# INFORMATION

# 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.

## Where to Find the *Information Alley*

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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. Available articles are:

- *Information Alley: Online Services it is Posted To*
- *Information Alley: Index of Vol I Issues*
- *Information Alley: Index of Vol II Issues*

## *Information Alley* Formats

The *Information Alley* is available in these formats:

### Adobe Acrobat

Requires the Macintosh, DOS, Windows, or UNIX Acrobat Reader. The free Readers are available via the Adobe BBS (206) 623-6984, America Online, Compuserve, or the World Wide Web at this URL: **http://www.adobe.com/**.

### Common Ground

Includes the imbedded Common Ground Macintosh MiniViewer. This format requires no external reader.

### SeText

Includes no graphics or special magazine formatting. Formatted to be read with EasyView or any word processor.

## Submissions and Letters

We welcome articles of general interested to Apple computer users, letters to the editor, and suggestions for future articles. Send submissions to:

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The Information Alley is produced using FrameMaker 4.0 on a Power Macintosh running System 7.5.

# Online Availability and Master Index Information

By Janet Christian

We regularly receive requests for information about where the *Information Alley* is available and where to find a master index for Volume I and Volume II. We upload the *Information Alley* to the following locations. These locations maintain all back issues and all formats, an index to back issues, and a master list of all other online services and bulletin boards (we know of) that maintain copies of the magazine.

Each of the following sites also maintains a master list of all other locations where you can find the *Information Alley* (file name: **InfoAlley.Where to Find Online**), along with an index to back issues for Volume I (file name: **InfoAlley.V1.Index 5/95**) and for Volume II (file name: **InfoAlley.V2.Index 6/95**). (The month/year information changes as appropriate.)

### World Wide Web

Apple Computer – World Wide Web (WWW) Server. Enter this Universal Resource Locator (URL) to your WWW browser: **http://www.info.apple.com/info.alley/info.alley.html**

### AppleLink

Path: **Support —> News & Support Guide —> Apple Information Alley**.

### eWorld

Path: **Computer Center —> Apple Customer Center —> Apple Technical Support —> Tips and Tools**. The Shortcut for the Quick Answers area is: **support**.

### CompuServe

Posted in the **Apple Support Forum** in Library 3: **Info Alley Newsltr**. The GO word (shortcut) to get to the Apple Support Forum is: **APLSUP**.

### Internet

Path: **ftp —> Apple.Support.Area —> Apple.Software.Updates**. Host name: **ftp.info.apple.com** (formerly **ftp.austin.apple.com**). IP number: **204.96.16.4**

### America Online

Posted to the Macintosh Hardware Forum. Check in the **New Files and Free Uploading** software library. Here is a quick way to find the *Information Alley* on AOL: Go to keyword **QUICKFIND**. Enter **Information Alley** in the list box at the bottom where it says "List files with these words reflecting my interest". Select the **List Matching Files** button.

# Sharing a Drive that Includes Shared Folders

By Brian Fant

If you want to allow file sharing on a hard drive, but the hard drive already includes shared folders, you get this error message when you try to start file sharing: "Cannot share selected drive because there is a shared folder contained within it." You must first turn off file sharing for all shared folders before you can turn file sharing on for an entire drive.

Try these steps to identify which folders have been shared on your hard drive:

| STEP | ACTION |
|---|---|
| 1 | Select **Control Panels** from the Apple menu. |
| 2 | Double-click the **File Sharing Monitor** control panel. In a box on the left side of this window is a names list of all shared items. |
| 3 | Select the **Find** command from the File menu. Type in the name of one of the shared items and click the **Find** button.<br>• System Software 7.0 to 7.1.2 finds and highlights an item with that name.<br>• For System Software 7.5 or later, the Find File application presents a hit list of items found. Click the item with the name you are looking for. |
| 4 | Select the **Sharing...** command from the File menu. The Sharing window for that item appears on the screen. |
| 5 | If this item is shared, the **Share this item and its contents** check box is selected. Click on this check box to deselect it. |
| 6 | If the **Share this item...** check box is not selected, close the Sharing window and select the **Find Again** command from the File menu in System 7.0 to 7.1.2, or click another item in the hit list in System 7.5. Repeat steps 4, 5, and 6 until you identify the shared item and it is no longer being shared. |
| 7 | Repeat steps 2 through 6 until all shared items are no longer being shared. When no items are being shared, the Shared Items list in the File Sharing Monitor should be empty. |

You may now share your hard drive. You may still assign different file sharing permissions (for different users or groups) to folders on the shared drive. 

