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PowerBook: Miscellaneous Frequently Asked Questions (2/97)

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TOPIC -----

This document contains the answers to frequently asked questions (FAQ) about miscellaneous topics concerning Macintosh PowerBook computers.

DISCUSSION -----

- 1) It has been determined that my PowerBook has a hardware problem and needs service. What are my service options?
- 2) How does Apple's PowerBook service mail-in program work?
- 3) Can I use my PowerBook on an airplane?
- 4) Are the airport X-ray machines dangerous to my computer?
- 5) What are the differences between active and passive-matrix displays? Which PowerBooks have which?
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- 7) When I am using the PowerBook with an external monitor can I close the display on the PowerBook?
- 8) Do I need a screen saver on my PowerBook?
- 9) What are the differences in PowerBook SCSI cables from Apple?
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- 11) I'm trying to connect my PowerBook as an external hard drive (SCSI Disk Mode) to another Macintosh. When I turn on my PowerBook, I get a flashing

question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

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DISCUSSION -----

1) Question: It has been determined that my PowerBook has a hardware problem and needs service. What are my service options?

Answer: You can contact the Apple Assistance Center at 800-SOS-APPL (800-767-2775) to arrange for repair at our repair center or you can contact the Apple Referral Center at 800-538-9696 to obtain a phone number for an Apple-authorized service provider in your area. Note that the Apple Assistance Center may wish to perform further troubleshooting, so you should have your PowerBook with you when you call.

2) Question: How does Apple's PowerBook service mail-in program work?

Answer: If the technical support representative at the Apple Assistance Center (800-767-2775) determines that there is a hardware problem with the PowerBook, Apple will have Airborne Express pick up the PowerBook the next business day. The fixed PowerBook will usually return within 2-3 business days. For example, if you call 800-SOS-APPL on a Monday, the PowerBook will be picked up on Tuesday, and will usually be back by Thursday or Friday. As long as the PowerBook is covered under warranty, the entire repair process is provided at no cost. If the PowerBook is not under warranty, shipping, labor, and parts costs will apply.

3) Question: Can I use my PowerBook on an airplane?

Answer: It is best to check with your airline to find out specific rules for your flight. Airline pilots have reported instrument interference from electronic devices used on airplanes. Be aware that if the PowerBook is moved or bumped while the hard drive is spinning, the hard drive can be damaged resulting in lost data.

4) Question: Are the airport X-ray machines dangerous to my computer?

Answer: The X-rays emitted from the machine are not at all dangerous to the computer. However, the metal rollers below the conveyor belt emit a magnetic field that could damage the data on the hard drive if the shielding is not adequate. We have never heard of a report of this being a problem in the United States, but in under-developed countries you might want to ask that the PowerBook be hand checked. Usually a security guard will require you to demonstrate that the computer is functional, so it is a good idea to have the PowerBook in sleep mode to make it quick.

You should be aware that the metal detecting batons used by some security guards emit a very strong, unshielded, magnetic field. You should avoid getting the computer and any magnetic media, such as floppy disks, near these devices.

5) Question: What are the differences between active and passive-matrix displays? Which PowerBooks have which?

Answer: Passive-matrix screens apply the electric field voltages along the edges of the screen, so that pixels appear light and dark at the intersection of rows and columns. Each pixel is passively responding to voltage differences applied along the horizontal and vertical edges of the screen. It is difficult to get a large number of crystals to line up quickly, and completely. So passive-matrix screens are relatively slow and provide less precise definition.

Active-matrix screens use a single transistor at every single pixel location. This provides a good strong source of electric field, and it only has to act on a very tiny region of liquid crystals. So they are quite fast and every crystal in a pixel is lined up perfectly.

The merits of the passive screen are lower cost and lower power usage. But the angle at which you can view the screen undistorted is smaller than for an active-matrix screen. Also, a passive-matrix screen is not as bright as its active-matrix counterpart.

