



Support News 

October 17, 1994

Volume I, Issue 13

“Get Off the Highway
and Into the Alley™”

***New and
Improved!***

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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.

Where to Find the *Information Alley*

The *Information Alley* is available to anyone through a variety of online services and Internet list server capability. For a complete list of where to find the *Information Alley*, call the Apple Fax line at 1-800-505-0171 and request document #20720. You can also get an index to back issues by requesting document #20719. Optionally, you can search the Technical Information Library; use "information alley" as the search string. Select article title *Information Alley: Online Services it is Posted To* or article title *Information Alley: Index of Past Issues*.

Submissions and Letters

We welcome articles that help Apple computer users become more knowledgeable about the functionality of their systems, explain or illustrate complex features or functions, or that describe technical tips or techniques. Send submissions to:

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We also welcome letters to the editor and suggestions for future articles. Please send all letters to the preceding address.

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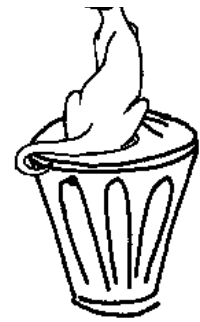
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please share when done!

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Exciting News! *Information Alley* Now Using Adobe Acrobat Reader!!



By Janet Christian

This must be lucky 13! Just before this issue went into production, we received the announcement that the Adobe Acrobat Reader was officially released. Reader is the freely distributable document viewer for the Adobe Acrobat document distiller.

Additional Features

Since we began publishing the *Information Alley*, we've wished for several additional features. Adobe Acrobat Reader includes these features – and more!

Smaller File Size

Early tests of Reader showed an average 50% reduction in the size of the magazine. Previous issues averaged 600K in size. Reader produces issues with an average size of 300K (or less). Part of this is that Reader is not imbedded; another part is the efficient way that Acrobat creates the document file.

Resizable Pages

Reader lets you change your page view in a variety of ways – you can stretch it or shrink it, with no resulting loss of text or graphic quality.

Copying/Pasting of Articles

Reader lets you copy and paste text directly from the magazine into another file. Now, you can easily copy and paste an article for redistribution (see the **Copyright Notice** on the previous page), or email back the **Tell Us What You Think** form.

Moving to Specific Pages

Reader supports Frame hypertext links. From now on, you can simply click on an article name (under **In This Issue** on the title page) and go directly to the article. To return to the title page, click on the Apple icon at the end of an article.

Printing a Specific Article

You can now print just one page, or a series of pages; no need to print the entire issue for just one article.

How to Get the Reader

We are uploading the Adobe Acrobat Reader to all online services where we upload the *Information Alley*. You only need to download and install this file once to read all future issues. (If you subscribe to our list server, you will automatically receive the Reader.)

We are going to continue producing the next few issues with the Common Ground MiniViewer as well as Acrobat Reader. This will give the BBS system operators a chance to download the Reader to their local systems.

Thanks to No Hands Software

We were able to initially publish the *Information Alley* due to the tremendous help given us by the folks at No Hands Software, who developed Common Ground. Even though Apple and Adobe have signed a joint agreement, and we are transitioning to Adobe Acrobat for our online documentation, I want to personally extend a thank you to the staff at No Hands. I could not have done the *Information Alley* without you. 🍏

Hard Facts About Hard Drives

From the Technical Information Library
This article includes common questions
about Macintosh hard drives.



Why Hard Drives Don't Format to Full Capacity

Apple formats its hard drives of each size to have a standard partition size and leaves a free partition of varying size on the disk. Since Apple uses hard drive mechanisms from different vendors with varying physical sizes, the default format allocates the same amount of space for the Macintosh partition and all excess space becomes part of the free partition.

If, for example, you buy two identical systems, both show the same hard drive size instead of showing one Macintosh with a 79MB hard drive and the other showing 76MB. Apple did this to prevent different hard drive capacities on supposedly identical systems.

If you re-partition your Apple hard drive with HD Setup and you want to use a larger partition size than the standard Macintosh partition, you do not need to save any free space. (Apple does not endorse or support changing the

partition size.) You may use the maximum Macintosh partition and the hard drive should operate properly.

Warning! Re-partitioning a drive results in a complete loss of data. Do not attempt to re-partition any drive without first doing a complete backup of the data.

Once you partition and mount your hard drive, different utilities may report different drive sizes. As an example, if you use an 80MB drive formatted with HD SC Setup from Disk Tools 7.1, the default partition is approximately 76.3MB and the maximum size partition is about 80.1MB. When you look at the amount of disk space displayed in the Finder window, you see 75MB and 78.7MB free space available respectively, with about 70K used.

With a disk utility like the Norton Utilities Disk Editor, you can verify that all the hard drive space is accounted for. The directory structure for the hard drive (including the boot blocks, volume info block, extents tree header, extents b-tree, catalog tree header, catalog b-tree, and the Desktop DF and Desktop DB files) occupies about 1.3MB.

The Finder window displays only the disk space available to it (the partition size minus the directory structure) while the disk utility shows the full partition size. This accounts for the 1.3MB difference. Note that the Desktop files grow as the disk is used in order to store information such as the icons used by the new files.

Logical Allocation Block Sizes

The logical allocation block size, the minimum number of bytes used to store

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a file, varies according to hard disk size. This table lists the logical allocation for several SCSI hard drives:

SCSI Hard Disk Size	Block Size (in bytes)
20 MB	512 Bytes
40 MB	1024 Bytes
80 MB	1536 Bytes
120 MB	2048 Bytes
160 MB	2560 Bytes
230 MB	4096 Bytes
250 MB	4096 Bytes
400 MB	6656 Bytes
500 MB	8704 Bytes
1000 MB (1 GB)	15872 Bytes
2000 MB (2 GB)	31744 Bytes

Custom partitioning and third party formatting software can change these values.

