Save options when used in conjunction with Now SuperBoomerang. Supposedly will crash if you try to display a hierarchical menu that has around 100 or more folders.
  o Now QuickFiler (v6.7.1): offers transparent and file-level compression, either manually or automatically in the background.
  o Now Save (v6.7.1): automatically saves your work in the background and automatically captures keystrokes to a file to allow you to rescue unsaved/lost work after a crash.
  o Now Shortcuts (v6.7.1) [75.5/1024]: allows you to control-click on an item in the Finder and be given a pop-up menu of commands that you can perform on it.
  o Now Startup Manager (v7.0.3): an alternative to Apple's Extensions Manager (see the chapter on Startup File Management). There is a conflict between the Display Enabler extension and Now Startup Manager where Startup Manager will not allow the Display Enabler to load. The solution is to either rename Display Enabler (with a few spaces at the front of the name) so that it loads before Startup Manager, or (and this supposedly doesn't always work) to use Startup Manager to load Display Enabler as the very first extension. This will supposedly be

fixed in an upcoming version of Startup Manager.

    o Now SuperBoomerang (v6.7.1) [81/104]: completely revamps save/open dialogues to allow you to jump quickly to frequently-used drives, folders, and files. When using Now Menus, provides hierarchical menus in the File menu to open files. Needs the "Now SB Extractor" document in the Extensions folder for full functionality.

    o Now Tabs (v6.7.1) [152/1024]: allows folders to be "collapsed" into "tabs" at the bottom of the screen. Allows a Windows 95-like palette at the bottom of the screen. Requires the "Now Tabs Plug Ins Folder" to be present in the control panels folder.

    o Now WYSIWYG Menus (v6.7.1) [57.5/73]: allows fonts in "Fonts" menus to be displayed in their actual font face. Groups fonts into "families" in menus. Allows customization of font menus. Incompatible with some applications, such as Microsoft Word.

• NUpowr Cache (v1.0): for PowerBook 1400 users with the Newer Technologies NUpowr processor upgrade. This control panel was originally designed so that users could turn off the built-in Level 2 cache to conserve battery power. However, the cache has been found to cause a problem under System 7.6.x where the computer can shut down and start up, but not restart properly. Users can use this control panel to turn the cache off for normal operation. Note that with the cache turned off, the performance of the processor will drop significantly.

• Okey Dokey/Okey Dokey Pro (v2.0.2): automatically selects the default ("OK," "Change," "Cancel") in modal dialogs after a user-defined time. Useful for automatically responding to dialogs which take over your Mac when it is unattended.

• OneClick (v1.0.3): provides the ability to set preferences for the OneClick utility package, which provides application and document launchers, as well as button and keyboard macros. OS 8 COMPATIBLE

• OpenWide: shareware which extends the capabilities of open/save dialog boxes so that longer file names are entirely visible and more files can be viewed at once. Is no longer available, as the author rolled its functionality into a newer utility, DialogView.

• OptiMem: see "RAM Charger" below.

• PDFWriter Shortcut (v2.0): allows you to choose the PDFWriter driver (see the "PDFWriter" chooser extension in the "Non-RAM" chapter) through a key/key combination without accessing the chooser.

• PaperPort: allows you to adjust the settings for Visioneer PaperPort scanners.

• Personal Backup [27.5/20.5]: utility supplied with Iomega Zip drives for managing data backups.

• PopChar: shareware which provides a pull-down menu from which you can select any character created with the current font. A newer version, PopChar Pro, has been released (see below).

• PopChar Pro (v1.0.2): provides a pull-down menu with all of the characters in the current font set. By selecting a character, it is entered into the active application. This is useful if you need to use special characters, but don't want to have to use the "KeyCaps" desk accessory to figure out the appropriate key combination.

• PopUp Folder (v2.0.1) [12.5/40]: allows you to browse folders without actually opening them by creating a hierarchical menu when you click on a folder. Also allows you to place files in folders, and perform other file-management operations, using the same hierarchical menus. Even enables these pop-up menus for folders/volumes in Open and Save dialog boxes. NOTE: there is a bug between System 7.6 and the "shortcuts" feature of PopUp Folder where a keyboard shortcut cannot be created using the "Add" button in the control panel -- upon clicking "Select" for the shortcut target, PopUp Folder will

lockup the computer. **NOTE**: PopUp Folder is not compatible with Mac OS 8 or later.

• PopupCD (v1.4.1): provides keyboard equivalents to audio CD controls and a "pop-up" remote control at any time via a mouse click. Allows you to control the CD player on your Mac without having to switch out of the current task.

• Power Windows (v2.0.1): allows you to drag the entire contents of windows instead of just a dotted outline. Note that this feature takes a good deal of processor power, so it may not be feasible on many slower systems. Also provides the option of "Translucent Power Windows," which provides similar functionality except the dragged window is translucent. This feature is even more processor intensive than the standard Power Windows feature, and supposedly is only a realistic option on fast PowerMacs. NOTE: prior to version 2.0, this control panel was two different extensions, Power Windows and Translucent Power Windows. OS8.1 COMPATIBLE

• PowerDimmer (v1.0): provides energy saving functions such as monitor and processor "sleeping" when the computer is not in use.

• PowerPump Control Panel (v1.0.1): control panel for use with the Newer Technology PowerPump accelerator. The PowerPump is an add-on for the Apple PowerPC 601upgrade for Quadras.

• PPP Menu (v2.0.5): when using FreePPP or Apple's OT/PPP, enables a Finder menu which allows you to connect and disconnect your PPP connection. Provides quick access to the FreePPP or PPP control panels. Also allows you to add items to the menu, such as your Internet browser, email client, etc. for easy Internet access. You should remove "~FreePPP Menu" if you have it installed. **NOTE**: Some people have reported conflicts between OS 8.1 and PPP Menu version 2.0.3. Version 2.0.5 supposedly fixes these problems.

• Pretty Scroll (v1.0.6): enables "live" scrolling in windows and documents. Allows you to turn live scrolling on or off without restarting. Allows you to adjust the speed/step size of scrolling.

• PrinterSwitch (v1.3): allows you to select among different printers via the Print and Page Setup dialogs and/or a hot key. Eliminates the need to use the Chooser to select a printer. Automatically switches network connections and AppleTalk status.

• PrintGuard (v1.0.6): alerts users when they are printing to user-defined printers. Useful in a network setting where some printers are relatively expensive to print from, and administrators want to warn people before they print to those printers. Allows you to customize the alert message, and to protect settings with a password. v1.0.5 is compatible with LaserWriter 8.5.1 and also allows you to reverse functionality so that it alerts users when they are **not** printing to their usual printer.

• ProControl (v1.5): control panel for the ProNitron 20/400.

• Program Switcher (v4.4.3): allows you to switch between currently-running applications via a user-definable key combination, much like the similar feature in Microsoft Windows. Also provides key combinations for Application Menu commands. OS8.1 COMPATIBLE

Third-Party Control Panels

(Q-◊)

Below and in the previous two chapters are many non-Apple control panels. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

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• QuickDay: used by Now Up-To-Date. Supposedly has a troublesome memory leak problem, and causes freezes at startup, crashes when opening QuickDay and crashes when waking the 3400 from sleep. These problems have been confirmed by Now Software.

• QuicKeys (v3.5.2r1): QuicKeys is a "macro" program which allows your Mac to automatically execute operations and/or scripts through user-defined keys and/or key combinations. This control panel allows you to configure QuicKeys and access the QuickKeys editor. NOTE: CE Software has confirmed some incompatibilities between QuicKeys 3.5 and utilities that manipulate menus, such as Now Menus.

• QuickPop (v2.11): allows you to assign "hot keys" for such things as launching applications, opening control panels, changing sound volume, and changing monitor depth. Also provides a pop-up menu, triggered by a key-click combination, which provides the same abilities.

• QuickScrap (v1.0): allows you to send pictures, text, sounds, etc. directly to the Scrapbook file using a user-definable key combination. Without this utility, you have to copy the item, open the Scrapbook, paste the item, then switch back to the original application. Also provides a "multiple clipboard" which can store up to 100 items.

• QuickShelf: installed by Microsoft Bookshelf. Places an icon in the menu bar to provide quick access to the Microsoft Bookshelf components. **NOTE**: there is an incompatibility between this control panel and the OS 8 and OS 8.1 Finder where selecting an item from the menu freezes the system for approximately a minute before finally launching Bookshelf.

• RAM Charger (v8.0.1): utility which optimizes RAM use of applications. Compresses and manages RAM to allow your Mac to use memory more efficiently. This utility was previously known as "OptiMem," and has been distributed by two different companies. OS8 COMPATIBLE

• RAM Doubler (v2.0.2) [<.5/0]: new version of the popular Connectix utility (earlier version was an extension) which provides "virtual memory" support similar to Apple's virtual memory, but much more efficient and effective. Version 2.0's control panel allows you to set virtual memory from zero to three times your actual installed RAM (thus making the utility a RAM Tripler!). NOTE: If you set RAM Doubler 2's memory setting to "zero" you will not benefit from any additional available memory, but you **will** benefit from what is known as "file mapping." On a PowerMac, your PowerPC native applications will benefit from a smaller RAM footprint and more efficient operation, but you will not suffer the overall decrease in speed that usually comes from using virtual memory. Version 2.0.1 fixes a freeze when using Retrospect 3.0A on a PCI Mac. Also, Connectix has said that users must update RAM Doubler to at least v2.0.1 in order to be compatible with the SpeedDoubler 2.0 and 8.1. **NOTE**: RAM Doubler v2.0.1 and earlier, under Mac OS 8, will not let you start the PC side of the PowerMac 7200 DOS Compatible. **NOTE**: There is a conflict between RAM Doubler (all versions) and Ray Dream Studio 5.0. In order to use Ray Dream Studio, you must disable RAM Doubler. **NOTE**: some users have reported conflicts between RAM Doubler and version 2.3 of UMAX's VistaScan software. **NOTE**: according to Microsoft, there is a conflict between Office 98 and RAM Doubler v2.0.2. OS8.1 COMPATIBLE

• Respond (v1.0a1): allows background processes to continue when accessing menus. Normally, when accessing menus, all background processes stop until the menu is released. Enables "live" scrolling in application windows. Provides "live" window dragging while again allowing background processes to continue. **NOTE**: some users report that Respond conflicts with the Global Village Global Fax software.

• ResSwitcher (v1.0): allows you to quickly change monitor resolutions via a pull-down menu in the menu bar.

• Save That Link! (v1.0): allows you to save all of the URLs from a selected block of text (in an email, document, web browser, etc.) to an HTML file on your hard drive using the "Command-C" key combination. You can later browse this file and the saved links contained in it from within your web browser.

• Scrollability (v1.0.2): formerly called "ScrollMagick." Allows you to scroll up and down in documents by either placing your cursor close to the edge of a window and moving it up and down, or by "grabbing" the document and dragging it up and down.

• ScrollMagick (v1.0.1): renamed "Scrollability" (see above).

• SCSI (v1.0): older utility which provides a display of the status of the SCSI bus. Also allows you to mount SCSI devices from the control panel. Originally written for System 4.0! For this functionality today, you should use SCSIProbe (below).

• SCSIProbe (v4.3): allows you to identify and mount SCSI devices connected to your Mac. Provides information on SCSI ID#, device type, vendor, product and version. Provides the option of a startup extension that can mount volumes automatically. Supports multiple SCSI busses. Can be used without being installed in the Control Panels folder.

• Serial Mouse (v1.0.1): allows you to connect an IBM-type serial mouse to your Macintosh. Works with Microsoft and Mouse Systems compatible mice.

• Serial Speed 230 (v1.7): intended for use only on PowerMacs and the Quadra AV Macs. Supposedly provides support for serial port speeds of 115 Kbps and 230 Kbps, even if applications do not provide built-in support for those speeds.

• Shutdown Delay (v2.5): presents a dialog at shutdown and restart which gives you the option of canceling, restarting, shutting down, force quitting to return to the Finder, or continuing with the

original command (shutdown or restart). This could be useful in circumstances where an application crashes and you are asked to restart the computer. It is also helpful when you accidentally choose "Shut Down" or "Restart."

• Singer (v1.1): automatically plays user-defined sounds whenever you type their name on the keyboard (whether in the Finder or an application).

• Sleeper (v3.0.2) [28/56]: shareware which provides energy saving functions like screen dimming or screen power-off, hard drive spin down, and automatic shut down. Also provides a "dimmer" screen saver. OS8.1 COMPATIBLE

• SmartKeys (v3.2.1): automatically corrects common "typewriter" mistakes, such as two spaces between sentences. Automatically corrects common "fast typing" errors, such as "teh" for "the." Also keeps a log of all keystrokes, so if your computer ever crashes and you lose an important document, you can recreate the document via the SmartKeys log.

• SmartScroll (v3.0): provides "proportional scrollbar tabs" and active scrolling in Finder and application windows. Version 3.0 provides the option for excluding applications which conflict. As of version 3.0 of SmartScroll, PhotoShop versions prior to 4.0 and the GlobalFax applications are not compatible and should be excluded.

• Snap-To (v2.1.2): "snaps" the cursor to the default button in any dialog box. Can also snap the cursor back to its original location after you close the dialog box, and can automatically disable itself in Open or Save dialogs. Can also "glide" the cursor to the default button and back instead of abruptly snapping it there. OS8.1 COMPATIBLE

• Snapz Pro (v1.0.1): a screen capture utility from Ambrosia Software. It not only "captures" the screen at times when the standard shift- command- 3 won't (when a screen saver is active), but also allows you to choose from 16 different file types for your screen captures. (The older version of this utility was simply called "Snapz.")

• Snitch (v2.5.1) [164.5/170.5]: extends the Finder's "Get Info" windows, allowing more types of file information to be viewed. Also allows you to edit this information. Requires the "Snitch Plugins" folder in the Preferences folder. On PowerMacs, requires that the "SnitchLib" shared library be installed in the Extensions folder. Version 2.5 required that the "Snitch Liaison" extension be installed. OS8.1 COMPATIBLE

• Software FPU (v3.04) [20.5/32]: emulates a floating-point math coprocessor on machines which do not have one. Also allows PowerMacs to emulate the 680x0 FPU. Available in a PowerPC-native version, called Power FPU.

• SoundMaster (v1.8.1): shareware which allows you to designate different sounds to play at different times and events (shutdown, startup, when emptying the trash, when ejecting a disk, etc.)

• SpeakIt! (v2.0): part of the MacYack Pro 2.0 speech software utility package. Traps keystrokes which tell the computer to speak selected text. Requires the VoiceBox Scripting Addition to be in the Scripting Additions folder.

• Speech Typer Controller (v1.0.2): allows you to set preferences for the Speech Typer package. When the Speech software is installed (see the "Groups" section), Speech Typer allows your computer to automatically type in pre-defined phrases when you issue voice commands. Only works on PowerPC computers. Requires the "Speech Typer Engine" extension.

• Speed Beep (v2.0.7): allows your Mac to play system alert sounds in the background, so as not to

interrupt foreground operations. Also allows you to customize system alerts.

• Speed Doubler™ 8 (v8.1) [NA; keep in mind that although the Speed Doubler extension and control panel do not take up RAM, Speed Doubler increases your cache settings in the "Memory" control panel]: Connectix utility which speeds up your Mac by speeding up Finder copies, providing faster disk access, and, on PowerMacs, providing better 680x0 emulation than the Mac OS. Version 8 also added support for keyboard control of menu items and keyboard "shortcuts." **NOTE**: v8.1 is required for compatibility with Mac OS 8.1. Requires the Speed Doubler™ 8 Extension. OS8.1 COMPATIBLE

• SpeedControl v2.1: distributed by PowerLogix, this control panel tests your Level 2 cache, calculates the size of the Level 2 cache, and reports the CPU clock speed to within .5 MHz.

• Spell Catcher (v1.5.9) [49.5/92]: newest version of Thunder 7 (below). Interactive spell checker and thesaurus which is active across all applications. Automatically notifies you about and, if desired, corrects misspellings and common grammatical and punctuation errors. Allows custom "shortcuts" to frequently-used text. Can also keep a log of every keystroke, which you can later use to recover documents if lost in a crash or power failure.

• Spot On cdev (v2.3.1): supplied with various optical and magnetic drives with formatting and disk management tools. Drives formatted with this utility require this control panel in order to be mounted automatically.

• StartThing (1.0.5): screen saver which allows you to choose a Director project, Java Applet, or any other application to run after a user-defined idle time.

• Startup Doubler (v1.1): accelerates the startup process by making extensions and control panels load faster. NOTE: the first startup after installation will occur normally -- Startup Doubler uses this first startup to build it's data file. The author claims that the best performance will be reached after several restarts. NOTE: Startup Doubler is not compatible with FWB's TurboBoot. Version 1.1 added support for OS 8.1 and HFS Plus. OS8.1 COMPATIBLE

• Startup Player (v2.1): allows your computer to play a user-selected sound over and over until all extensions and control panels have loaded.

• StuffCM Control (v1.1): used by the "StuffCM" Contextual Menu plugin, which lets you stuff, unstuff, convert, and BinHex files directly in the Finder. This control panel allows you to change the preferences for the utility. Requires the StuffIt Engine extension to be installed. OS8 COMPATIBLE

• Super Comments (v2.0.8): under System 7.5.3 and earlier, whenever you would "rebuild" the desktop file, any comments in "Get Info" boxes would be erased and lost. This file allows your system software to keep these Finder Get Info comments when the desktop is rebuilt. This file is not needed under System 7.5.5 and later, as the System no longer deletes these comments.

• Super Save (v2.0.1): utility which saves every keystroke you make to a log file. If your computer crashes, or you lose an important file, you can resurrect your work from the log file. Provides an option for a "password disable" keystroke so that you can temporarily turn Super Save off while you enter a password or other confidential information (so that it is not saved to the log).

• Surf Express™ (v1.1.2): actually an application. Improves web browser performance in both Netscape Navigator and Microsoft Internet Explorer through a unique caching mechanism. Also allows you to search and view previously viewed web pages. Requires the Surf Express™ Extension. **NOTE**: there is a known conflict between Surf Express v1.1.1 and BBEdit v4.5.1 which causes BBEdit to freeze when launched with Surf Express installed..

• Switch-It (v1.5): allows you to switch between running applications via the keyboard, much like the Alt-Tab feature of Microsoft Windows. Also allows you to quit any running application without having to switch to that app.

• SwithRes Control (v1.2): when used with the "SwitchRes" control strip module, allows you to choose which resolutions your monitor will display without a confirmation dialog and which will still require a confimation dialog. Automatically saves the positions of icons on the desktop when switching between resolutions. Also allows you to assign specific resolutions to specific applications, so that launching the application will automatically change the resolution. **NOTE**: requires Mac OS 8 or later.

• Symbionts Control (v2.8): part of the Symbionts utility which monitors the startup process. It allows you to control which extensions and control panels launch at startup, and provides details on each file such as how much memory it requires. Requires the "!Symbionts" extension. (See the "Startup File Management" chapter.)

• TappyType (v2.0.1): shareware which makes your Mac sound like an old-fashioned typewriter when you type!

• TaskMan (v1.2): shareware which allows you to switch between running applications using a keyboard combination, much like the shareware "Program Switcher" and "PwrSwitcher."

• Teflon (v2.2): allows you to set your menus so that they always "stick" when clicked, never stick when clicked, or automatically drop down when the cursor passes over them. Also allows you to set the "stickiness threshold." The option for automatic drop-down is useful for people using PowerBooks who find that "clicking" the trackpad button is not very convenient. OS8.1 COMPATIBLE

• TeleFinder TCP (v1.0): on BBS' which use TeleFinder software, this control panel on the host computer allows users to access the BBS over a TCP/IP connection, rather than having to dial in.

• Teleport, Teleport Serial, Teleport Bronze, etc.: used by the Teleport line of modems from Global Village. Allows you to register your modem with Global Village, "reset" the modem, and change the settings.

• The Lightsaver 2: automatically changes the Daylight Savings Time settings on the appropriate dates each year. Come with predefined calendar settings for the U.S. and European Union, but can be manually configured as well.

• Thunder 7 (v1.5.5) [50/92]: earlier incarnation of Spell Catcher (above).

• TitlePop (v3.0.3): provides a pull-down menu in the title bar of each window which lists all open applications (including the Finder) and all windows open within applications (including Finder windows). Version 3.0 added drag and drop capability to menu items. **NOTE**: Prior to version 3.0, this utility was an extension rather than a control panel. As of v3.0.2, it has been changed back into a control panel.