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### List Server

Available automatically as SeText from the list server. Send the following email:

To: **infoalley@thing2.info.apple.com**
Subject: **Information Alley**
Body of message: **SUBSCRIBE <your full name>**

The Acrobat and Common Ground formats are available for downloading from the list server, along with the index and list of online locations.

# Resetting PRAM Clears RAM Disk Data

By John Patton

If you are using a RAM disk, and you reset Parameter Ram (PRAM) (by simultaneously holding down the ⌘-**Option-P-R** keys at the initial startup chime) the settings in the Memory control panel revert to their factory defaults.

The default setting for a RAM disk in the Memory control panel is "off". As a result, any contents on a previously active RAM disk are lost when the PRAM is reset.

This happens regardless of whether or not the RAM disk is the startup disk. The presence of the Assistant Toolbox extension (on a Powerbook computer) does not prevent this data loss. Therefore, Apple recommends backing up all important items from a RAM disk to another disk before resetting the PRAM.

**Note:** Simply restarting the machine does not purge the contents of the RAM disk. However, selecting **Shut Down** from the Special menu or powering the machine off from the power switch erases the contents of the RAM disk (unless the Assistant Toolbox extension [for PowerBook computers] or similar utility [for other Macintosh computers] is installed). If the machine is shut down in this manner the contents of the RAM disk cannot be retrieved even if it is immediately restarted. 
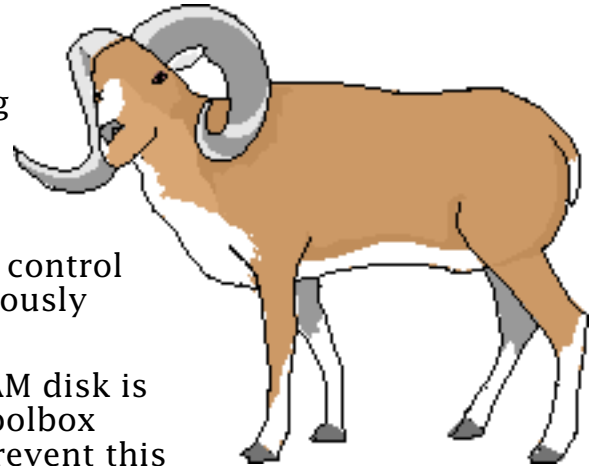
# Erratic Sound from CD-ROM on PowerBooks

By David Lake

Music or QuickTime movies from CD-ROM discs played from your PowerBook computer may sometimes sound choppy. If playback of QuickTime movies and Audio CDs are choppy, slow, skip, or jump around, check the following:

| STEP | ACTION |
|------|--------|
| 1 | If you have a PowerBook, turn off Processor Cycling (in the PowerBook Control Panel). |
| 2 | On all Macintosh and PowerBook computers, turn off Virtual Memory (in the Memory Control Panel). |
| 3 | Turn off or quit applications running in the background before you try to play the music or the movie.  |
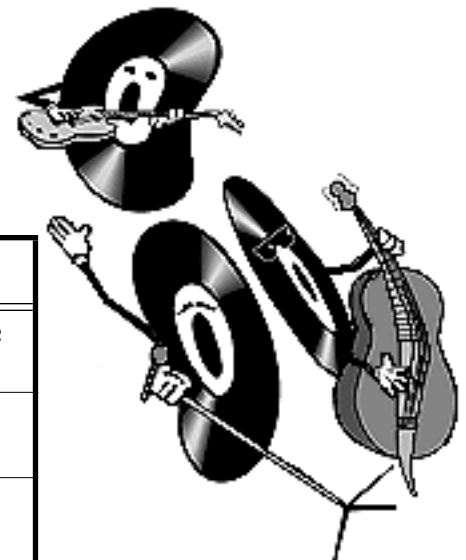
# PowerBook MIDI Problems and Workarounds

From the Technical Information Library

Some PowerBook owners have had problems using MIDI because PowerBook computers have difficulty reading long data streams through their printer and modem ports. This can cause dropouts in MIDI music sequences during playback.

This problem is mostly evident when recording System Exclusive dumps, in which libraries of information, such as sound patches, are recorded to a PowerBook. Playing system exclusive information (or other data) from a PowerBook, however, is not an issue.

## Overview of the Problem

The serial communication problems on PowerBook computers affected two groups of users:

- Telecommunication users who communicated primarily in the 2400-19,200 bps (bits per second) range. Their problems were addressed by the changes incorporated into System 7.1.

- MIDI users who communicate at 38,400 bps. MIDI communication problems persist due to the much higher bps speed, and the fact that, in most cases, no error detection or correction protocol is used.