Determining Logical Allocation Block Size

To calculate the allocation block size, take the size of the drive in megabytes

and multiply it by 2000. This is done because there are 2000 disk blocks in 1 MB of disk space. Divide that number by 65536 since the Macintosh can't have more than 65536 logical blocks. Round this number up and multiply it by 512. The result is the number of bytes in the logical block. Here is an example using a 230 MB drive:

STEP	ACTION
1	$230 * 2000 / 65536 = 7.019$
2	Round up 7.019 to 8
3	$8 * 512 = 4096$ Bytes

Important Notes

Since drives come from different manufacturers, it is possible to get different values. This is because a 500 MB drive is not exactly 500 MB but is usually somewhat larger. This could result in different logical block sizes than those listed in the chart, but the difference should not be more than ± 512 bytes. This difference is most noticeable on the larger drives. For example, the 500 MB drive actually calculates to 8192 bytes but the 500 MB drive in some Macintosh computers is actually 540 MB which has a logical block size of 8704 as in the preceding chart. 🍏

Tips and Tidbits

To replace the "Welcome to Macintosh" box with a picture, you need an application capable of saving documents in Startup Screen format such as the freeware XLateGraf or the shareware GIFConverter. See one of these:

- <ftp://rever.nmsu.edu/pub/macfaq/GIFConverter.sit.bin>
- <ftp://rever.nmsu.edu/pub/macfaq/XLateGraf.sit.bin>

Open the graphics file you want to turn into a startup screen and select **Save As...** from the File menu. Then select **Startup Screen** as the format to save into. Name the new document **StartupScreen** (no space between Startup and Screen; note the capitalization) and put it in the System Folder. The next time the Mac starts up you should see the happy Mac, followed by the picture.

[From *Easter Eggs Galore!* © 1993, 1994 by Elliotte Harold.] 🍏

Apple Software Updates

By Charlie McCabe

We have implemented a new structure for Apple Software Updates.



These updates are now available on the following online services and Internet sites. (As of 15 September 1994, the new structure has been rolled out on eWorld and is a work in progress on AppleLink.)

- AppleLink (path: Software Sampler → Apple SW Updates)
- eWorld (shortcut: acc; path: Computer Center → Apple Customer Center → Apple Software Updates)
- ftp.support.apple.com (path: pub → Apple Software Updates)
- ftp.info.apple.com (formerly ftp.austin.apple.com) (path: Apple.Support.Area → Apple.Software.Updates)
- info.hed.apple.com (Apple Higher Education gopher server) (path: Apple.Support.Area → Apple.Software.Updates)

Note: Our Apple Support Forum on CompuServe (**GO: APLSUP**) has a different structure since CompuServe does not support subdirectories (folders) within each library. We will try and modify the library structure to be as close as possible to our new structure presented here.

There are now five top level folders inside Apple Software updates:

- About Apple Software Updates
- DOS & Windows
- Apple II
- Macintosh (abbreviated as Mac in the list on the following pages)
- Newton

The following is an index to the Apple Software Updates area. All software is listed alphabetically, along with its current location.

Key to Location Abbreviations

Key	Description
AIISP	Apple II Supplemental
ARA	Apple Remote Access
CTB	Communications Toolbox
D&P	Display & Peripheral Software
N&C	Networking & Communications
PTG	Printing
OSS	Other System Software
ONC	Other N&C Software
SSS	Supplemental System Software
SSW	System Software
TTS	Text to Speech

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The Alphabetical List of Apple Software Updates

- 040 VM Update (1.0) – Mac→SSW→OSS
- 32-Bit System Enabler (1.0.3) – Mac→SSW→OSS
- 630 SCSI Update – Mac →SSW→OSS
- 8*24 GC Software for System 6 – Mac→D&P
- 8*24 GC Software for System 7 – Mac→D&P
- 950 Color Addition 1.0 – Mac→SSW→OSS
- ADSP (1.5.1) – Mac – N&C→CTB
- Apple II SCSI Utilities – Apple II→AIISP
- Apple II Setup Disk 2.2 – Mac→N&C→AppleShare
- Apple II System Disk 3.2 – Apple II→AIISP
- Apple II Video Overlay Card – Apple II→AIISP
- Apple IIe Card (2.2.1) – Mac→D&P
- Apple IIGS CD Setup 5.1 – Apple II→AIISP
- Apple IIGS System 6.0.1 – Apple II
- Apple Color Printer (1.0) – Mac→Printing
- Apple Color SW (StyleWriter) Pro CMM (1.0) – Mac→Printing
- Apple DocViewer (1.1.1) – Mac→Utilities
- Apple Event Manager (1.0.3) – Mac→SSW→OSS
- Apple Guide Authoring Kit Offer – Mac→Utilities
- Apple HD SC Setup (7.2.2) – Mac→Utilities
- Apple Internet Router 3.0.1 Patch – Mac→N&C→ONC
- Apple Modem Tool (1.5.3) – Mac→N&C→CTB
- Apple Remote Access 1.0 Client Enabler – Mac→N&C→ARA→Other ARA