• True Finder Integration (v4.5) [593/768]: part of the StuffIt Deluxe package. Allows you to double-click on StuffIt archives and have them open just like "volumes" in the Finder, so you can view the individual files within the archives. By dragging a file outside of the archive window, it is "unstuffed." By moving a file into the archive window, it is compressed and incorporated into the archive. Allows compressing/decompressing by renaming a file/folder in the Finder (adding ".sit" to a file name causes it to compress automatically; deleting the ".sit" from an archive's name causes it to expand). Adds a "Magic Menu" to the Finder which allows you to perform many StuffIt actions merely by selecting an item and selecting the appropriate menu item. **NOTE**: the Magic Menu option supposedly will not allow the Connectix QuickCam software to work properly. **NOTE**: Aladdin recommends that users of Mac OS 8 disable the Magic Menu component of StuffIt Deluxe. **NOTE**: if you decide not to heed

Aladdin's advice not to use Magic Menu under OS 8, note that there is a bug in v4.5 of the Magic Menu control panel where you may get an error that the compression plugin did not load because the "Magic Menu CP Plugin is not registered." Some users have found that if you install StuffIt Deluxe v4.5 on another disk, then copy the Magic Menu CMM over to the problem disk, you will no longer get the error. Aladdin technical support suggests another solution: use the "uninstall" option to uninstall StuffIt Deluxe, then re-install it. **NOTE**: True Finder Integration is incompatible with SpeedDoubler 8.0. You should update to 8.0.1 or 8.1.

• Turbo Mouse Control (v4.10): allows you to set preferences for the Kensington Turbo Mouse trackball. Only works properly if the "Turbo Mouse Startup" file is in your System Folder at startup.

• Twin Turbo (v4.0): part of the software for IMS Twin Turbo graphics cards. Allows you to adjust monitor resolution and color depth settings. Under System 7.5.3 and earlier systems, requires that the "Display Library" extension be present.

• TypeIt4Me (v4.7.0): provides "shortcuts" to commonly used text, where typing a specific character combination automatically expands it to the unabridged version. For example, typing "dt" produces the current date. Shortcuts are customizable; for example, "adr" could be designated to produce the user's full address.

• Veil: screen saver which blanks out the screen after a period of inactivity.

• Victoire!: shareware which provides "cheating" options in a number of popular games.

• Virtual Disk Starter/ Virtual Disk (v2.0.3a): limited version/ full version of the commercial product "Virtual Disk." Both allow you to "access" files located on "off-line" volumes as if the volumes were mounted. The trial version comes bundled with Iomega zip drives. **NOTE**: not compatible with MacOS 8.1's HFS Plus.

• VSO IIfx (v1.0a4): provides the driver (and the ability to change settings) for the Newer Technology Variable Speed Overdrive accelerator for the IIfx.

• VSO IIsi (v2.2): provides the driver (and the ability to change settings) for the Newer Technology Variable Speed Overdrive accelerator for the IIsi.

• VSO Quadra 700 (v1.0): provides the driver (and the ability to change settings) for the Newer Technology Variable Speed Overdrive accelerator for the Quadra 700.

• VSO Quadra 900 (v1.0): provides the driver (and the ability to change settings) for the Newer Technology Variable Speed Overdrive accelerator for the Quadra 900.

• VSO Quadra 950 (v1.0.1): provides the driver (and the ability to change settings) for the Newer Technology Variable Speed Overdrive accelerator for the Quadra 950.

• Wacom Tablet Driver (v2.5.5): driver for drawing/ graphics tablets by Wacom.

• WakeUp Items (v1.0.2): automatically opens applications and/or documents when your computer "wakes" from sleep mode. Works with any sleep-capable Mac -- any PowerBook or PCI Mac -- or any Mac running v2.04 or later of the "Sleeper" control panel. OS8.1 COMPATIBLE

• WebFree (v1.0): when browsing the World Wide Web, allows you to screen out any combination of ads, graphics, links and "cookies" from web sites. Useful for modem users who do not want to download large graphics, for parents and teachers who want to monitor what children see, and many others who just want some control over their web browsing.

• Window Monkey (v1.2.3): allows you to add patterns, pictures, or textures to Finder windows. Enables a "window" menu which gives you access to every window in every application. Provides instant access to recently-used folders.

• Window Tamer (v1.0.1): utility for OS 8 which allows you to organize Finder windows via "View" options, position, and size. Allows you to save pre-defined "sets" of preferences which can be called up for any window. Requires the Window Tamer Extension. OS8 COMPATIBLE

• Wish I were...: works with the " Wish I were..." extension to allow your Mac to think it is actually a different model. This could be helpful if you have a software installer which only runs on certain hardware, and you want to install the software on a different computer model. The control panel allows you to choose which model you would like your computer to think it is. OS8.1 COMPATIBLE

• WunderBar (v1.0.2) [48/64]: adds a "toolbar" to every Finder window with buttons for frequently accessed Finder menu commands (duplicate, move to trash, make alias, etc.). Also allows you to perform common Finder commands (empty trash, open Control Panels folder) from within Finder windows.

• XMas Lights (v1.1): places strings of flashing colored lights around the border of your screen.

• YesNoCancel (v1.2.1): allow you to select the yes/no/cancel options in a dialog box by using the keyboard. Rather than using the command-key combinations built into the system software, this control panel allows you to designate single keys which will perform the same task.

• ZoomBar (v2.3): shareware which works like Apple's WindowShade by allowing you to reduce windows to the title bar.

• ~ATM™ 4.0.3 or ~ATM™ Deluxe 4.0.3 [1046/?]: Adobe Type Manager allows Type 1 fonts to display smoothly and provides support for font substitution. ATM Deluxe also provides support for font management. ATM is required for versions of Acrobat and Acrobat Reader prior to version 3.0 to function. For this control panel to function, the special Adobe fonts must be present. **NOTE**: there are quite a few incompatibilities between ATM and other files and applications; the "ReadMe" file which accompanies ATM outlines these problems in detail. OS8 COMPATIBLE

• ~FreePPP Menu (v2.5v2): when using FreePPP for Internet connectivity, this control panel allows you to turn the FreePPP menu on or off. The menu allows you to connect, disconnect, and open the FreePPP Setup control panel/application from the menu bar. If you are using the newer "PPP Menu," you should disable this file

• ~NetDoubler™ (v1.5/1.5P): part of the NetDoubler™ ethernet network acceleration utility from Asanté. Supposedly provides substantial increases in ethernet performance. Requires that the "server" be running the NetDoubler Server Module application. Requires System 7.5.3 and Open Transport 1.1 or newer. Versions ending in "P" shipped with PowerComputing computers.

• °Remote [<.5/60]: used by Retrospect for remote data backups.

• ◊Virex Control Panel (v5.7.1): provides the ability to have documents and volumes automatically scanned for viruses, and allows you to change settings for automatic scans.

Third-Party Extensions

(-C)

Below and in the next three chapters are many non-Apple extensions. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

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• !! TattleINIT (v1.0.4): works with the "TattleTech" and "TattleTale" utilities to monitor the startup process. Has two special characters at the beginning of its name so that it loads early in the startup process.

• !! VM 8.0 Fix (1.0): distributed by Bare Bones Software, fixes a problem when using virtual memory on 68040 computers running OS 8. The problem causes general instability when running Bare Bones' BBEdit, but can supposedly affect other applications, as well. This bug has supposedly been fixed in OS 8.1, so if you are runnning OS 8.1, you no longer need this file. Has two special characters at the beginning of its name so that it loads early in the startup process. OS8

• !!! Conflict Extension (v4.1.1): allows Conflict Catcher (see the section on startup file management utilities) to load first in the startup process, and also allows you to open Conflict Catcher at startup. Has a special character at the beginning of its name to allow it to load early in the startup process.

• ! Disinfectant INIT (v3.7.1) [2.5/20]: a freeware virus detection extension. When installed, it will present an alert whenever a virus is detected in a new file. Most people can get by with this alone and probably don't need Virex or SAM unless they do a lot of cross-platform file exchanges. Also, Disinfectant cannot detect the widespread Word "Macro" viruses, while Virex and SAM can. Has a special character at the beginning of its name to allow it to load early in the startup process.

• Run "Extension List" (v1.0.1): see "Extension List" in the "Third-Party Control Panels" section. Actually has two spaces at the beginning of its name to force it to load early in the startup process.

• !HelpLess Extension (v1.0.2): see the "HelpLess Control" entry in the Third-Party Control Panels section. The name of this extension contains a space to cause it to load earlier in the startup process.

• !Symbionts (v2.8): part of the Symbionts utility which monitors the startup process. It allows you to control which extensions and control panels launch at startup, and provides details on each file such as how much memory it requires. Requires the "Symbionts Control" control panel. (See the "Startup File Management" chapter.)

• Invisible Oasis: a "hacked" version of the Mac Life Insurance extension which records keystrokes to files. It creates keystroke logs for each application. Note that the extension has a space at the beginning to cause it to load early in the startup process.

• UltraFind Extension (v2.5.3): allows you to open the UltraFind utility at any time via a key combination. Note that the extension has a space at the beginning to cause it to load early in the startup process.

• Wish I were...: works with the "Wish I were..." control panel to allow your Mac to think it is actually a different model. This could be helpful if you have a software installer which only runs on certain hardware, and you want to install the software on a different computer model. The control panel allows you to choose which model you would like your computer to think it is. Has a space at the beginning of its name to force it to load earlier in the startup process.

• 3Dfx RAVE (v1.0): when using a hardware 3Dfx accelerator card, this shared library provides support for the RAVE standard.

• 3DfxGlideLib2.x: when using a hardware 3Dfx accelerator card, this shared library provides support for the 3DfxGlide standard.

• 3Dfx_2D3D_Swap (v1.0.0): when using a 3D accelerator card which supports 3Dfx graphics, this extension allows you to press Control-9 to toggle 3Dfx support on and off, which is useful if your 3D card is giving you problems and you are attempting to resolve the problem without having to reboot.

• 3Dfx_PCI_Sound_Fix: supposedly addresses a sound "stuttering" problem on older PCI PowerMacs running the TechWorks Power3D card and System 7.5.x or earlier.

• 5thColumn™ 1.1: when installed on a computer, allows users to perform certain actions on that computer over an AppleTalk network. For example, if computer "A" had this extension installed, a user on computer "B," which is connected to "A" via an AppleTalk network, could send instructions for computer "A" to launch an application. Mainly of use to programmers, as the set of instructions which can be given is limited.

• Aaron Light (v1.2.3): some applications do not use the new OS 8 "appearance" correctly. This file patches them (not permanently) so that they more closely resemble the overall OS8 appearance. Patches progress bars, floating windows and dialog box backgrounds. It also substitutes Espi Sans Bold for Chicago 12. This means that in the Appearance control panel, while it looks as though you have a choice between Charcoal and Chicago, choosing Chicago actually provides Espi Sans Bold. **NOTE**: as with other utilities which patch the appearance of your system, make sure that you are running the latest version of Aaron Light by visiting the Aaron Light web site. OS8 COMPATIBLE

• Accusoft: installed by Deneba's Canvas and Accusoft's ImageGear. A shared library which implements the translation and decoding of certain raster/bitmapped format graphics, such as TIFF files. If you have applications which are written to take advantage of this library, and it is not installed, you will not be able to import raster files into the application. As a shared library, it does not load at startup, but only when called upon by those applications which need it.

• ACTION Files™ (v1.0): one of the ACTION Utilities, ACTION Files enhances the look and feel of the Mac OS's "Open" and "Save" dialogs by adding the ability to get more information, create folders, make

aliases, duplicate files/folders, rename items or move items to the trash. Allows you to "find" files while in an Open/Save dialog and sort dialog lists just as you would a Finder window. Allows you to resize dialog windows to view more items, and move dialog windows to view what is behind the dialog.

• ActiveDrag INIT (v1.0): allows live dragging of windows on the screen, rather than just the dragging of the outline of windows.

• Adaptec UDF Volume Access (v1.0.2): provides support for the "Optical Storage Technology Association UDF 1.5" specification, which includes Adaptec DirectCD discs.

• Adobe Type Reunion (v1.2): font menu utility, similar to Now WYSIWYG Menus, which groups font families together in hierarchical sub-menus and shows font names in their respective fonts. **NOTE**: ATR has been updated to v2.0, and is now a control panel called "Adobe Type Reunion Deluxe."

• AlertFix (v1.0): fixes a trivial bug in the System software (trivial meaning it doesn't functionally hurt anything, but some people are annoyed by the aesthetics) where alerts with custom color tables always draw in the "unhighlighted" mode. I do not know whether this "bug" has been fixed or not, so the extension may or may not be obsolete.

• Aladdin: not an extension, but a folder within the Extensions folder which stores the documents and translaters used by the StuffIt Deluxe package.

• Amico 2.1: stands for Apple Menu Items Custom Order. Provides support for changing the order of items in the Apple Menu without having to rename them. Also allows you to insert "divider" lines in the Apple Menu. **NOTE**: you can disable Amico at startup by holding down the "A" key.

• ANSI C++ PPC Lib: according to Metrowerks (the company which provides this file), provides system-level support for applications written in the C++ language. One source of this file is the MegaPhone speaker phone/answering machine modem software, which will not run without it.

• AnySearch (v1.0b9): adds a "search" button and text-entry field to Netscape's directory bar, allowing you to search the web without actually going to one of the search engine web pages. This extension was formerly called "MES." Uses the search engine files located in the "AnySearch" folder in the Preferences folder.

• Apollo (v2.0): menu-based launching utility which allows you to create a pop-up menu of your favorite applications, folders, documents, etc. Allows you to configure System settings for each application (sound level, default open/save directory, screen bit depth, etc.) which are automatically set when the application is launched. Also provides the ability to switch between running applications using the keyboard. Conflicts with the RelaxFinger INIT. Works with the "Eagle" extension.

• APS CD-ROM Extension: used by APS CD-ROM and PD-4 drives instead of the standard Apple CD-ROM extension.

• Arrange Backgrounder: installed by CE Software's Web Arranger to allow you to manage your information   on-the-fly.

• ArtScreens INIT (v2.05): installed by the ArtScreens screen saver package to allow the screen saver to start automatically.

• ASTARTE MPEG Exporter (v1.0b4): from the "ReadMe" file: "an export component for QuickTime 2.5 which exports QuickTime movies as MPEG QuickTime movies. It can be used from within any application which supports QuickTime export components (e.g. MoviePlayer)." Only works on PowerPC machines.

• ATI Stuff: the following files are installed by some ATI graphics cards. Luckily, the ATI "Details" function provides very good descriptions of these files:

    o ATI 3D Accelerator (v3.3.7) [NA]: a shared library which links the QuickDraw 3D system to the ATI 3D hardware acceleration.

    o ATI Extension (v2.0.1) [82.5/0]: provides support for the various features of the ATI Displays control panel.

    o ATI Graphics Accelerator (various versions) [139/96]: provides 2D graphics acceleration when using ATI graphics cards. According to ATI, there are several versions of this extension, each of which serves different purposes. System 7.6.1 actually installs the appropriate extension based on what System and/or ATI graphics card you have: v1.1.4 is an older version which works with any XClaim card (VR, 3D, GA) or other ATI card. It is only installed in a "universal" system folder. Graphics Accelerator II is only installed on systems which have the ATI XClaim GA card installed. The third is ATI Graphics Accelerator v1.2.3, which is for the XClaim VR card.

    o ATI Graphics Driver (v1.0.14): installed on some machines by Mac OS 8 for support of ATI video cards with the "mach64" graphics chip.

    o ATI Mac2TV™ Monitor (v1.0.1) [NA]: actually a background application. Launches at startup and then runs in the background to monitor the Mac2TV functions. Unlike most applications, background applications cannot be quit from the Finder; you need to use some other utility to quit it, or disable it at startup.

    o ATI Mac2TV™ Startup (v1.0.1) [NA]: actually an application which resides in the Extensions folder. It launches at startup, checks to see if you had the Mac2TV feature enabled at the last shutdown, and if so, restores the previous settings.

    o ATI MPEG Accelerator (v2.0) [NA]: accelerates MPEG video, but only works on machines which do not have the XClaim VR card installed. I have been told that it is only found on PowerMac 5500 and 6500 systems.

    o ATI Sound Catalyst (v2.0.1): only for PowerMac 7200 computers. Fixes certain sound corruption problems with the XClaim VR card on the 7200. This files supposedly conflicts with Adobe Type Manager and the Microsoft Dialog Library File.

    o ATI Tuner: enables the ATI TV Tuner hardware.

    o ATI Video Memory Manager (v3.0) [NA]: a shared library which keeps track of bitmaps and textures in offscreen memory for ATI 3D hardware acceleration.

    o ATI Video Digitizer (v1.9.1) [NA]: a component which provides video capture and playthrough capabilities. Captured movies are saved in the YUV 4:2:2 format.

    o ATI YUV Accelerator (v2.0) [NA]: a component of QuickTime which provides hardware scaling and decoding of YUV data streams for QuickTime acceleration.

    o Spinnaker II Driver (v1.1f4.1):?

• AutoClock Extension (v1.4.4): allows the AutoClock utility to automatically dial up a time server to adjust your Mac's clock. Also automatically adjusts the clock without a time server by keeping track of how far off the clock is each time it dials in, and extrapolating that data for continual correction. Finally, automatically adjusts your clock for Daylight Saving Time.

• Avid Cinema Extension (v1.1): driver for the Avid Cinema PCI card. If this file shows an "X" through it at startup, it could be due to one of the following reasons: Virtual memory is on or RAM Doubler is installed; QuickTime 2.5 or later isn't installed; the Avid Cinema Extension loaded before QuickTime 2.5; or the Avid Cinema card isn't installed or isn't seated properly. Note: the Apple Video Player will not be able to record if this extension is installed. Also, on Performa 6400 machines, there is a conflict between this extension and the Apple Video Player: if your display is set to "256 Colors" the AVP will not display video input properly or will freeze when trying to record. To avoid this problem you should set your display to "Thousands of Colors" or disable this extension. The Delrina Fax extension SlContDrvr 1.5.1 (see below) is incompatible with Avid Cinema. See also the "54xx/64xx

Update" entry under "Extensions."

• Avid VideoShop PowerPlug (v3.0.2): provides native PPC support to accelerate Avid VideoShop on PowerMacs.

• Background Printing: provides support for "background printing" when using Hewlett-Packard printers. **NOTE**: it has been reported that certain PowerBooks have problems "waking up" from sleep when this extension is installed.

• Billminder: used by Quicken to alert the user that a bill payment is due. I have heard many complaints about conflicts with this extension.

• Bomb Shelter: an older extension designed to allow you to recover from system crashes by offering a "Resume" button in addition to the usual "Restart," after which you can save your work, etc. before restarting. However, its current value is questionable, as it has not been updated in years.

• Breathing Room (v1.0): comes with the third-party "OT/PPP Control Strip Module." Basically improves stability problems with the module by increasing the Finder's memory partition. Some people have found that installing it eliminates errors associated with other applications and utilities as well.

• Butler DAL: a version of the DAL extension which is provided by EveryWare. According to an EveryWare employee, DAL, or Data Access Language, was a method of communicating with various RDBMS'es that Apple developed. EveryWare adapted the DAL extension for use with their Butler SQL database for the Mac OS.

• Butler Link Access: extension which uses Apple's Program Linking functionality to connect to Butler SQL (see "Butler DAL" above).

• Butler SQL 68K: 680x0 ODBC driver for Butler SQL (see "Butler DAL" above).

• Butler SQL PPC: PowerPC ODBC driver for Butler SQL (see "Butler DAL" above).

• CacheCow Engine: part of MacUser's CacheCow utility, which helps you keep your web browser cache under control by deleting cache files that are older than the number of days you specify. Also deletes files larger than a certain size (which you can choose) and files smaller than your hard drive's minimum allocation block size, thus saving disk space. CacheCow has a "security" feature that will not delete non-cache files, just in case you accidentally put a valuable file in the cache folder. Requires the accompanying "CacheCow Control Panel."

• CameraMan Extension (v2.5): installed by the AddMotion software package. Allows you to record and save screen activity to a QuickTime movie file (kind of like a full-motion "screen shot").

• CapsLockIsDown (v1.0): the CapsLock control panel gives PowerBook users visual feedback that the CapsLock key is engaged; this file gives you audible feedback by beeping every second. It also works on desktop machines. You can prevent it from loading at startup by holding down the mouse button.