Because of design changes, the PowerBook 200 series computers do not have these MIDI problems. MIDI problems experienced by Macintosh IIvx users were addressed in version 1.0.1 of System Enabler 001. This Enabler is not required under System 7.5, since it is part of the system software.

The problems had to do with the transfer of large amounts of MIDI data TO a PowerBook. It has been resolved in the PowerBook 200 and 500 series, but is still present in PowerBook 160 and PowerBook 180.

In the PowerBook 200 and 500 series, the Power Manager disables interrupts for much shorter periods than in the PowerBook 100 series, removing the possibility of missing any interrupts from the Serial Communications Controller (SCC) chip.

## Normal Recording and Playback Are Possible

With the majority of PowerBook computers and MIDI sequencers (a software-based version of the analog multi-track tape recorder), "standard" operations are possible. Such operations include recording, playback, instrument change, volume, pitch bend, and panning.

Data such as polyphonic aftertouch and pitch bend, the usual culprits (they require large amounts of data to express) do not cause a problem. The problem does not occur when sending single patches to a PowerBook 100 series computer.

The problem occurs when one is performing system exclusive functions such as dumping banks of data or samples (samples are much larger, usually, than any bank of patches) to a PowerBook 100 series computer.

## A Workaround for System Exclusive Data

While large data dumps are at this time not possible with PowerBook 100 series computers, there is an alternative method. Instead of sending an entire bank of data, sending the information in smaller groups (one patch at a time) is possible. While this is inconvenient in comparison to sending the entire bank of info at once, it does allow system exclusive data to be transferred successfully.

It is common to have a desktop Macintosh in the home or at the office, and to use a PowerBook for live performance or for out-of-home recording work (such as at a professional studio). Patch and sample editing (which sometimes require data dumps from a MIDI device to the PowerBook) is rarely done on stage or during recording sessions. Sound editing on stage is usually impractical. As for studio work, it is much more economical to take care of pre-production tasks, such as sound editing, at home, or at a professional pre-production facility, which is almost always billed at a lower rate than recording time.

So, away from the studio, you can still easily transfer your banks, samples and sequences to your PowerBook 100 series computer via floppy, SCSI disk mode, or Personal AppleShare.

Then, once in the remote location (recording session, on stage, etc.) with your PowerBook 100 series computer, you will be able to send patches, banks, samples, and sequences to any MIDI devices with no problems.

Clearly, this is only an interim solution, but it does show that many PowerBook 100 series computer MIDI users can still get a great deal of functionality from their setups in the meantime.

## References and Other Tips

The June 1992 issue of ***Keyboard*** magazine has a well-written article by Geoffrey Ryle on using the PowerBook 100 series computers and MIDI. The missing files problem he mentions was solved by using System 7 Tuner version 1.1.1 with his Macintosh. The functionality of System 7 Tuner version 1.1.1 was included in System 7.1, so Tuner is not necessary with System 7.1 or greater. In addition, the PowerBook 200 and 500 series computers do not have these problems.

Remember to always use System 7 Tuner version 1.1.1 with Systems 7.0 and 7.0.1 to ensure optimum performance and to avoid any missing files problems. Before adding Tuner 1.1.1, it is advisable to back up your hard disk-based data, initialize the disk using Apple HD SC Setup (use **Maximum Macintosh** in most cases), install or restore your System Software, drop Tuner into your System Folder, and then restore your data. This is also a risk-free way to optimize your hard disk.

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## Utilities That Improve Compatibility

Two software utilities greatly enhance compatibility between PowerBook 100 series computers and MIDI programs. Until MIDI software developers provide upgrades that address the idiosyncrasies of PowerBook ports, these two programs are very useful to PowerBook 100 series computers/MIDI users:

• Apple's MIDI Management Tools version 2.0.2

   Software that consists of a small system extension and an application. This software will be posted to Apple software updates and ftp sites in the near future.

• Opcode's MIDI Mangler

   A shareware control panel. A program component of MIDI Management Tools, called Patchbay, lets users graphically connect the MIDI sequencer program to the correct PowerBook 100 series hardware port. The program is self-explanatory and easy to use. MIDI Mangler frees the printer and modem ports, allowing MIDI signals to pass freely through them. 

# Items That Get Erased on the Apple MessagePad

By Mel Guenat

Are you confused on how to properly erase information and what gets erased from my Apple MessagePad? The handbook is a bit confusing on this topic.