Software

- Apple Remote Access (Modem) Scripts – Mac→N&C→ARA
- AppleScan (1.0.2) – Mac→D&P
- AppleSearch 1.0.1 Patch – Mac→N&C→ONC
- AppleShare 3.x – Mac→N&C→AppleShare
- AppleShare 4.x – Mac→N&C→AppleShare
- AppleShareSetup (1.0.1) – Mac→Utilities
- AppleTalk ADSP Tool (1.0) – Mac→N&C→CTB
- AppleTalk ImageWriter (7.0.1) – Mac→Printing
- At Ease Updater 2.0.3 – Mac→SSS
- AudioVision 14 Display Installer (1.0) – Mac→D&P
- AudioVision Installer (1.0.2) – Mac→D&P
- AV Serial Extension (1.0) – Mac→SSW→OSS
- AWS 95 Tune-Up (1.0) – Mac→N&C→ONC
- Backgrounder (1.3) – Mac→Printing
- Backlight Control 1.0 – Mac→Utilities
- Basic Color Monitor (1.0) – Mac→D&P
- Basic Connectivity Set 1.1.1 – Mac→N&C→CTB
- CD-ROM Setup (5.0.1) – Mac→D&P
- Chooser (7.3) – Mac→Printing
- Color Classic Update (1.0) – Mac→SSW→OSS
- Color SW (StyleWriter) Pro (1.5) – Mac→Printing
- ColorSync (1.0.5) – Mac→SSW→OSS
- Communications Toolbox – Mac→N&C

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- Compatibility Checker 2.0 – Mac→Utilities
- CPU Energy Saver – Mac→SSW→OSS
- DART (1.5.3) – Mac→Utilities
- Disk Copy (4.2) – Mac→Utilities
- Disk First Aid (7.2) – Mac→Utilities
- Display Card 24AC (1.2) – Mac→D&P
- Display Software (1.1) – Mac→D&P
- Duo Battery Patch (1.0) – Mac→SSW→OSS
- EM Sound Update (1.0) – Mac→SSW→OSS
- Express Modem (1.5.4) – Mac→N&C→ONC
- Extensions Manager 2.0.1 – Mac→Utilities
- Finder Scripting Extensions (1.2) – Mac→SSW→OSS
- GeoPort For 660AV/840AV (1.2.2) – Mac→N&C→ONC
- GeoPort For Power Macintosh (1.0.2) – Mac→N&C→ONC
- GrayShare Update (1.0) – Mac→Printing
- HyperCard IIGS – Apple II
- HyperMover.IIGS – Apple II→HyperCard IIGS
- HyperMover.Mac – Apple II→HyperCard IIGS
- HyperScan (2.0.1) – Mac→D&P
- ImageWriter (7.0.1) – Mac→Printing
- ImageWriter GX (1.0.1) – Mac→Printing→QuickDraw GX
- ImageWriter LQ GX (1.0.1) – Mac→Printing→QuickDraw GX
- Invisible AWS 95 Fix (elap) – Mac→N&C→ONC
- ISSO 9660 File Access (5.0.2) – Mac→D&P
- Laser Prep (7.1.2) – Mac→Printing
- Laser Prep (7.2) – Mac→Printing
- LaserWriter 300 (1.2) – Mac→Printing
- LaserWriter 300 GX (1.0.1) – Mac→Printing→QuickDraw GX
- LaserWriter (7.1.2) – Mac→Printing
- LaserWriter (7.2) – Mac→Printing
- LaserWriter 8f (8.1.2) – Mac→Printing
- LaserWriter 8.1.1 Software (1.4MB disk) – Mac→Printing
- LaserWriter 8.1.1 Software (800K disks) – Mac→Printing
- LaserWriter 8.2 (software) – Mac→Printing
- LaserWriter 8.2f (software) – Mac→Printing
- LaserWriter Driver Differences: v8.0 & v8.1.1 – Mac→Printing
- LaserWriter Fax Log (8.1.2) – Mac→Printing
- LaserWriter Fax Tune-Up (1.0) – Mac→Printing
- LaserWriter Fax Utility (8.1.2) – Mac→Printing
- LaserWriter GX (1.0.1) – Mac→Printing→QuickDraw GX
- LaserWriter IISC GX (1.0.1) – Mac→Printing→QuickDraw GX
- LaserWriter Pro Font Tune-Up Disk – Mac→Printing
- LaserWriter Pro Energy Star Software – Mac→Printing
- LaserWriter Utility (7.6.2) – Mac→Printing
- LQ AppleTalk ImageWriter (7.0.1) – Mac→Printing
- LQ ImageWriter (7.0.1) – Mac→Printing
- LW Pro 810 Utility Solaris [12-Apr-94] – Mac→Printing
- LW Select 310 (7.0) – Mac→Printing