• CDIconKiller (v1.5) [.5/.5]: prevents the loading of custom icons on mounted read-only volumes. Useful when mounting large volumes with many custom icons, which dramatically slow down the opening of Finder windows. You can temporarily show icons by holding down the command key when opening a folder. NOTE: version 1.3.4 was the last real "extension" version of this file; versions 1.4 and newer are actually "fake" control panels which should be placed in the "Startup Items" folder inside the System Folder. **NOTE**: there is a conflict between CDIconKiller and Now Utilities which can cause Type 10 errors in the Finder. Also, if you have the "Launcher" control panel set to open at startup, you should follow the instructions in the "CDIconKiller Docs" file for instructions on a possible conflict and

the solution. OS8 COMPATIBLE

• CD-ROM ext 1.0.1: a version of the Apple CD-ROM driver supplied by CharisMac for use with some CharisMac CD-ROM drives, as well as several other non-Apple CD-ROM drives. It conflicts with the newer Apple CD-ROM drivers, and you can only have one of the two installed at a time.

• CD-ROM Toolkit Extension (v2.0.5) [549/1164]: enables the advanced driver and caching provided by FWB's CD-ROM Toolkit. Also provides support for many third-party CD-ROM drives which are not directly supported by Apple's CD-ROM software. Note that the RAM usage here is on my system. It will vary greatly depending on what you set the cache to be in the CD-ROM Toolkit application. The default setting is 384k, but can be as low as 65k or as high as your available RAM.

• CD-Sunrise v2.2c: a driver which supposedly provides support for almost all non-Apple CD-ROM drives.

• CE Toolbox [73.5/76]: needed for many CE Software products including older versions of QuickKeys, older versions of QuickMail, Alarming Events, In Out, the QuickMail server and CE versions of the utility DiskTop (DiskTop is now supported by another company). QuicKeys v3.5.2 and later and QuickMail v3.5 and later do not need this extension.

• cineMac helper: used by cineMac, which is a Macromedia Director utility which converts Director movies into screen savers. The extension allows the screen saver to be activated after a certain amount of idle time or if the cursor is placed in a "hot spot." If you throw this extension away, I've been told that the next time you run the screen saver, it will be installed again.

• Click, there it is! (v1.0.9): when opening or saving a file using the open/save dialog boxes, allows you to select any window which is open in the Finder as the open/save destination by clicking on that window. Also lets you drag the open/save dialog box around so that you can reach window(s) which are underneath it. OS8.1 COMPATIBLE

• CloakShare (v1.00): hides your computer from others on an AppleTalk network. Other computers with CloakShare installed will be able to see your computer, and vice-versa.

• CloseFinderWindows (v1.0): automatically closes all windows at startup. Useful if you leave Finder windows open when you shutdown your computer but would prefer to have a "clean" desktop at startup. You can prevent it from loading by holding the mouse button down at startup.

• CopyPaste (4.1.1): provides improved Clipboard capability, including 10 "copies" at a time, ability to view and manipulate these multiple clipboards, and survival of the contents of the Clipboard across restarts.

• CrashGuard: installed with the Norton Utilities, this extension is supposed to help prevent crashes, and to allow you to exit from crashes gracefully. However, a vast majority of those who have contacted me regarding this extension claim that it causes more problems that it solves. DISCLAIMER: I have never used this extension myself; it may work fine. I am just passing on information that I have received.

• CRC Address Book Extension (v2.0.1): enables the MegaPhone speaker phone/voicemail software to use Apple's address book software.

• CRC US Robotics TelTool (2.3.2): provides support for using MegaPhone software with USR modems.

• CruiseCard Extension (v1.2): provides support for Megahertz CruiseCard modems on PowerBooks with PC Card slots.

• Cursor-GreyScale: replaces the standard black arrow with a greyscale version.

Third-Party Extensions (D-L)

Below and in the previous and next two chapters are many non-Apple extensions. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

_____

• Dayna C&SS Init: driver for the Dayna CommuniCard series of PC cards. Under System 7.5.3 and earlier, requires the "StdCLibInit" shared library (see entry in the "Non-RAM" section).

• DaynaPORT E/PCI (v1.0.2): driver for the DaynaPORT E/PCI Ethernet card.

• Décor Daemon (v3.0.4): when used with the rest of the Décor package, allows you to replace your desktop pattern with a picture or graphic of your choice (not a picture pattern, but a single, large picture). Versions prior to 3.0.3 had a problem with System 7.5.5. If you are running System 7.5.5, make sure you update to v3.0.3.

• DefaultApp: maps Type/Creator codes to applications of the user's choosing. Useful in instances where you want an application to open, by default, in an application other than the application which created it (for example, if you want SimpleText files to be opened by TexEdit Plus when you double-click on them). OS8 COMPATIBLE

• Delrina Fax PRO: the following items are installed by Delrina's Fax PRO software. In addition, Fax PRO installs the "NoChooser" control panel (listed in the "Third-Party Control Panels" chapter).

    o FaxInit: ?
    o ImageSaverIII: chooser extension which allows the File: Print command to send a fax message.
    o RasterMon Init: ?
    o SIContDrvr: note that this extension will cause a non-fatal error code -192 at startup if left in the Extensions folder after the other items are removed. In addition, v1.5.1 of this extension is incompatible with the Avid Cinema Extension.

• Desktop Reset (v1.2): Apple recommends that you "rebuild" your desktop file periodically to avoid problems. However, if you just "rebuild" a desktop file which is already damaged, you sometimes end up with a file that is still damaged, or damaged even worse. Desktop Reset actually deletes the desktop

file (using the same standard "rebuild" key combination, command-option at startup) and forces your Mac to create a new one from scratch.

• Digisystem Init or DigiINIT (v3.0.1): provides support for Digidesign digital audio hardware. **NOTE**: conflicts with Exposure Pro 2.

• Directory Assistance II [130K/144K]: bundled with Norton Utilities v2.0, dropped in v3.0. Allows configuring open/save dialog boxes for each application (preferred drive/folder/files, with keyboard shortcut assignments for each). It also provides extra options (find file, delete, duplicate) from within open/save dialog boxes. Most of its functionality can be found in Action Files, Default Folder or Now Super Boomerang. Conflicts with PC Exchange, QuarkXpress, and supposedly will not work under System 7.5.2 and later, although a few individuals claim to have no problems with it.

• Discolour (v1.0.2): causes the Finder to display full-color icons instead of the standard black and white floppy disk icons.

• DiskExpress II Helper #1 (v1.0) (also named "DiskExpress II AppleShare Init"): bug fix extension for Alsoft's DiskExpress II defragmentation utility ("see Third-Party Control Panels"). Fixes a problem with AppleShare v3 and 4. If Disk Express is installed and you open the AppleShare Administrator program and rapidly select a number of different files (not volumes) in the Access Information window, the server will hang. The mouse pointer will continue to move but nothing on the screen responds to mouse clicks or keystrokes. NOTE: this file should only be used with DiskExpress II v2.2. Version 2.21 incorporates the fix into the control panel. Alsoft does not provide updates from v2.2 to v2.21, so users of v2.2 who experience the above problems will need to use the helper.

• DiskExpress II Helper #2 (v1.0): bug fix for Alsoft's DiskExpress II defragmentation utility (see "Third-Party Control Panels"). Fixes a "Memory is corrupted error" problem on all PowerMacs running System 7.5.2 or later running Open Transport. NOTE: this file should only be used with DiskExpress II v2.2. Version 2.21 incorporates the fix into the control panel. Alsoft does not provide updates from v2.2 to v2.21, so users of v2.2 will need to use the helper.

• DistAsstDaemon (v1.0): actually a background application, this file is installed by Adobe Acrobat's Distiller utility. When using the Adobe PS Printer driver, it allows you to "distill" documents on the fly, rather than having to use the Distiller utility itself.

• Eagle: actually a background application, this file is needed by the Apollo extension.

• Eddie Plugin [NA]: installed by some versions of FreePPP 2.5. Contains the information needed to provide error message responses provided by the FreePPP v2.5 help system. Supposedly does not work properly; some users report that it was removed from the final v2.5 installation.

• Elixir (v1.0.3): enables your Mac to view Chinese, Japanese and Korean characters in any program which allows you to choose fonts, without having to install the actual corresponding Language Kits. You must have the accompanying fonts installed. It requires System 7.1 or higher.

• Emacs Keyboard: used by the Mac port of GnuEmacs to enable the use of the option key as "Meta."

• EN PC Card Enabler (v2.2) and EN PC Card CSS3.0 (v2.2b16): Farallon extension used to provide support for Farallon Ethernet PC Cards. The second file, actually a shared library, provides support for the Card & Socket Services 3.0 standard.

• EnbiggenEventQueue: enlarges the event queue buffer from 20 to 128 "elements." The Mac keeps track of up to 20 events, such as key presses, at once. You'll notice that if you are typing away and your computer starts to do something else in the background, your typing may pause for a second, then

resume. Usually, it will resume by typing all of the characters it "missed" while it was preoccupied. However, sometimes it can't keep track of all they keys you typed because the event queue filled up with more than 20 key presses. And instead of keeping the first 20 key presses in the queue, it dumps all but the *last* 20. This file expands that queue to 128 events.

• EPSExtension: Encapsulated Post-Script printing extension. Allows you to save a file printed using the LaserWriter GX driver as an Encapsulated PostScript file for importing into applications that do not support QuickDraw GX, such as Aldus PageMaker and QuarkXPress. **NOTE**: GX printing is not supported under OS 8 and later.

• EvenBetterBusError / BetterBusError / Mr. BusError: these three INITs were used as aids for developers when testing software. Their purpose is to catch programs that write to "location zero," or "NIL," a common error which will not allow an application to perform properly. Mr. BusError, the oldest, had problems with 32-bit applications. BetterBusError fixed that problem, but added a different problem with "high" bits under 32-bit clean ROMs. So EvenBetterBusError was developed to fix all these problems. **NOTE**: I have had reports that these extensions cause FaxSTF to crash while attempting to [Switch Printer To...].

• Expresso Notifier (v1.0e): part of the "Expresso" calendar package from Berkeley Systems. Allows the Expresso application to notify/remind you of upcoming events.

• Eyeballs: places a pair of eyes in the menu bar which follow cursor movements.

• Farallon PC Card (v1.2.1): provides support for Farallon Ethernet PC cards on PowerBooks with PC Card slots. NOTE: If you install the Farallon Ethernet PC card software and then update or upgrade your system software, you will need to reinstall the Farallon software.

• FastFontMenu (v1.1.1): speeds up the building of font menus in most applications. **NOTE**: Apple has actually acquired the code for this extension from the author, and under Mac OS 8 and later, the functionality of the file is actually incorporated into the System file.

• Fax Manager (v1.3.9): installed by the USR modem software. Provides the ability to control and monitor the modem for faxing purposes.

• FaxAction Extension (v1.0): installed by the Megahertz CruiseCard modem software. Provides fax support for the Megahertz modem, including the ability to monitor the modem for incoming fax calls.

• FAXcilitate Toolbox (v2.3.1): provides support for the FAXcilitate faxing software package.

• FaxMonitor: part of the FAXcilitate fax software package. If you have FAXcilitate to receive faxes, allows FAXcilitate to monitor the serial ports for incoming faxes.

• FFGMenu: installed by Web Arranger. Demonstrates how to add a new system menu to the menu bar.

• FIF Component (v1.0): provides support for the Fractal Image Format, a relatively new format which supposedly provides extremely high rates of compression. Microsoft Encarta, for one, installs it to allow loading of images from the CD-ROM.

• FileSharingMonitor (v1.0.0): displays a status icon in the menu bar which indicates whether file sharing is on or off. You can prevent it from loading by holding down the mouse button at startup.

• Finder Alias Extensions Enabler [0.0]: provides added Finder features, such as enhanced alias creation and a "Find Original" command.

• Finder Extensions Enabler (v1.1.0): similar to Secret Finder Features. Enables features which are actually built into the Finder, but for some reason not activated by Apple: control-dragging to make aliases; command-R to reveal an alias' original file; and command-delete to move an item to the trash. The control panel Hidden Finder Features performs a similar task, while allowing you to turn each feature on or off.

• Finder Paste (v1.0): allows you to paste the contents of the clipboard to a "clipping" file in the Finder by pressing Comand-]. Works only with TEXT, PICT and System 7 Sound data formats.

• FinderViewExtension (v1.0): used by the FinderViewContextMenu utility. Provides the ability to "record" and "play back" various view settings for OS 8 windows. OS8 COMPATIBLE

• Finger It!: replaces the standard arrow cursor with a pointing hand.

• FixWordSystemMemory (v2.1) [.5/0]: fixes a "not enough memory" bug in Word 5.1 on PowerMacs.

• Flashback (v1.0e): part of the "Expresso" calendar package from Berkeley Systems. Allows you to use your own schedule/calendar as the desktop pattern/wallpaper.

• FMPro Tuner (v1.0): according to the developers, "dramatically improves the performance of FileMaker Pro 4.0 and 3.0." Supposedly this increase in performance is especially noticeable when FileMaker is running in the background.

• Forward Delete: provides support for "forward deletes" using the "del" key (the key just below the "help" key on extended keyboards). Note that applications must support the forward delete command for this extension to have any effect.

• FreePPP (v2.6): works with the "FreePPP Setup" control panel to allow PPP connections using FreePPP.

• FreePPP Config Plugin: part of FreePPP v2.5.1, but no longer part of the FreePPP package.

• FreePPP LAP Driver: enables dial-up PPP communications capability through MacTCP/Open Transport.

• GetMoreInfo (v1.5) [21.5/39]: provides added "Get Info" information. **NOTE**: users report that this extension is not compatible with OS 8 or OS 8.1.

• Glidel (v3.5.1): allowing you to drag and drop files to almost any menu item, including the Print and Make Alias items in Finder menus.

• Global Village Toolbox/Global Village Extension (v2.5.9): used by Global Village modems. Provides the resources for faxing using Global Village modems. Also provides other functionality for Global Village modems, and is apparently needed even if you do not use your modem for faxing. According to the Open Transport "ReadMe" file, "The combination of Open Transport 1.1.2, LocalTalk Bridge 2.1f2, Global Village Toolbox and the GlobalFax extensions causes a crash. This also happens when using classic networking." The solution is to move the LocalTalk Bridge file to the Extensions folder and rename it with an "a" at the beginning (i.e. "aLocalTalk Bridge). This causes it to load before the Global Village extensions. There is also supposedly a conflict between this file and AOL version 3.0. **NOTE**: there is a bug in the Global Village Toolbox extension which can cause the System to hang at startup due to the fact that the extension attempts to allocate a large, contiguous chunk of memory which may not be available. If you have this problem and you use Conflict Catcher, you can fix this problem by turning on the "Guarantee System Heap" option and setting it to a larger size (~2048K). If you don't use Conflict Catcher, a possible solution is to rename the extension so that it loads first in the startup process.

• GlobalFax (v2.5.7): provides support for the fax software used by Global Village modems. Provides the option of faxing directly from the file menu (i.e. you can choose "Fax..." instead of "Print...").

• Greg's Hack: enables anti-aliasing of text on your screen. This makes text more readable and larger text smoother.

• Guard Dogz (v1.0.2): installed by the "Dogz" software package to provide support for the "Guard Dogz" screen saver. When installed, your own pet "dog" will guard your screen when you're away...

• GB 56K Combo Enabler (v1.0)
• GV 56K PC Card Enabler (v1.0)
• GV 56K PC Card Enabler 2 (v1.0)
• GV Gold Enabler (v1.0)
• GV Int Platinum Enabler (v3.0)
• GV PC Card Ethernet (v3.0)
• GV Platinum Enabler (1.0)
• GV Platinum Pro Enabler (v1.0)
These files are installed by the Global Village 3.0 Update installer, and are the latest drivers for Global Village PowerPort Platinum Pro PC card modems.

• Harry Instruments: installed with the Ambrosia shareware game "Harry the Handsome Executive." Provides added instruments to the QuickTime Musical Instruments extension which are needed for the game's soundtrack. Requires QuickTime and QuickTime Musical Instruments to be installed.

• Help To Icon (v1.0): under Mac OS 8, replaces the "Help" menu title with the System 7.5.x help menu icon. Only runs under Mac OS 8 and later. OS 8 COMPATIBLE

• Heme's Copland Cursor™ (v1.0): changes the cursor to a "Copland"-style cursor. The author recommends its use with Mac OS8 or anyone running the "~Aaron" extension (see below).

• HFS+ DST Timefix (v1.0): modifies the functionality of the new HFS Plus format so that it ignores the Daylight Savings Time setting in the Date & Time control panel. Under HFS Plus, the "date modified" and "date created" are not stored as absolute times, but rather as the hour difference from GMT. When you turn the DST setting on and off, it changes the relative time from GMT. Thus, every file on the HFS Plus volume will suddenly have a new "date modified" time. This can be very inconvenient for those who use backup software to do "incremental" backups of HFS Plus volumes, since incremental backups will duplicate any files which the OS thinks have changed; since the "date modified" will have changed on *every* file, the entire volume will be duplicated. This extension offers a solution to the problem; if it is installed, and you change the DST settings, your Mac's clock will know that the time is an hour different, but the OS will not change the date modified for every file.

• Hierarchy (v1.2): converts all clicks on the title bar of a Finder window into command-clicks, thus bringing up the System's hierarchical file paths.

• ICeTEe (v1.2b3): when using applications which use the "TextEdit" text engine (SimpleText, TexEdit+, Eudora, NewsWatcher), this shareware extension allows command-clicking on URLs, email addresses, etc. to open your web browser, a new email message, etc. NOTE: if you have Internet Config installed, you do not need ICeTEe, as long your applications support Internet Config.

• IconWrap: extension component of the IconWrap package (see "IconWrap Cleanup" in Third-Party Control Panels extension). Patches extensions so that they show up at startup in neat rows, one at a time. Some extensions aren't written properly, and do not exhibit this behavior on their own.

• IdleTime (v1.1): bundled with the Frontier scripting system. Tracks "idle time" (time when not in use) of the CPU and keyboard. This is useful because Frontier can retrieve this information and then make decisions on performing low priority activities that you would normally not want taking CPU cycles away from other things. It is only needed if you actually have a script that checks to see if the CPU is idle. Supposedly installed by AOL for timed even support.

• Indeo Video (v3.22.24.09): installed by some Microsoft products, some CD-ROMs, some AVI/QT utilities, and the Indeo Video/QuickTime Update. Assists in compression, editing, and playback of video using QuickTime technology. Allows compression/decompression of video files in the Indeo Video R3.2 format.

• INIT Tracker (v1.3): when loaded at startup, this extension records information about what other INITs that load after it do to your system. It creates a log that you can use to examine this information.

• Instant Folders 2.1: when in "Open" and "Save" dialogs, gives you access to any directory on any disk through a customizable pop-up menu.

• Instant Organizer (v2.0v1): installed by Claris Organizer. Adds a special menu to the menu bar to provide quick access to Claris Organizer and frequently used information.

• Intel Raw Video (v 1.10.20.02): installed by some Microsoft products, some CD-ROMs, some AVI/QT utilities, and the Indeo Video/QuickTime Update. Assists in compression, editing, and playback of video using QuickTime technology. Allows compression/decompression of video files in Intel Raw format. This format, technically called the YVU9 format, is used by the Intel Smart Video Recorder video capture and compression card.

• Internet Config Extension (v1.4): installed by Internet Config to provide "universal" Internet settings. Internet Config-savvy applications, such as Emailer and Anarchie, get your preferred Internet settings from this extension.

• Internet Config RandomSignature (v1.0.1b1): a "no longer supported" part of the Internet Config 1.3 distribution.

• InterSLIP (v1.0.1): extension component of the InterSLIP package which allows you to connect to an internet service provider using the SLIP protocol.

• Iomega Driver (v5.1.1) [128.5/200]: used to automatically recognize and mount Iomega drives, including the popular Zip and Jaz drives, plus the LaserSafe Plus and Floptical drives. It does not provide support for Iomega Bernoulli drives. The driver will be loaded at startup if an Iomega drive is attached and turned on but does not have a disk inserted. If a disk **is** present during startup, the driver is loaded instead from the hidden driver partition on that disk. NOTE: version 5.0.3 is functionally the same as version 5.0.1. The only difference is that v5.0.3 has been updated to allow for international localization. NOTE: there is a potential conflict between the Iomega Driver extension and the CharisMac driver extension. Iomega recommends placing three spaces at the beginning of the Iomega Driver name to force it to load first in the startup process.

• IT Watcher: part of the "Installer Tracker" utility from MacUser. Monitors installation processes and keeps a log of what is installed, and where.