## After Erasing Your Messagepad

### These Files Remain

• The Calendar
• To Do List
• Notes
• Names programs
• Newton operating system
• system updates

### These Files are Erased

• Notions
• Notions templates
• Newton Mail modules
• PackageMover
• other installed programs
• all data in the internal memory

**Note:** Information on any storage card is unaffected when you erase.

## How To Erase Your Apple MessagePad

| STEP | ACTION |
|---|---|
| 1 | Press and hold down the power switch. |
| 2 | Press and release the reset button while holding down the power switch. |
| 3 | Continue to hold down the power switch until the message appears asking if you want to erase data completely. |
| 4 | Release the power switch. |
| 5 | Tap on the **YES** button and then tap on the **OK** button.  |

# The LaserWriter Driver 8.x Auto Select Feature

By Denny Carag

This article explains the LaserWriter Driver 8.x "Auto Select" feature. However, when following the information presented here, you must first make sure that "Auto Select" is selected as the paper source in the LaserWriter 8.x Print dialog.

## Installed and Preferred

This setting only affects print jobs coming from the Macintosh you "Configure". Either the 250-sheet or 500-sheet cassette can be chosen as the default paper tray by selecting the printer in the Chooser, clicking on **Setup**, and then on **Configure**. Once the Configure dialog box displays, the 500-sheet cassette can be set for **Installed and Preferred**, which makes it the default paper tray for that paper size. Thus, if there is Legal-sized paper in the 500-sheet tray, then any Legal-sized print job uses the 500-sheet cassette. If the 500-sheet cassette is set only as **Installed**, then the default paper tray used is the 250-sheet cassette (for all jobs using the paper size installed in that cassette).

**Note:** To access the Configure dialog box with LaserWriter Driver 8.2 or greater, you must click on **Setup** once to select the PostScript Printer Description (PPD) file, and then click on **Setup** again to get the option for **Configure**.

## PostScript and Default Paper Tray

This affects ALL print jobs coming from ANY Macintosh since the value is modified at the printer, not the client (as in the preceding **Installed and Preferred** procedure).

You can set any of the paper trays (Multipurpose, 250-sheet, 500-sheet, or Envelope) as the default paper tray by downloading the PostScript code (see **PostScript Code** on page 10) to the printer. The default tray selected is used automatically for any print jobs of the same paper size as in the default tray that you set.

Here is the PostScript to set the default paper tray:

| Value | Tray Selection |
|:-----:|----------------|
| 0 | 250 Sheet Cassette |
| 1 | Multi-purpose tray |
| 2 | 500 Sheet Cassette |
| 3 | Envelope tray |

**Note:** The **Value** column pertains to the integer preceding the **setdefaultpapertray** command on the second line in the PostScript code.
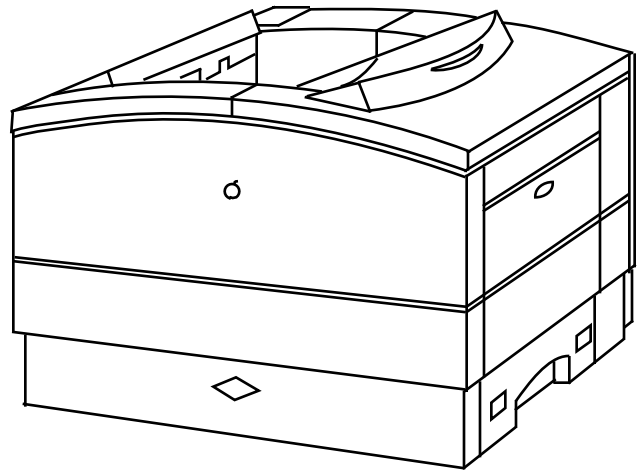
**Continued on next page...**

## PostScript Code

Use this PostScript code at your own risk. You are responsible for the support of any problems associated with changing the default tray. You should also inform others using the printer that you have changed the default tray. Changing the default tray on the printer may cause the paper out LED to light if there is no paper present in the default tray, or if the wrong size paper is used in the tray. When this happens, there is nothing wrong with the printer's hardware.

```
%=========================================================
% Begin PostScript Code
%
serverdict begin 0 exitserver
statusdict begin 1 setdefaultpapertray end
%
% end PostScript Code
%=========================================================
```

**Warning!**  If you choose to use the PostScript code provided in this article, you assume all risks involved in making these changes. PostScript code, if not entered correctly, can place the LaserWriter into a condition requiring service.

## Individual Documents

Tray selection is NOT stored with each individual document, however, page size is. Thus, with "Auto Select" the LaserWriter driver does its best to match the page size with the appropriate tray, depending on how the printer was configured using the preceding procedures.

## Sticky Trays?

LaserWriter 8.x DOES NOT automatically use (for the next job) the last paper tray used in the previous job, unless the current print job is of the same paper size as the previous job. 