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- LW Select 360 Fax SW (1.0.1) – Mac→Printing
- MacinTalk 2 (1.2) – Mac→SWW→TTS
- MacinTalk Pro (1.2) – Mac→SWW→TTS
- MacinTalk2 Voices (1.2) – Mac→SSW→TTS
- Macintosh Drag and Drop (1.1) – Mac→SSW→OSS
- MacTCP 2.0.4 Update – Mac→N&C→ONC
- MacTCP Token Ring Extension 1.0- Mac→N&C→ONC
- MacX25 1.2 Patch – Mac→N&C→ONC
- MODE32 (7.5) – Mac→SSW→OSS
- Monitor Energy Saver (1.0) – Mac→D&P
- Mount IDE Drive (1.0) – Mac→SSW→OSS
- Motorola Collect Cellular – Mac→N&C→ARA→ARA2.0 User Scripts
- Motorola Collect Wireline – Mac→N&C→ARA→ARA2.0 User Scripts
- Motorola Codex 3260Fast – Mac→N&C→ARA→ARA2.0 User Scripts
- Motorola FasTalk II – Mac→N&C→ARA→ARA2.0 User Scripts
- Motorola V3400 – Mac→N&C→ARA→ARA2.0 User Scripts
- Network Launch Fix (1.0.2) – Mac→N&C→ONC
- Network Software Installer – Mac
- NewtonMail Modules (1.0) – Newton
- Personal Digital Document (PDD) Maker GX (1.0.1) – Mac→Printing→QuickDraw GX
- Personal LW LS (7.2) – Mac→Printing
- Personal LW LS Prep (1.0) – Mac→Printing
- Personal LaserWriter SC (7.0.1) – Mac→Printing
- PlainTalk (1.0) – Mac→SSW→PlainTalk (1.0)
- PlainTalk (1.2.1) – Mac→SSW→PlainTalk (1.2.1)
- PlainTalk (1.3) (for System 7.5 only) (five 1.4 MB disks) – Mac→SSW
- Portable Control Panel (1.3) – Mac→SSW→OSS
- Portable StyleWriter (1.0.1) – Mac→Printing
- PostScript Printer Description Files (PPDs) – Mac→Printing
- PowerBook 150 Update (1.0) – Mac→N&C→ONC
- PowerBook 500 Series Enabler (1.0.2) – Mac→SSW→System Enablers
- PowerBook Duo Enabler (1.0) – Mac→SSW→System Enablers
- PowerBook Duo Enabler (2.0) – Mac→SSW→System Enablers
- PowerPC Enabler (1.0.2) – Mac→SSW→System Enablers
- PowerPC Upgrade Card Enabler (1.0.1) – Mac→SSW→System Enablers
- PowerCD Setup (1.0.1) – Mac→D&P
- Power Macintosh AV Update(1.0) (Bootable Disk) – Mac→SSW→OSS
- Power Macintosh AV Update(1.0) (Extension Only) – Mac→SSW→OSS
- PowerTalk Dialup (1.0.1) – Mac→SSW→OSS
- PowerTalk For Power Macintosh (1.0.2) – Mac→SSW→OSS
- PowerTalk For Power Macintosh (1.0.2 For France) – Mac→SSW→OSS
- Printer Share (1.1.1) – Mac→Printing
- PrintMonitor (7.0.1) – Mac→Printing
- PrintMonitor (7.1) – Mac→Printing

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- QuickTake For Power Macintosh (1.0) – Mac→D&P
- QuickTime (1.6.2) – Mac→SSW→OSS
- Remote Control & Server Controller (1.0) – Mac→Utilities
- Rename Rescue (1.0) – Mac→Utilities
- ResEdit (2.1.3) – Mac→Utilities
- Scanner (2.0) (system extension) – Mac→D&P
- Scanner (3.0) (system extension) – Mac→D&P
- Security Stack – Mac→N&C→ARA
- Serial Tool (1.0.2) – Mac→N&C→CTB
- Serial Switch 1.1 – Mac→SSW→OSS
- SIMM Stack (4.4) – Mac→Utilities
- SNA*ps 3270 1.1.2 Patch – Mac→N&C→ONC
- Sound Manager 3.0 – Mac→SSW→OSS
- Speech Manager (1.2.1) – Mac→SWW→TTS
- SpoolLauncher (2.1.1a) – Mac→Printing
- SpoolMaster (2.1.1a) – Mac→Printing
- StyleWriter (7.2.3) – Mac→Printing
- StyleWriter GX (1.0.1) – Mac→Printing→QuickDraw GX
- StyleWriter II (1.2) – Mac→Printing
- System 6.0.8 – Mac→SSW
- System 7.0 – Mac→SSW
- System 7.0.1 – Mac→SSW
- System 7 Tune-Up 1.1.1 – Mac→SSW→OSS
- System Enabler 001 (1.0.1) – Mac→SSW→System Enablers
- System Enabler 003 (1.1) – Mac→SSW→System Enablers
- System Enabler 040 (1.1) – Mac→SSW→System Enablers
- System Enabler 065 (1.2) – Mac→SSW→System Enablers
- System Enabler 088 (1.2) – Mac→SSW→System Enablers
- System Enabler 131 (1.0.3) – Mac→SSW→System Enablers
- System Enabler 401 (1.0.5) – Mac→SSW→System Enablers
- System Enabler 403 (1.0.1) – Mac→SSW→System Enablers
- System Enabler 404 (1.0) – Mac→SSW→System Enablers
- System Update 1.05 (for Newton) – Newton
- System Update 1.11 (for Newton) – Newton
- System Update 1.3 (344052) (for Newton) – Newton
- System Update 3.0 – Mac→SSW→OSS
- Telephone Manager (1.1.1) – Mac→SSW→OSS
- Text Tool (1.0.1) – Mac→N&C→CTB
- TextEditor (1.3a1) – Mac→N&C→ONC
- The Namer (7.0) – Mac→Printing
- Thread Manager (2.0.1) – Mac→SSW→OSS
- TTY Tool (1.0.1) – Mac→N&C→CTB
- TTYFont (1.0) – Mac→N&C→CTB
- TV Setup (1.0.2) – Mac→SSW→OSS
- UnmountIt (1.0) – Mac→Utilities
- Voices (for Text to Speech Software) – Mac→SWW→TTS
- VT102 Tool (1.0.2) – Mac→N&C→CTB
- VT102Font (1.0.1) – Mac→N&C→CTB
- X11 Server Update For A/UX 3.0 – Mac→N&C→ONC
- XMODEM Tool (1.1) – Mac→N&C→CTB

Note: Online Apple software updates is regularly updated to ensure the latest versions of are available to you. 🍏

Apple Personal Diagnostics

By John C. Love

Apple Personal Diagnostics (version 1.1) offers a way to diagnose and monitor the performance of your Macintosh, Power Macintosh, or PowerBook system.



This software gives you information about your computer's hardware and software. It's also the only diagnostic product available that's based on the same testing programs Apple uses in manufacturing Macintosh computers. Regular use of the program can reduce system down time, minimize support calls, and help you isolate the sources of problems.

Personal Diagnostics combines hardware testing, system profiling, disk directory repair, and software checking in one package that now supports Power Macintosh and is fully compatible with System 7.5. You can run your system through an entire set of tests just by clicking on one button, and the results are presented in clearly understandable graphics and tables.