• jgdw.ppc / jgdw.68k / JgPly.PPC.shlb: all of these files (actually shared libraries) provide support for Johnson-Grace Compression Technology: "jgdw.ppc" is used by PowerPC computers, while "jgdw.68k" is used on 680x0 Macs. JgPly.PPC.shlb is still a mystery... The appropriate file is required to display images encoded by J-G technology. They are installed by Microsoft Internet Explorer and AOL v3.x for support of J-G images on the web. However, these types of images are rare, and I

personally have disabled this extension with no ill effects. **NOTE**: some people have speculated that Internet Explorer uses these files for Java support; however, on my personal system, I use Java from within Internet Explorer with this file disabled.

• JPEGView JFIF Preview (v1.0.2): allows you to view JFIF previews of graphics (which are created by certain graphics applications such as JPEGView) from within any QuickTime-aware application.

• Kaleidoscope Extension: included with Kaleidoscope 1.8 and later, this file is actually a background application which allows you to double-click on scheme files to set a new scheme.

• KarmaExtension: provides support for MagicCap development under Code Warrior. MagicCap is an operating system for PDA's, and by using the "Magic Cap Simulator" application, you can test and debug development code from your Mac. The KarmaExtension file provides the ability to map Magic Cap memory to the Mac's memory, allowing you to use Macsbug to debug.

• Kensington Startup (v5.0.2): enables support for the Kensington MouseWorks software for use with Kensington mice and trackballs.

• Kerberos Client: provides support for network authentication and encryption under the Kerberos system. **NOTE**: there is a conflict between this file and the Contextual Menu Enabler extension. The solution is to force the Kerberos Client extension to load before the Contextual Menu Enabler.

• Keyboard Menu (v1.0.0): provides the ability to change the keyboard layout via a special Finder menu.

• Keyboard Swapper (v1.0): limits changes of keyboard layouts, via the keyboard menu or the key combination chosen in the Keyboard control panel, to the current keyboard. In other words, if you have two keyboards connected, and use the keyboard combination to switch to another keyboard layout, the change is only reflected on that particular keyboard. If you use the other keyboard, the layout is automatically switched back to the one last used by that keyboard.

• Keyboard2Serial (v1.0): system extension that copies the keys typed on the keyboard to an output via the serial port. You can control which serial port is used and the connection parameters of that port.

• KeyCrasher: this extension is used to purposely crash your computer at startup. It is provided with Now Utilities to allow the user to learn how to use the conflict resolution features of Now Startup Manager.

• KeyQuencer Engine (v2.5): part of the KeyQuencer macro utility package. Watches for key combinations which are set to trigger actions or macros.

• KeyStrokes Extension (v1.1): together with the KeyStrokes application, provides a fully-functional on-screen keyboard that you can use to type via the mouse. This is extremely helpful for those who cannot use a normal keyboard.

• Kineticon Extension (v1.13): part of the "Kineticon" package, which provides "animated" icons on your desktop. These animated icons can be customized using the bundled editor, or you can download new icon sets.

• Kodak CMM: "Kodak Color Management Module"; provides an alternative CMM to the one provided by Apple. According to Kodak, if you currently use Kodak Color Management software (see the following entry), the Kodak CMM will ensure consistent ColorSync results.

• Kodak Precision files: all or some of the following files are installed by Adobe Photoshop, PhotoDeluxe and PageMaker (if the Kodak PhotoCD plug-ins are installed), Deneba's Canvas 5, and the new Corel Draw suite to allow you to open Kodak PhotoCD files from within the applications, and also to enable the Kodak Precision Color Management System (KPCMS). They are required to use the Kodak CMS Photo CD format with these applications. They are also installed by the older Kodak Shoebox, and by several scanner packages. The official word from Adobe: "The Kodak files you mention are Kodak precision transform (PT) files and Kodak color management system (CMS) files installed so that you can open Kodak PhotoCD files from within Adobe Photoshop. If you'd like to remove those files from your system you may certainly do so and not affect Photoshop's performance or features. You will not, however, be able to open Kodak PhotoCD files using Photoshop unless the files have been installed on your system." Note that the Kodak web site supposedly has a Photoshop PhotoCD Acquire plug-in that will allow you to import PhotoCD files without having to use all of these files.

  o KodakDS White Point (v1.0.0): installed by Adobe PageMaker 6.5
  o Kodak PRECISION CP (v2.4.1): supposedly only needed by versions of Photoshop prior to 3.0
  o Kodak PRECISION API (v3.10)
  o Kodak PRECISION CFP (v5.1)
  o Kodak PRECISION CP1 (v2.7.4) (document)
  o Kodak PRECISION CP2 (v2.6.0) (document)
  o Kodak PRECISION MON (v3.0.1): installed by Corel Draw 6 Suite
  o Kodak PRECISION ProfileAPI (v1.3.1): installed by Corel Draw 6 Suite
  o Kodak PRECISION Scale (v5.0.0)
  o Kodak PRECISION Sharpen (v5.0.0)
  o Kodak PRECISION Startup (v5.0.0): actually a background application found in the "Startup Items" folder. I was originally under the impression that this application runs in the background to monitor color management processes, but a Kodak employee recently informed me that it actually just runs to reserve extra memory for the KPCMS system. While heavy KPCMS users may find this useful, it has been rumored to cause conflicts with other applications.
  o Kodak Precision White Point
  o Additionally, there are usually two folders installed at the top level of the System Folder which are entitled "CMSCP" and "KPCMS."

• LaserWriterLockout (v1.2): allows you to control which LaserWriters (and other chooser devices) are accessible from the Chooser. Useful in lab environments and on larger networks.

• LaunchControl (v1.0): provides the ability to alter the "launching" of any application. If the LaunchControl hotkey is pressed when an application is launched, you can temporarily or permanently alter the application's memory consumption, view available memory on your computer, or cancel the launch. Requires System 7.5 or newer.

• Look Mom, No Hands! (v1.5.1) [<5]: utility which allows you to open OS 8's Contextual Menus by simply holding down the mouse button, without having to press the control key. OS8.1 COMPATIBLE

• Lotus Notes (v4.5.2) files: the following shared libraries are installed by Lotus Notes; they appear to be compatible with Mac OS 8:
    o FtvDk
    o Lsxbe
    o NotesLib
    o NotesSSL
    o Vim

Third-Party Extensions (M-R)

Below and in the previous two chapters and the next chapter are many non-Apple extensions. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

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• Mac OS 8 Finder Update: THIS FILE IS A HOAX. It is actually a renamed version of a "hacking" file called "Auto-Guest" which automatically allows Guest access to AppleShare volumes. By having this file installed, you are allowing anyone on your AppleTalk network to have access to your Mac.

• MacLinkPlus for ClarisWorks 68K (v9.7): provides MacLinkPlus translation support (see "MacLinkPlus for Easy Open" below) for Claris Works on 680x0 computers.

• MacLinkPlus for Easy Open (9.0.2): supplied with System 7.5 and later, works with the Macintosh Easy Open and Mac OS Easy Open control panels to give simultaneous access to DataViz translation files. The MacLinkPlus system allows you to translate many documents so that you can open them even if you do not have the application which created them. Requires the MacLinkPlusSetup control panel to set preferences for translations. NOTE**:** WordPerfect installs a limited version of this file that works only with Word Perfect. According to DataViz, the MacLinkPlus for Word Perfect file (below) was intended to be used by people who do not have the full MacLinkPlus for Easy Open, and is therefore not needed if you have MacLinkPlus for Easy Open installed. In fact, if used together, they may even conflict. NOTE: there is a bug in version 9.0 of MacLinkPlus where converting a document from Word 5.1 for Mac to Word for Windows 6.0 does not work properly, causing a crash on any Windows machine that attempts to open the file. In order to avoid this bug, you should update your MacLinkPlus to version 9.0b or later (the 9.0b updater is supposedly free from the DataViz web site). **NOTE**: some people, after installing OS 8, get an error message that "Your Demo version of MacLink Plus has expired." This is due to a mixup with version numbers and the OS 8 installer. The solution, if the version installed on your machine is v9.0.2 or lower, is to delete the "MacLink Plus Setup" control panel, the "MacLinkPlus for Easy Open" extension, and the "DataViz" folder inside the System Folder. Then re-install MacLinkPlus from the OS 8 CD (the installer is in the "MacLinkPlus" folder inside the "Software Installers" folder).

• MacLinkPlus WordPerfect (v1.30): used by Mac Link Plus to allow document translation using Word

Perfect. Only works with v3.0 and later of Word Perfect. **See the note in the above entry about this file.**

• Mactell G3 PowerJolt (v1.0): provides support for the PowerJolt G3 CPU card; supposedly increases stability under Mac OS 8.1.

• MagicBullets (v2.0.1) [7.5/8]: enables a key combination to alter text from the clipboard. Great for adding/removing quotes, line breaks, brackets, etc. from online text (or text being prepared for sending). Also helpful when converting DOS and UNIX files to and from the Mac.

• MagicMatch CMM v2.1: part of the UMAX MagicScan software package, provides color management support for UMAX scanners.

• MAXpowr Pro Extension: required to be able to use the "backside" cache which is part of the Newer Technologies MAXpowr Pro processor upgrade card.

• MAXpowr System Update (v1.0): needed by Newer Technologies' MAXPowr processor cards to function properly and to avoid potential conflicts between the processor cards and the System software -- if this extension is not installed, writing information (i.e. saving files) to floppy disks would result in disk corruption. Supposedly causes modem port problems for some users. There is some debate as to whether this extension is needed with all versions of the System software, or only with System 7.5.3 and earlier (Apple had a similar problem with the faster PowerMacs and floppy drives that was fixed in System 7.5.5). **NOTE**: some users have reported that the Now Toolbox extension conflicts with this file, and prevents users from getting all of the speed benefits of the MAXpowr upgrade.

• McAfee extension (68k and PPC): provides support for the McAfee anti-virus package. If you are running the package on a PowerPC Mac, you supposedly need both extensions, even though the names imply that you would only need the PPC file.

• MCC Fax Print (v1.3.9): when using the MacComCenter telecommunications software, allows you to use the Chooser to fax instead of print. Also allows you to print directly from any application from the "File" menu.

• MegaPhone Menu (v1.1.0): provides a menu for MegaPhone-related functions in the menu bar.

• MemHell (v1.0a4): a development tool that patches out memory manager routines that move or purge memory, so that when these routines are called, they instead call a large MaxMem request. Unless you are doing development testing, this extension is not desirable, as it will slow your Mac down to a near standstill. You can disable the extension at startup by holding down the mouse button. You can temporarily disable it by holding down the control key.

• Menu Events (v1.3): extension component of the freeware Menu Events package, which provides Apple Event support for selecting menu items from within applications. For example, the Menu Grabber application uses this file to support remote control of applications across an AppleTalk network. Requires the "Menu Events Scripting Addition" file in the Scripting Additions folder.

• MenuSnap (v1.0): causes the cursor to snap back to the original position after choosing a menu item or dialog button (i.e. where it was before you had to move it to click the button). Originally called "Menuette," but the author changed the name to MenuSnap because a control panel named Menuette already existed.

• Menu Tasker (v2.0): normally, when a menu is pulled down or a window is being moved, it causes all background processes to stop. This file allows background applications to continue processing during

these activities. However, it only allows processing to continue in background applications, not in the application in which you are using menus or moving windows. NOTE: when Menu Tasker is installed, you cannot use the menus in Netware Client 5.1.x.

• Menuette (v1.0): not to be confused with the control panel of the same name, this extension causes the cursor to snap back to the original position after choosing a menu item or dialog button (i.e. where it was before you had to move it to click the button). **NOTE**: because of the control panel with the same name, this file has been renamed "MenuSnap."

• Mercutio Bug (withdrawn from distribution)
• MercutioGetNextDevicePatch
• MercutioGNDPatch (v1.0)
• MercutioGuard (v1.0.1)
• MercutioHUnlockPatch (v1.0.1) (also know as FixMercutio)
Under OS 8 (some people say 7.6.1, as well), there is a bug in what is called the "Mercutio MDEF," which is a type of resource which allows developers to customize the look and feel of menus in their applications. The bug is related to the way in which Mercutio affects the states of core QuickDraw graphics structures. In technical terms, Mercutio "unlocks" these structures. When another application or the System later attempts to access one of these structures, thinking that it is locked, unpredictable behavior results. The problem is manifested in intermittent crashes and freezes, the causes of which are very difficult to pin down. **Many** applications take advantage of the Mercutio MDEF, as do some elements of the System software itself, so chances are good that you use something which is affected by this problem. The "grand" solution to the problem is for Apple and developers to use a bug-free version of Mercutio. This is happening now, with Mercutio 1.5 being integrated into newer applications and upcoming versions of the Mac OS. However, since Mercutio is integrated into applications themselves, existing applications will still exhibit the problem until they are replaced by updated versions. The above files offer a "fix" for the problem by patching the System so that it does not allow incorrect unlocking of the structures described above. OS8/OS8.1 COMPATIBLE

• MercutioHUnlockPatch_Debug: related to the Mercutio problem discussed above, this extension is intended more for developers. It forces the System to drop into Macsbug when HUnlock is called on a GDHandle. It is useful for developers in finding out what applications are incorrectly unlocking GDHandles. OS8/OS8.1 COMPATIBLE

• MetroNub: adds support for the Metrowerks Debugger; installed by Code Warrior. NOTE: this file can conflict with the multiprocessing shared libraries in the "Multiprocessing" folder in the Extensions folder. The reason is that it tries to link to the libraries at startup, and one of its resources (the "sysz" resource in particular) is too small. The conflict results in a Finder error after startup is completed. There are three solutions: 1) if you do not have a multi-processor system, simply remove the Multiprocessing folder; 2) if you know how, increase the "sysz" resource of MetroNub to 2500000 or more; 3) again, if you know how, add an "MPAL" resource to the MetroNub file (although this method will just ignore the conflicting error, instead of avoiding it).

• MicNotePad Init (v4.0.7): part of the MicNotePad recording software. Allows you to control the operation of the MicNotePad software via keyboard commands from within any application. Especially useful if you are trying to transcribe audio recorded using MicNotePad while working in a word processor.

• MicroNet Cartridge Extension (v7.4LK): allows your computer to automatically mount MicroNet removable media and/or partitions.

• ModemBooster (v2.0.2E): purports to "Double modem speed..." according to the message in the "Get Info" box, but I have heard that it is actually a hoax.

• Modem Doubler (v0.9b): for use only on 680x0 Macs. AV Macs and PowerMacs have "enhanced" serial ports which provide a substantial increase in throughput over standard 680x0 Macs. Supposedly this extension makes up for that difference a bit by increasing the modem port throughput on 680x0 Macs. Sorry, but I don't know where to get it, so please don't email me asking for it. :-)

• Modem PortDoubler (v4.8.2): driver installed when you are using the PortDoubler adapter to hook up two serial devices to your Modem port. If you are using the adapter on your Printer port, you would install the Printer PortDoubler extension and the " PD Printers" Chooser extension. **NOTE**: there is a conflict between Mac OS 8/8.1 and the Port Doubler extensions where audio CD's are muted. Momentum (makers of Port Doubler) is supposedly working on a fix at the time of this writing.

• MountX (1.0d10): allows you to mount Linux and MkLinux volumes on the MacOS desktop.

• Mousigator (v0.5.5): when used with the "Mousigator Control" control panel, implements "cursor focusing," which allows you to bring a window to the front by simply moving the cursor over it for a second or so, rather than having to click the mouse button. On some other computing platforms, this behavior is called "X-Mouse."

• MS IE ActiveX Lib (PPC): shared library installed by Microsoft Internet Explorer. Provides support for Microsoft's "ActiveX" technology.

• MS Internet Library (PPC): shared library installed by Microsoft Internet Explorer.

• MS Listener: installed by ELS Software's ChatNet software. If using ChatNet over an AppleTalk network, MS Listener listens for and buffers AppleTalk messages so that ChatNet can pick them up. Only needed if using ChatNet over an AppleTalk network.

• MSL C.PPC.DLL / MSL RuntimePPC++.DLL / MSL RuntimePPC.DLL: these shared libraries provide support for system services when writing applications in Metrowerks CodeWarrior. Besides being installed by CodeWarrior, they are also installed by some other applications, such as RealPlayer 5.0.

• MultiMounter (v1.0.0): part of the DOS Mounter 95 utility. Allows you to transfer files between your Mac and a mounted DOS/Windows volume, automatically renaming them so that the file time is correctly preserved. In other words, if you transfer a Microsoft Excel file from your Mac hard drive to a mounted PC volume, it will automatically be renamed with the correct three-letter suffix for the PC. Likewise, an Excel file transferred from the PC disk to your Mac will have the correct file and creator type. Requires the DOS Mounter 95™ control panel.

• MWRuntimeLib: installed as part of the USR Sportster Voice modem software and by the Megaphone telecom software. According to Metrowerks (the company that provides this file), it provides system-level services for applications written in the CodeWarrior language.

• MyEyes (v2.2.2): places a pair of eyes in the menu bar which follow the movement of the cursor. Similar to the older "Eyeballs" extension, but these eyes are color. The installer also installs a folder called "MyEyes Sets" in the Extensions folder, and a folder on your hard drive which includes the application for changing the eyes. Although mainly intended to have novelty value, one "real" use of the eyes is to detect whether your computer has crashed or if it is just taking a long time to process something. If the eyes have stopped moving, there's a good chance it has crashed.

• Natural Order (v1.3): alters the sorting order that your Mac uses in "List" views so that numbers are sorted numerically, rather than alphabetically (under the normal way the Mac sorts numbers, "12" comes before "3"; with this extension, they will be sorted correctly, with "3" before "12"). Note that this extension will slow down sorting slightly; if you are sorting large numbers of files, the difference may become more noticable.

• Net-Print (v8.0.8): allows you to print or save highlighted/selected text in any application. You can even select multiple "chunks" of text in a single document and print or save it. Especially useful on web pages where you only want to save or print certain parts of the web page. When printing from a web browser, can also annotate the URL, title of the web page, and date printed. Finally, it will also print labels for Zip disks. Requires the Net-Print Settings control panel.

• NetManage WinSock Lib: allows Open Transport to implement WinSock, a popular TCP/IP stack for Windows, on the Mac. Some common sources of this file: installed by "You Don't Know Jack" to allow for communications with Windows machines when playing a 'net game; also installed by newer versions of Quicken -- you will get a crash if you attempt to use online banking without having this file installed.

• Netscape Defrost (v0.9bw): third-party INIT which supposedly reduces crashes while running Netscape. Only applicable to Navigator versions 1.x and 2.x.

• NetWeight (v1.0): when loaded as the very first file at startup, provides information about how much RAM each startup file uses. You may need to change the name of the extension (by adding some spaces at the beginning) in order to make it load at startup.

• NiceStopShutDown: causes your machine to restart/reboot immediately after shutting down.

• Niji (v1.2.1): part of the Niji package, which changes your Mac's interface (windows, menus, pop-ups, scroll bars, etc.) into various predefined appearances which replicate various computing environments and versions of the Mac System software. **NOTE**: This extension was formerly called "OneStep."

• NotVirtual! [0/0]: fools applications into thinking that virtual memory is turned off.

• Now SB Extractor (v6.7.1): part of the Now Utilities Package. A "document" which is used by Now SuperBoomerang (see the "Third-Party Control Panels" chapter). **NOTE**: the Now Utilities package is **not** compatible with OS 8 or OS 8.1.

• Now QuickFiler Extension (v6.7.1): provides the compression engine for Now QuickFiler (see the "Third-Party Control Panels" chapter). **NOTE**: the Now Utilities package is **not** compatible with OS 8 or OS 8.1.

• NowToolbox (v6.7.1) [102.5/292.5]: part of the Now Utilities package. Needed to run any of the Now Utilities (see the "Third-Party Control Panels" chapter). **NOTE**: the Now Utilities package is **not** compatible with OS 8 or OS 8.1.

• npacrx_ppc.Lib: shared library installed by some versions of Netscape for use by Netscape's MediaPlayer plug-in.

• NU Fixer: used for Norton Utilities version 2.x to fix a problem where Norton Utilities was informing them that their clock was set incorrectly. NU has a built-in "sanity check" which compares the date of your computer against an internal date to determine if it is set incorrectly. In NU v2.x, this date was sometime in 1995. Since we are obviously past that date today, it is no longer a good reference. This extension changes the "check" date to January 1, 1999.

• NudgeMouser (v1.3): provides the ability to control the mouse/pointer from the keyboard. Using the keyboard in this manner can provide substantial improvements in precision and stability over conventional pointing devices.

• NuisanceNullifier (v1.0): designed to work with Netscape Navigator, this file eliminates the many

error dialogs flashed by Navigator, replacing them with a an "alert" strip at the top of the screen. You can then dismiss the alerts manually, or they will automatically be dismissed.

