

s with the control panels section, below and in the previous chapter 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 init's, 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 some non-Apple extensions, check out the "Third-Party Extensions" chapter).

- Graphics Accelerator (v1.1) **PM**: 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.
- Hardware System Update 1.0: part of System 7.1 Update 1.0. 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.
- 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 PowerComputing desktop computers. Power Computing's answer is to install Insomnia, and include it on their System software CDs.
- 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 **PM**: 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 recognize 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.

- IR Talk: only used by the 500 and above series PowerBooks with an InfraRed port. Allows AppleTalk connections through the IR port using the AppleTalk/Network control panels.

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

- Letterhead: part of the QuickDraw GX package, this extension enables the "Letterhead" paper type option in the "Page Setup..." window of compatible applications.

- 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.

- Macintosh Drag & Drop: see Drag&Drop Extension above.

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

- MODE32: under System 7, gives the Mac II, IIX, ILCX, 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. Under System 7.5, a new version of MODE32 was released. You MUST use MODE32 7.5 if you are running System 7.5.

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

- 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.

- 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.

- 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.
- PC Card Extension (v2.0): allows newer PowerBooks to use expansion cards that adhere to the PC Standard.
- PC Card Modem Extension (v2.0.3): 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 support for the MacIPX and Local Area Transport (LAT) network protocols. (The update is available from Apple's support sites.)
- 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 Monitors Extension: 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.
- 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.
- PowerPC Finder Update **PM**: part of System 7.5.0. Provides Finder support for native PPC code. 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.

- PowerPC Monitors Extension (v7.5) **PM**: 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 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 an ImageWriter II or a StyleWriter 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 & Printer Share GX (v1.1.3): 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.
- Processor Info Extension **PM**: 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.
- Quadra Monitors Extension: 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.
- Quadra AV Monitors Extension: same as above, only for Quadra AV- and Centris AV-series computers, so it includes the AV video display options.
- QuickDraw GX: enables the QuickDraw GX printing system. Note that if this extension is installed, you must have GX-compatible printer drivers. Non-GX drivers will not even show up in the Chooser.
- Record Button: provides support for the "record" button on the Apple Adjustable Keyboard. Now incorporated into the AV and PowerMac series' ROMs.
- Scanner: 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: enhances 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. This extension is 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 out there 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 and 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.

- 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. This takes time away from other processor functions. PowerMacs and the AV Macs have what are called direct memory access (DMA) chips, which handle some or all of this data transfer processing. SerialDMA 2.0 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 and their derivative models. Version 2.0.2 of SerialDMA patches some remaining bugs and adds 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 should offer significant performance improvements on 68040-based AV Macintoshes, as well as fix printing problems with StyleWriters on the Power Mac 7200, 7500, 8500, and 9500. Also provides support for speeds of up to 230,400 baud. Pre-7.5.3, SerialDMA had known problems on PCI Macs with the Serial Port Arbitrator extension that's included with AppleTalk Remote Access (ARA) and with the Port Juggler extension. However, under System 7.5.3, Serial DMA is incorporated into the System or System Update 7.5.2, and these incompatibilities are reportedly 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 that if one does a clean install of System 7.5.5, and then afterwards fresh-installs Microsoft Word 5.1a, the Microsoft installer removes the latest version of SLM and replaces it with an older version (1.1).
- Shared Library Manager PPC (v2.0.1) [NA] PM: 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 TO to function properly on a PowerMac, but 680x0 users do not need this one.
- Slow SCSI Extension: addresses a potential conflict between PowerBook 5300 series computers and slow SCSI devices (such as single-speed CD-ROM drives, Zip drives, and other PowerBooks in SCSI disk mode). 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). NOTE: You should only install this extension if you are experiencing constant freezes or crashes when transferring files with a particular slow SCSI device, since installing this extension will impact performance with ALL SCSI devices by 10 to 50 percent! You can use a startup manager to disable the extension when not needed.
- Sound Input Amplification: adds the "microphone amplification" option to the Sound control panel. 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.

- Sound Manager 3.2.1 [0/96]: PowerMac native. Sound Manager 3.2 was incorporated into the System in System 7.5.3. Version 3.2 included asynchronous sound playback and better Power Mac performance. Version 3.2.1, which is a separate extension and is part of the QuickTime 2.5 package, supposedly provides even better low-memory performance and better multi-channel sound via a new sound clock component. However, it includes no new "features." If you disable version 3.2.1, the version (3.2) included in the System will be used instead. If you are not using System 7.5.3, you should install v3.2.1 to benefit from the added functionality of the 3.2.x Sound Managers (however, 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). Note that 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.
- 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.
- 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.
- 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.
- Thread Manager (v2.1): 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. This is sort of the Mac's version of "multi-tasking" (although true multitasking occurs across applications and includes System operations). Incorporated into the system starting with 7.5. Version 2.0.1 was the last "official" Apple release, but some applications, such as TurboGopher 2.0.3, seem to install version 2.1. Regardless, if you are running System 7.5 or later you don't need it.
- 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 driver support for TokenTalk Phase II
- 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.
- 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.
- 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 (v1.4.2) [22/0]: provides support for the Apple Video Player; needed to use the AVP. NOTE: If you are going to install System 7.5 Update 2.0, 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. There is a version 1.4.2 which is available from the CoolTalk for MacOS package.
- WorldScript Power Adapter (v7.5.3): see entry in the "WorldScript" section of the "Groups" chapter.

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