The program performs comprehensive diagnostic tests on your system's internal components, hard drives, floppy drives, and monitors. The hardware performance tests let you compare your system with benchmarks

established by Apple for other Macintosh computers.

Personal Diagnostics also provides a variety of software information and checks. It lists all applications and system files (including extensions) installed on your computer, alerts you if duplicate System folders exist, and diagnoses and repairs minor disk directory problems.

You can even have Personal Diagnostics automatically test your Macintosh system when you aren't using it. It alerts you to any irregularities that may exist and suggest simple steps to correct them before they deteriorate into more serious problems.

Features

Thorough Diagnostics

- Tests logic board, memory, and other hardware components.
- Checks for damaged System, Finder, and Enabler files.
- Verifies and repairs disk directories.
- Runs benchmark tests for comparison with Apple standards.
- Looping option assists in detecting intermittent problems.

Comprehensive System Information

- Specifies the type and speed of processor and any co-processors.
- Indicates the amount of memory available, including RAM and virtual memory.
- Displays SCSI bus assignments and the contents of NuBus slots.
- Lists version numbers of system software files and applications.

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- Includes hardware tests for Macintosh logic board, RAM/VRAM, SCSI and IDE hard disk drives, floppy disk drives, CD-ROM drives and monitors.
- Offers a comprehensive background diagnostic function (Automated System Monitor) that checks your system during periods of inactivity. Alerts you to any irregularities that may exist, and suggests simple steps to correct them before they deteriorate into more serious problems.
- Identifies duplicate System Folders and other system irregularities and provides you with simple solutions.

Ease of Use

- Runs an entire suite of tests with the click of one button
- You can customize the test suite to your needs
- Checks your system automatically during periods of inactivity (Automated Diagnostics)
- Prints customized reports quickly

Technical Specifications

Diagnostic Tests

- Logic board
 - Clock/interrupt (VIA and RTC circuitry)
 - Floating-point unit (if present)
 - Memory management unit (if present)
 - RAM
 - Parameter RAM
 - ROM
 - ADB circuitry
 - Sound output (mono and stereo)
- Hard disk drives
- Floppy disk drives
- Monitors (displays test patterns)
- Software

- Detects and repairs corrupted disk directories
- Detects damaged system files (System, Finder, and Enabler)

System Information

- Macintosh model
- Processor type and speed
- Co-processor type (if any)
- Memory addressing mode
- Virtual memory status (if available)
- Memory size (installed memory plus virtual memory)
- Keyboard type
- NuBus cards type and slot number
- SCSI/IDE device name, type, and ID number
- Floppy disk drive type
- System and Finder version numbers
- Apple Menu items, Control Panels, System/Chooser extensions, and applications, including version numbers whenever possible (startup drive only)
- Identification of multiple System Folders (if applicable)

Benchmark Checks

- Performance data for CPU, math functions, video, and hard drives
- Comparisons of your system with Apple's benchmarks for several popular Macintosh models
- Performance history for your computer

Automated Diagnostics

- Logic board test
- Memory test
- Hard disk drive test
- Software check

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Reports

Apple Personal Diagnostics reports can be customized to provide:

- Hardware information
- Software information
- Diagnostic test results
- Benchmark results
- Automated diagnostics history

System Requirements

- Apple Macintosh Plus or later, a Power Macintosh, or PowerBook computer with at least 2MB of RAM
- Macintosh system software version 6.0.7 or later (automated diagnostics option requires version 7.0 or later)
- Hard disk drive
- Floppy disk drive

Ordering Information

Apple Personal Diagnostics
Order No. M2800LL/B

Contents:

- One 800K application disk, and two emergency disks (for starting up your computer and repairing damaged file directories).
- User's Guide. 🍏

Portable StyleWriter – Battery Recharging

By Joe Wilson

Follow these steps to place the Portable StyleWriter into battery charging mode:

STEP	ACTION
1	Turn on the printer with the POWER button while holding down the ON LINE button.
2	When the first beep sounds release the POWER button.
3	When the second beep sounds release the ON LINE button.

The **POWER** LED begins flashing, indicating that the printer has entered the battery charging mode.

The battery charging voltage is 14.8 volts DC. The printer controller checks the battery voltage every two minutes during the charging process, which normally takes about 10 hours. When the charging is complete the printer automatically stops charging and turns itself off. If the battery voltage is less than 6 volts DC at any time during the charging process, the battery is either over-discharged or defective, at which time the controller alternately flashes the **POWER** and **ERROR** LEDs to indicate a charging problem. The **POWER** LED flashes when the battery needs recharging. 🍏

Tips and Tidbits

Monitors control panel

Click on the version number in the upper right-hand corner. A small box appears, listing the developers. While you hold down the mouse button, tap the **Option** key. This makes the smiley face (in the small developers box) stick out its tongue. After tapping **Option** several more times, the names begin to get rearranged and some first and last names are replaced with "Blue" or "Meanies". [From *The Easter Egg List* by Stanton Sky.] 🍏

Disk First Aid Found an “Invalid PEOF”!

By Anthony Snyder

The Problem

Disk First Aid reports an “Invalid PEOF” error with some numbers after it. It says it is unable to repair the problem. Norton Utilities Disk Doctor reports no error could be found.