• OmegaWindow INIT (v1.9): enables the OmegaWindow package, which provides keyboard shortcuts for actions which are usually only accomplished with the mouse, such as switching between applications, switching between windows, hiding/showing applications, zooming and resizing windows, etc.

• Omnipotent Extension: installed by the application "TrueClock?" to force the clock to always remain in the foreground. If this extension is not installed, TrueClock? acts like a normal application, and the clock only appears when TrueClock? is the frontmost application.

• OMS Open Music System (v2.2): used by Opcode MIDI products. Provides compatibility with QuickTime 2.5.

• OneStep (v1.1): allows you to transform your Mac's user interface to several different alternate interfaces, including NeXT, OS 8, and System 7. Not designed for black and white screens. Also has problems with Asian language kits. **NOTE**: this extension is now called "Niji."

• OpenOT (v1.0.1): There is a bug in Open Transport that causes it to unload from memory under certain circumstances if AppleTalk is turned off, causing a crash in any application that is using it (like AOL 3.0 for Mac, FreePPP or Netscape). America Online developed this file to counteract this bug; it will load the Open Transport code and keep it in memory at all times. NOTE: another fix for this bug is to keep AppleTalk turned on; if AppleTalk is turned on, it will automatically keep Open Transport loaded, so this file is not needed. You can keep AppleTalk turned on without affecting your Modem and Printer ports by using the "Remote Only" extension that comes with Open Transport, and selecting "Remote Only" in the AppleTalk control panel.

• OpenTpt Serial Arbitrator Update: fixes a bug between the Wacom Tablet and the OpenTpt Serial Arbitrator. Available from the Wacom ftp and web sites.

• OS Chooser: if you install the new developer's release of the BeOS for PowerMac, this extension is installed in your Extensions folder. When it is installed, each time your Mac starts up you are presented with a dialog box which gives you the option of booting up from the MacOS or the BeOS.

• OS8foto (v1.0): provides OS 8 support for the Ofoto scanning utility from Light Source Computer Images, Inc. Supposedly fixes an incompatibility between Mac OS 8 and the Ofoto scanning software. **NOTE**: this extension must load after the Appearance Extension. OS8 COMPATIBLE

• OSA Menu (v1.0.2) [14.5/20]: comes bundled with the Frontier scripting system, but also available by itself. Creates a menu on the right side of the menu bar which contains scripts which can be run directly from the menu. The main advantage of scripts in the menu is that you can call them up without having to go to the Finder to launch them. The scripts, or aliases of scripts, reside in the "Scripts" folder in your System folder, and each application gets its own sub-folder of application-specific scripts. Works with any Open Scripting Architecture compliant scripting system. When used with Frontier, it enables UserLand's Menu Sharing in the Finder, which allows Frontier to add it's own pre-formatted custom menu.

• OtherMenu & OtherMenu AE Helper (v2.0): provides a system-wide hierarchical menu in the menu bar which is accessible at all times, including when using Open/Save dialogs. From this menu you can open recent and user-defined applications and documents. **NOTE**: under System 7.5, you must "patch" the General Controls control panel using the provided patcher in order for the utility to work correctly. OS8.1 COMPATIBLE

• OTModl$Proxy (v1.0): shared library file installed by the IPNetMonitor utility in order to monitor Open Transport activity. **NOTE**: if you wish to get rid of this extension, the IPNetMonitor documentation suggests that you use the IPNetMonitor installer to "remove" or "uninstall" it.

• PageUp/Down: mainly intended for PowerBooks, provides the functionality of the "missing" page up/ page down keys by pressing control-up arrow and control-down arrow. **NOTE**: if this extension is installed, WindowShades do not work properly.

• PaperPort Extension (3.5.2): driver for the Visioneer PaperPort scanner.

• PCI Timing Update (v1.0): provided by Power Computing to correct a bug with Power Computing machines which are based on the PowerMac 7200 logic board, including the PowerTower, PowerCenter, and PowerCurve series of computers. The bug is a "timing behavior" error which may cause intermittent problems on some PCI cards when used with these machines. One example of these problems is that users with ATI XClaim GA and XClaim VR video accelerator cards experience intermittent choppy sound. This extension will not function on non-Power Computing machines.

• PictPocket (v1.3): watches for mouse clicks and window redraws when the Caps Lock and Shift keys are depressed, whereupon it captures a picture of the window contents to the Clipboard. Since the picture is captured while window is being drawn, instead of after the fact, the resulting picture is a small, editable, scalable QuickDraw snapshot rather than a big pixel dump. Pressing the Option key along with Caps Lock and Shift captures the window frame as well as the contents.

• PlusMaximizer™ (v1.0): extension which, when installed under Mac OS 8.1, allows you to format disks as HFS Plus volumes with a minimum allocation block size of 512 bytes, rather than the standard 4KB minimum allowed by Mac OS 8.1. See the "8.1/HFS Plus Info" chapter for clarification.

• PopApp: freeware which provides a pop-up menu of running applications. Works with System 7.x and OS 8. OS8 COMPATIBLE

• Port Juggler, PJ Classic, PJ Power 3, PJ 4x, and PJ Power5 (v4.7): software drivers used by the Port Juggler multi-serial port adapter. The combination of extensions you need depends upon which model of Port Juggler you have; according to the manual, you need one of the following combinations:
    ° Pre-June 1996 Port Juggler: needs Port Juggler and PJ Classic extensions.
    ° Port Juggler 4x: needs Port Juggler and PJ 4x extensions.
    ° PowerPort Juggler: Port Juggler and either PJ Power5 (for units with 5 ports) or PJ Power3 (for units with 3 ports) extensions.
If you update to version 4.7 of the drivers, you must first remove all earlier versions, as well as the "Port Juggler Prefs: folder in the Preferences folder. **NOTE**: some users report that the PowerPort Juggler 4.7.x software conflicts with Microsoft Office 98; reinstalling v4.6 supposedly fixes the problem.

• Power Windows & Translucent Power Windows (v1.2.1): NOTE: Power Windows is now a control panel (see the Third-Party Control Panels section).

• PowerBook 160/180 ADB Patch: allows you to run Nisus Writer with the Language Key ADB device on the PB 160 & 180 series.

• PowerOrgasm (v1.1): "joke" system extension which causes your Mac to rendomly emit sounds from the famous scene in the movie "When Harry Met Sally."

• PowerPeek (v1.0.2): extensions and control panels often patch the system and system routines. Sometimes these patches aren't done in the best or most efficient manner. The PowerPeek extensions creates a log of INITs as they load, and notes all "improper" patches. The results of this log are

viewable with the companion "PowerPeek Reporter" application. The extension also adds a small "light" to the menu bar which indicates (via a green light) when PowerPC-native code is being used and (via a red light) when non-native code is being used. **NOTE**: there is currently a conflict between Conflict Catcher 4.1 and PowerPeek which can cause a crash at startup. If you are using Conflict Catcher, you should disable PowerPeek.

• PPP (v2.5): works with the "Config PPP" control panel to allow PPP connections using MacPPP.

• PreFab Player: a faceless background application ("appe") that adds "verbs" to AppleScript and Frontier to allow them to query and control the Macintosh user interface. These additions fill some gaps in scriptable applications and automate otherwise non-scriptable applications and control panels. Contains "INIT" code which causes the background application to be launched at startup.

• PrintChef (v2.50): printing extension which (according to the documentation) "sits between any application and any printer driver to create page sizes, watermarks, toner/ink level, colorization, forms, labels, bar codes, signatures, serialization, and print logs."

• Printer PortDoubler (v4.8.2): driver installed when you are using the PortDoubler adapter to hook up two devices to your Printer port. Also requires the " PD Printers" Chooser extension. If you are using the adapter on your Modem port, you would install the Modem PortDoubler extension. **NOTE**: there is a conflict between Mac OS 8/8.1 and the Port Doubler extensions where audio CD's are muted. Momentum (makers of Port Doubler) is supposedly working on a fix at the time of this writing.

• Professional Color Toolkit (v1.3): installed by FrameMaker for Pantone color support. Some users have reported that this extension regularly crashes their system.

• Programmer's Key (v1.4.1): on Macs equipped with both a power and interrupt button (the small buttons with a circle and triangle, respectively), allows you to enter Apple's debugger by using the power (triangle icon) key.

• Queue Watcher and Queue Monitor (v2.0): part of the Palomar Print Queue Kit, installed by the FaxSTF faxing package to monitor incoming faxes and spool documents to be faxed in the background. Also installed as part of the Print Queue Kit for plotting documents in the background when using plotter applications and printers. Queue Monitor is actually a background application which is launched at startup.

• QuicKeys Toolbox (v3.5.2r1): although not absolutely necessary in order to use the QuicKeys macro system, this extension must be installed for AppleScript, Apple Events and DoScript support (see the QuicKeys control panel entry). It also provides additional information on steps in the Sequence Editor and is needed in order to generate sequence and Batch Processor logs. Also provides access to QuicKeys Script in OSA-aware applications.

• Quiet Start: mutes the Mac's startup sound (you can also choose to set the volume of the startup sound by holding down a number, 0-7, during startup).

• QuitIt: automatically quits an application when you close the last open window in that application. Handy for those people who think they have quit out of an application just because there are no more application windows open.

• Radius DSP Extension: accompanies the Radius Thunder IV graphics card software. Supposedly enables the card's Digital Signal Processor for use from within PhotoShop.

• Radius Soft Precision Color (v3.1.1): provides multi-resolution support on Quadra/Centris computers when using older versions of the system software which do not provide built-in Display

Manager support. **NOTE**: no longer needed after installing the Apple Displays Software.

• RAM Charger (v3.0): a memory-management product from Jump! Development and Synchronys. According to its own description: "gives applications dynamic access to memory so you not only get more available memory but better memory."

• RAM Doubler (v1.6.2A) [<.5/0]: popular Connectix utility which provides "virtual memory" support similar to Apple's virtual memory, but much more efficient and effective. **NOTE**: the newest version of RAM Doubler, v2, is a control panel (see the "Third-Party Control Panels" chapter), and offers more features and configurability.

• RealAudio: this folder in the Extensions folder contains the files installed by and needed for the RealAudio system:

    o PNPlayer30.Lib (v3.0): document
    o PNui30.Lib: (v3.0): document
    o RealAudio 14.4 Decoder (v2.0.1): extension
    o RealAudio 28.8 Decoder (v2.0): extension
    o RealAudio Daemon (v2.0): application
    o RealAudio dnet Decoder (v3.0): extension
    o RealAudio Plugin (v3.0): browser plug-in

• ReminderPro INIT (v3.5): part of the ReminderPro package. Works in the background to provide scheduled reminders and alarms.

• Retro.Startup (v3.0A): if using Retrospect backup software, this extension allows Retrospect to launch automatically for scripted operation. Also allows Retrospect to provide notification regarding errors, missing media, and/or "full" media.

Third-Party Extensions

(S-°)

Below and in the previous three chapters are many non-Apple extensions. If you have an item you would like to add to this list, please email me the name, version number, description and, if possible, RAM consumption figures.

_____

• sAVe the Disk (v1.4): some Centris/Quadra AV Macs experience excessive disk drive usage due to some of the special System and Digital Signal Processor instructions on these computers. This freeware extension will alleviate some of this disk use, making your hard drive last longer. It incorporated similar fixes to those found in the independently-developed AV Speedup 1.0, AV Resource Manager Tuner and AV Cache Tuner extensions.

• Scanner (v6.7): driver for UMAX scanners.

• ScanTasticAccess System Extension (v1.3): scanner driver for the Epson 1200C scanner.

• Scout's Honour (v1.1): freeware extension designed to get you through airport security faster. When you are going through airport security and you are asked to demonstrate that your PowerBook really works, hold down the space bar during startup. You will quickly be presented with a "working" PowerBook and then a "Shutdown" dialog. Actually has three ASCII zeros at the beginning of its name to force it to load first. Note that another way to get through airport security is to leave your PowerBook in "sleep" mode and simply "wake it up" at the security checkpoint. The battery drain is minimal, and may actually be less than if you have to startup your PowerBook.

• Screen Catcher Extension (v1.0): part of the Screen Catcher package from St. Clair Software. Allows you to capture screen shots automatically.

• Screen Posters (v4.0.3): part of AfterDark v3.0 from Berkeley Systems. Allows you to choose a graphic to use as your desktop background. Also part of the Expresso calendar package from Berkeley to allow you to save your calendar as your desktop background.

• Secret Finder Features: similar to Finder Extensions Enabler. Enables features which are actually built into the Finder, but for some reason not activated by Apple: control-dragging to make aliases; command-R to reveal an alias' original file; and command-delete to move an item to the trash. The

control panel Hidden Finder Features performs a similar task, while allowing you to turn each feature on or off.

• Serenity Extension™ (v1.0): Serenity is an At Ease-like launcher utility and security environment which replaces the Finder (useful for children). The Serenity Extension allows Serenity to replace the Finder at startup.

• SF81PPC: installed by the PowerPC version of Astound 2.0, which will not run without it.

• SingleTalk (v1.0): allows you to activate AppleTalk services on your Mac without actually being connected to an AppleTalk network. To use this feature, you must select "SingleTalk" in the Network/ AppleTalk control panel.

• SLIP Extension (v3.0.3) [NA]: enables MacSLIP (see "Third-Party Control Panels").

• Sleep Deprivation (v2.0): with this extension installed, your PowerBook will display random patterns when "asleep" instead of turning the screen completely off. The hard drive and processor will still be idle.

• Sloop Sail (v1.0.2v2): enables the Sloop shareware package, which adds "cursor focusing" to your Mac. According to the ReadMe file, with cursor focusing enabled, whatever window the cursor is over automatically moves to the front ("acquires focus") without having to click in that window. **NOTE**: currently conflicts with "MenuTasking Enabler" and "Respond!" and TitlePop apparently disables much of the Sloop functionality. OS8 COMPATIBLE

• SmartDrag (v1.0.1): freeware extension which enables "real-time" window dragging. In other words, when you drag a window, you see the entire window and its contents being dragged, rather than just an outline of the window.

• SmoothType 68K & SmoothType PPC (v1.3.2): "smooths" rough fonts on your screen so they will look closer to the way they will print. There are two versions; one for 680x0 Macs, the other for PowerMacs, which takes advantage of some native code. NOTE: this extension takes a **lot** of processor time, and will noticeably slow down your Mac, especially when doing things that cause frequent screen redraws, such as scrolling through windows and documents. However, according to the author, version 1.2 is much faster than previous versions.

• Snitch Liaison (v2.5): needed by Snitch v2.5 (see entry in the Third-Party Control Panels section). Allows Snitch v2.5 to communicate with the Finder. No longer needed under Snitch v2.5.1 and can be removed.

• SnitchLib (v2.5.1): this shared library provides support for the utility "Snitch" on PowerPC machines (see entry in the Third-Party Control Panels section). Only installed on Power Macintoshes.

• Soft Pivot Driver (v3.2.1): older Radius Pivot monitors, and possibly some other Radius models, would not sync correctly with the Mac's video driver, resulting in a strong blue tint to the display. This extension eliminates that problem. Supposedly, this extension will not be updated/ supported any longer by Radius and/or Portrait Display Labs (the current owner of the Pivot line of monitors). Older Macs can avoid the need for this extension by using the Radius Nubus monitor card, although I don't know about its current availability.

• Speech Typer Engine (v1.0.2): actually a background application. Enables the functionality of the Speech Typer package (see "Speech Typer Controller" in the "Third-Party Control Panels" section).

• Speed Doubler (v1.3.3) [keep in mind that in addition to the RAM used by the extensions, SD also

increases your cache settings in the "Memory" control panel]: older version of the Connectix utility which speeds up your Mac by speeding up Finder copies, providing faster disk access, and, on PowerMacs, providing better 680x0 emulation than the Mac OS. Has been replaced by version 2.x or 8.x of Speed Doubler, which consists of an extension and a control panel. Version 1.3.3 was a recent update which fixed a few bugs for people who have not upgraded to v2.x or v8.x.

 o Speed Access [NA]: speeds up disk access on your Mac. Provides more effective disk caching and access routines.

 o Speed Copy [64.5/148]: provides faster copying and allows copying and emptying the trash in the background. Also provides added functionality when emptying the trash.

 o Speed Emulator [NA]: speeds up non-PowerPC software on your PowerMac by providing a more effective implementation of 68k-emulation. Note: this extension uses quite a bit of RAM to load the improved emulator into memory.

• Speed Doubler™ 8 Extension (v8.1) [NA; keep in mind that although the Speed Doubler extension and control panel do not take up RAM, Speed Doubler increases your cache settings in the "Memory" control panel]: see Speed Doubler™ 8 in the Third-Party Control Panels section. OS8.1 COMPATIBLE

• Speed601.Lib: supposedly a hoax. Was purported to speed up PowerPC-native applications on Macs using the PowerPC 601 processor.

• SpoolLauncher and SpoolMaster (3.0.2): part of the PowerPrint package from GDT Softworks. Provides background printing using the PowerPrint printer drivers. SpoolMaster is actually a background application which launches at startup and runs invisibly.

• SPSS IOCV Module & SPSS Translate Extension: shared library and document, respectively, which are installed by the SPSS statistical software. The IOCV Module is needed in order for SPSS to run, while the Translate Extension is only needed to import files from other statistical packages.

• Square One Extension (v4.0): when using the Square One utility, provides the ability to use the keyboard to switch between active applications and to launch Square One. Also provides support for showing recently used documents in the active Square One palette, launching applications using a new Square One menu, and hiding background applications automatically.

• Squeaky Toy (v1.0): when installed, each time you click and release the mouse button, your Mac sounds like one of those "squeaky" toys that will eventually annoy you to death. Luckily, by holding the mouse button down at startup, you can prevent Squeaky Toy from loading.

• StickyClick (v1.2): enables "sticky" menus which stay down when clicked, so you don't have to hold the mouse button down.

• StuffIt Engine (v4.5): a "document" which provides common support code for StuffIt Deluxe, StuffIt Expander, and DropStuff. Provides added expansion support for StuffIt Expander. **NOTE**: the latest version of StuffIt Engine, v4.5, is installed with StuffIt Deluxe 4.5. If you have this version installed, and install software which automatically installs StuffIt Engine, chances are it will replace v4.5 with an older version (4.0.2).

• Suitcase Extension (v3.0.1) [81.5/250]: used to enable the functions of Suitcase, a font-management utility.

• SuperBar (v1.0.1): under earlier versions of the System software (v7.0.x?), gets rid of the flickering which sometimes occurs when the menu bar is updated.

• Surf Express™ Extension (v1.1.2): provides support for Connectix's Surf Express™ (see the Third-Party Control Panels section). **NOTE**: there is a known conflict between Surf Express v1.1.1 and

BBEdit v4.5.1 which causes BBEdit to freeze when launched with Surf Express installed.

• sx8300.Lib / sx8300P: installed by Netscape Communicator, CoolTalk, and some versions of Navigator. Provide support for speech encoding and decoding (codec) for use in conferencing over the Internet.

• Sysjust: if you are using the Hebrew language system, enables you to manipulate the "Text" control panel through key combinations. Provides a convenient way to change text flow from right-left to left-right and to force the Hebrew characters when they are not behaving.

• T-Minus Ten Extension (v1.0.2): enables the T-Minus Ten Automation System to control your Mac.

• TCPack for AOL (v2.2.5): allows you to access America Online over a direct TCP/IP connection; actually a communications toolbox tool.

• TE3Click (v2.0): in word processors and text editors which are based on TextEdit, the text engine built into the Macintosh ROM's, provides the ability to "triple-click" to select whole lines of text at a time.

• TELNETDriver: installed by the PacerLink terminal package to connect to VAX mainframes or to bridge through mainframes. When using PacerLink, this file is required for Telnet connections via TCP/IP. If it is not installed, PacerLink will give you the error message "Not enough memory to open the TCPdriver."

• Text Preview: installed by Claris Works. Enables the "preview" option in Claris Works' "Open" dialog.

• The Grouch (v2.5): changes your trash can to an "Oscar the Grouch" trash can, complete with singing Oscar the Grouch. Supposedly, this extension has been discontinued because the creators of the original "Grouch" character (Sesame Street) took legal action.

• The Lightsaver USA (v2.0.1) [0]: automatically adjusts your clock for Daylight Savings Time.

• Timbuktu Extension: when this extension is installed on a remote Macintosh, you can use Timbuktu to control the Mac remotely.

