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"Get Off the Highway and Into the Alley ™"

In This Issue...

Inside Information...

About the *Information Alley*

The *Information Alley* ™ is a publication of Apple Computer, Inc., Support Information Services. The goal of the *Information Alley* is to help you get full use of your Apple computers, peripherals, and software. We make every attempt to include articles that have the broadest audience possible. However, we do sometimes print articles that do not apply to our international readers.

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Thoughts from the Alley Cat (Editor)

So Much Technology –
So Easy to Use

By Janet Christian

Since I don't have anything particular to tell you this time with regards to the **Information Alley**, I thought I'd share my Apple experience with you. When I came to Apple a year and a half ago I was primarily what some people call a "UNIX Geek". The Macintosh took a bit of getting used to – not because it was hard to learn, but because I was used to having to do everything the hard/long way.

The first time I asked how to install software on my Macintosh, I was told to "just double click on the Installer icon." My next question was, "then what?" I was surprised, and pleased, to learn that there really wasn't a "then what." And, to add to the beauty of the design, the simplicity of installation is consistent across most Macintosh applications.

This consistency and simplicity were brought back to mind this past weekend. My husband is still working diligently in the DOS and UNIX worlds. He has had an Apple MessagePad (Newton) for months, and he dearly loves it; he never goes anywhere without it. However, it's only since I aquired a PowerBook 520c that he has started to become familiar with Mac OS. It is interesting to watch his experiences and remember that I went through a similar "disbelief curve" – "You mean that's all there is to it?" "It's that easy?" "That's all I have to do?" I just smile and nod.

He is also surprised to find the amount of consistency between applications – even shareware games. For example, for the most part, ⌘-Q is always **Quit**; ⌘-P is always **Print**; ⌘-S is always **Save**. This makes it easy to be productive right away with new applications (or games).

Many people who haven't used a Macintosh computer often believe, because it is easy to learn and use, that it is a simple computer. Once upon a time I fell into that category. But nothing could be further from the truth. It is the ease of use that makes it so powerful. Instead of dealing with **AUTOEXEC.BAT** files and **CONFIG.SYS** files in DOS, or **.CSHRC** or **.ENVIRON** files in UNIX, users can concentrate on their applications.

For example, Macintosh multimedia software is some of the most powerful software on the market today. Many of the current high-concept, digitally-produced commercials and sports promotional spots on television are created using QuickTime and QuickDraw (and, soon, Quicktime VR and QuickDraw 3D). Hollywood and the advertising industry have discovered that they can accomplish sophisticated effects without having to be operating system gurus.

This same ease of use also applies to external media. Users access CD-ROM-based information as simply and easily as one, two, three (insert the CD, open the desktop icon, run the application).

I still have a UNIX system at home; I can't wait until the Macintosh 9500 series is available for purchase through the employee plan.


Zapping PRAM on a PCI-Based Macintosh

By Stephanie Hahn

You need to perform extra steps when resetting the default video settings for Macintosh computers which have expansion cards based on Peripheral Component Interconnect (PCI) technology instead of Nubus technology.

NuBus

In Macintosh computers that have expansion cards based on NuBus technology, holding down the ⌘-**Option-P-R** keys simultaneously at startup erases the Parameter RAM (commonly called Zapping the PRAM). This resets the machine to its default configuration settings. One of the things resetting the PRAM does is to force the display to startup in its default configuration, all the way through the startup process. The Display Manager in NuBus-based Macintosh computers recognizes that the PRAM has been cleared, therefore, it would not try to restore the display to its previous resolution.
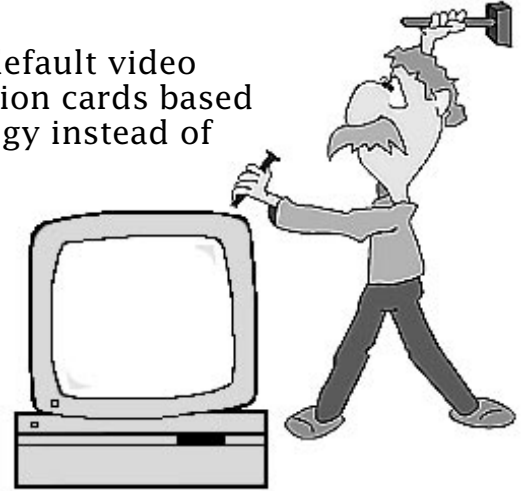
PCI

In Macintosh computers that have expansion cards based on PCI technology, the display information is not kept in PRAM. It is stored in Non-volatile RAM (NVRAM). NVRAM can be cleared by holding down the ⌘-**Option-P-R** keys simultaneously as soon as possible after hitting the power-on key. It happens BEFORE you see the gray screen. Once the gray screen appears, the PRAM is cleared at the same point as it was in previous machines. One very important difference is that NVRAM is not cleared during a warm or soft restart (by selecting Restart from the Special menu), whereas PRAM is cleared in that case.