You may experience submarining on a passive-matrix screen, meaning the pointer tends to disappear momentarily when you move it quickly across the screen until it catches up with the trackball. You may also notice speed trails, or shadowy, comet-like trails following the pointer or other objects you drag around the screen. They disappear as quickly as they appear, but some users find them distracting. Gray-scale passive-matrix screens are particular susceptible to these anomalies.

An active-matrix screen is brighter and provides better definition. The screen

is also less likely to distort when viewed at more extreme angles.

PowerBook computers with active-matrix screens:

170, 180, 180c, 250, 270c, 280, 280c, 540, 540c, 5300c, 5300ce, 2300c

PowerBook computers with passive-matrix screens:

100, 140, 145, 145B, 150, 160, 165, 165c, 190, 190cs, 210, 230, 520, 520c, 5300, 5300cs

6) Question: Should I always use the feet on the PowerBook computer?

Answer: Heat is dissipated through the bottom of the PowerBook and through the keyboard. If the feet are not used while the PowerBook is in use, it is possible that the PowerBook will overheat and shut off or even damage the hardware inside the computer. We recommend that you always use the elevation feet when using the PowerBook.

7) Question: When I am using the PowerBook with an external monitor can I close the display on the PowerBook?

Answer: As discussed above, heat is dissipated through the bottom of the PowerBook and through the keyboard. If the PowerBook display is active and the display is closed, it is possible that enough heat will be generated that the display will distort or warp. We recommend that you leave the display open by at least 1" for heat dissipation.

It is possible to use 200, 2300, 190, and 5300 series PowerBook computers in a mode that does not require the display to be open. To use the PowerBook computer in this mode, follow these steps.

Step 1

Connect the monitor to the PowerBook while the PowerBook computer is off.

Step 2

Close the display on the PowerBook computer.

Step 3

Using an external keyboard, press the power button. If you are not using an external keyboard, press the power button on the PowerBook computer's keyboard and quickly close the PowerBook computer's display.

Step 4

The computer will then start up as if the external monitor is the only display and the PowerBook display will not be active. Because the PowerBook display is not generating any heat, there is no danger of the display distorting if you leave it closed.

8) Question: Do I need a screen saver on my PowerBook?

Answer: Screen savers are generally for entertainment purposes and do not serve any protective function for PowerBook displays or the Cathode Ray Tube (CRT)-type monitors used with most desktop computers. However, if a PowerBook computer's screen is left on with the same image for several weeks, it is possible that the image will "burn" into the screen. Do not leave for a lengthy vacation and forget to turn your PowerBook off.

9) Question: What are the differences in the two PowerBook Small Computer Systems Interface (SCSI) cables made by Apple?

Answer: There are two PowerBook SCSI cables available from Apple:

The HDI-30 SCSI System Cable (M2538LL/A) - This cable is for attaching SCSI devices such as CD-ROM drives, Syquest drives, and scanners to the PowerBook computer.

The HDI-30 SCSI Disk Adapter Cable (M2539LL/A) - This cable is used to connect the PowerBook computer as a SCSI device to another Macintosh computer.

10) Question: I am trying to connect a SCSI device to my PowerBook computer. However, when I start up the PowerBook computer, a diamond icon with a number in the middle of it appears on my screen.

Answer: You are most likely using the wrong SCSI cable. You should be using the HDI-30 SCSI System Cable (M2538LL/A), which is a light gray color and only has 29 pins (there is a pin missing). You are probably using the HDI-30 SCSI Disk Adapter cable (M2539LL/A) which is dark gray and has all 30 pins. The HDI-30 SCSI Disk Adapter cable puts the PowerBook computer into SCSI disk mode allowing it to be attached to a desktop computer as a SCSI device and resulting in the diamond icon with the SCSI ID number in the middle appearing on the screen.