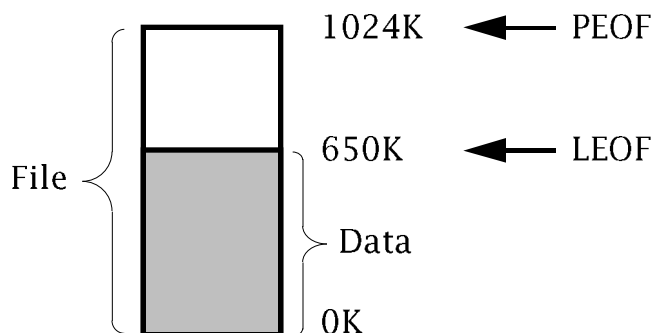
The Solution

An “invalid PEOF” is an invalid Physical End Of File.

This error means Disk First Aid found a problem with the length of a particular file and cannot fix it. Macintosh files have two end of file markers – a Logical End Of File (LEOF) and a Physical End Of File (PEOF). The logical end of file is the number of bytes allocated to data in a file. The physical end of file is the number of bytes currently allocated to the whole file.

The Macintosh allocates “blocks” of space to files on a volume (disk) for efficiency in reading/writing the files. The block size varies depending on the volume size. Most files never completely fill up their allocated blocks.

For example, if a given block size for a volume is set to 512K bytes and a file is allocated 2 blocks (1024 bytes total in file), a file with 650 bytes of data would have an LEOF of 650 and a PEOF of 1024, as this diagram illustrates:



If the PEOF is less than the LEOF, then problems with reading a file may occur. Disk First Aid is finding a PEOF allocation problem. Of course, if this problem is in the Desktop files or the System file, then system crashes and other anomalies may result.

If Disk First Aid cannot repair the problem, you should consider backing up the data and reformatting the drive – even if other utilities give the drive a clean bill of health. Each disk utility program is good at finding different problems. Trusting your data to only one utility is never wise. The conflicting reports are usually a sign that something is wrong with the file system and it needs to be fixed. 🍏

ARA 1.0 Patch Now Available

By Bryant Beck

A patch is now available that lets customers using Apple Remote Access (ARA) server software 2.0.1 accept calls from ARA 1.0 clients. The patch is available immediately at no charge to ARA customers in the U.S. and enables both Apple Remote Access Personal and MultiPort Servers (versions 2.0.1) to accept calls from ARA 1.0 clients.

The server software does not provide any additional enhancements beyond enabling Version 1.0 clients to access Version 2.0.1 servers nor does it add ARA 2.0 functionality to the ARA 1.0 client. If you do not require connections from ARA 1.0 clients to 2.0.1 servers you do not need to update your remote access server software.

The Apple Remote Access Update is available from user groups and online services such as eWorld, CompuServe, and AppleLink. It is also available through AAC Fulfillment for customer satisfaction purposes. 🍏

System 7.5 – Using Apple Guide with At Ease

By Murray Wheeler

There is a misunderstanding about how Apple Guide works with At Ease.

If At Ease 2.0 is installed and turned on, Apple Guide does not function in System 7.5. The Help menu contains only Balloon Help items, with no mention of Apple Guide. It also contains About Balloon Help instead of About Apple Guide.

At Ease and Apple Guide can be used together on the same system. If an application contains a guide file for its help system, this guide is available to all At Ease users who can access that application. Used within the application, the guide functions normally.

Within the At Ease panels themselves, no guides are available because none have been written for it yet (we hope to have one ready for a later release of At Ease). The Macintosh Guide, which normally appears in the System 7.5 Finder, does not appear in the At Ease panels, and should not. This guide depends on the Finder to display its red “coach marks”, open Control Panels, and so on. Since At Ease users don’t normally have access to Control Panels and system settings, it is inappropriate to have the Macintosh Guide available and fully functional in At Ease.

A problem does occur when a system starts up in At Ease, and then a user or administrator goes to the Finder. In this situation, the Macintosh Guide, which normally appears in the Finder, is



unavailable. This is a problem in Apple Guide. Apple Guide treats the Finder in a special way and does not load in situations when the Finder is “off”. All products that replace the Finder, like At Ease does, experience the same problem. A fix for this problem is being developed, and should be available later this year.

The impact on you is: if you start in At Ease, and then go to the Finder, Macintosh Guides, including application specific guides, are unavailable. In order to use Macintosh Guide in the Finder, At Ease must be turned off by the administrator and the computer restarted.

This situation has the potential to be viewed as an incompatibility with Apple Guide and At Ease. It is NOT, and we hope that this information helps you understand the problem. This is not a situation where you have to choose between System 7.5 and At Ease. Apple Guide behaves as it should for At Ease users. In the At Ease installations, most of the system’s users are in At Ease, not the Finder, and they have access to application guides. Administrators who have access to the Finder are generally advanced users that do not use Macintosh Guide very often. 🍏

Tips and Tidbits

SimEarth

Press **Shift** and type FUNDS to get the message that “you are \$10,000 richer but unfortunately money is no use in this game.” 🍏

Reducing Power Macintosh Native Application Memory Requirements

By Bob Wambaugh

This article describes how you can reduce the memory requirements for Power Macintosh native applications that require large amounts of RAM, such as Microsoft Excel or Word.

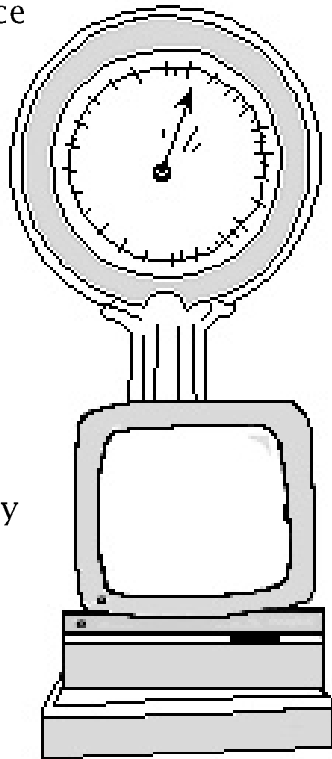
Enabling Virtual Memory reduces the overall memory requirements of large native Power Macintosh applications.