Resetting The Display Defaults

The following steps need to be taken to start up with the default display configuration settings after resetting the PRAM on a PCI-based Macintosh computer:

STEP	ACTION
1	Zap PRAM by holding down the ⌘-**Option-P-R** keys simultaneously from a cold startup (that is, you must turn off or shutdown the computer, then turn it back on again; you cannot choose **Restart** from the Special menu).
2	After the second startup sound, release all of the keys and startup with the extensions off by holding down the **Shift** key until you see the message that says "Welcome to Macintosh Extensions Off". Then you can release the **Shift** key.
3	Once the machine has started up, go to the Preferences Folder, which is inside the System Folder, and throw away the Display Preferences file.

This new procedure is needed because of extensive changes to the Display Manager and the new way the display preferences are handled.

Apple Open Transport – Component Technologies

By Fred Widmer

This article is a series of questions and answers on the component technologies in Apple Open Transport.

Q: What technologies and components are included in Open Transport?

A: Open Transport consists of new programming interfaces, new implementations of protocol stacks, a new model for integration of networking with the underlying operating system, and new human interface components. Open Transport supports LANs and WANs, and integrates serial communications and modems as well as remote (dial-up) networking in a consistent model for end-users, network managers, and developers.

Q: What current Mac OS technologies, components, and products will Open Transport replace?

A: Open Transport replaces the current implementations of AppleTalk and MacTCP, including the protocols and the existing Network, MacTCP, and AdminTCP control panels. Open Transport products will replace the existing "AppleTalk Connection for Macintosh" and "TCP/IP Connection for Macintosh" software.

Open Transport is also designed to replace the Connection Manager and the Communications Resource Manger of the current Communications ToolBox architecture.

Q: Does this mean that Apple is migrating serial communications away from the Communications ToolBox (CTB)?

A: Not entirely. The CTB File Transfer and Terminal Managers continue to be supported. They will be taken forward into a future OS release, although on new Open Transport/Serial underpinnings. Over time, the CTB Connection Manager and its tools will be phased out in favor of Open Transport. The transition will include a period of backward compatibility to assure a smooth migration for developers and customers.

Q: Which protocols will be available for Open Transport?

A: Open Transport version 1.0 includes support for AppleTalk, TCP/IP, and serial communications. Over time, subsequent releases will add support for Point to Point Protocol (PPP), NetWare (NCP/IPX), and X.25. Other protocols are under investigation, or may be available from third parties.

Q: Are there any changes in AppleTalk or TCP/IP with Open Transport?

A: Yes. The new Open Transport/AppleTalk and Open Transport/TCP protocol implementations both have been implemented as Open Transport STREAMs modules and as native code on Power Macintosh computers. They support the new XTI APIs and can be dynamically loaded and unloaded as needed. Both protocols also support dynamic reconfiguration (changing settings without requiring restart), and feature new configuration applications offering Basic, Advanced, and Administrator tools.

Each protocol stack also offers addition protocol-specific feature enhancements.

Q: What are some of the upgraded features of Open Transport/TCP?

A: With the overwhelming acceptance of TCP/IP protocols in the marketplace, and the tremendous excitement and visibility of the Internet – Apple has made a significant investment in bringing a workstation-class implementation of TCP/IP protocols to the Mac OS. As before with MacTCP, Open Transport/TCP is a full 32-bit stack. But with Open Transport/TCP, Apple adds support for:

- Dynamic Host Configuration Protocol (DHCP), for centralized IP address management.

- IP multicast, for participation as an MBone client.

- Dynamic path MTU discovery, for more efficient network use in heterogeneous network topologies.

- Simultaneous TCP connections limited only by installed memory and processor power, for increased functionality as a Internet or other TCP/IP network server.

- Ethernet version 2 and IEEE 802.3 framing, for better interoperability with a wider range of TCP/IP hosts.

- Implicit and explicit domain name search paths, for increased control of domain name resolution.

- Multiple IP routers with fail-over, for increased robustness in mission critical applications.

And the architecture that supports Open Transport/TCP is itself based on a direct port of the Unix System V r4 STREAMs environment - a proven, robust and scalable OS networking technology.

