

INFORMATION

Support News 

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**“Get Off the Highway
and Into the Alley™”**



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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. 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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Home For The Holidays

By Diana Ezell

If you're like me and find yourself at home this holiday season with nothing much to do, you'll probably end up diving into the depths of your ever-friendly computer screen. It's a good time to play around or actually get some work done on your home system. This is a great time of year to buy and try out some new software. Maybe you'll finally get around to setting up your home office. Of course, you may also find yourself setting up systems for your friends and relatives.

If you are somehow lured in to setting up a system for someone else, try to set it up to be as trouble-free as possible. It is hard sometimes to remember that maybe installing MacsBug on your grandmother's first Performa would confuse her a little. By now, I'm sure that all of the **Information Alley** readers are aware of the dangers of too many inits (control panels and extensions) and we will all be careful of overloading our unsuspecting friends' computers with them. This is important to keep in mind, especially if they have purchased a new computer with a small amount of RAM installed.

I am always tempted in the other direction. I have a tendency to unload a lot of "useless" software from my friends' computers. While this "less is more" theory has its virtues, it is not always the best approach. Be selective in what you "clean up" for someone. If you aren't you can expect to be called in the middle of the night from your panicky relative asking why something isn't working.

I like to say that I'm going to accomplish a lot in the way of cleaning up my computer, but I always try out new games and usually end up, staying up to the wee hours of the morning getting no work done at all. When you find a moment for yourself and you're trying out some new game software, try to remember that sometimes inexpensive games aren't always as stable as they should be. You may want to startup with only the extensions required by the game (QuickTime, for example) so that it will performs to your expectations.

Some folks aren't into gaming too much. I can understand that since I usually like puzzle games over shoot-em-up games, of which there aren't that many. There are other useful ways you can use your computer during your holiday hours. Depending on how creative you are, you could "play" with your computer and use it to make your own holiday greeting cards. The great thing about this is that you will probably learn a lot more about an application by using it than by reading the manual. If there is a good tutorial, this may be the perfect time to run through it. Even if you think you already know a lot about an application, you can sometimes discover shortcuts and tips in tutorials that you might otherwise have missed.

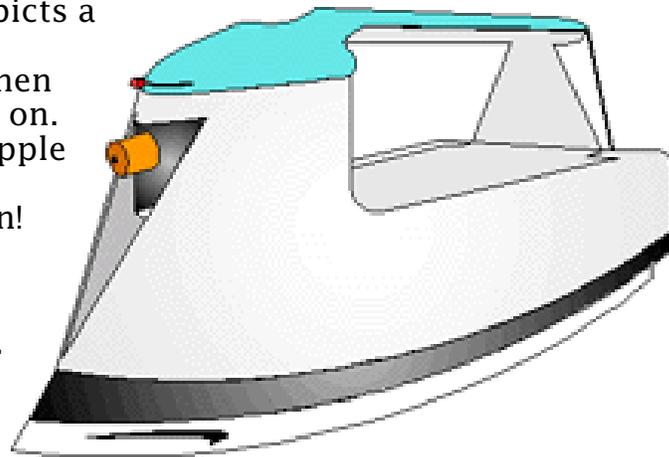
I don't want you to think that I'm encouraging you to spend every waking hour learning PageMaker and Photoshop or playing your new game into the middle of the night and ignoring your family completely. While your computer "needs" you during this time at home, your family may need some quality time too. 🍏



Can I Print An Iron-on Transfer Using My Apple Printer?

By Joe Wilson

A currently airing television commercial depicts a young boy who creates a team logo on his computer, prints to a Canon color printer, then transfers the image to a t-shirt by ironing it on. If you were wondering whether or not the Apple Color StyleWriter 2200, 2400, and Color StyleWriter Pro printers can do this, they can! Transfer papers are special purpose papers that can be used to transfer images from a printed page to another surface such as a shirt. Apple does not supply or test transfer papers on our printers, but there are third-party companies that supply products which should be compatible.



Canon sells special transfer paper for their line of MS-DOS/Windows color ink-jet printers which, due to the design similarities with the Color StyleWriter series of printers, should produce acceptable results when used with the Color StyleWriter 2200, Color StyleWriter 2400, and Color StyleWriter Pro.

Under normal conditions the inks used in the Color StyleWriter 2200, Color StyleWriter 2400, and Color StyleWriter Pro are water soluble. This makes them poor candidates for transferring images to cloth, since you would normally wash the cloth. However, Canon sells a special coated transfer paper that can be used to transfer image to fabric. In order to permanently set the water-soluble ink into the fabric, the cloth needs to be dipped into a vinegar solution using the instructions provided with the paper.

Canon's transfer paper does not require any special ink and can be ordered directly from Canon's consumer supplies group at (800) 671-1090. The Canon T-shirt Transfer Paper part number is TR101 as of the date of this publication. 🍏

Tips and Tidbits: Personal LaserWriter SC and Desktop Printing

When using the manual feed option on the Personal LaserWriter SC with desktop printing enabled, the computer crashes with a bus error. This does not happen with desktop printing disabled.

There is a conflict between the Desktop PrintMonitor and the Personal LaserWriter SC driver. This conflict occurs with both Desktop PrintMonitor versions 1.0.1 and 1.0.3. The problem is related to the method that the drivers use to communicate with the printers during certain functions. The workaround is to use the regular paper tray, and not use manual feed.