• TitlePop (v2.4.2/v3.0.2) [20/44]: provides a pull-down menu in the title bar of each window which lists all open applications (including the Finder) and all windows open within applications (including Finder windows). Version 3.0 added drag and drop capability to menus and menu items. **NOTE**: v3.0.1 of this file was written as a control panel. OS8 COMPATIBLE

• Toast CD Reader (v3.5.4): if you have a CD-R drive, allows the drive to be used to read CD's as well.

• Toner Tuner (v1.0.8): commercial product which allows you to save ink/toner by printing in "draft" mode on any printer. You can select any "darkness" setting from 25-100%. There are actually two different versions of this extension which set the default mode to either "normal" or "draft," respectively.

• TouchBase Pro Extension (v4.2): installed by Now TouchBase Pro to provide support for added functionality, including the TouchBase Pro menu.

• TrueDocDisplayer.dlm: shared library which supports the viewing of TrueDoc fonts within Netscape. It should **not** be in your Extensions folder. It actually belongs in the "Dynamic Fonts" folder in the "Essential Files" folder in the "Netscape Navigator" folder. Users report that if it somehow finds its

way into the root level of the Extensions folder, it can crash the System.

• TSM Fix (v1.1b1) (Also sometimes named "Text Services Manager Fix"): a hack that fixes a problem where some mouse clicks are not recognized. Bundled with some third-party "launcher" and "control strip"-type utilities. If you have applications which have buttons that are slow to respond, this extension may help.

• TurboBoot: part of the FWB TurboToolkit package. Supposedly speeds up the startup/restart process. There is a potential conflict between this extension and the Now Utilities package. **NOTE**: incompatible with OS 8 and OS 8.1.

• Tweety (v1.0): randomly plays bird sounds in the background while you work.

• Twin Turbo extensions: drivers for the IMS Twin Turbo video cards:
  o TwinTurbo Acceleration (v4.0.1): enables hardware graphics acceleration using the IMS TwinTurbo video card. NOTE: under System 7.6.1, when using QuickTime 2.5, this extension can cause QuickTime movies to lock up if they are stopped or "fast-forwarded." The solution is to rename this extension to "aTwinTurbo Acceleration" so that it loads before QuickTime.
  o Twin Turbo™ M8 Upgrade: driver for the Twin Turbo M8 video card.
  o Twin Turbo™ Upgrade: driver for non-M8 Twin Turbo video cards.

• Typist INIT (v2.1): part of the Typist Plus package from Caere Corp.

• UDF Reader: allows MultiRead CD-ROM drives read UDF-formatted CD-R and CD-RW discs (such as those written by Adaptec's DirectCD, which cannot be recognized by Apple's UDF Volume Access extension).

• Unmute Extension (v0.2) [.5/0]: some Macs have a problem where the computer's volume is muted after a restart. This extension fixes this problem by automatically un-muting the computer at startup. It also un-mutes the internal Mac speaker when something is plugged into the Mac's headphone jack.

• Video Digitizer Update: installed by the Apple Video System for support of CU-SeeMe when using the Apple Video Card. Supposedly, all of the Apple Video Player options work perfectly without this file, but CU-SeeMe will not show your own picture in the "Self" window, nor will it provide options for sending video.

• VideoShop® PowerPlug (v3.0.4): provides native PPC support to accelerate VideoShop on PowerMacs.

• Viewer Engine (v4.0): part of the StuffIt Deluxe package. Allows you to view different file types and formats from within StuffIt Deluxe.

• Virtual Desktop Extension (v1.9): extension component of the Virtual Desktop package, which provides a "virtual" desktop of any size. Allows you to create a desktop which is larger than your screen. You can then shift your view to any part of this "desktop."

• VoiceBox (v2.0): part of the MacYack Pro 2.0 speech software utility package. Multiplexes a number of "speech client" channnges, each with its own voice personality, through a single PlainTalk channel. Requires the VoiceBox Scripting Addition to be in the Scripting Additions folder.

• VST MO Extension (v2.0): driver for the VST 230MB magneto-optical Expansion Bay drive for PowerBooks. OS8.1 COMPATIBLE

• VST Power Adapter Extension: provides support for the VST AC/DC Expansion Bay Power Adapter

for the PowerBook 3400 and G3 series.

• VST Zip Extension / VST Zip100 Driver (v1.1): provides support for the VST PowerBook Expansion Bay Zip drive. **NOTE**: version 1.0 of the extension would cause intermittent freezes when the computer checked the Zip drive to see if a disk was present. OS8.1 COMPATIBLE

• Wacky Lights: intermittently activates the three lights (num lock, caps lock, scroll lock) on extended keyboards.

• wapp (v1.0): adds a Finer menu that lists all windows in the frontmost application and all currently running applications. **NOTE**: requires Mac OS 8 or later. OS8.1 COMPATIBLE

• Watch It!: replaces the regular black and white watch cursor with a "3-D" greyscale version.

• Web Quick (v1.0): part of the WebQuick package, this extension enables a menu in the Finder which lists URLs which you have recently visited (web or FTP), and allows you to instantly access them. Adds menu items to various web browsers.

• Window Juggler (v1.3.2): allows you to switch between all open windows, in all open applications, using command-tab and shift-tab. OS8 COMPATIBLE

• Window Tamer Extension (v1.0.1): needed for the Window Tamer utility (see entry in the Third-Party Control Panels section). OS8

• WindowLabels (v1.0): just as the Labels menu allows you to label individual files, WindowLabels allows you to label whole windows by applying background colors and/or patterns.

• Windows Compressors (v1.0): installed by some versions of Microsoft's Internet Explorer, Windows 1.1 Apple Macintosh Utilities, and several QuickTime to AVI to QuickTime utilities to assist in playing and converting AVI movies. Contains compressor/decompressors (CODECs) for Microsoft RLE, Microsoft Video 1, and Microsoft Full Frame formats.

• WolfenCheat (v2.0.1): adds "cheat" options to the game "Wolfenstein."

• WPSC Video (PPC) (v2.3.0): provides support for compressing and decompressing (CODEC) video using the Crystal Net SFM algorithms.

• WPSC Video / WPSC Video (PPC) (v2.3.0): installed by WhitePine's Enhanced version of CU-SeeMe. Provides video compression / decompression "CODECs" using the Crystal Net SFM algorithms. When installed, provides the option of "White Pine Color" under video settings in CU-SeeMe and other QuickTime-savvy applications (stands for WhitePine Software Color). The first file is for 68k Macs, the second for PowerPC Macs.

• WPSG Video / WPSG Video (PPC): installed by WhitePine's Enhanced version of CU-SeeMe. Provides video compression / decompression "CODECs" using the Crystal Net SFM algorithms. When installed, provides the option of "CU-SeeMe Grey" under video settings in CU-SeeMe and other QuickTime-savvy applications (stands for WhitePine Software Greyscale). The first file is for 68k Macs, the second for PowerPC Macs.

• Wraparound: when installed, the cursor will "wrap around" the screen, meaning that if it reaches the top of the screen, it will keep going and reappear at the bottom. Likewise, if it reaches one side of the screen, it will reappear at the other.

• x-files cursor: replaces the standard arrow cursor with an icon based on the "X-Files" TV show logo.

• Yooz extension (v2.63): allows you to keep track of application usage, including what applications are used most frequently, and how much total time is spent on those applications.

• Zip Driver (v4.2): version of the Iomega Driver (see above) supplied with third-party (Epson, etc.) Zip drives.

• Zorba 1.0.2: provides simple password security for your Mac or PowerBook.

• ZZPortList: developer tool which helps to find instances where an application does not create or dispose of "Ports" properly.

• ◊CopyPaste 3.3.3: adds additional clipboard copy and paste functions such as 10 clipboards, archived copies, clipboards saved through restarts/shutdowns, clipboard "sets," and many more. The name of the file is preceded by the "" symbol to force it to load near the end of the startup sequence.

• ~Aaron (v1.6.1) [50/32]: changes the graphical interface (windows, menus, etc.) of your Mac so that it resembles Mac OS 8 (previously called "Copland," now known as "Tempo"). If you use this extension under Mac OS 7.6.1 or earlier, you do not need the WindowShade control panel, since ~Aaron places a window-collapse toggle button in the upper right-hand corner of your windows. One criticism of ~Aaron is that the floating tool palettes in applications such as Xpress, PhotoShop, etc. cannot be collapsed with ~Aaron, but can be with WindowShade.

• ~Aaron Light (v1.2.3): "light" version of ~Aaron which is designed to extend the Mac OS 8 appearance to third-party applications which are not yet Appearance Manager-aware.

• ~Aaron Espi Enabler: in ~Aaron version 1.6, the authors changed the System font used by ~Aaron from Espi Sans Bold to Veritas 12 (Veritas is based on the "Truth" font rumored to be the System font under OS 8). Since some users evidently preferred the older Espi Sans Bold, the authors created the "~Aaron Espi Enabler," which is an extension which forces ~Aaron to use Espi Sans Bold instead of Veritas. It must load after ~Aaron to function properly (which is not a problem unless you change the order using a startup file manager, since alphabetically it comes after ~Aaron).

• ~BeView (v1.1) [30.5/64]: shareware, similar to ~Aaron, which gives your Mac the "look and feel" of the BeBox computer's operating system.

• ~HyperBox (v1.0.1): links text in a document so that clicking on it launches another document (even if that document was created in another application), or so that it launches a URL via the Internet.

• ~QuickCamMic (v1.2): audio microphone driver used with Connectix QuickCams.

• ~QuickCamVideo (v1.2): video digitizer and driver used with Connectix QuickCams.

• ~QuickTime VM (v1.0) [.5/0]: supposedly enhances QuickTime performance under virtual memory/ RAM Doubler. This extension was originally bundled with JPEGView 3.1, but is not a part of the JPEGView 3.3 package. Whether or not it actually improved performance was matter of opinion; some people felt it did, others never seemed to notice a difference. NOTE: Under System 7.5.3, installing this extension will disable the new "translucent icons" feature in the Finder. I suspect that this file is no longer necessary and/or no longer works, as many readers have reported that it is not available anywhere.

• °Avid Cinema Extension (v1.1): required for the Avid Cinema application. Version 1.1.3 fixed some audio problems and problems with number formats. NOTE: **requires** OS 7.6.1 or later. If you are using System 7.5.3 or 7.5.5, you should use v1.1 or 1.1.1 of the Avid Cinema Extension. Avid Cinema is not

supported for OS 7.6.

• °Higher Tek (v1.0): changes the interface of your Mac from the standard grays to a "futuristic darker more techno look" (according to the author). Conflicts with ~Aaron, BeView and Kaleidescope. Version 1.0 still has various appearance bugs.

• °Remote (v2.1): enables the Retrospect back-up utility to perform backups on your computer over a network. Allows you to set preferences for backups.

Microsoft...

This is what I have been able to gather about which extensions and control panels Microsoft Office 4.2.1 and Office 98 install.

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OFFICE 4.2.1

• Microsoft Component Lib (68k): ?

• Microsoft Dialog Library (vSDM3.02): provides code for the Mac version of the Windows dialog manager; specifically, supports the new "tabbed" dialogs introduced in Office 4.2. Supposedly this file is needed since Word 6 is really Word 6 for Windows ported to the Mac.

• MS Find File Library (v1.0a): provides support for the "Find File" option from within Office applications.

• Microsoft Mail Library (v1.0): provides support for Microsoft Mail when using applications which support OLE. Only necessary if you are using Microsoft Mail.

• Microsoft Office Manager (v4.2.1c): if you have it installed, you'll see the MOM menu in your menu bar. Supposedly, v4.2.1c fixes several problems. NOTE: I have heard quite a few reports of conflicts with this file. Personally, I would trash it; IMHO the functionality isn't worth the "crash risk factor"). NOTE: Microsoft has updated the entire "Office" package to v4.2.1b. To update, you need to reinstall the entire package off the new 4.2.1b CD-ROM. According to Microsoft, if you are using v4.2.1b, you do not need the Microsoft Office Manager Patch or version 4.2.1c "unless you have crashes."

• Microsoft OLE Automation (v2.06): enables OLE scripting between applications.

• Microsoft OLE Extension (v2.07): enables "Object Linking and Embedding" (OLE). Object Linking and Embedding (OLE) allows users to import objects from a document in the source application (such as Excel) into a document in the destination application (such as Word). When changes are made to the source document, they are reflected in the destination document. OLE is platform-and application-independent, meaning you can use OLE between applications and on both the Macintosh and Windows platforms. It is functionally similar to publish and subscribe, but much more elegant in use (but a memory hog)... Some people say it's actually closer to the idea of OpenDoc. **This** file performs 680x0 routines, and makes OLE compatible with applications written in 680x0 code (non-PowerPC-native), and is run in emulation on PowerMacs. Supposedly it is not needed on PowerMacs (which use the Microsoft OLE Library, below), but I have not verified this myself. It is also needed when using the new Word and Word Perfect filters for QuarkXPress. These filters import Word and WordPerfect for DOS/Windows as well as their Macintosh versions. OLE is also required to run PageMaker versions prior to 6.0.1 (6.0.1 will run without it, but linking and embedding features will not function). It is also used by Timbuktu Pro 3.0 to implement the "Timbuktu Sender" feature.

• Microsoft OLE Library (v2.0.6): PowerPC version of the Microsoft OLE Extension (above).

• Microsoft Tool Editor (v1.2): provides support for toolbar creation and editing in Office applications.

• Microsoft Tool Editor Library: necessary for creating custom button icons and tools.

• ODBC files: ODBC stands for Open Database Connectivity, a protocol which allows users to access central databases stored on ODBC servers. The following files are part of the ODBC system:

    o ODBC Configuration Manager (v1.0): shared library which provides support for access to ODBC server-client databases.
    o ODBC Driver Manager (v1.0): shared library which provides support for access to ODBC server-client databases.
   o ODBC Setup: ?
    o ODBC SQL Server ADSP Netlib (v1.0.2): shared library which provides support for connecting to an SQL database server using the AppleTalk Data Stream Protocol (ADSP).
    o ODBC SQL Server Driver (v1.02.07): shared library which provides support for access to an SQL server.
    o ODBC SQL Server Setup (v1.02.07): shared library which provides support for configuring an SQL server.
    o ODBC SQL Server TCP/IP Netlib (v1.02.05): shared library which provides support for TCP/IP access to an SQL server.

• Office 4.2.x Update for PowerMac (v1.0.1) [2/0]: fixes certain crashes on PowerMacs using the different Microsoft Office applications. Specifically, this extension contains the following fixes:
    o A fix to prevent hanging or type 11 errors when printing using QuickDraw GX
    o A fix to prevent hanging or type 11 errors when launching a PPC-native application after quitting out of Word.
This extension is necessary even if you have updated the "Office" package to v4.2.1b. However, according to Microsoft, if you have updated Word to v6.0.1 and aren't using Excel and QuickDraw GX together you do not need this extension, as the fixes it provides were rolled into the application itself. They even go so far as to say that you should delete this extension before installing System 7.5 Update 2.0 or later. The version (v1.0) of Office 4.2.x Update for PowerMac released with Office 4.2.1a conflicts with even the newest version of Apple Menu Options. If you want to use Apple Menu Options, you should update to v1.0.1. If you think **this** is confusing, try calling Microsoft and see what **they** say! :-) If you are using QuickDraw GX, Microsoft suggests downloading the "extension to prevent hanging power mac apps" version 1.0.1 from:

NN   <http://www.microsoft.com/kb/softlib/mslfiles/MC1164.HQX>
IE

NOTE: GX printing is not supported under OS 8 and later. **NOTE**: Microsoft has also reported a conflict between v1.0 of this file and the Global Village TelePort and PowerPort software or PopUp Folder. Version 1.0.1 fixes this conflict.

• Q+E ODBC FoxPro Driver (v1.2.0): shared library which provides support for access to FoxPro server-client databases using the ODBC protocol.

• Shared Code: this is actually a folder which is located in the "Extensions" folder. It contains the OLE code files (OLE Reg Dll, OLE Server Dll, Ole Client Dl) used by the "Shared Code Manager" of the Microsoft OLE system.

• Shared Code Manager: lets programs share common code. Provides Microsoft's object linking and embedding (OLE) system. It is similar to the Shared Library Manager for the shared libraries. Installed by Microsoft office along with the shared code modules Ole Client DLL, OLE Reg DLL and OLE Server DLL

(in a the above "Shared Code" folder in the Extensions folder). This extension is also supposedly installed by PageMaker 5.0. This file isn't necessary for MS applications to run, but OLE will not function without it. The "Shared Code" folder must be present for the system to run.

• Visual Basic for Applications (v1.01): provides support for the "Visual Basic for Applications" scripting language for Microsoft Office applications.

OFFICE 4.2.1 NOTES:

I have been told that you can run Microsoft Office v4.2.1 fine with only these files installed:

- • Office 4.2.x Update for Power Mac
- • Shared Code Manager" installed (along with the "Shared Code" folder in the extensions folder)
- • Microsoft Dialog Library
- • Microsoft OLE Library
- • Visual Basic for Applications

This means that the following files can be "disabled." Note that with this setup, OLE, ODBC Databases, and the full Visual Basic package will be inoperable:

- • Microsoft Office Manager
- • Office Manager Patch
- • Microsoft Find File Library
- • Microsoft Mail Library
- • Microsoft OLE Automation
- • Microsoft OLE Extension
- • Microsoft OLE Library
- • Microsoft Tool Editor Library
- • ODBC Setup
- • ODBC Configuration Manager
- • ODBC Driver Manager
- • ODBC SQL Server ADSP Netlib
- • ODBC SQL Server Driver
- • ODBC SQL Server TCP/IP Netlib
- • ODBC SQL Server Setup
- • Q+E ODBC FoxPro Driver
- • Apple® Event Manager (not needed regardless; see entry in the "Extensions" section)
- • MTExt (a font): supposedly there are actually two of these files, a suitcase and a postscript font. The font itself is usually found in the Extensions Folder.

Personally, I only enable the following files, and have extensive functionality and **no crashes**:

- • Microsoft Dialog Library
- • Microsoft OLE Automation
- • Microsoft OLE Extension
- • Microsoft OLE Library
- • Visual Basic for Applications

To run only Word 6 (no Excel), you only really need these two, although some of the advanced functions may not be fully functional:

- • Microsoft Dialog Library

- Microsoft OLE Extension
- Microsoft OLE Library

If you are only running PowerPoint, you reportedly **don't** need the following:

- Microsoft OLE Automation
- Microsoft Tool Editor Library
- ODBC Configuration Manager
- ODBC Driver Manager
- ODBC SQL Server ADSP NetLib
- ODBC SQL Server Driver
- ODBC SQL Server Setup
- ODBC SQL Server TCP/IP NetLib
- Q+E ODBC FoxPro Driver
- Type Libraries
- Visual Basic for Applications

OFFICE 98:

NOTE: several issues have emerged with the Microsoft Office 98. Rather than go into detail about these issues here, I would recommed that anyone using Office 98 visit Ted Landau's MacFixIt web site for his special section on troubleshooting Office 98:
NN <http://www.macfixit.com/reports/msoffice98.shtml>
IE

or Microsoft's own site covering Office 98 issues:
NN <http://www.microsoft.com/macoffice/>
IE

The following files are installed in the Extensions folder by a standard install of Microsoft Office 98. Their descriptions come from the files themselves. They are located in the Extensions folder because older OLE apps like MS Project and previous versions of Microsoft Office look for OLE and related components in the Extensions folder:

• Microsoft Component Library (v2.22): shared library which provides support for Object Linking and Embedding (OLE). It allows Microsoft OLE components to control memory allocations, create objects, track the registration database and share data between OLE-aware applications.

• Microsoft Hyperlink Library (v1.0): shared library which provides support for imbedding Internet "hyperlinks" within Office applications and within documents.

• Microsoft OLE Automation (v2.20.4244): shared library which enables Automated OLE (Object Linking and Embedding) for OLE-aware applications. Enables OLE scripting between applications

• Microsoft OLE Library (v2.22): shared library which enables the OLE system in OLE-aware applications. Provides linking and embedding, drag and drop, backward compatibility and cross-process communication. For more information on OLE, see the entry for this file in the Office 4.2.1 section above.

• Microsoft RPC Runtime Library (v4.0.3): shared library which provides support for hyperlinks within documents and allows users to use such links to open other Office applications and to view HTML pages.

• Microsoft Structured Storage (v2.22): shared library which controls the storage of Microsoft OLE compound documents, OLE initialization, and object naming. This file is required for OLE under Office 98.

• MS Font Embed Library (PPC) (v2.1.3): shared library which allows Word to embed all fonts used in a document within the document itself, so that other users can view the document exactly as you created it.

The following files are installed inside the "MS Library Folder" within the Extensions folder. These files are shared between Internet Explorer and Office 98. They contain "new" code which is not used by older applications, so Microsoft was able to move them to their own folder:

• MS C++ Library (PPC) (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer.