Q: What are some of the upgraded features of Open Transport/AppleTalk?

A: Open Transport/AppleTalk includes new support for statically assigned (manually administered) protocol addresses. This lets AppleTalk nodes be managed using protocol address as a unique and stable identifier. It also reduces some of the network traffic associated with AppleTalk's dynamic address assignment features. Dynamic addressing continues to be available for those customers who prefer the automated address allocation.

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Q: Is this "AppleTalk Phase 3"?

A: No. Open Transport/AppleTalk is a new, modern implementation of the AppleTalk Phase 2 protocol architecture for the Mac OS – from the people who invented AppleTalk.

Q: What about NCP/IPX? Will Novell deliver an Open Transport-based Macintosh client that uses native IPX protocols as the transport layer?

A: Apple and Novell are jointly and publicly committed to making Macintosh a first-class NetWare client. An Open Transport-ready implementation of NetWare protocols and client services is under investigation. At this time, the companies are not ready to announce product or availability details.

Q: When will additional protocol stacks be available?

A: Open Transport will gain support for Point to Point Protocol (PPP), supporting both AppleTalk and TCP/IP communications, with the release of the next generation of Apple Remote Access products scheduled for later in 1995. Other protocol support, including AppleTalk Secure Datastream Protocol (ASDSP), X.25, DECnet, SNA, SNMP, and ATM LAN-E, is underway at Apple and with third party developers.

Q: Which datalinks will be supported by Open Transport?

A: Open Transport version 1.0 includes support for LocalTalk and Ethernet LANs, and serial communications ports. Modem and ISDN support will come with the introduction of PPP. Subsequent releases will add support for Token Ring, fast Ethernet, FDDI, and ATM LANs. Other datalinks are under investigation, or may be available from third parties.

A Note About Windows 95 and the DOS Compability Card

By Wayne Brissette

With the impending release of Microsoft Windows 95, Apple has received numerous calls about the compatibility of this version of Windows on the DOS Compatibility Card.

Windows 95 has has not been fully tested on the DOS Compatibility Card. It may work properly, however since it has not been fully tested, it is not supported on the DOS Compatibility Card at this time.

Apple will provide updated information in the Technical Information Library about this issue.
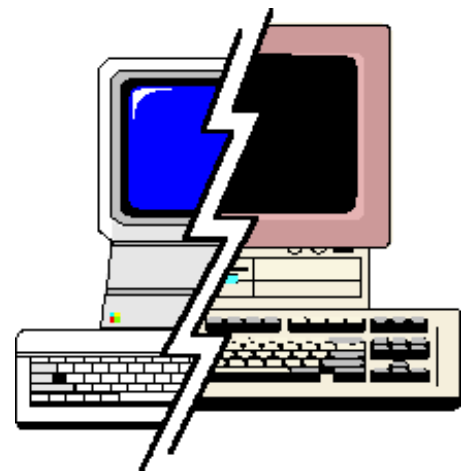
Macintosh – External Floppy Drive Support

From the Technical Information Library

Note: No Macintosh computer supports more than one external floppy drive. Only the Macintosh SE and later support the Apple SuperDrive (Apple FDHD).

System	Floppy Disk Drive Configuration
Macintosh Plus	1 Internal (800K) and 1 External (400K or 800K)
Macintosh SE	1 or 2 Internal (800K or SuperDrive if upgraded) and 1 External (400K, 800K or SuperDrive if upgraded)
Macintosh SE with SuperDrive	1 or 2 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh SE/30, Classic, Classic II	1 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh Color Classic	1 Internal (SuperDrive) and no External
Macintosh II, IIx	1 or 2 Internal (800K or SuperDrive) and no External **NOTE:** The Macintosh II must be upgraded to a IIx, or must use a PMMU, to support a SuperDrive.
Macintosh IIcx, IIci	1 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh IIfx	1 or 2 Internal (800K or SuperDrive) and no External
Macintosh LC	1 or 2 Internal (SuperDrive) and no External
Macintosh LC II, LC III	1 Internal (SuperDrive) and no External
Macintosh IIsi	1 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh IIvx	1 Internal and no External
Macintosh Quadra 610, 630, 650, 700, 800, 900, 950 Power Macintosh 6100/60, 7100/66, 8100/80	1 Internal (SuperDrive) and no External
Macintosh Portable	1 or 2 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh PowerBook 100	No Internal and 1 External HDI-20 1.4MB floppy drive
Macintosh PowerBook 140, 145, 160, 165c, 170, 180, 180c	1 Internal (SuperDrive) and no External
PowerBook Duo 210, 230, 250, 270c, 280c	No Internal and 1 External (with MiniDock)
Macintosh PowerBook 520, 520c, 540, 540c	1 Internal (SuperDrive) and no External
Macintosh Performa 200	1 Internal (SuperDrive) and 1 External (800K or SuperDrive)
Macintosh Performa 400, 405, 410, 430, 450, 460, 466, 467, 475, 476, 550, 600, 630	1 Internal and no External