After enabling Virtual Memory, the Application Partition is substantially smaller and the System Partition increases by a relatively small amount.

Excerpts from *Inside Macintosh: PowerPC System Software*

Without Virtual Memory

When virtual memory is not enabled, the application's Stack (temporary data storage), Heap (dynamically allocated storage), and all Code Fragments (Executable PowerPC code) must load into the Application Partition, resulting in increased launch times and RAM requirements for large applications.



With Virtual Memory

With Virtual Memory enabled, only the application's Stack and Heap load into the Application Partition, reducing the launch times and RAM requirements for native applications. The application's Code Fragments are then tracked by the Virtual Memory Manager, which only writes the Code Fragments to the System Partition when needed, resulting in fewer Code Fragments loaded into memory at one time.

As an additional benefit, the Operating System assumes the application's code section is always read-only, meaning that, when it's time to remove some of the application's code from memory (to page in other code or data), the Virtual Memory Manager doesn't need to write the code back to the hard disk. Instead, it simply purges the code from the System Partition and writes new code to the System Partition, reducing the time required to load applications code.

Virtual Memory Benefits

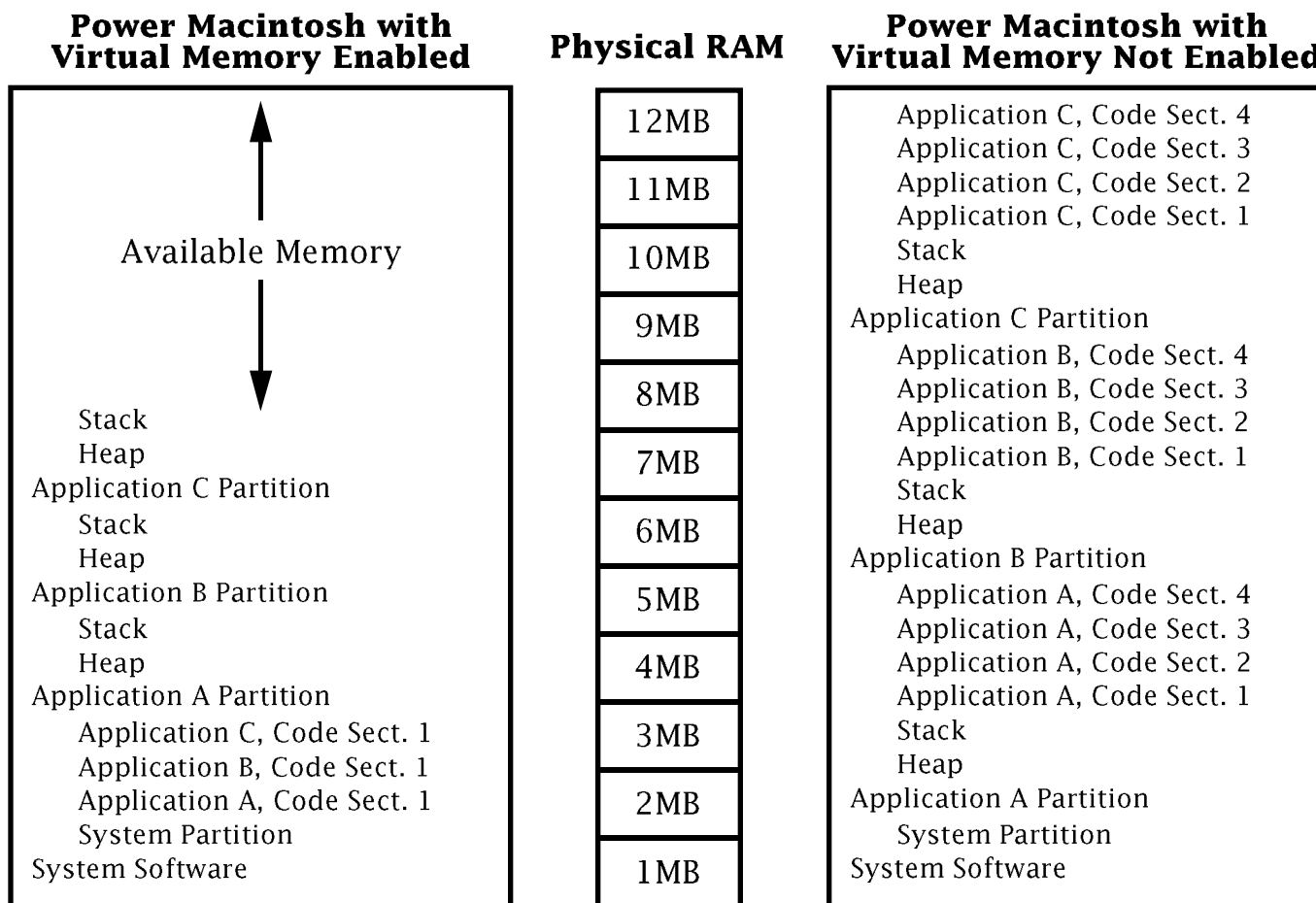
So, by enabling Virtual Memory you have these benefits:

- Reduce the RAM required for Application Partitions.
- Increase the System Partition. (But, to a lesser extent than the Application Partition)
- Reduce the start up time for applications.

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The following diagram may be helpful in describing how Virtual Memory affects RAM requirements.