• MS Configuration Lib PPC: shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer. Provides added support for the Configuration manager.

• MS Container Lib (PPC) (v4.0.1): shared component which provides extended preferences capabilities from within Office 98 applications.

• MS Favorites Library (PPC) (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer. Provides information for extended preferences.

• MS Internet Library (PPC) (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer. Provides support for Internet security and authorization, certificates, URL "auto-expand," browser errors, and access to the Microsoft Network.

• MS Parser Library (PPC) (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer.

• MS Preferences Library PPC (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer. Provides support for preferences, security, and Internet Config.

• MS Variant Lib (PPC) (v4.0.1): shared component used by Microsoft Office 98 and Microsoft Internet applications such as Microsoft Internet Explorer.

PROGRAMMING FILES:

The following files are only installed by the "portability" toolkit used to convert Windows applications written with MFC (Microsoft Foundation Classes) to the Mac:

• Microsoft C Runtime Library: provides support for low-level shared functions written in C.

• Microsoft Controls Library: Mac versions of the Windows custom controls (i.e. pop-ups, tree control etc.)

• Microsoft MFC 4.0 Library: shared library which provides a Mac version of the Microsoft Foundation Classes. Uses the Portability library to convert Windows calls to the Mac OS.

• Microsoft MFC 4.0 ODBC Library: shared library which provides Mac support for the ODBC MFC classes.

• Microsoft MFC 4.0 OLE Library: shared library which provides Mac support for the OLE MFC classes

• Microsoft Portability Library: shared library which provides support for direct Windows to Macintosh system level porting. It implements most of the Windows API's on the Mac.

• Microsoft RichEdit Library: shared library which implements Windows' RichEdit control on the Mac. RichEdit is the Windows version of the Mac's "TexEdit" routines, but also includes RTF support.

Other System Folder Files

These items are found loose in your System Folder. You probably shouldn't move them out of the System Folder, unless you determine from the descriptions below that you don't need an item and want to trash it.

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• 32-bit System Enabler: under System 7.1, this document added the option of 32-bit addressing to the Memory control panel. This option allows Macs to use more than 8 MB of RAM. It was mainly intended for the Macintosh II, IIx, IIcx, and SE/30. Under later systems, this option was built into the Memory control panel, giving you the option of turning 32-bit addressing on or off. On some newer Macs, this option is no longer available, and the computer always runs with 32-bit addressing ON.

• Apple File Exchange: the precursor to "PC Exchange," this was actually an application, rather than a control panel.

• Apple Menu Items: items (or aliases of items) placed in this folder will appear under the "Apple Menu" in the Finder. The items in this folder are sorted alphabetically; to reorganize the order items appear in the menu, place characters such as spaces, periods, etc. at the beginning of names. If you are using a startup file management utility which supports Apple Menu Items, you may also have a folder called "Apple Menu Items (Disabled)."

• Application Support: under OS 8, this folder is supposed to be a location where developers can tell their applications to place private extensions and plug-in files. Third-party software (applications, extensions, etc.) can install required files or folders in this folder. It is designed to reduce some of the "clutter" in the System Folder, but few applications take advantage of it yet. OS8

• ATM Font Database: used by Adobe Type Manager and ATM Deluxe to keep track of what fonts are installed on your system. This allows ATM to decide whether or not it needs to substitute for missing fonts, or "smooth" fonts which are already installed.

• Backgrounder: used under System 6.0.x to support background printing.

• Clipboard: whenever you "cut" or "copy" text, a picture, a sound, etc. it is temporarily stored in the Clipboard until you replace it with another cut or copy. You can paste the contents of the Clipboard into another document or the scrapbook. When you shut down or restart, the contents of the Clipboard are lost (they are stored in RAM, which is cleared upon restart/ shutdown). You can double-click on the Clipboard to see its contents.

• Contextual Menu Items: under Mac OS 8 and later, this folder is where additional Contextual Menu plug-ins are stored. **NOTE**: in order for these plug-ins to be recognized, the "SOMobjects™ for MacOS" extension must be installed. OS8

• Control Panels: the folder where all your "active" control panels reside.

• Control Panels (Disabled): if you are using a startup manager/ utility, this folder contains the control panels you have "deactivated."

• Control Strip Modules: the folder where all your "active" control strip modules reside.

• Control Strip Modules (Disabled): if you are using a startup manager/ utility which supports control strip modules, this folder contains the control strip modules you have "deactivated."

• Dataviz: this folder contains all of the support files for the MacLink document translation system, which is installed by Mac OS 7.6 and later.

• Editors: this folder is part of the OpenDoc installation (see "OpenDoc" in the "Groups" chapter).

• EFIColor Processor (v2.02): installed by QuarkXpress (v3.31 automatically installs it; v3.32 and above give you the option of installing it). Contains routines for the EFIColor color management system. The main purpose of EFIColor is to efficiently translate images from RGB to CMYK for exporting to EFIColor-compatible   printers/copiers.

• Extensions: the folder where all your "active" extensions reside.

• Extensions (Disabled): if you are using a startup manager/ utility, this folder contains the extensions you have "deactivated."

• Finder: the actual application which presents you with your Mac Desktop and allows you to manage files, run applications, and anything else you do on your Mac. If you get rid of this file, your Mac won't run!

• Fonts: the folder where all of your fonts reside. If you are using a font management utility, or a startup manager/ utility which supports fonts, you may have another folder for "disabled" fonts, or your "Fonts" folder may reside elsewhere.

• Hosts: this file is parsed by the MacTCP and/or TCP/IP domain name resolver and the resource records are loaded into the resolver's cache. The Hosts file follows a SUBSET of the Master File Format (see rfc1035 pg 33). Each line in the file has the form: <domain-name> <rr> [<comment>]. Under MacTCP, if you open this file you will see this format. Under Open Transport, you will get a long descriptive message which contains some of the above information. I believe that under Open Transport, the actual domain name and other information are contained in the TCP/IP cache.

• Internet Plug-Ins Folder: under Mac OS 8, this folder is supposed to provide a common location for the storage of plug-ins for web browsers and other Internet clients. It is designed to reduce some of the "clutter" in the System Folder, but few applications take advantage of it yet. OS8

• Launcher Items: this folder contains the files for all the buttons you have installed on the Launcher. Creating folders within the Launcher Items folder, and placing a "•" at the beginning of their names, will create different categories or "layers" of buttons, with "tabs" to select the layers.

• Load RAMDblr: this "invisible" file is needed for the Connectix utility RAM Doubler to load. If you

disable this file (using a utility like Conflict Catcher or NOW Startup Manager), you may need to restart twice after enabling it for RAM Doubler to function. If you are using RAM Doubler and get and error that RAM Doubler has been moved or disabled, it may be because this file is missing or moved. If you "lose" this file, the only way to get it back is to reinstall RAM Doubler from the installer disk. Load RAMDblr also causes the "Connectix RAM Doubler Installed" message at startup.

• MacsBug (v6.5.4): a debugger used when testing software. Also provides options for exiting from system crashes.

• MacTCP DNR: DNR stands for "domain name resolver." This file contains TCP/IP resources for applications written for System 6.0.x. It is loose in your System Folder, and is not really a control panel, even though that's what it claims to be. The reason for this is that under System 6.x, control panels were loose in the System Folder. Thus any application that needed TCP and/or DNR information would look for the MacTCP control panel in the System Folder. Under system 7.x, all control panels were moved to the "Control Panels" folder. However, some applications still looked for TCP/DNR info in a control panel in the System Folder. To ensure backwards compatibility, MacTCP creates this file to provide information for those applications. Some applications still look for the info in a control panel, so the "type" code of this file (and the file type listed in the "Get Info" box) is set to "control panel." For whatever purpose, even some newer applications still use the MacTCP DNR file directly, instead of using Mac TCP. Another reason this file exists, and the reason it still exists under Open Transport, is that it provides compatibility for applications that are not yet Open Transport-aware. These applications still use the above method for obtaining DNR information, rather than using the MacTCP compatibility model of OT. In order to support these applications, Open Transport provides the MacTCP DNR file in the system folder. This file is always provided, so you'll notice that even if you throw it away, it is recreated the next time a TCP call occurs.

• Mimetics: installed by the Apple Telecom software. Contains fax and dictionary support for the Apple Telecom applications.

• Modem Scripts: installed by Open Transport/PPP. Contains modem descriptions for most modems. If you are using TO/PPP, you can then select your modem in the Modem control panel.

• Note Pad File: if you use the "Note Pad" in the Apple Menu, all your data ("notes") are stored in this file. If you install a new system folder on your Mac be sure to make a copy of this file first if you keep data in the Note Pad.

• PowerPC Enabler (v1.1.1): under System 7.5, provides support for PowerPC Macs.

• Preferences: this folder contains the preference and settings files for nearly every application, control panel, etc. on your Mac. It can become severely bloated over time. You can periodically browse this folder and get rid of preference files for applications you no longer use.

• Print Monitor Documents: this folder temporarily holds documents which are waiting to be printed.

• Scrapbook File: the data file for the Scrapbook.

• Shutdown Items: applications/ documents/ sounds/ etc. in this folder will be opened just before your Mac shuts down/ restarts. If you are using a startup manager/ utility which supports Shutdown Items, you may also have a Shutdown Items (Disabled) folder. Supposedly, if the "Finder Scripting Extension" is not installed, items in the Shutdown Items folder won't launch at shutdown.

• Startup Items: applications/ documents/ sounds/ etc. in this folder will be opened at startup just after the Finder appears. If you are using a startup manager/ utility which supports Startup Items, you may also have a Startup Items (Disabled) folder. Supposedly, if the "Finder Scripting Extension" is not

installed, items in the Startup Items folder won't launch at startup.

• StartupScreen: if you place a picture or graphics of the type "pict resource" in your System Folder and name it "startupscreen," it will replace the standard Mac startup graphic.

• SysErrs.err: file created by the Macintosh Prog. Workshop to keep track of errors when developing applications in MPW. Some users claim that MacsBug will also create this file. If you are not using MacsBug or MPW, there is no reason to keep this file.

• System: the actual system software that runs your Mac. If you double-click on this file, you will be presented with a Finder window which contains keyboard layouts and sounds. You can trash the keyboard layouts which do not apply to you. You can also place standard-format System sounds in the System, and they will then be available to be used as System beeps. Removing or moving the System will render your Mac inoperable!

• System 7.5 Update: installed by System 7.5.3. On computers capable of running System software 7.5 and/or 7.5.1 and requiring a System Enabler, this file **replaced** the System Enabler when the System software was updated to 7.5.3. However, computers that did not previously need an Enabler under 7.5 and 7.5.1 still need "System 7.5 Update" under 7.5.3, since it contains most of the fixes contained in the update. So basically, this file is needed by anyone running System 7.5.3. Under System 7.5.5 Update, this file was incorporated into the System itself, and is no longer needed.

• System 7.5.2 Update: replaces the Enabler file on all computers capable of running system software 7.5.2. Also contains some of the fixes specific to computers which ran 7.5.2. No longer necessary under System 7.5.5, as its functionality was rolled into the System itself.

• System 7.5.3 Enabler: analogous to the System 7.5.2 Update file (above) on machines which originally shipped with System 7.5.3 pre-installed. No longer necessary under System 7.5.5.

• System Enablers: see the "System Enablers" Chapter.

• Text Encodings: folder which contains translation modules for various text encoding standards used by the Text Encoding Converter shared library (see entry in the "Non-RAM" section).

System Enablers

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When a new version of the Mac operating system is released, it is designed to work with all Macintosh computers which are shipping at the time. However, when new Macs models are released, they often use hardware, features or "ROM" code which is not compatible with the currently available version of the System software, since the computers were designed after the system software was completed.

To remedy this problem, Apple provides what are called "System Enablers." System Enablers exist to provide support for new computer models when using versions of the Mac OS which were released before the models were finished. They contain the information needed to start up each particular computer. They also provide compatibility between each computer's hardware and the System software. For example, the PowerMac 5400 was released after System 7.5.3, so the standard 7.5.3 System software will not run on this computer. However, Apple provides support for System 7.5.3 on the PowerMac 5400 through the "System Enabler 410" file. This file provides the code necessary for System 7.5.3 to work on this computer.

As each new version of the System software is released, it incorporates all of the support provided by previous System Enablers. For instance, using the PowerMac 5400 example above, Mac OS 7.6 incorporates support for the 5400, so the System Enabler 410 is no longer needed. It is in this way that Apple designs new computers that are compatible with older versions of the Mac OS.

The System Enabler concept started with System 7.1 After the release of System 7.1, each new Mac required a System Enabler. With System 7.5, a supposedly "universal" System Enabler was designed. However, all new computers produced after the release of System 7.5 required a new enabler, because the "universal" enabler was out of date ;-). With the advent of System 7.5.3, this process started anew. On all Mac models introduced before June, 1996, the System 7.5 Update or System 7.5.2 Update acted as a universal "System 7.5.3 Enabler." However, again, since the release of System 7.5.5 Update, Mac OS 7.6, and OS 7.6.1 Update, some of those files are no longer necessary, but other newer ones are! Below is a list of which System Enablers correspond to each Mac model (**NOTE**: see the "System Versions Compatibility" chapter for information about which models can use which System versions):

Color Classic	System Enabler 401	*
IIvi, IIvx	System Enabler 001	*
LC III	System Enabler 003	*
LC 520, LC 550	System Enabler 403	*
LC 630, Quadra 630, Performa 630, 635CD	System Enabler 405	*
LC 475, 575, Quadra 605	System Enabler 065	*

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Centris 610, 650,          System Enabler 040          *
   Quadra 610, 650, 800

Centris 660AV,             System Enabler 088          *
   Quadra 660AV, 840AV

Mac TV                     System Enabler 404          *

Performa 600               System Enabler 304          *

Performa 450, 460,         System Enabler 308          *
   466, 467

Performa 475, 476, 575,   System Enabler 364          *
   577, 578

Performa 550, 560         System Enabler 332          *

Performa 5200CD,          System Enabler 406          **
   LC 5200/75

PM 6100/60, 7100/66,      PowerPC Enabler             *
   8100/80

PM 6100/66, 7100/80,      PowerPC Enabler             **
    8100/100, 8100/110        (requires System 7.5)

Performa 611x             Requires System 7.5         *

PM Upgrade Card           PowerPC Upgrade Cd Enabler  *

PM 7200/75, 7200/90,      System Enabler 701          **
    7500/100, 8500/120,       (requires System 7.5.2)
   9500/120, 9500/132

PM 4400/200               System Enabler 827          *****
                             (does not support OS 7.6)

PM 5400                   System Enabler 410          ****

PM/Performa 6400          System Enabler 410          ****

PM 6500 series            System Enabler 411          *****
                             (do not support OS 7.6)

PM 7300 series            System Enabler 702          *****
                             (do not support OS 7.6)

PM 8600/200, 9600/200,    System Enabler 702          *****
    9600/200MP, 9600/233      (do not support OS 7.6)


PowerBook 150             PowerBook 150 Enabler       *

PowerBook 160, 165,       System Enabler 131
    165c, 180, 180c           (replaced System Enabler 111/121)

PowerBook 520, 520c,                                  *
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       540, 540c

PowerBook Duo 210, 230,     PowerBook Duo Enabler          ***
    250, 270c, 280, 280c

PowerBook 190                   PowerBook 5300/190 Enabler **
                                  or
                                 PowerBook 5300/2300/190 Enabler
                                    (requires System 7.5.2)

PowerBook Duo 2300/c        PowerBook 2300 Enabler         **
                                  or
                                 PowerBook 5300/2300/190 Enabler
                                    (requires System 7.5.2) ***

PowerBook 5300              PowerBook 5300 Enabler         **
                                  or
                                 PowerBook 5200/190 Enabler ***
                                  or
                                 PowerBook 5300/2300/190 Enabler
                                    (requires System 7.5.2) ***

PM G3, PowerBook G3         System Enabler 770 Version 1.0 ******
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        * Under System 7.5 and later, this item is no longer required.
        ** Under System 7.5.3 and later, this item/items is/are no longer required.
        *** Under System 7.5.5 and later, this item is no longer required.
        **** Under Mac OS 7.6 and later, this item is no longer required.
        ***** Under Mac OS 7.6.1 and later, this item is no longer required.
        ****** Under Mac OS 8.1 and later, this item is no longer required.

System Enabler Notes:

The Power Macintosh 4400/200 ships with System 7.5.3 and requires the above enabler. It does not support Mac OS 7.6 but does support Mac OS 7.6.1. The enabler is no longer needed under OS 7.6.1.

The 7300 series, 8600/200, and 9600/200, /200MP and /233 ship with System 7.5.5 and require the above enabler. They do not support Mac OS 7.6 but do support Mac OS 7.6.1. The enabler is no longer needed under OS 7.6.1.

   The following computers do not require a System Enabler:
    - Plus
    - SE, SE/30
    - Classic, Classic II
    - LC, LC II, LC 580
      - Mac II, IIx, IIcx, IIsi, IIci, IIfx
    - PB 100/140/145/170
    - Quadra 700, 900, 950
    - Performa 200, 400, 405, 410, 430

PRAM

(What It Is, How To "Zap" It & What Gets Reset)

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WHAT IS IT?

PRAM, or "Parameter RAM," is a section of memory used to store some system and application settings that are more "vital" or "universal" than those kept in the Preferences folder of your System Folder. Most user settings that must be retained after the computer has been turned off, and that need to be present at system startup, are stored in PRAM. The PRAM itself is 256 bytes of data stored in your Mac's real-time clock chip, along with the date and time settings. This insures that no matter what system version you start up with, or what different system software (extensions, control panels, etc.) you use, certain settings remain the same from one startup to another.

PRAM can be broken down into several types/parts:

1) Low PRAM: the part commonly known as "PRAM," this is where most system software and applications store their settings.

2) High PRAM: the "deeper" part which is not automatically reset through a standard PRAM reset (below). This part of PRAM includes data such as the date of manufacture of your computer, hours of use, factory service settings, etc. Apple recommends that software developers do not use this part of PRAM for settings, but some still do.

3) Non-volatile RAM (see "PCI Macs" below): stores such information as the display settings on a PCI Mac. One of the design engineers at Apple has explained that "NVRAM is actually a separate 8Kx8 battery powered SRAM..."

While the settings in PRAM rarely get corrupted (damaged), it does occasionally happen, and when your PRAM settings become corrupted, strange things can happen... A common (some say **too** common) procedure used to solve pesky problems is to "zap" your Mac's PRAM, either manually (see instructions below) or using a utility like MicroMat's free TechTool. A standard "zap" (see "NuBus Macs" below) resets only the "low" PRAM. A zap of NVRAM (see "PCI Macs" below) resets both the low PRAM and the NVRAM. Finally, using a utility like TechTool resets **all** of the PRAM. Note that this includes your computer's date of manufacture and hours of use; fortunately, TechTool restores this data after the computer is restarted.

HOW TO "ZAP" IT

NuBus Macs:

If you have a non-PCI Mac, you "erase" the PRAM by holding down the Command- Option- P- R keys simultaneously at startup. This resets the machine to its default configuration settings.

Zapping the PRAM forces the display to startup in its default configuration, all the way through the startup process. On a NuBus-based Mac, the Display Manager recognizes that the PRAM has been cleared and does not try to restore the display to its previous resolution.

PCI Macs:

On a PCI Mac, while most settings are stored in PRAM, just as with the NuBus Macs, the display information is not kept in PRAM, but is instead stored in what is called Non-volatile RAM (NVRAM). This is an important distinction because NVRAM is not cleared by using the above procedure during a warm or soft restart (by selecting Restart from the Special menu, or by using the control- command-power key combination), whereas PRAM is cleared in that case. To clear the NVRAM, you must hold down the Command-Option-P-R keys simultaneously as soon as possible after hitting the power-on key (from a **cold** startup). The clearing of NVRAM happens BEFORE you see the gray screen on startup. Once the gray screen appears, the PRAM is cleared at the same point as it is on NuBus machines.

To complete the process of resetting the display information back to its default configuration, you must follow these steps:

• Zap the PRAM from a cold startup (above).
• After you hear the "startup" sound twice, release all four keys and press the Shift key to start up with extensions off.
• Go to the "Preferences" folder inside the System Folder and find the "Display Preferences." Move this file to the trash, empty the trash, and restart the computer.

NOTE: There are actually two other ways to reset the PRAM, both of which are only suggested for emergencies and to be done by those very comfortable taking their machine apart. The first is to remove the Lithium battery on the motherboard for 10 minutes or more (30 recommended). The other is to press the small red or black button that is found on the motherboard on some Macs. Both of these steps will clear **all** of the PRAM and NVRAM.