Upgrading An Earlier Release of At Ease to 3.0

By Tara Cooke

For most At Ease upgrades, your administrator password (if you have one) remains the same in the At Ease Setup program in At Ease for Workgroups 3.0. When the At Ease Setup program asks for an administrator name, type **At Ease Administrator**, which is the default administrator name.

Upgrading From Version 1.x

If you are upgrading from At Ease version 1.x to At Ease for Workgroups 3.0, you must first remove the old version by using the At Ease Installer program that came with the old version. When the Installer screen is displayed, hold down the **Option** key to change the **Install** button to **Remove**. Then click **Remove** to remove the old version.

Any items you created in version 1.x are automatically assigned to a setup or user named At Ease 1.0.

Upgrading From Version 2.x

Upgrading from version 2.x to version 3.0 occurs automatically when you first run the At Ease Setup program of version 3.0. At Ease turns itself off at the end of the installation process, so you must run the At Ease Setup program to turn At Ease back on.

If you upgrade from any version of At Ease for Workgroups 2.0, you must run At Ease Setup on each computer to update the preferences files and databases before you can add the computer to the list of updated computers. (If a computer is already in the list, this step is unnecessary.)

Upgrading From Non-Workgroup Version 2.x or 3.0 to At Ease for Workgroups 3.0

At Ease creates setups in the new version for each user in the old version; the new setups have the same names as the old users. For example, if you had two users named Billy and Sally in the non-workgroup version, the At Ease Setup program of At Ease for Workgroups will now show two setups (Billy and Sally) and two users (also Billy and Sally). You can rename users and setups.

Tips and Tidbits

In the System 7.5 Launcher, hold down the ⌘ key while clicking on a topic and you can change the button sizes (small, medium, or large). [Contributed by Holli Kearns.]

When and How to Initialize an Apple Hard Drive

By David Lake

This article describes what to do if you run Disk First Aid and it finds a problem, but it says it cannot repair it. Before you decide that you need to reformat your hard drive, there are a few other things to check.

Warning! You must back up all of your data before reformatting a hard drive because the formatting process deletes all data.

Verify Your Process

You should first verify that you are running Disk First Aid correctly. You cannot repair the boot volume (the startup disk) with Disk First Aid. In other words, if you are started up from your hard drive, Disk First Aid cannot repair the problems with the hard drive until you restart your Macintosh computer from another startup disk. For Disk First Aid to be able to repair a volume, make sure you are starting up from any one of the following disks:

- The Disk Tools floppy disk which came with your computer

- A bootable floppy disk or CD-ROM which contains your current system software (correct System Enabler) and utility programs

- Any other bootable disk (floppy or hard) from which you can start up your computer and run Disk First Aid

Disk First Aid also cannot repair a disk on which it is located (basically, it cannot repair itself), or any disk on which File Sharing is active.

Run Disk First Aid

STEP	ACTION
1	Start up from the Disk Tools disk or CD-ROM.
2	Open the Disk Tools disk or the Apple Macintosh CD. Apple Macintosh CD users should open the Utilities Folder.
3	Double-click the **Disk First Aid** icon. Select the main hard drive's icon at the top of the Disk First Aid window.
4	Click **Verify**. Disk First Aid checks your hard disk for any potential problems. If it finds a problem, click **Repair**. It attempts to fix the problem.
5	When you are finished verifying the hard disk, choose **Quit** from the File menu to return to the desktop. If you get a message that states that Disk First Aid cannot repair the problems with your hard drive, you should reformat it.

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Reformatting Using Apple HD SC Setup

STEP	ACTION
1	Locate the **Apple HD SC Setup** application icon on the Disk Tools disk or CD-ROM and open it.
2	If the "volume name" or the SCSI ID number shown does not belong to the hard disk you want to initialize, click the **Drive** button until the hard disk you want to initialize is the selected hard disk. The internal hard drive should be **ID 0**. Remember, you cannot initialize your current startup disk or the disk on which the Apple HD SC Setup program is located.
3	When the SCSI ID number (and name, if any) of the hard disk you want to initialize is shown, click the **Initialize** button. A dialog appears in which you must confirm or cancel your decision to erase all the data on the drive.
4	Click the **Init** button to initialize the hard disk. A message displays to update you on the initialization process. If a message reports that initialization failed, begin the process again.
5	In the dialog box that appears asking you to name the disk, type in the name you want and click **OK**.
6	Click **Quit** when the message reports that initialization was successful.
7	If initialization fails, you should have your hard drive checked by an authorized Apple Service Technician.