11) Question: I am trying to connect my PowerBook computer as an external hard drive (SCSI Disk Mode) to another Macintosh computer. When I turn on my PowerBook computer, I get a flashing question mark or a "Sad Mac" instead of the diamond icon with a SCSI ID number.

Answer: You may have the wrong cable. Use the Apple HDI-30 SCSI disk adapter cable, part number M2539LL/A, in conjunction with an Apple SCSI System Cable appropriate to your other Macintosh along with proper SCSI termination.

12) Question: What is SCSI disk mode?

Answer: SCSI disk mode is a method of connecting a capable PowerBook computer to another Macintosh computer so that it is accessed as if it were an external hard drive. This method can be preferable to file sharing because it is somewhat easier, and much faster.

13) Question: Which PowerBook computer models can accomplish SCSI disk mode?

Answer: The SCSI disk mode feature exists on all PowerBook computer models except the PowerBook 140, 145, 145B, 150, and 170 computers. The PowerBook 200 and 2300 series computers require a MiniDock to accomplish SCSI disk mode.

14) Question: What are the instructions for connecting a PowerBook computer in SCSI disk mode?

Answer:

Step 1

Make sure you have a PowerBook computer that is capable of SCSI disk mode and the HDI-30 SCSI Disk Adapter cable (M2539LL/A). You will also need an Apple terminator (M3503LL/A) and a SCSI system cable (M0206, or M2538LL/A if the other computer is a PowerBook).

Step 2

Use the PowerBook or PowerBook Setup control panel to set the PowerBook to a SCSI ID not currently in use on the SCSI chain of the other Macintosh.

Step 3

Shut down both computers.

Step 4

Connect the HDI-30 cable to the back of the PowerBook computer. Connect the terminator to the end of the HDI-30 cable. Connect the HDI-30 cable with terminator to the last SCSI device on the chain, if any. If you do not have any other external SCSI devices, connect the HDI-30 cable with terminator to the SCSI system cable, then connect the SCSI system cable to the back of the other Macintosh computer.

Your setup should look like this:

PowerBook -> HDI-30 SCSI Disk Adapter cable -> Terminator -> External SCSI chain
if there is one -> SCSI system cable -> Other Macintosh computer

Step 5

Turn on the PowerBook computer. After a moment you should see a SCSI symbol (diamond with the SCSI ID number in the middle) on the screen. If you have a 500 series PowerBook computer you may not see this icon until after the next step.

Step 6

Turn on the other Macintosh computer. After starting up, the PowerBook

computer's hard drive should appear on the desktop.

You can then transfer files back and forth as if the PowerBook computer were an external hard drive.

15) Question: Which PowerBook computer models can use an external monitor?

Answer: External video can be accomplished on all PowerBook computer models except the PowerBook 100, 140, 145, 145B, 150, and 170. The PowerBook 200 and 2300 series computers require a MiniDock or Duo Dock to use external monitors. External video on the PowerBook 190 computer is optional and can be upgraded after purchase.

16) Question: What should I use to clean the PowerBook computer?

Answer: Clean the computer's outside surfaces with a damp (not wet) cloth. Clean the screen with soft, lint-free paper or cloth and a mild glass cleaner. Do not spray the glass cleaner directly onto the screen. Sometimes humidity or condensation may cause moisture to gather on the trackpad (if your PowerBook model has a trackpad). If this happens, gently wipe the trackpad with a clean cloth before you use it.

To clean the trackball assembly, follow these steps:

Step 1

Remove the trackball retaining ring by turning it counterclockwise until it pops out (about 1/4 turn). You don't need tools for this, you can just press against the two small ridges on the ring with your fingernails.

Step 2

Lift the retaining ring and trackball out of its cavity.

Step 3

Locate the small rubber rollers at the left and bottom sides of the trackball cavity. Depending on your model, they may look like small rings or wheels.

Step 4

Use any reasonably clean, blunt object (such as your finger or a cotton swab) to wipe off the rollers. Do not use any liquid, including any amount of cleaning fluid or water, inside the computer.