# New Places to Find the *Information Alley*

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

- **The Johor Connection** BBS (Johor Bahru, Johor, Malaysia) 607-334-5899

  28,800 bps modem, V.34 USRobotics Courier. Autoregister online and send the Admin. your resume (user information). Access is free.

- **MacEAST** BBS (Boston, Massachusetts) 617-899-0020

  FirstClass BBS, 28,800 bps modem, V.34 Hayes OPtima. Choose your own login and password. All Common Ground issues are under this path: Desktop —> News —> Apple News —> Apple Newsletter.

# An Overview of ColorSync

By Dave Downey

ColorSync is an extension to QuickDraw. It facilitates color conversion from the color space (method of mathematically describing a color) of one device to the color space of another device. It does this while maintaining consistent visual representation. In simple terms, ColorSync displays and prints the same image that it scanned.

## The Major Difficulties in Reproducing Color

The physics of color presents a technical barrier, since delivering colored light is very different from delivering colored ink. Colors are described in device-dependent terms:

- RGB (Red, Green, Blue) for monitors and most scanners
- CMYK (Cyan, Magenta, Yellow, and Black) for most printers

Device-dependent descriptions cause the same blend on one monitor to display a very different color on a different monitor. While it is possible to map an RGB value to a CMYK value for a given pair of devices, this is not a practical solution because changing the devices changes the mapping, and therefore the result.

Different devices (scanner, monitor, printer) have different capabilities in delivering color. A color possible on one device is not possible on another. Every device produces a different range of colors, or color gamut. The scanner, display, and printer each have a different color gamut. Colors that all three devices can produce present no problem. But colors that only one or two devices can generate require color matching.

The perceived color given by a specific value of RGB for an individual monitor can vary. Any RGB to CMYK mapping is not accurate over time. The solution for this problem is commonly called calibration.

## Colorsync Architecture

ColorSync is a system extension that provides color matching capabilities to the existing QuickDraw graphics model. It provides three important features:

### System-Level Support for Color Matching

All applications and peripherals can take advantage of it. All applications and imaging peripherals use the same scheme for color matching.

**Continued on next page...**

## Support for Existing Applications

Some existing applications get color-matched printing without waiting for revised applications. ColorSync provides some new calls that enable applications to match to the display as well. This completes the entire picture – matched input, display, and output.

## Opportunities for Third Parties to Add Value

ColorSync uses the Component Manager, which lets third-party developers add value to the color-matching system. This was developed in conjunction with QuickTime to link a series of Apple or third-party color management resources and utilities.

# How Colorsync Solves Color Matching Problems

### Device-Independent Color

ColorSync was developed to solve the problems related to device-dependent color such as RGB and CMYK. ColorSync attempts to consistently represent colors (visually very similar or identical) across the three color gamuts. ColorSync uses device profiles to determine what colors a device can display, print, or scan (device color gamut).

ColorSync translates the colors that the originating device created for an image into a device-independent, and human perception-based color space, CIE XYZ. From the CIE-XYZ color space, ColorSync then translates the image into the color space of the destination device.

ColorSync uses the Apple Color High-Resolution RGB monitor as the default system profile or space. If you have a different monitor, you should use the ColorSync profile for that monitor in order for ColorSync to work properly. The ColorSync profile creates a device-independent color definition while maintaining compatibility with QuickDraw, which is RGB-based. You can select any monitor that has a profile installed.

### Applications

There are three levels of ColorSync application support:

| Support Level | Description |
| --- | --- |
| Printing Fidelity | Making the standard Macintosh call, DrawPicture, enables matching the source image to the printer. Applications that support this call provide printing functionality without revision. |
| Display Fidelity | ColorSync can correct for the display if the source is a scanner or a different monitor. The ColorPicker shows two gamuts, and you can choose those available on the monitor and printer or other display. |
| Preview Function | ColorSync lets applications offer a preview function that indicates those colors not possible on a particular device. Users can check documents before printing. |

## Device Profiles and Drivers

ColorSync allows characterizations of each device in terms of the CIE XYZ color space. These characterizations are called profiles. This allows making comparisons between any pair of ColorSync devices in terms of the common space.

## Color Matching with ColorSync CMMs (Color Matching Methods)

CMMs give the best possible match when the exact match is not available. ColorSync uses the device profiles to determine if a device can display or print a certain color. If a color is outside the color gamut of a device, ColorSync determines a best-match color within that device's gamut. It uses a simple look-up table or an algorithmic calculation to do this. The table look-up method is much faster than the algorithmic method.