[Contributed by Bob McConachie] 🍏

A Description of the Desktop Manager and Desktop Databases Files

By Doug Korn

This article describes the history of the Desktop Manager and Desktop DB files. It also discusses the use and support of the Desktop Manager extension.

In the early days of the Macintosh operating system, new objects like icons and windows had to be stored and managed somewhere by the operating system. Information, such as the bit mapped representation of the icon picture to display, and the association of documents to the application that created them, was saved in a database. This file was called "Desktop" and was an invisible file at the top level of every floppy disk. Information was placed in this file by the action of the Finder making calls to the Desktop Manager. The Desktop Manager, in turn, made calls to the Resource Manager, creating resource items within the Desktop file.



When hard drives came into use on the Macintosh, the file system was enhanced with real folders and a hierarchical organization. This became known as the Hierarchical File System (HFS). The Desktop file maintained the same information as before, but it became much larger in size since hard drives held many more files and documents.

AppleShare File Servers added the ability for the Macintosh to share larger hard drives. The fast access needs of the file servers began to strain the capabilities of the Resource Manager to maintain the Desktop database. A new database organization was designed for use by the Desktop Manager with AppleShare 2.0.x servers. This new Desktop database consisted of two invisible files called "Desktop DB" and "Desktop DF".

These files have an index and data file, and provide much faster access to information than the original resource-based Desktop file, especially when the number of files being managed becomes very large. These files are also created at the top level of every volume over 2 Megabytes in size. Floppy disks kept the original resource based Desktop file since it is an adequate method for small volumes.

To support the new Desktop Manager, AppleShare servers needed the Desktop Manager extension. Many users who owned the AppleShare 2.0.x product also ran this extension on their client computer with System 6 to help manage their growing file systems on large hard drives. This use of the Desktop Manager extension was never a supported or approved configuration by Apple outside of the AppleShare Server environment.

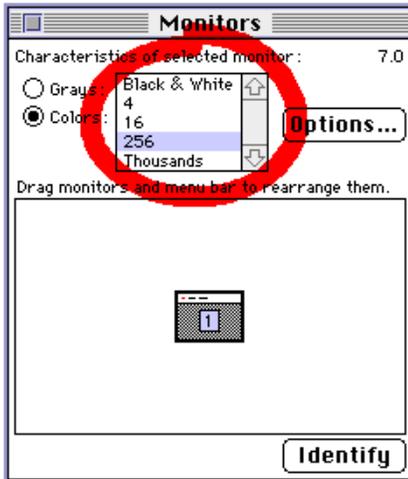
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This new dual file desktop database design was integrated into System 7 and is still in current use. In the early transition days from System 6 to System 7, many users were using the Desktop Manager extension from AppleShare with non-server computers because they found that when switching back and forth between System 6 and System 7, it would prevent a Desktop rebuild from occurring. This extension enabled the same desktop files to be shared between the two different versions of the Mac OS. This also was an untested and unsupported configuration that seemed to work for those who tried it. 🍏

Why Apple Guides Cannot be Printed

By Doug Korn



Sometimes it seems easier to read a hard copy of a document rather than trying to read it on your computer screen. However, some "documents", such as the Macintosh Apple Guide, are designed as online help systems. They were not designed to be printed on paper.

There is no way to print Apple Guides. They have no menu items associated with them because they exist in a floating palette that is independent of the frontmost application and its menu bar. That is, you can switch applications and the Guide stays on the top layer even though the menubar and application context has changed. Guides function this way so they can lead you through steps that may involve switching between multiple applications and can always be the topmost window.

You would not really want to print an Apple Guide tutorial file, since they are context-sensitive databases. Guide sequences are really tree structures describing different actions to take with several branch paths depending on the current environment. You may notice that a Guide may not lead you through the same steps to perform an action every time. This is because it detects that, maybe today, you already have the Apple Menu Items folder or Control Panels folder open and it will skip the associated steps telling you to open that folder. So one user may see a different set of steps than another user for the same action sequence.

If you were able to print the branches of the tree sequence linearly, then each page would have to tell you which page to turn to next, since many times it would not be the following page. This would not be an easy book to follow. The advantage of the Guide is that it can do this jumping for you and even skip the pages you do not need to see.

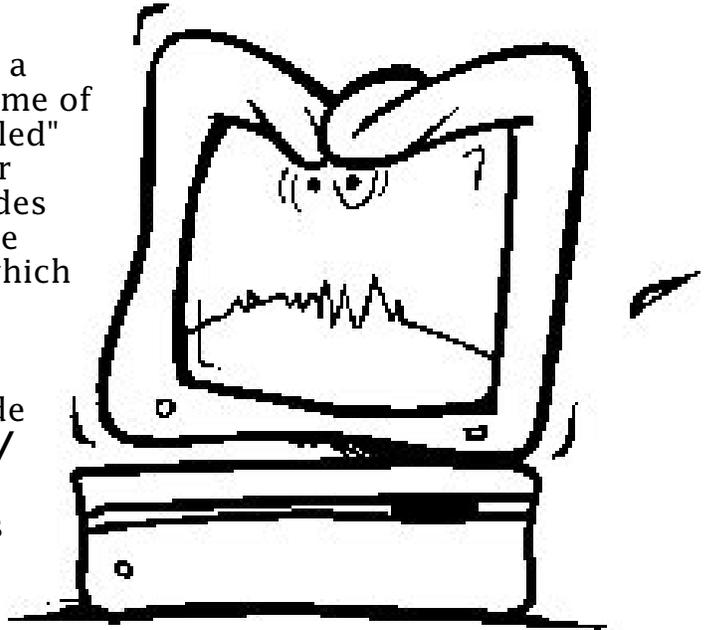
There are five classes of Guide files: Tutorial, Help, About, Shortcut Guides and Other Guide files. Tutorial, Help, and Other Guide files do not lend themselves to printing as described above. About and Shortcut Guides are simpler cases where each page is usually a stand alone piece of information with no action sequencing. These Guides usually contain a small number of Guide Panels. An About Guide might have one or two pages and a Shortcut Guide might have six to twelve pages. You could take screen shots of these types of Guides using Command-Shift-3 and open, edit and print the captured PICT files. 🍏