Non-Apple Hard Drives

If you have a non-Apple hard drive, you will get a message that says, "Unable to find a suitable SCSI drive". The use of Apple HD SC Setup is supported for Apple hard disk drives only. HD SC Setup does not update the driver software on or reformat non-Apple drives. If you are using a non-Apple hard disk drive, you must use third party formatting software to reformat the drive. If you have a question about a specific third-party hard disk or driver version, contact the vendor.

It is important to note that the hard disk drives sold by Apple in some Macintosh computers have different firmware than the drives sold by various third-party vendors, even though the manufacturer of the mechanisms may be the same.

This firmware contains information that lets HD SC Setup determine the type and size of the drive it is reading. If HD SC Setup does not understand the information in the firmware of a third-party drive, it will not access the drive in any way.

CAUTION: A/UX USERS

If you purchased a hard disk with the A/UX operating system installed on it, DO NOT initialize that disk; doing so erases A/UX. Refer to the instructions that came with A/UX operating system before you proceed.

Resolutions Higher than 1024 x 768 on a Power Macintosh 9500

By Wayne Hassenlopp

Normally, on a Power Macintosh 9500 with the standard display card and a non-Apple display (such as a Sony GDM-1932), you would also need a multiple scan display. This display would have to be able to synchronize to 640 x 480 at 60Hz to set up a higher resolution, such as 1024 x 768. Once the higher resolution was set, you could disconnect the multiscan display and connect the non-Apple display. Then the computer would start using the new video scan rate each time the computer is powered on.

This is because the computer uses sense codes to detect the type of monitor that is connected to it. The computer only starts up at 1280 x 1024 scan rates after you set the Monitors control panel and the settings are stored in PRAM. With no setup information in PRAM, the computer starts at the best scan rate and resolution for the detected display (usually 640 x 480). If you do not have an Apple display to use for setup, you must use a workaround to set the Monitors control panel to the 60Hz scan rate.

Workaround

STEP	ACTION
1	Using a display adaptor, set the display type to **VGA/SVGA**. (This is **'G'** for the video adaptor from Enhance Cable Technology.) Starting up the Macintosh computer with the display adaptor attached between the display and the Macintosh video port starts by default at 640x480 at 60Hz resolution.
2	Open the Monitors control panel. Normally, the control panel **Options** button only allows **safe** operating resolutions.
3	Hold down the **Option** key on the keyboard when you select the **Options** button in the Monitors control panel. The options panel also shows **unprotected** scan rates that the video card supports.
4	You can select the **1280x1024 @ 60Hz** scan rate from the list. The video scan rate changes, depending on whether you have selected **Rearrange on Close** or **Rearrange on Restart** on the bottom of the Monitors control panel window.
5	If you have selected **Rearrange on Close** and you select a scan rate currently not supported by an Apple display, you are prompted with a dialog box that asks if the monitor display is correct. The dialog only appears if you select an **unprotected** scan rate.
	If you do not select the **OK** button within about 10 seconds, the system assumes that you do not have a properly synchronized display and reverts back to the previous scan rate.

Following the above procedure, you should be able to set your display to the 1280 x 1024 at 60Hz resolution and scan rate. Please contact Enhance Cable Technology at (408) 232-0200 for additional information.
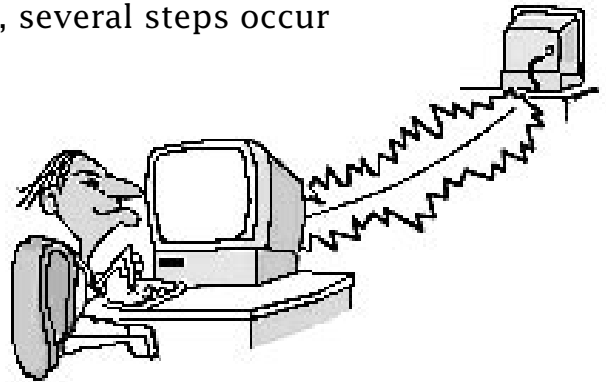
How MacTCP Uses FTP Addresses to Connect

Ben Chuang

When you ask MacTCP to connect to a hostname, several steps occur before MacTCP connects.