The algorithmic method gives better color matching, and offers four options:

| Option | Description |
| --- | --- |
| Perceptual | This maintains perceptual differences. Colors are interpreted relative to the destination device's white point. This option is usually best for photographic scanned images. |
| Colorimetric | This maintains individual colors at the expense of their relative values. It is usually best for spot colors. |
| Saturation | This maintains the levels of color saturation. It sacrifices contrast to maintain color saturation. It is usually best for computer-generated graphics. |
| Faster Matching | This offers a good compromise between photographs and computer-generated images, and takes less time. |

ColorSync attempts to provide a base level of color matching with the smallest possible memory footprint (about 70K). Some print jobs require higher quality color matching. More sophisticated color management schemes can replace ColorSync's color matching method and hook into ColorSync via the Component Manager. This process lets other color management products integrate into the system software via ColorSync.

ColorSync still translates the image's colors into the device-independent color space. However, ColorSync then calls the substituted color matching method to translate the image into the color space of the destination device.

## Color Calibration

The ColorSync Color Management extensions support the calibration systems available from third-party developers (such as SuperMac, Radius, and Raster Ops). You can periodically update the profile to compensate for differences from the standard profile.

# Native, Conventional, and Fat Applications – Description and Clarification

By Robert Dorsett

This article clarifies the terminology used in referring to Power Macintosh-compatible applications. The Power Macintosh can run two kinds of compatible software:

- Native
- Conventional

## Native Applications

Native software is software written for specifically the PowerPC chip; it only runs on a computer that has a PowerPC chip on its logic board.

## Conventional Applications

On Power Macintosh computers, conventional software is software written for Macintosh computers that have a 68000, 68020, 68030, or 68040 chip on their logic boards. Conventional software is sometimes referred to as "68K" software. It runs on Macintosh computers that have either a 680xx chip or a PowerPC chip.

### Emulation Mode

Conventional software runs in an "emulation" mode, which is functionally similar to the 68020 processor. The main differences between the 68020 processor and later processors (68030 and 68040) are:

- It does not have a PMMU (Paged Memory Management Unit)

  This point is necessary because the PowerPC has a newer, better, memory management model.

- It does not support the SWAP16 instruction

  This point is addressed by improvements in the PowerPC chip.

- It does not support a floating point unit

  This point requires different steps to work around; such as software emulation of an FPU, or, more commonly, software floating-point routines.

Even though the speed of emulation mode is compared to the speed of a Macintosh with a 68020 processor, conventional software generally runs faster in emulation

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# Easy Install – When This Option Installs Everything

By Shannon Love

Sometimes the Easy Install option in the system software installer installs only those items needed on a particular Macintosh as it is supposed to do. Other times, it does a generic install.

The generic install places items that do not belong or work with the particular Macintosh, such as Powerbook control panels on a desktop CPU. Doing a custom install also does not help. It may do this on one unit, but not on an identical unit, even when using the same installation disks.

When the installer builds a System suitcase it places within it an invisible copy of the installer script. Each successive installer uses the script in the System suitcase. After once doing an install using the "software for any Macintosh" option each successive installer uses that first script as well. This process maintains consistency across numerous installs.

To prevent repeating the generic install, boot from the Disk Tools Disk and remove the System suitcase from the System Folder on the hard drive before rinning the installer again. 

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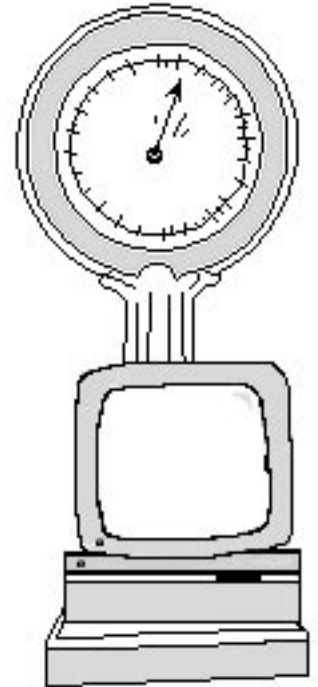
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mode than a Macintosh with a 68020 chip. The performance depends on how many references the software can make to native routines in the computer's software "toolbox". The more native routines that are performed; the faster the software runs.

## "Fat" Applications

As new software is written, you will find references to "fat" applications. These are programs that can be run on either a 68K or Power Macintosh computers without modification. The operating system automatically determines which part to use.

Since "Fat" applications are really two programs in one, many installers offer either a "Power Macintosh" or "Conventional" installation. If you have installed a software application that claims to be "Accelerated for Power Macintosh", and it does not recognize features that definitely exist (such as an FPU), make sure you have installed the correct version.

Both versions run on the Power Macintosh, but only the "native" version benefits from all the special features of the Power Macintosh. 

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# Using LAN WorkPlace for DOS

By David Hill

This article provides information on using LAN WorkPlace for DOS with the DOS Compatibility Card for the Power Macintosh.