Type 11 & No FPU Errors on Power Macintosh

By Brian Betchel

The contents of this article are taken from a Apple Developers' Technote. It explains some of the causes of "Type 11" and "No FPU Installed" errors experienced by some users of Power Macintosh computers. The Technote includes some programmers' and developers' source code information and programming tips which have been excluded from this article. To receive a copy of the original Technote, please contact Apple Developer Services (APDA) or you can read it on the World Wide Web at <http://www.info.apple.com/dev/technotes/Main.html>.

Both Type 11 and "No FPU Installed" errors occur on Power Macintosh computers, depending on various factors. Both error messages are the result of programming errors. The "No FPU Installed" error usually means that your program is executing data rather than instructions. The Type 11 error is any error (such as a bus error) in native code.



About "No FPU Installed" Errors

On a Power Macintosh computer, the error message "No FPU Installed" usually means your code has jumped to a non-code area and is executing "garbage". In other words, somewhere in that data (which is being interpreted as instructions) is an instruction whose op code begins with the hex value F. No FPU Installed is equivalent to a Type 10 error — that is, your program has attempted to execute an unknown instruction op code starting with the hex value F.

"No FPU Installed" can mean some program has jumped to an area of data and has tried to execute any data word starting with the hex value F. The PowerPC chip has floating point support built in, but that floating-point support is different from the Motorola 680x0 family floating-point support. The Motorola 680x0 family uses an external floating-point unit. (There are also external memory management units (MMUs) and other specialized coprocessors.) Motorola 680x0 CPUs use instructions starting with hex value F as instructions for these coprocessors.

680x0 Microprocessor Instructions

All Motorola 680x0 microprocessors have instructions consisting of at least one word (the operation word); some instructions can have up to eleven words (see the Motorola MC68020 32-bit Microprocessor User's Manual, Third edition, page 3-1.) The operation word determines what kind of instruction is to be executed.

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For example, the instruction:

```
MOVE.B D1, D2
```

translates to the hexadecimal value

```
1401
```

This instruction starts with the hex value 1. The instruction

```
FMOVE.X FP3, -(A7)
```

translates to

```
F227 6980
```

This instruction starts with the hex value F.

F-line Instructions

The Motorola 680x0 architecture was originally designed to support a floating-point coprocessor chip. This chip, the Floating Point Unit (FPU), communicates with the CPU using a special set of instructions called F-line instructions. These instructions always start with an operation word beginning with the hex value F.

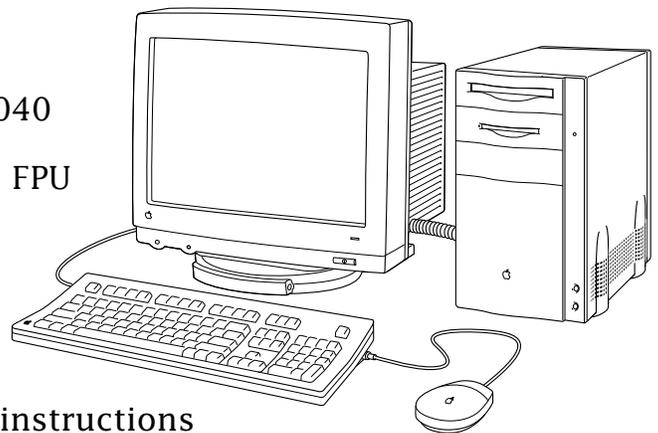
A program can be compiled to take advantage of the hardware assistance the FPU provides, and thus yield faster floating-point calculations than would be available with Standard Apple Numerics Package (SANE). Such programs would have instructions in the program which start with the hex value F. A program only using SANE would never have an instruction starting with the hex value F.

Note: Some Macintosh models, such as the Macintosh SE/30, the Macintosh IIfx, and the Macintosh IIfx, shipped with an FPU coprocessor installed. Other 680x0-based Macintosh computers, such as the Macintosh IIsi and the Macintosh Color Classic, had an optional FPU coprocessor. For these machines, it was possible to purchase an optional card with an FPU coprocessor.