If the Name is "Fully Qualified"

MacTCP checks the hostname for a period. If the hostname ends in a period, MacTCP looks up exactly what was typed. This applies to names of any length. The default domain in MacTCP is ignored.

Examples

- If you ftp to **ftp.info.apple.com,** MacTCP always connects you to **ftp.info.apple.com.** (since it ends in a period).

- If you ftp to **ftp.** MacTCP looks for **ftp.** (it also ends in a period).

If the Name is "Partially Qualified"

If the name typed is longer than one word (separated by periods), MacTCP connects to whatever was typed. The default domain in MacTCP is ignored.

Examples

- If you type **ftp.info.apple.com**, MacTCP looks for **ftp.info.apple.com**.

- If your default domain is **apple.com** and you type **ftp.info**, MacTCP ignores the domain and looks for **ftp.info**.

Note: Most Macintosh users expect this behavior, but it is important to remember that other TCP/IP software (UNIX, Open Transport, DOS software) may behave differently. Ideally, the second example would have resulted in a lookup for **ftp.info.apple.com**.

If the Name is Just a Hostname

If the name is one word, then add the "default domain" from the MacTCP control panel.

Example

- If your domain is **info.apple.com** and you type **ftp**, MacTCP looks for **ftp.info.apple.com**.

If the hosts file or domain name servers have information on the host and the host is working, you should connect to the desired machine. 🍎


QuickTime VR – Questions and Answers

By Holli Kearns

This article provides the answers to questions about QuickTime VR and its requirements.

Q: What is Virtual Reality?

A: Virtual Reality describes a range of experiences that let you interact with and explore a spatial environment through your computer. These environments are typically computer renderings of simple or complex computer models. Now, with QuickTime VR, these environments can be based on photographic representations of real locations.
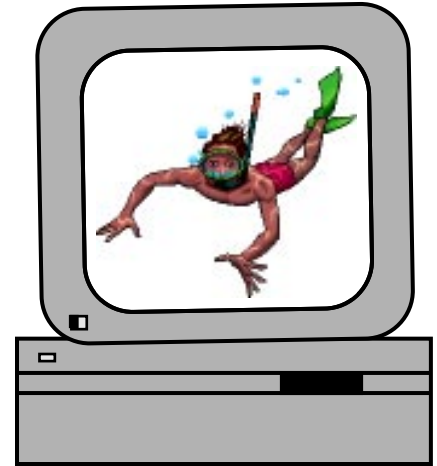
Q: What is QuickTime VR?

A: QuickTime VR lets you rotate your view of a scene through a complete 360° horizontal circle. Multiple 360° views can be linked together to let you travel around in an area. You can move around in space through as many points as the content developer provides. The content provider can also enable certain objects to be virtual as well, letting you view all sides of an object by turning it around using a standard pointing device like a mouse. The combination of scenes and objects provides an experience that is like being there. As you change your view of the scene, correct perspective is maintained, creating the effect of being at the location and looking around. QuickTime VR is the first mainstream technology to enable theses experiences based on real world scenes.

Q: How does QuickTime VR differ from other VR systems?

A: QuickTime VR differs in several ways:

- QuickTime VR uses high quality photographic representations of a space for the virtual reality experience, a breakthrough in performance and compression technology. There is no need to model and render an existing space.

- QuickTime VR is a software-only implementation; it is an extension of the QuickTime architecture. It does not require additional hardware.

  QuickTime VR's breakthrough is the proprietary software engine that lets you explore real world spaces on most QuickTime capable personal computers. This differs from most virtual reality systems, which require a very fast 3-D computer with specialized hardware that lets the user explore computer generated virtual spaces.

- Easy panoramic image capture; pictures are taken with a standard 35mm camera.

Q: What software comprises QuickTime VR?

A: The QuickTime VR software technology includes two components:

- The QuickTime VR Authoring Tools Suite is designed for use by experienced multi-disciplinary photography/multimedia development teams to create exciting new products (typically in the form of CD-ROM titles) such as those previously described. The authoring tools run on Macintosh systems.

- The run-time software provides the environment that users need to experience QuickTime VR on their personal computers. Run-time versions are available for Macintosh and Windows environments.

  Note: Stand-alone QuickTime VR movies can be played back using Apple's QuickTime VR Player. However, some QuickTime VR movies may be incorporated into other applications, which may require HyperCard or Macromedia Director.

Q: Where can the software be obtained?

A: You can obtain the software in several ways:

- The QuickTime runtime software (QuickTime VR Player) is available at Apple's QuickTime VR Web site (**http://qtvr.quicktime.apple.com**).