Step 5

Locate the three white or red bearings located at approximately clockwise 4:00, 7:00, and 11:00 in all PowerBooks except the PowerBook 100, which has three black posts instead of bearings. Using a fingertip, dry cotton swab, or other blunt object, clean them of any debris.

Step 6

Replace the trackball and the retaining ring.

17) Question: Sometimes I cannot seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook computer models that have only one serial port (190, 200, 500, 2300, and 5300 series), the serial port is mapped as a modem port. Under normal conditions this is not a problem - the internal modem can be used at the same time as a serial device such as a printer is being used.

The exception to this is if you are using a communications program that does not use the Apple Communications Toolbox (CTB). If this is the case, you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to Internal, Compatible, or "Use internal modem instead of modem port". The location of this setting will depend on what version of the modem and system software you have. When the PowerBook computer is set like this, the serial port cannot be used with serial devices. However, it can be used with LocalTalk devices.

The vast majority of communications programs that are developed for Macintosh right now will use the CTB. If you find that you have an older communications program, contact the manufacturer to see if there is an update.

18) Question: Sometimes I get errors when printing to my StyleWriter (or any serial printer). Why is this?

Answer: As discussed in the previous question, a PowerBook computers with a single serial port (190, 200, 500, 2300, and 5300 series) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook computers:

- AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.
- If you have an internal modem you will need to respectively set the PowerBook, PowerBook Setup, or Express Modem control panel to External, Normal, or uncheck "Use internal modem instead of modem port" (see above). The location of this setting will depend on what version of the modem and system software you have.
- When selecting the serial printer in the Chooser, you must select the modem port or the combined printer/modem port. Do not select the printer port.

19) Question: Is it safe to move my PowerBook computer while it is on?

Answer: If the hard drive is spinning and there is a jolt to the computer, the head can crash into the platter and cause the hard drive to be damaged. This is not likely to happen while, say, walking your PowerBook computer from the

kitchen to the living room. It is not suggested that you use the PowerBook computer in a truck traveling over a dirt road or other instances where jarring or bumping could occur.

In general, it is okay to transport PowerBook computers while they are asleep. When moving a sleeping computer, there is a slight danger of accidentally hitting a key that would wake up the computer and also power-up the hard disk. Make sure that your PowerBook computer is solidly closed so it cannot accidentally start up.

20) Question: Can I install a hard drive from my PowerBook 180c into my PowerBook 230 (Duo)?

Answer: No, all PowerBook 200 and 2300 series computers require a hard drive with a height of 17 millimeters (mm). All other PowerBook computers require a hard drive with a height of 19 mm.

Attempting to put a taller 19 mm hard drive into a PowerBook 200 or 2300 series computer will not work because the drive is physically too tall.

All PowerBook computers, except the 200 and 2300 series (Duos), can operate with either height drive, however they come with a 19 mm height hard drive. If you replace a hard drive with a different (shorter) height one it will require a different hard drive bracket. Apple does not offer any special brackets for swapping hard drives.

If you want to remove a hard drive from a PowerBook computer and install it in an external case, there are third party vendors that offer kits including cables and a power supply. Apple does not offer any such kits.

21) Question: Where else can I go for answers about PowerBook computers?

Answer: If you have not done so already, check the other PowerBook-related FAQ documents in Apple's Technical Information Library (TIL). This library is located on the Internet at <<http://til.info.apple.com/>> This is Apple's official tech support library and contains thousands of technical articles.

22) Where I can get the latest Apple software updates online for my PowerBook?

- On the Internet at the following sites:
 - Worldwide Web: <http://www.info.apple.com/swupdates>
 - ftp:
ftp://ftp.info.apple.com/Apple_Support_Area/Apple_SW_Updates/US/Macintosh/PowerBook/
- On America Online, use keyword: applecomputer
- On CompuServe, use GO: APLSUP

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