68040 & 68LC040 Microprocessors

With the introduction of the 68040 and 68LC040 chips, things got a bit more complicated. The 68040 microprocessor has most of the 68882 FPU included on the chip. Not everything in the 68881/68882 FPU is in the 68040 chip, however — just the routines that Motorola determined were most frequently used. The rest of the FPU routines are automatically emulated by software. Because the FPU is "built-in," as it were, the 68040 chip handles instructions that start with an operation word beginning with the hex value F by itself. There is no way to add a coprocessor to a 68040 chip; the instructions are never brought out of the chip itself.

The 68LC040 is a cost-reduced version of the 68040 chip. Savings came about by removing the FPU portion of the chip. Not only does a 68LC040 chip have no FPU, there is no way to add one.



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The Power Macintosh

Power Macintosh computers emulate a Motorola 68LC040; that is, a machine without FPU support. When you get a bomb with the message "No FPU Installed", it means some instruction has been executed with an operation word starting with the hex value F, and that your program is running on a machine without a FPU. This machine could be one of the following:

- a Macintosh with a 68020 or 68030 microprocessor and no FPU coprocessor
- a Macintosh with a 68LC040 microprocessor (which can never have a FPU)
- a Macintosh with a PowerPC chip running 68K code in emulation (since the 68K emulator emulates a 68LC040 microprocessor).

Power Macintosh computers contain very fast floating-point support as part of the CPU. This floating-point support is different from the floating-point support provided by the Motorola 680x0 microprocessors. Inside Macintosh: PowerPC Numerics, describes Power Macintosh floating-point support.

Defining a Type 11 Error

A Type 11 error means an illegal interrupt vector on a 680x0 machine. On a Power Macintosh computer, a Type 11 error is any exception in native code not handled by one of the installed exception handlers. On a Power Macintosh, a Type 11 error can be almost any error that occurred in native code. Type 11 errors may include:

- an address error
- a bus error
- an illegal instruction error that occurred in native code

The exception handlers installed for native code do not correctly handle the particular condition which was raised, and the error is returned back to the System Error manager via the Mixed Mode manager. The System Error manager maps all such exceptions to the system error Type 11 error.

If you install Macsbug 6.5.2 or later, some Type 11 errors may be reported as a PowerPC unmapped memory exception. This is equivalent to a bus error, that is, an error indicating your program is accessing memory that doesn't exist.

The Modern Memory Manager was designed to be less forgiving than the classic (68K) Memory Manager. Disposing of something twice, disposing of memory that was never allocated, and other memory handling problems will often generate a Type 11 error, while on a 68K machine the problem may go unnoticed.

Other Situations Causing Type 11 Errors

The following sections document some of the known issues which have been observed when using various products that may cause Type 11 errors.

Color Picker vs. Third-Party SCSI Drivers

One reproducible problem stems from a known bug in several third-party SCSI hard disk drivers. The bug causes Color Picker to crash when trying to resolve a startup volume alias it makes at startup time.

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This problem exists in any system when Color Picker 2.0 or 2.0.1 is installed and the startup volume is not a removable drive. The fundamental cause of the problem is that the SCSI driver incorrectly marks the startup drive as a removable drive during the startup process and changes it to be properly marked as a fixed device after startup. To find its code, the Color Picker resolves the startup volume alias it made during startup. Since the alias passed to the Alias Manager is for a removable drive, the Alias Manager can't resolve the alias (since the device is now marked as fixed). The Color Picker design did not anticipate the startup volume not being found. This results in a Type 11 error. The fix is to upgrade your SCSI driver to a later version.

Calling a Routine That May Move Memory at Interrupt Time

The Apple Media Kit (AMK), release 1.2, created a situation that could cause random errors. During a VBL task, AMK was calling SetCCursor. SetCCursor can possibly move memory. Moving memory during interrupt time is a very bad idea. The Memory Manager may be in an unstable state, such as compacting memory, when an interrupt routine gets called. This can cause a Type 11 error in native code.

A replacement cursor.c file has been provided in the Apple Media Tool/Programming Environment Runtime folder, and we do have a replacement Runtime Maker:Codes:Program file for Apple Media Tool. If you are currently developing titles, replacing these files and rebuilding your projects will remove the bug.

Not Enough Heap Space

There are some situations where having small amounts of memory available in the system heap may lead to a Type 11 error. As an example, if the shared library manager can't load a shared library, you may get a Type 11 error. This can happen when QuickTime tries to load a decompressor for certain kinds of images.

Writing Past the End of an Array

In Open Transport 1.0.5 or earlier, there was a bug in the TCP/IP control panel code that could corrupt memory if there were more than 256 zones and a MacIP server was found in a zone past the 256th zone. Under these conditions, the control panel code wrote past the end of one of its buffers. This bug would manifest itself if the user opened the select zone dialog and the TCP/IP control panel was left open long enough for the NBP lookup calls for zones past the 256th zone to complete. This is corrected in OpenTransport 1.0.6 and later, but is given here as an example of a Type 11 error.

Insufficient Stack Space

Heavy use of local variables or recursion may cause your program to run out of stack space. When this happens, you may have crashes that are difficult to track down. Increasing your program's stack is one solution. Whenever you are using a large number of local variables or recursive routines, you should increase your program's stack (using the procedure listed in *Inside Macintosh: Memory* on page 1-40).

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As an extreme example, a faceless background application (documented in Technical Note PS 2) has only a 2K stack by default. A 68K application has 24K of stack on most modern machines (8K if no Color QuickDraw is installed, 32K if A/UX is installed). You can use the low memory accessor function LMGetDfltStack to find your current stack size. Native QuickDraw has several changes in algorithms that have increased the size of some structures. PowerPC alignment issues may cause the size of data structures to increase. Check your compiler documentation for further details.