  Note: The QuickTime VR Player is not supported by Apple.

- The QuickTime Authoring Tools can be purchased through Apple Programmer's and Developers Association (APDA).

  For contact information on APDA, search the Tech Info Library under "APDA".

Q: What are the system requirements for QuickTime VR 1.0 runtime for Macintosh?

A: The system requirements for Macintosh are:

- QuickTime-capable Macintosh
- 68030 25 MHz processor
- QuickTime 2.0
- System 7.1 or later
- 8-bit video
- 8 MB RAM
- A double speed CD-ROM is recommended for CD-based software titles

Q: What are the system requirements for QuickTime VR 1.0 runtime for Windows?

A: The system requirements for Windows are:

- 33MHz 386SX computer equipped with Windows 3.1
- QuickTime 2.0 for Windows
- 8-bit video card
- 8 MB RAM
- A double-speed CD-ROM is recommended for CD-based software titles

Q: What are the system requirements for QuickTime VR 1.0 Authoring Tools?

A: Here are the requirements for the following systems:

- 68040 33MHz-based Macintosh computer:
  - 40 MB RAM
  - 16-bit video, thousands of colors
  - Double-speed CD-ROM if using images on PhotoCD
  - Approximately 10 MB per panorama, 5 MB per object
  - System 7.1
  - MPW 3.2
  - HyperCard 2.2
  - ResEdit 2.1.1
- PowerPC-based Macintosh computer
  - 40 MB RAM
  - System 7.1.2
  - 16-bit video, thousands of colors
  - Double-speed CD-ROM if using images on PhotoCD
  - Approximately 10 MB per panorama, 5 MB per object
  - ResEdit 2.1.1
  - MPW 3.4b2 (included with QTVR Authoring Tools Suite Version 1.0)

Q: How large are QuickTime VR files? Do I need special equipment to view them?

A: QuickTime VR files are exceptionally small, which makes them easy and fast to download without using much computer disk space. In fact, a typical panoramic scene can be as small as 200K. Besides the computer, no additional hardware— such as accelerator boards, helmets, goggles and gloves—is needed to view QuickTime VR scenes.

Q: Where can I download QuickTime VR scenes?

A: Try these locations:

- Apple's QuickTime Online: (**http://quicktime.apple.com**)
- eWorld, Apple's online information service, features QuickTime VR scenes in the "What's New" section of the Apple Customer Center
- QuickTime VR Web site at: (**http://qtvr.quicktime.apple.com**)

Errors in HyperCard 2.3 Documentation

By Bill Shier

This article describes errors in the *HyperCard 2.3 Reference* manual.

Page 6-33 in describing using Linkto, instructs the user:

> 2. With the Button tool still selected, double-click the button you want to link.

The problem is that the Button Info dialog box does not display the Link to button, unless you hold down the option key while double-clicking the button you want to link. Per the instruction, the Button Info dialog box shows the Tasks button.

The manual should read:

> 2. With the Button tool still selected, hold down the **Option** key on your keyboard and double-click the button you want to link.

Pages 3-22 and 6-37 in describing adding visual effects, instructs the user:

> 1. Choose the button tool and double-click the **Next** button.
>
>   The Button Info Dialog box appears.
>
> 2. Click the **Effect** button.

There is no **Effect** button unless the user holds down the **Option** key while double-clicking on the Next button.

The manual should read:

> 1. Choose the button tool, hold down the **Option** key on your keyboard, and double-click the **Next** button
>
>   The Button Info Dialog box appears.
>
> 2. Click the **Effect** button.

Incorrect Screen Shots

- Pages 2-29, 4-20, 6-3, and 6-17 of HyperCard Reference manual show screen shots of the incorrect version of the Button Info window.

- Appendix B, page 141 of the Getting Started manual documents the replacement of the LinkTo and Effects buttons with the Tasks button and shows the correct screen shot. 🍎

Changing the Communications Settings on the Color LaserWriter 12/600 PS

By Ken Applebaum

You can adjust many of the Color LaserWriter 12/600 PS communication settings. Though the standard (factory default) communication settings work well for most environments, you might want to customize communication settings to turn off network interfaces you do not need. For example, if you know the printer will never receive a NetWare message over the network, you can turn off the interface and stop the printer from sending out unnecessary NetWare packets.