This article focuses on aspects of network software installation that deviates from normal DOS/Windows installations and assumes a working knowledge of DOS and Windows. This article is not a substitute for and should be used in conjunction with product documentation!
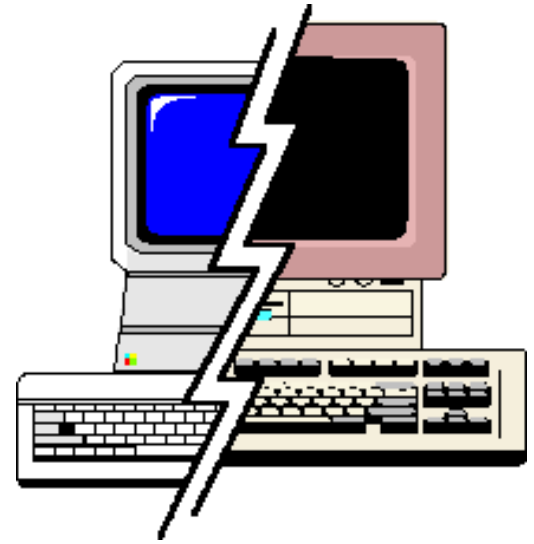
## Introduction

### Simultaneous Macintosh and DOS Networking

Your Power Macintosh 6100 DOS Compatible can have simultaneously active connections in both environments, provided different networking protocols are used. You cannot have two identical protocols running in both environments. If identical protocol support in both environments is needed, the only solution at this time is to encapsulate one protocol inside a different protocol, referred to as "tunneling". For example, there are various options to have TCP/IP active on both the Macintosh and the DOS side; they all require some form of gateway to either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the network.

### DOS Networking and Memory

If you will be using the Power Macintosh 6100 DOS Compatible networking functions, it is recommended that you maximize conventional memory by removing unnecessary device drivers and TSRs. Also, load the remaining device drivers and TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of conventional memory for its Browser to function properly.

### Windows for Workgroups: Installation Considerations

If you will be installing Windows for Workgroups 3.11, the Novell Netware client, AND TCP/IP support, install the NetWare client first, Windows for Workgroups 3.11 second, and the IP stack third.

### ODI to NDIS Translation Issues

Novell provides an ODI to NDIS translator called **ODINSUP.COM**, which is copied to the same directory as the client software. This lets ODI drivers be used in an NDIS environment. When using **ODINSUP.COM**, you must specify an interrupt in the **NET.CFG** file. Use the statement in the Link Driver section of the **NET.CFG** file: **INT 6**

Failure to do this results in the following error message:

**"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID specification. Call adapter manufacturer and request a newer MLID that preserves the PIC mask bit."**

For a complete discussion of **ODINSUP.COM** and configuration information for it, please contact Novell.

## Windows for Workgroups 3.11

If Windows for Workgroups 3.11 is to be installed, it is recommended that you become familiar with the **protocol.ini** file, which Windows for Workgroups 3.11 uses for setting up the networking environment. Without the proper entries in this file, Windows for Workgroups 3.11 networking does not function properly. The installer for Windows for Workgroups 3.11 does NOT modify the **PROTOCOL.INI** or **NET.CFG** file correctly, which means they must be manually edited. A suggested resource is the Windows for Workgroups 3.1 Resource Kit, available from Microsoft.

### MACODI

**MACODI.COM** is located on the DOS Compatibility Card Installer Disk for DOS Environment. It is important to note that the Power Macintosh 6100 DOS Compatible does not require any special settings where networking is concerned. The DOS side functions as would any DOS machine using ODI drivers. The only special consideration is to be sure the same protocols are not running in both environments unless tunneling is used.

### Binding TCP/IP protocols in NET.CFG

For any TCP/IP setup, you MUST bind IP and ARP in the **NET.CFG** file. The only notable exception to this that we know of is FTP Software's PCTCP. If the IP protocol stack you use requires RARP, you MUST bind this also. The entries that bind IP, ARP, and RARP are ALWAYS the same, unless you are binding to a frame type other than **Ethernet_II**, which is unlikely. This is the standard IP, ARP, and RARP listing that MUST be in the **NET.CFG** file for IP support:

> **Link Driver MACODI**
>> **Frame Ethernet_II**
>> **Protocol IP 800 Ethernet_II**
>> **Protocol ARP 806 Ethernet_II**
>> **Protocol RARP 8035 Ethernet_II**

As a general rule, do not add **PORT** or **INT** statements to the **NET.CFG** file. ODI drivers do not necessarily require them, and MACODI does not use interrupts. If using **odinsup.com** for NDIS compatibility, set the **INT** value to **10**.