To help detect collisions between the stack and the heap, a "stack sniffer" VBL task is installed that compares the current ends of the stack and heap and generates a system error 28 in case of a collision. Unfortunately, the Thread Manager is forced to disable the stack sniffer whenever it is installed. (This is because threads can have a stack in places where the stack sniffer doesn't expect them; if the stack sniffer is enabled, it would generate a system error 28.) This means you don't have the same level of protection as you did under older system software versions without the Thread Manager installed.

Too Much Recursion in QuickDraw

Native QuickDraw before version 2.4.1 used a recursive routine to handle regions. This recursive code could cause your stack to run into the heap when handling certain region shapes. Version 2.4.1 of QuickDraw changed to a non-recursive routine which eliminates this error. (You can detect the version of QuickDraw using the Gestalt selector 'qd' which returns a version.) In general, recursion on Power Macintosh computers is dangerous unless you have substantial stack space available; PowerPC stack frames are very large, and putting many of them on the stack may quickly exhaust available stack.

Interrupts Not Handled by Device Drivers

Some Type 11 errors may legitimately be illegal interrupt vector errors, rather than simply unhandled exceptions in native code. If a device driver for a NuBus or PCI card does not install an interrupt service routine, but the card raises an interrupt, you will receive a Type 11 error. This will happen whether you are running in 68K code or PowerPC code. The only solution for such a problem is to update the driver to correctly handle the interrupt issued by the card.

Other Programming Errors

Common programming errors may cause Type 11 or "No FPU Installed" errors. These include the same kinds of errors that usually result in address errors on 680x0-based Macintosh computers. For example:

- Indexing through an array incorrectly so that your program goes outside the memory allocated for that array (as demonstrated above)
- Disposing of memory twice
- Disposing of memory that was never allocated
- Calling DisposeHandle on a resource handle (use DisposeResource instead, to ensure that the Resource Manager doesn't lose handles behind its back)

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Troubleshooting Tips

Here are some user-level suggestions recommended by Apple about how to deal with unexplained Type 11 or "No FPU Installed" errors:

1. Upgrade your hard disk driver(s) to the latest version available. There are some known problems between SCSI Manager 4.3 and some SCSI disk drivers. Starting with System 7.5, the SCSI Manager 4.3 is installed on all Macintosh Quadras and Power Macintosh computers. There are some known programming problems in some older third-party disk drivers.
2. Upgrade to the latest System Software appropriate for your system. Several significant bug fixes in system updates should reduce the number of Type 11 and No FPU Installed errors you encounter.
3. Do a clean install of your System Software. Use the Extensions Manager control panel to determine if any additional control panels or extensions are conflicting with your system software.
4. Some Type 11 errors may result from corrupted PRAM. Unfortunately, most of extended PRAM is undocumented. (See *Inside Macintosh: Operating System Utilities*, chapter 7, Parameter RAM Utilities, for what details are documented.) You can restore your default PRAM values by holding down Command-Option-P-R at system startup time, or by using a shareware utility such as TechTool.
5. Make sure you are not using composite RAM in a Power Macintosh. Memory specifications are in the developer hardware notes for each computer.
6. Some users claim that installing the shareware extension SoftwareFPU cuts down on "No FPU Installed" problems. This extension emulates the Motorola FPU (at a considerably slower speed), thus preventing bombs from software which incorrectly makes FPU calls. This may alleviate "No FPU Installed" errors, but it doesn't address the fundamental problem, namely that some software is executing unexpected data or making illegal calls to a non-existent FPU.
7. Upgrade any software you find that causes repeatable errors.

Summary

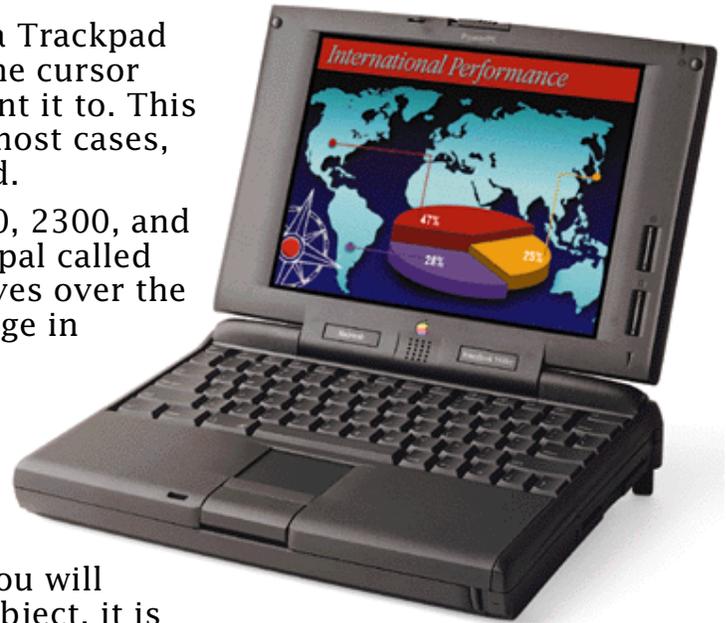
There are no easy solutions for handling Type 11 Error or "No FPU Installed" errors. Only careful debugging and testing by the programmers of the software you use can reduce the number and frequency of these errors. Most problems stem from common programming errors which you can do nothing about unless you are the programmer who wrote the software. 🍏

How to Deal with Jumpy or Erratic PowerBook Trackpad Operation

By John Heim

If you have a PowerBook computer with a Trackpad pointing device, you may have noticed the cursor jumping or moving where you do not want it to. This is not an uncommon issue, however, in most cases, there is nothing wrong with the Trackpad.