The left column lists a possible memory configuration for a Power Macintosh with three native applications with virtual memory enabled. The right

column is for three native applications with virtual memory not enabled. The center column provides possible memory requirements. 🍏

New Places to Find the *Information Alley*

You can now find the *Information Alley* on these online services and BBSs:

- **Virginia Macintosh Users Group** BBS (Arlington, Virginia) – (703) 425-2793
TeleFinder BBS running on a Macintosh LC II with a SupraFaxModem v.32bis.
- **Johns Hopkins Medical Institutions (JHMI)** World Wide Web Server
Enter this URL to get to the main home page for JHMI Macintosh Users Group:
<http://mug.welch.jhu.edu/>

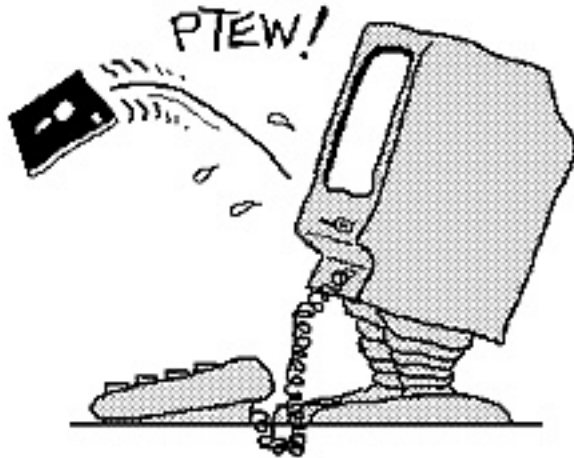
Enter this URL to get to all issues of the *Information Alley*:

<http://mug.welch.jhu.edu/mug/Mug-Information/infoalley.html> 🍏

Quadra 660AV and 840AV Rejecting 800K Disks

By Charlie McCabe

The floppy disk drive on the Macintosh Centris/Quadra 660AV and Quadra 840AV may occasionally reject some of your 800K floppy disks.



Both the Macintosh Centris 660AV and Quadra 840AV use a new floppy disk controller that reads and writes data more precisely than the one used in most other Macintosh computers. For this reason, the computer may not be able to read some 800K floppy disks that were created by mass-duplication equipment, or other non-AV Macintosh computers. If you experience this problem, check with the software vendor for another copy of the disk.

Some versions of copy protection for 800K floppy disks are not compatible with your computer. If you have a problem with a copy-protected disk, check with the software vendor for an upgraded or unprotected copy of the disk.

ProDOS 800K Disks created on an AV Series Macintosh

This problem can also appear when formatting a disk on an AV series

Macintosh as a ProDOS 800K disk, inserting it into an Apple IIgs, saving an AppleWorks file onto it, and re-inserting it into the AV Macintosh. This often results in the AV Macintosh reporting that disk was unreadable.

Troubleshooting and Workarounds

Zap the Parameter RAM (PRAM)

Restart your Macintosh, holding down the **⌘-Option-P-R** keys. The smiling Macintosh icon appears and shortly after, the computer restarts once again. Release the keys and insert your 800K floppy disk once the Finder appears.

Restart your Macintosh with extensions off.

Restart your Macintosh and hold down the **Shift** until the **Welcome to Macintosh** dialog box appears with the additional message **Extensions Off**. Release the **Shift** key and insert your 800K floppy disk once the Finder appears.

Turn off Speech Recognition.

Open the Speech Setup control panel and click the **OFF** button. Restart your Macintosh and insert your 800K floppy disk once the Finder appears.

Make sure you do not have composite SIMMs (RAM) installed.

Apple does not recommend using composite SIMMs for RAM expansion in *any* Macintosh computer. For further information, search by **COMPOSITE** in the Technical Information Library.

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Regenerate Macintosh-generated disks on another Macintosh.

If Macintosh-generated 800K disks are unreadable on your Macintosh AV, copy the contents to a 1.4MB floppy disk using another Macintosh and its internal hard disk.

Copy a mass-duplicated disk to 1.4MB disk.

If mass duplicated 800K disks are unreadable on your Macintosh AV, copy the contents to a 1.4MB floppy disk using another Macintosh and its internal hard disk OR call the software vendor to see if they can send you another copy on 1.4 MB floppy disk.

Perform a network install.

Perform a network install or copy the software from another Macintosh over an AppleTalk network onto the Macintosh AV.

Contact the supplier of copy-protected disks

If 800K copy protected floppy disks are not readable, contact the supplier to obtain either a more stringently written floppy, or see if they will provide a non copy protected version. 🍏

Tips and Tidbits

Pagemaker 5.0

Hold down **Tab**, **Shift**, and **Space** while you select "About PageMaker", a picture of a rose appears with the message "Dedicated to Augustine Chan – 1950-1992." [Contributed by srsimons@aol.com.] 🍏

MicroPrint and LocalTalk Printers

By Denny Carag

MicroPrint is being sold by Apple, and is designed for the LaserWriter Select 360. This version of is a slightly modified version of a product being sold by Sonic Systems. Apple's version of MicroPrint was not tested with other Apple LaserWriter printers. It might work with other LocalTalk printers, but Apple has not tested it with any printers other than the LaserWriter Select 360.

Apple also bundles the LaserWriter Bridge software with every LaserWriter Select 360 being sold. This software is also slightly modified from the version Sonic Systems sells. Every copy of the LaserWriter Bridge software is licensed by Apple from Sonic Systems. It is licensed for only the LaserWriter Select 360, so legally it cannot be used with other LocalTalk printers.

Support

Use this information if you need support on either the LaserWriter Bridge or MicroPrint:

- LaserWriter Bridge

All support is handled by Apple – 1-800-SOS-APPL.

- MicroPrint

All support is handled by Sonic Systems. You can contact them at:

Sonic Systems, Inc.
1150 Kifer Rd., #201
Sunnyvale, CA 94086

408-736-1900
800-535-0725
408-736-7228 (fax)

Note: If you connect MicroPrint to a LocalTalk printer other than the LaserWriter Select 360 and have problems, Sonic Systems would like to know about it. 🍏

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