There is a small toggle switch on the back of the Color LaserWriter 12/600 PS. It is located on the right of the I/O board on the top rear of the printer, has a solid square box to the left of it and an outlined box to the right. Using this switch and the Apple Printer Utility, you can change the default communications settings of the printer.
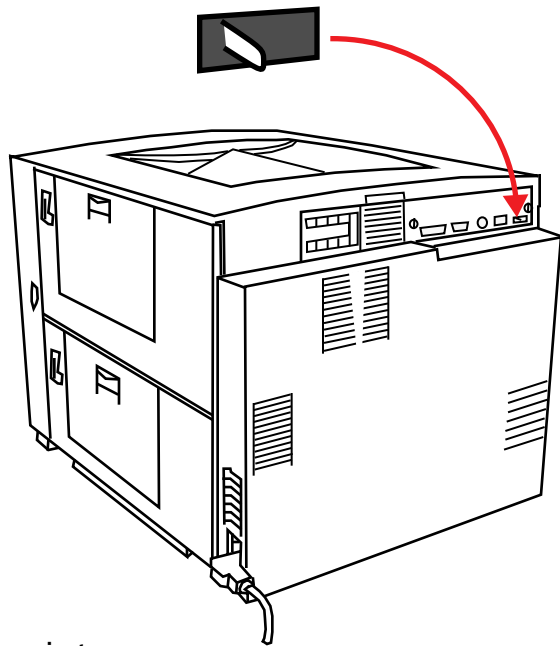
When the switch is set to the right, the Apple Printer Utility can be used to change the default settings. However, when the switch is set to the left, settings cannot be changed. Settings for some of the options, such as the startup page for example, are not affected by the position of the switch.

If you attempt to change the settings while the switch is in the left position, you get a message stating that some settings will not be saved on the next power cycle.

To reset the printer to the default settings, use the Printer Utility and click on the **Set Defaults** option. If you do not have access to the Printer Utility, move the switch to the left, and restart the printer. Keep the switch in this position while the printer starts up. Then, move the switch back to the right to change the settings. Moving the switch while the printer is on does not harm the printer.

Tips and Tidbits

For DOS Compatibility Card Owners

Take a peek at the engineering team, the MS-DOS way. Open the PC Setup control panel. Hold down the ⌘ key and click on the **PC Control Panel** version number in the lower right corner. Type **EXIT** to quit. [Contributed by Wayne Brissette.]

PowerBook 200 Series – Type III Battery and System 7.5.1

By Heath Culp

If you have a Macintosh PowerBook Duo (200 series) computer, and you have installed the System 7.5 Update 1.0, the external recharger may show a red light when you try to charge a Type III battery. You need to install the Type III battery extension into the System folder. Do not remove this extension even after you have installed System 7.5 and the System 7.5 Update 1.0. The extension is on a disk called Battery Tools, which ships with the Type III battery.

Background

When the System 7.5 Update 1.0 extension loads, it replaces the PG&E (battery management) code. This PG&E code then reloads to the external battery charger. Because of this, the external recharger does not recognize the Type III batteries and you get the red light. However, the batteries charge fine in the computer itself.

Conclusion

You need to use the Type III Battery extension to get the external charger to work with System Software 7.5.1 (System 7.5 plus the System 7.5 Update 1.0) and Type III batteries.

Why Flash RAM Cards Do Not Completely Erase on an Apple MessagePad

By Scott George

When you erase a 2 MB flash RAM card in your Apple MessagePad, only 1865K is free (2K is still in use). The RAM loss is caused by the nature of flash RAM.

Flash RAM is allocated in blocks, and unlike static RAM, flash RAM cannot be erased. Instead, if you want to erase a bit in a block of flash RAM, the entire block minus the bit must be copied to another block of flash RAM. Thus, there must always be at least one block of free flash RAM at all times.

The Apple MessagePad actually keeps a few blocks free for performance reasons. These free blocks account for the missing RAM.
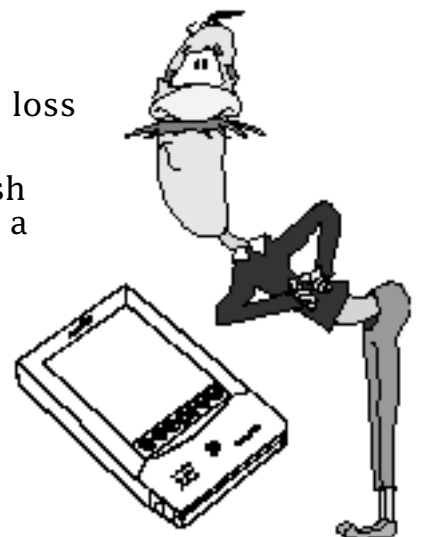
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