The Trackpad on the PowerBook 190, 500, 2300, and 5300 series computers works on a principal called coupling capacitance. As your finger moves over the surface, the Trackpad evaluates the change in capacitance between two layers of measurement electrodes built into the surface of the Trackpad.



Trackpad Usage Tips

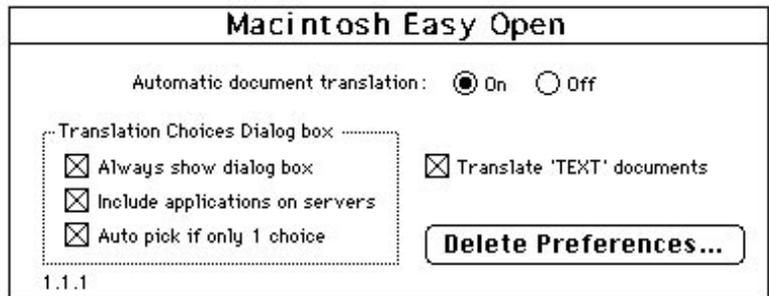
- Make sure only one part of your finger is touching the Trackpad. You will not be able to use a pen or other object, it is designed to work with your finger.
- Also make sure you are not resting your wrist on or very close to the Trackpad. The Trackpad may interpret this as your wrist touching it and make the cursor move in that direction. If you suspect either of these is causing the cursor's behavior, try raising your wrist in the air and only touch the Trackpad with the tip of your finger. If the symptom goes away then you know that one of the above is the cause and you should adjust the position of your wrist and or finger.
- Do not use hand lotion, or consider purchasing a teflon pad to protect the Trackpad from lotion. Oil or lotion can cause the same problem as touching the Trackpad in two places. Teflon pads are sold by several third-party companies. If you decide to try the teflon pad, be sure that the Trackpad is clean before installing it.
- Remove rings or bracelets to see if the jumping or erratic behavior disappears. Jewelry may also cause interference.
- Wipe off the Trackpad with a cloth or tissue. This will usually fix this problem if you have a tendency to have sweaty hands or if other moisture collects on the Trackpad. Moisture may also confuse the Trackpad.

If you find it continues to get wet you may need to obtain a teflon pad/applique to fit over the Trackpad to prevent the moisture from having direct contact with the Trackpad. Before installing the teflon applique, make sure the Trackpad is clean. You can use a mild glass cleaner sprayed onto the cloth, not onto the Trackpad itself. Contact your local authorized Apple service provider or call 1-800-SOS-APPL for more information. 🍏

Why Macintosh Easy Open Keeps Opening the Wrong Application

By Bo Elder

If you are running System 7.5, when you first attempt to open a file created by an application you do not have on your hard drive, the Macintosh Easy Open window appears. Macintosh Easy Open provides a list of applications on your hard drive from which you can select an application with which to attempt to open the file.



If you accidentally select the wrong application in the initial Macintosh Easy Open window, each successive time you attempt to open that file or other files with the same creator, the wrong application is launched. Fortunately, there a way to reset this so that the wrong application will not be launched.

After selecting the wrong application to open a particular file, you need to delete Macintosh Easy Open's preference file, or the wrong application remains associated with that file, and files that have the same creator type as that file.

To delete the preference file and rebuild the desktop, follow these steps:

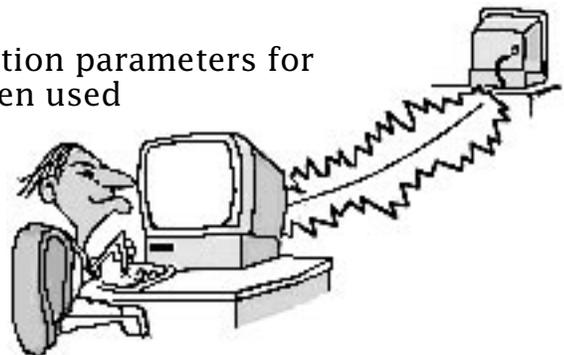
Step	Action												
1	Open the Macintosh Easy Open control panel, and click the Delete Preferences button.												
2	After deleting the preference file, you will need to rebuild your desktop file this way: <table border="1" data-bbox="282 1220 1500 1717"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Restart your Macintosh and hold down the Space Bar until the Extensions Manager control panel opens.</td> </tr> <tr> <td>b</td> <td>Use the pull down menu in the Extensions Manager to choose "All Off"</td> </tr> <tr> <td>c</td> <td>Scroll down to the Control Panels section of the Extensions Manager window and click the Macintosh Easy Open item to put a check mark by it.</td> </tr> <tr> <td>d</td> <td>Close the Extensions Manager window by clicking on the close box in the upper left corner.</td> </tr> <tr> <td>e</td> <td>Immediately hold down the Command (Apple) and Option keys until you see the dialog box, "Are you sure you want to rebuild the desktop file?" Click Okay.</td> </tr> </tbody> </table>	Step	Action	a	Restart your Macintosh and hold down the Space Bar until the Extensions Manager control panel opens.	b	Use the pull down menu in the Extensions Manager to choose "All Off"	c	Scroll down to the Control Panels section of the Extensions Manager window and click the Macintosh Easy Open item to put a check mark by it.	d	Close the Extensions Manager window by clicking on the close box in the upper left corner.	e	Immediately hold down the Command (Apple) and Option keys until you see the dialog box, "Are you sure you want to rebuild the desktop file?" Click Okay.
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3	Once you have determined everything is working normally, you can go back to the Extensions Manager and turn on all the extensions you usually use.												
4	You need to restart to have the reactivated extensions load. 🍏												