### Example Installation and Settings Files

The following are some examples of networking configurations on the Power Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell Netware was loaded. Also note that defaults were selected in all of these scenarios,

which may not be valid for your environment. These are included as examples only. In some situations, the installer may not respond as outlined due to differences in files loaded into memory at the time of the installation. If that occurs, proceed per the software's documentation for using the software with ODI drivers. For the sake of brevity, only portions of files specific to the discussion will be listed. For further help in setting up the various networking environments, please contact the vendor of your network operating system.

## LAN WorkPlace for DOS Setup

You must have successfully installed the NetWare client software before performing this step. "Successfully" means **LSL.COM** and **MACODI.COM** are loading without errors. Make sure you do not have networking software loaded on the Macintosh that would cause a conflict, such as MacTCP. If you are going to install Windows for Workgroups 3.11, do so before performing this step. Follow these steps to load LAN WorkPlace for DOS. Again, only the steps that deviate from standard installations will be thoroughly outlined.

| STEP | ACTION |
|---|---|
| 1 | Before beginning the installation, you need to have the following information:<br><br>IP ADDRESS:<br><br>SUB-NET MASK:<br><br>DEFAULT ROUTER IP ADDRESS:<br><br>DOMAIN NAME:<br><br>DOMAIN NAME SERVER IP ADDRESS (If DNS services will be used): |
| 2 | Run the Lan WorkPlace for DOS installer, and follow the prompts. Enter the information as it is asked. Let it modify the files for you, although you will have to modify them again. |
| 3 | Edit the **NET.CFG** file. The version of LAN WorkPlace for DOS used in this example did not enter the proper values into the **Link Driver MACODI** heading of the **net.cfg** file, meaning you must enter them in manually. This is what it should read after editing it manually. Note that the addresses listed are for illustrative purposes ONLY. LAN WorkPlace for DOS enters the proper information under the **Protocol TCPIP** heading. The main concern is the **Link Driver MACODI** heading:<br><br>**NET.CFG (without Windows for Workgroups 3.11 installed)**<br><br>Link Driver MACODI<br><br>    FRAME ETHERNET 802.2<br>    FRAME ETHERNET II<br>    PROTOCOL IPX E0 ETHERNET 802.2<br>    PROTOCOL IP 800 ETHERNET II<br>    PROTOCOL ARP 806 ETHERNET II |

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| STEP | ACTION |
|---|---|
| **3 (cont)** | Link Support<br><br>    Buffers 8 1500<br>    MemPool 4096<br><br>Protocol TCPIP<br><br>    PATH SCRIPT   C:\NET\SCRIPT<br>    PATH PROFILE   C:\NET\PROFILE<br>    PATH LWP_CFG   C:\NET\HSTACC<br>    PATH TCP_CFG   C:\NET\TCP<br>    ip_router   130.43.4.1<br>    ip_netmask   255.255.255.0<br>    ip_address   130.43.4.45<br><br>**NET.CFG (with Windows for Workgroups 3.11 installed)**<br><br>Link Driver MACODI<br><br>    FRAME ETHERNET_II<br>    FRAME ETHERNET_802.2<br>    FRAME ETHERNET_802.3<br>    FRAME ETHERNET_SNAP<br><br>    PROTOCOL IPX E0 ETHERNET_802.2<br>    PROTOCOL IP 800 ETHERNET_II<br>    PROTOCOL ARP 806 ETHERNET_II<br><br>Link Support<br><br>    Buffers 8 1500<br>    MemPool 4096<br><br>Protocol TCPIP<br><br>    PATH SCRIPT   C:\NET\SCRIPT<br>    PATH PROFILE   C:\NET\PROFILE<br>    PATH LWP_CFG   C:\NET\HSTACC<br>    PATH TCP_CFG   C:\NET\TCP<br>    ip_router   130.43.4.1<br>    ip_netmask   255.255.255.0<br>    ip_address   130.43.4.45 |
| 4 | Save the NET.CFG file, restart the computer, and answer yes when it asks you if you want to load the TCP/IP software. Ping a known good address by typing:<br><br>**ping *address*** (where ***address*** is a known good IP address)<br><br>LAN WorkPlace for DOS modifies the **autoexec.bat** file by adding the following line:<br><br>**CALL C:\LANWP.BAT**<br><br>**LANWP.BAT** simply asks you if you want to load the TCP/IP transport, then loads it if you answer yes. The transport file is called **TCPIP.EXE** and is located in:<br><br>**C:\NET\BIN** |

For further help with installing LAN WorkPlace for DOS, please call Novell.

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