WHAT "ZAPPING" IT RESETS

Zapping your PRAM resets some common control panel settings to their default value, so you'll have to go back and change them to your preferred settings. The following is a short list of what gets reset when you do a standard PRAM reset, and their default settings, if available:

• "Memory" control panel:
    o 32-bit addressing: early Macs, "off"; later Macs (Quadra, etc.), "on" (however, some Quadra owners report that it does indeed get set to "off")
    o Modern Memory Manager "on"
    o Virtual Memory "off"

o RAM Disk "off"
o Disk Cache:
  • Under 7.5.2 and earlier, 16K for every MB of physical RAM installed
  • Under 7.5.3, 32K for every MB of physical RAM installed
    o NOTE: the cache settings above are according to Apple; however, some people
      seem to **always** default to 96k
• "General Controls" control panel:
  o Insertion Point Blinking to middle setting
  o Menu Blinking to "3"
  o Both "Folder Protection" settings "off"
  o Documents setting to "Last folder used in the application"
  o Desktop setting to "Show Desktop when in background"
• "Date & Time" control panel:
  o"Time Zone"
  o Display format and alarm reset
• "Highlight color" and "Window color" in the "Color" control panel to "black"
• "Keyboard" control panel:
  o Key Repeat Rate to fourth setting from the left.
  o Delay Until Repeat to 2nd longest
  o Layout to U.S.
• "Mouse" control panel/"TrackPad" control panel:
  o Mouse Tracking/Drag Speed to third setting from left
  o Double-Click Speed to middle setting
• "Monitor" or "Monitors & Sound" control panel:
  o Primary monitor only
  o Location of extra set to B&W monitors
• QuickTime Settings: both to "on"
• Brightness in the "Screen" control panel
• Power Macintosh Upgrade Card is reset to "Off"
• System Beep in the "Sound" or "Monitors & Sound" control panel to "Simple Beep"
• On some Macs, AppleTalk is turned off
• Under Classic Networking, the"Network" control panel is reset to "LocalTalk"; the AppleTalk port is
set to the printer port. Under Open Transport, these are reset to whatever the settings are in the
AppleTalk configuration file
• Startup Disk set to none (uses default of primary drive, or searches SCSI chain if not found)
• On 68040 Macs, "Cache Switch" control panel set to "Faster"
• SuperMac video cards lose their settings and need to be reconfigured
• You may need to re-select your printer in the Chooser
•The following settings are also reset on various PowerBooks:
  o Minutes Before System Sleep (8 Minutes)
  o Minutes Before Hard Disk Sleep (4 minutes)
  o Macintosh PowerBook Rest (default is Rest)
  o Stay awake when plugged in (default is unselected)
  o Modem Selection
  o Wake on Ring unselected
  o Power Saver on the PowerBook 170 (default is Off).
  o SCSI Disk Mode in the PowerBook Setup control panel to "2"

Except for the date and time and the default application font, all of these preferences, and any other
system-wide settings, may be reset by zapping PRAM

A SIDE NOTE ON FINDER PREFERENCES

The Finder Preferences file, found in the "Preferences" folder inside your System Folder, contains some settings which are commonly mistaken as residing in PRAM. These settings actually get corrupted far more frequently than those in PRAM. A common troubleshooting procedure is to "trash" your Finder Preferences to get rid of problems associated with these corrupt settings. Trashing the Finder Preferences file returns the following settings to their defaults:

- "View" control panel:
  - o Font for views to "Geneva 9"
  - o Icon Views to "Straight grid"
  - o Icon views "Always snap to grid" de-selected
  - o List View to smallest icon
  - o Sizes, kinds, labels, and dates selected; version, comments de-selected
  - o Calculate folder sizes and Show disk info in header de-selected
- "Warn before emptying" setting for the Trash Can "on"
- Trash Can moved back to default position
- Clipboard windows moved back to default position

ANOTHER SIDE NOTE ON BATTERIES AND PRAM

Every Mac has a battery on its logic board which is used to maintain the PRAM when the computer is turned off. After a few years, this battery will run down and need to be replaced. If this happens, all of the PRAM settings above will be reset to their defaults each time the machine is shut down. The effect of having a dead battery is thus the same as "zapping" the PRAM at **every** startup. If you notice that some settings seem to be reset regularly (one of the most common ones is that users on an Ethernet network are always being reset to LocalTalk at startup), you should check your battery for replacement (or take your Mac to your local dealer if you're uncomfortable with taking your computer apart yourself).

A FINAL SIDE NOTE ON SOME OTHER SETTINGS

The Virtual Memory, File Sharing, and Window Color settings are stored within their respective control panels and cannot be reset using these methods. Virtual Memory and File Sharing can be temporarily disabled, however, by pressing the Shift Key while starting the Macintosh to start with extensions off.

Some users report that zapping PRAM also resets the SCSI Manager, which keeps track of what devices are connected and at which SCSI ID.

M.M.M.

(Modern Memory Manager)

Many people are curious about the "Modern Memory Manager" settings in the "Memory" control panel. It is only supposed to be an option on PowerMacs, and under Mac OS 7.6 and later, the Modern Memory Manager is always "ON" by default and cannot be turned off. That said, what is it?

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From the Modern Memory Manager FAQ, found at the Apple Tech Info Library:

Question: What is the Modern Memory Manger?

Answer: The Modern Memory Manager is a completely rewritten native version of the previous Memory Management code found in operating systems previous to System 7.1.1. It offers better performance than the previous 680x0 assembly code because it runs in the native PowerPC environment. In addition, performance enhancements were made by significantly improving the heap management algorithms.

It is possible to disable this new Memory Manager and revert to the old Memory Manager in ROM. This is done through the Modern Memory Manager panel in the Memory control panel. The default setting is Modern Memory Manager On.

Question: What is different about the Modern Memory Manager on the Power Macintosh?

Answer: The Memory Manager has been completely rewritten in C and compiled into native PowerPC code. It offers better performance than the previous 680x0 assembly code because it runs in the native PowerPC environment. In addition, performance enhancements were made by significantly improving the heap management algorithms.

It is possible to disable this new Memory Manager and revert to the old Memory Manager in ROM. This is done through the Modern Memory Manager panel in the Memory control panel. The default setting is Modern Memory Manager On.

Question: What is the expected performance increase by turning on the Modern Memory Manager on a Power Macintosh?

Answer: When you turn off Modern Memory Manager, you are essentially running the Memory Manager in emulation mode, rather than in native PowerPC mode. Engineering has stated that activating Modern Memory Manager will yield a performance increase of about 20 to 30 percent, although with some applications, that number can be as high as 200 percent.

Question: Should Modern Memory Manager be turned OFF on Power Macintoshes that are not running lots of native applications?

Answer: All Power Macintosh systems ship from the factory with the Modern Memory manager turned ON. There are many benefits to leaving the Modern Memory Manager ON. The new Memory Manager uses native PowerPC code and better algorithms for faster performance. The Modern Memory Manager should only be turned OFF if a user's application or extension is experiencing compatibility issues.

Question: Does Modern Memory Manager cause crashes if the system is not running native applications?

Answer: The Modern Memory Manager does NOT cause crashes if the user is not running native or FAT applications. Non-native applications and other software written according to Inside Macintosh guidelines for the original Memory Manager should be compatible with the Modern Memory Manager. Non-native applications and other software that do not follow the Inside Macintosh guidelines could potentially crash while calling on the Modern Memory Manager's services. You can test compatibility by turning off the Modern Memory Manager in the Memory control panel.

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Some of the above information is © Apple Computer, Inc., and is freely available from the Apple Tech Info Library at:

NN   <http://til.info.apple.com/>
IE

%

Resources
(Help & Information)

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RESOURCES:

Below are some great Mac-related help and information sources on the web; if Netscape is running, click on the "NN" button to go to the corresponding URL; if Internet Explorer is running, click on the "IE" button; otherwise, copy and paste. This is not an exhaustive list; I am sure that there are many other really great sites out there. These are merely a good sample of Mac sites around the world; you should be able to find, or link to, any information you could possibly want about the Mac from these sites. For some great Mac news-related sites, see the next chapter. NOTE: The sites are listed in alphabetical order.

NN   Apple Computer, Inc.
IE   <http://www.apple.com/>

NN   Apple: Support Information
IE   <http://www.info.apple.com/>

NN   Apple: Tech Info Library
IE   <http://til.info.apple.com/>

NN   Apple: Technical Support Online
IE   <http://support.info.apple.com/tso/tso-home.html>

NN   Apple: Today's Info Alley: daily "Info Alley" summaries
IE   <http://www.info.apple.com/todaysinfoalley>

NN   Apple: Troubleshooting: straight from the source, Apple's new tips page
IE   <http://support.info.apple.com/tso/troubleshooting/index.html>

NN   Apple: new files list -- use this to see if anything you need has been posted by Apple lately
IE   <http://horton.austin.apple.com/alphalist/alpha_swupdates.new.html>

NN   AppleJedi: a great Mac advocacy site
IE   <http://www.saracen.com/ajp1.html>

NN   Complete Conflict Compendium: a great site that keeps track of bugs and conflicts
IE   <http://www.mac-conflicts.com>

NN Control-Click: a compendium of contextual menu plug-ins
IE <http://www.control-click.com/>

NN Deal-Mac: they search the globe for the best Mac deals
IE <http://www.deal-mac.com>

NN Evangelist Web Site: fight back for the Mac!
IE <http://www.evangelist.macaddict.com/>

NN Green Mountain Software: makers of DocMaker, which is what InformINIT is created with
IE <http://www.hsv.tis.net/~greenmtn>

NN Info-Mac Search Engine: search the Info-Mac archives for shareware and freeware
IE <http://hyperarchive.lcs.mit.edu/HyperArchive.html>

NN Insanely Great Mac
IE <http://www.insanely-great.com/>

NN Internet Starter Kit for Macintosh: **the** reference for the Internet on a Mac
IE <http://www.tidbits.com/iskm/default.html>

NN MacAddict Network: a nice network of great Mac sites
IE <http://www.macaddictnetwork.com/>

NN MacFixIt - by Ted Landau (formerly the Sad Macs Home Page)
IE <http://www.macfixit.com/>

NN MacHacks: customize with ResEdit, play pranks, and otherwise have fun with your Mac
IE <http://www.machacks.com/>

NN MacHome's 24-hour-turnaround, FREE tech support
IE <http://www.machome.com/techsupport.html>

NN MacShare.com: a good site for Mac shareware
IE <http://www.macshare.com/>

NN NoWonder: free Mac help/technical support
IE <http://www.nowonder.com/macos/index.html>

NN Open Transport 101 - from MacUser (an older article, but still good info)
IE <http://www4.zdnet.com/macuser/mu_0796/handson/hotech.html>

NN Performance Tuning Your Mac for Games - a sort of "Mini-InformINIT" for gamers
IE <http://cafe.ambrosiasw.com/netgames/performance.html>

NN PowerPC FAQ Page: a basic PowerPC primer
IE <http://www.mot.com/SPS/PowerPC/library/ppc_faq/ppc_faq.html>

NN The Practical Mac: a great no-nonsense reference site from MacAddict
IE <http://www.practicalmac.com/>

NN SiteLink: "Best o' the Web for Macintosh" -- probably the best set of Mac links around

IE <http://www.sitelink.net/>

NN Version Tracker: up-to-date summary of new releases of software

IE <http://www.versiontracker.com/>

Resources

(News)

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RESOURCES:

Below are some great Mac-related news sources on the web. They offer up-to-date news on Macs and the Macintosh world (I had to spin them off into a separate chapter due to space limitations). If Netscape is running, click on the "NN" button to go to the corresponding URL; if Internet Explorer is running, click on the "IE" button; otherwise, copy and paste. This is not an exhaustive list; I am sure that there are many other really great sites out there. For some great Mac help and information sites, see the previous chapter. NOTE: The sites are listed in alphabetical order.

NN   Mac News Network
IE   <http://www.macnn.com/>

NN   Mac OS Rumors: just what the name says
IE   <http://www.macosrumors.com/>

NN   MacCentral
IE   <http://www.maccentral.com/>

NN   Macintosh Resource Page - by Eric Belsley
IE   <http://www.macresource.com/>

NN   MacInTouch - by Ric Ford
IE   <http://www.macintouch.com/>

NN   MacSurfer's Headline News: compilation of news story links
IE   <http://www.macsurfer.com/news/>

NN   PowerPage: the latest in PowerBook news
IE   <http://ogrady.com/default.stm>

Help!

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HELP!

I am looking for information on the following files. If you have any facts on them (What do they do? What installs them? What happens if they aren't installed? What, if any, conflicts do they cause?), please let me know. I am looking for concrete information besides the clues which the item's name would provide.

- aglShdLib (installed, for one, by Conix OpenGL)
- Apple RAID Monitor
- AppleTalk Service init
- At Ease ATA Extension (v1.0)
- AV Cache Tuner - v1.0.1 Mindvision Software
- AV Resource Manager Tuner - v1.0
- Configuration Manager (v4.0.1): installed by something from Microsoft (Internet Explorer 4?) for changing Internet configurations?
- CRC Demodialer TelTool
- Dongles Peace Init
- Dream Engine
- FindINIT
- fith #1 (document): according to a reader, installed by either SpamBlaster or RealPlayer 5.0
- FTvK (required by Lotus Notes)
- glShdLib (installed, for one, by Conix OpenGL)
- gluShdLib (installed, for one, by Conix OpenGL)
- glutShdLib (installed, for one, by Conix OpenGL)
- IOTracer (control panel)
- Kolar (v2.0)
- LaserUser (v2.5) (control panel): for System 6.x and 7.0.
- Lsxbe (required by Lotus Notes)
- MacOS8 init (v4.7) (extension)
- Magic Apple™
- Memory Minder Extension
- Menu Manager Update: supposedly installed by After Dark
- Netware Client (required by the Novell Netware client)
- Netware File Access (required by the Novell Netware client)
- Netware Print access (required by the Novell Netware client)
- NLAT (communications tool)
- NotesLib (required by Lotus Notes)
- NotesSSL (required by Lotus Notes)
- ODBC Cursor Library
- Old-WRQ (communications tool)
- PC Card Multifunction Update (v1.0): from Apple

- PC Setup Switch
- PGP (the three PGP files here are obviously for PGP, but are they extensions, plugins?)
- PGPEmailer
- PGPLib
- PowerBook ADB Patch (v1.0.1)
- PowerMac Format Patch
- PowerMgrLib (v1.0)
- PPC Exception Enabler
- PPC TraceEnabler
- Presenter INIT 1.9
- QuickDraw GX Helper v1.1.3
- QuickTime™ GS Instruments (v3.0b16)
- Responder (v2.0.4) part of the Network Software Installer 1.3
- SCLCFMLib
- SCLSharedLib 1.1 (necessary for CyberStudio)
- SCSIMonitor (v4.0)
- Spinnaker II Driver (v1.1f4.1):?
- STD File Saver (v1.1): "Get Info" reveals that the source is Apple Computer France.
- sx8300.Lib (related to CoolTalk?)
- T20d (extension)
- TranslationLib (v1.0.1): from Apple's "E.T.O." package
- Transporter Assistant
- Vim (required by Lotus Notes)
- VST™ Power Adapter Init (v1.0): even though it's for "VST," it's written by Apple.
- Who's_There: a chooser extension
- Zoomin'
- *WRQ (communications tool)

Thanks for Registering!

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This version of InformINIT has been altered for registered users.

The "Register" chapter has been removed, and the "About" box notes that you have registered.

DO NOT DISTRIBUTE THIS VERSION.

I encourage you to tell your friends/colleagues/etc. about InformINIT. However, if you would like to pass on a copy to them, please download (or have them download) the full InformINIT package, which includes registration information, the "Register" program, and the "ReadMe" file.

As you know, the full unregistered version can be found at:
<http://cafe.AmbrosiaSW.com/DEF/InformINIT.html>

Thanks again for registering InformINIT! I truly appreciate your patronage.

Dan Frakes
<frakes@kagi.com>

History

InformINIT's revision history is listed below, in reverse chronological order (most recent changes at the top). The revisions are listed by version number.

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v8.1 (RELEASED APRIL, 1998)

• Added chapters covering Mac OS 8, Mac OS 8.1 and HFS Plus.
• Completely rewrote the Chooser extensions section to reflect Apple's latest information about printer drivers.
• Added numerous other new chapters, which are simply older chapters split up to accommodate the overflow of information added.
• Added LOTS of new information.
• Enlisted a pool of "beta-readers" to check for accuracy and clarity.

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v7.6.1 (RELEASED AUGUST 31, 1997)

• Changed the name from "The InformInit" to "InformINIT". Many users felt that the "The" at the beginning was inconvenient, and that "Init" was technically incorrect--the correct notation is "INIT" (see Chapter 2's explanation of the name).
• Changed the naming scheme from 1.x to 7.6.1, etc. This is so that users can quickly glance at the version number and see what version of the MacOS it covers. Thus, the version which covers up to System 7.6.1 is "InformINIT 7.6.1" and the next version covering OS8.1 will be called "InformINIT 8.1".
• Added chapters covering Mac OS 7.6 and Mac OS 7.6.1.
• Added numerous other new chapters. Some are simply older chapters split up to accommodate the overflow of information added, while others cover new topics altogether (Startup File Management, System Versions Compatibility, etc.)
• Added URL "buttons" for Internet Explorer, in addition to the ones already present for Netscape Navigator.
• Hundreds and hundreds of new items!
• Put the "Resources" and "Help" sections in their own chapters.
• Ran a thorough spell-check, which took about six hours ;-).

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v1.3 or v7.5.5 (RELEASED JANUARY 5, 1997)

• Split "Control Panels" and "Extensions" sections each into two separate chapters... each chapter has a size limit, and there was so much information that it wouldn't fit anymore!
• Added "7.5.5" chapter.
• Split "Groups" chapter into two smaller chapters (again, I ran out of room because it had gotten so large!).
• MANY, MANY, MANY changes! This was the biggest revision of The InformInit to date!

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v1.2 (RELEASED AUGUST 28, 1996)

• A lot of miscellaneous editing and enhancements.
• Split the "Extensions" chapter into two chapters (each chapter can only hold 32k of data, and I ran over!)
• Split the "Third Party Inits" chapter into two separate chapters for extensions and control panels. I foresee the same problem that I had with the "Extensions" chapter (see above).
• Changed the action you get when clicking on a title graphic. Previously, you were presented with the table of contents; now you get a "Find" dialog.
• (As usual) updated the "Help!" section.
• <embarrassment> I... uh... misspelled "indispensable" in the subtitle in all previous releases... </embarrassment>
• MANY new additions and corrections (too numerous to list) to "Third-Party INITs" chapter.
• Substantially rewrote introduction to "PRAM" chapter, and edited content.

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v1.1.1 (RELEASED JULY 18, 1996)
(Very minor update)

• Miscellaneous System Folder Contents: System7.5 Update: changed to read "part of System 7.5 Update 1.0. Includes numerous bug fixes and enhancements. There is some debate about whether or not this is needed after installing 7.5.3 or 7.5 Update 2.0. I was not able to find a definite answer by the time this version of The InformInit was released."

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v1.1 (RELEASED JULY 15, 1996)

• Added "GO!" buttons: if you are running Netscape, clicking on these "buttons" will take you to the selected URL
• Added text box to the main title picture; if you click on it, a text box will appear which tells you what each icon is
• Removed PCI-specific notations. Now, items are marked by PM if they pertain ONLY to PowerMacs.
• Added chapter on PRAM
• Added chapter (still in the early stages) on miscellaneous System Folder contents

• New and improved table of contents (click on the box in the lower left corner of the document, or on the title graphic at the top of any page)
• Changed InformInit icon to avoid confusion... some people thought The InformInit was an extension itself!
• Numerous grammatical corrections/changes
• Added so many new inits that I can't remember all of them!
• Updated various URL's, the "Help!" sections, and miscellaneous editing in introduction.
• Updated entire "7.5.3" Chapter to correct Apple's initial assertion that 7.5.3 with Revision 2 is identical to 7.5.3 with Update 2.0 and Revision 2. It isn't!
• Items Eliminated, Display Enabler: added more detailed explanation regarding v2.0.2
• Slightly modified technicality in description of "Non-RAM" chapter items.
• Clarified "REMOVABLE" label in "Control Panels" chapter.
• Finalized registration payment amounts and procedures (see the accompanying ReadMe file)

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v1.0 (RELEASED JUNE 24, 1996)

This was the first release.