ISDN Line Ordering and Configuration Parameters

By Tyler McCandlis

This article describes ISDN ordering and configuration parameters for QuickTime Conferencing H.320/ISDN products when used with United States telephone lines.

This is a summary of the types of ISDN lines supported by phone companies. All Apple QuickTime Conferencing H.320/ISDN products work with all ISDN switch types (AT&T, Northern Telecom, and Siemens). The ISDN lines offered by your phone company may differ from region to region. You may be given an option of a custom line or National ISDN-1. If you are given a choice order the National ISDN-1 configuration.



Follow the guidelines below when ordering the specific type of line you choose, or copy this sheet and FAX it to your ISDN service provider to expedite the ordering process.

National ISDN-1

Service Type on both B-channels:

- a) Circuit-Switched Data/Voice (CSD/V)
- b) Circuit-Switched Data (CSD)

You have a choice of whether you want, or do not want voice capabilities.

- Maximum Number of B-Channels: 2
- TEI assignment: Dynamic
- Packet Mode: No
- Number of Call Appearances: 1 if you order CSD/V, otherwise none
- Terminal Type: A (Basic call terminal)
- Protocol Version Control (PVC): 2 (on Northern Telecom switches)
- EKTS: no requirement
- Optional: Order Call Forwarding Busy for both B-channels if you have ordered an ISDN line with 2 Directory (Telephone) Numbers. This forwards a call to an open B-channel if the called B-channel is in use.

Note: For 5ESS National Internet (NI) -1 lines it is possible to order a NI-1 ISDN line with only one Directory Number. This circumvents the issue of having to forward calls to an unused B-channel. For Northern Telecom DMS-100 ISDN lines (both NI-1 and Custom) you must have two Directory Numbers, therefore the call forwarding option is desired.

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AT&T Custom 5ESS (5E6, 5E7, 5E8, and 5E9)

Service Type on both B-Channels:

- a) Circuit-Switched Data/Voice (CSD/V)
- b) Circuit-Switched Data (CSD)

You have a choice of whether you want, or do not want voice capabilities.

- Phone Numbers: Single
- Line Configuration: Point-to-point
- Maximum Number of B-Channels: 2
- TEI assignment: Dynamic
- Packet Mode: No
- Number of Call Appearances: 1 if you order CSD/V, otherwise none
- Terminal Type: D if you order voice (CSD/V), otherwise A (Basic cal terminal)
- Bearer Service Restrictions: None (DMD on both channels)
- EKTS: no requirement
- One Touch: No
- Autohold: No

Northern Telecom DMS Custom (with BCS-33 through BCS-36)

Service Type on both B-Channels:

- a) Circuit-Switched Data/Voice (CSD/V)
- b) Circuit-Switched Data (CSD)

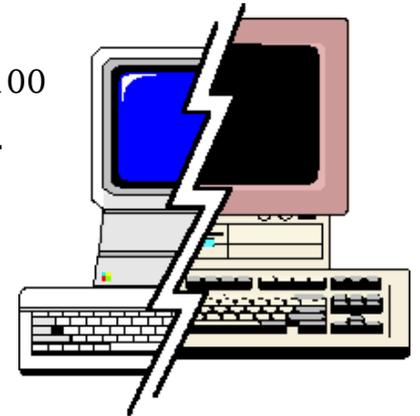
You have a choice of whether you want, or do not want voice capabilities.

- Telephone Numbers: 2 (with SPIDs)
- TEI assignment: Dynamic
- Terminal Type: A (Basic call terminal)
- Bearer Service Restrictions: None
- Ringer Indicator: Yes
- EKTS: no requirement
- Authorized Call Types: CMD. 🍏

Sharing an MS-DOS Volume Between Power Macintosh DOS Computers

By Alex Le

It is possible for a Macintosh folder on a Power Macintosh 6100 DOS Compatible computer to be used as a shared MS-DOS volume and be seen as a shared DOS Drive on another Power Macintosh 6100 DOS Compatible computer.



Follow the steps below to mount a shared DOS volume.

Step	Action
1	Create a folder on the desktop of the source Power Macintosh 6100 DOS Compatible computer, and map the folder to a drive letter using the Sharing option in the PC Setup control panel.
2	Share the folder created in Step 1 using Macintosh personal file sharing, on the network. Also be sure your Users & Groups control panel has either the shared user, or everyone setup so the destination Macintosh can access the folder.
3	Mount the shared folder on the destination Power Macintosh 6100 DOS Compatible.
4	Map this shared folder, from Step 3, to a drive letter with the Sharing option of PC Setup control panel.
5	The same folder is now seen as a mounted drive in the respective DOS environments. 🍏

Tips and Tidbits: What Is MacIPX and How To Obtain It

MacIPX is a control panel that lets a Macintosh computer use Internet Packet Exchange (IPX) services, a Novell defined protocol. MacIPX is not an Apple product, as is commonly thought. It is a Novell product.

If a user needs support or upgrade information for MacIPX, they need to contact the vendor from whom they received MacIPX. For example, Claris has licensed MacIPX from Novell for use with some of its FileMaker database products; because Claris ships MacIPX then a user should contact Claris for MacIPX support related to FileMaker.

Another example might be if a user gets MacIPX from Novell as part of NetWare file services, then they should contact Novell for support. [Contributed by Greg Rhein] 🍏

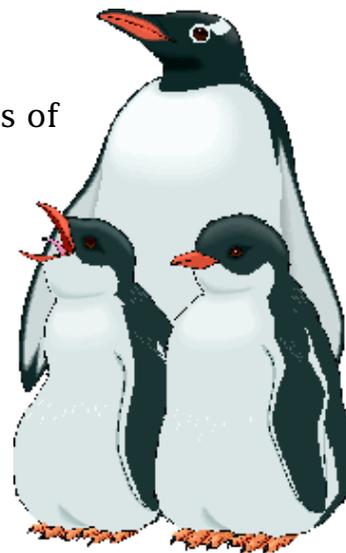
WiggleWorks Story Line Input Limit

By Greg Hampton

You may find that when you try to type more than three lines of text in the Birds on Stage section of the WiggleWorks program, your computer beeps instead of accepting any more characters.

The guide included with the WiggleWorks CD-ROM disc incorrectly states that you can enter up to eight lines of text. The limit is, in fact, 256 characters. There is no dialog or error message stating that this limit has been exceeded, only a system beep response as you continue to type on the keyboard.

There is no way to type beyond the 256 character limit. 🍏



CPU Energy Saver Cannot Shut Down Computer From At Ease Panels



By Sheree Shipp

You may find it convenient to set the CPU Energy Saver control panel on all the computers in your computer lab or office to shut down when a machine has been idle for a certain length of time. If some of your computers are running At Ease, you will find that the CPU Energy Saver starts counting down at the appropriate time, but the computers do not shutdown.

The CPU Energy Saver cannot shut the computer down when it is at the At Ease login screen or At Ease panels. It does the countdown, but the computer remains powered on. However, if you are in the Finder or Restricted Finder of At Ease, the computer will shut down.

Using the Auto Power On/Off control panel, you can shut down your computer even when you are in the At Ease panels. This control panel may be a better option than the CPU Energy Saver in an At Ease-based computer lab situation because you have little control over which screens will be left open on each computer.

More information about Apple's energy saving control panels can be found online in Apple's Tech Info Library. Use the search string "energy saver and ktable" to locate the TIL article "Energy Saving Control Panels: Description and Compatibility" to determine which energy saving control panels are right for your computers. 🍏

AppleVision 1710AV Display Icons Rearranging On Restart

By Brian Fant & Conrad Klahn

If you have an AppleVision 1710AV display you may notice that on startup or restart the desktop automatically rearranges all of the icons on the desktop in alphabetical order on the right side of the screen. It acts as if you had chosen the "Clean up all" command from the Special menu.

Leaving a Finder window open in icon view before restarting or shutting down, alphabetically rearranges the icons in that window, instead of on the desktop.

Apple is aware of this issue and some workarounds have been developed to address it. Try one of the following workarounds to prevent the icons from rearranging on your desktop:

Workarounds

System 7.5

- Create a new empty folder in the Shutdown Items folder (in the System Folder). When the computer is shutdown, the folder will open. At startup the Finder tries to rearrange the contents of the empty folder, not the icons on the desktop.*

System 7.5 or Earlier System Software

- Leave a Finder window open before restarting or shutting down. The icons in that window will be rearranged, instead of the ones on the desktop.*
- Use a sense code adapter. Doing this would force the Macintosh computer to recognize the AppleVision 1710AV display as a monitor with only one available resolution. For example, an adapter could be used to make the computer believe that the AppleVision 1710AV display was a 21-inch RGB display. You cannot switch resolutions unless the adapter you are using supports this feature.

Note: * If you have any external volumes (hard drive, server, or other) that automatically mounts at startup, you will need to leave an empty open folder on the last mounting volume. If other volumes mount at startup after the empty window opens, the window will move to the background and will not prevent reorganization. 🍏

New Apple Software Updates Posted Online

Contributed by Sonia Siegmund

The following Apple software update has recently been released and posted on America Online, AppleLink, Compuserve, eWorld, and Apple's Internet sites:

- 7.5.2 Printing Update 1.1 – Fixes printing problems that may occur on Power Macintosh 7200, 7500, 8500, and 9500 computers using System 7.5.2. Includes SerialDMA, 7.5.2 Printing Fix, and LaserWriter 8. For complete information, please see the Read Me included in this archive. Without these fixes, your computer may freeze or never complete printing when you send a print job to a busy network printer. It may be necessary to restart your computer or cancel the print job. 🍏

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