Tech Info Library

PowerBook 200 series: Frequently Asked Questions (11/95)

Article Created: 20 July 1995
Article Reviewed/Updated: 28 November 1995

TOPIC ---

This document contains the answers to the following frequently asked questions (FAQ) about PowerBook (Duo) 200 series computers.

1) What is a PowerBook Duo?

2) Do I need to buy a dock?

3) What are the differences in the different Duo Docks that Apple has sold?

4) I have an Apple Multiple Scan 17" monitor connected to an original Duo Dock but the only resolution I'm getting is 640x480. What's going on?

5) My external monitor is not displaying an image when I start up my PowerBook.

6) Before connecting a MiniDock, should the PowerBook be on, off, or sleeping?

7) My PowerBook display is blurry or sometimes has shadowing and ghosting effects. What can I do to correct this?

8) Sometimes when using my PowerBook in a Duo Dock, the mouse will freeze even though the system is still working. I know the system is still working because I can see the clock in the corner ticking away. How can I fix this?

9) I just bought a Duo Dock with an internal hard drive. When I tried to start up my PowerBook in the dock, I got a flashing question mark on the screen, yet the PowerBook starts up fine on its own. Why is this?

10) When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

11) Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

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

13) I am upgrading my PowerBook 200 series computer with Express Modem to System 7.5. What version of the Express Modem software should I be using?

14) Do I need the Duo Battery Patch?

15) I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number appears on my screen.

16) I'm trying to connect my Duo 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.

17) Are current dock products, modems, and RAM compatible with a PowerBook 200 series computer upgraded to PowerPC?

18) Where else can I go for answers?

DISCUSSION ---

1) Question: What is a PowerBook Duo?

Answer: A PowerBook Duo is Apple's smallest and lightest PowerBook computer. Unlike most other PowerBooks, it has no floppy disk drive, no SCSI port, no external video out port, no audio in or out ports, and no ADB port for external mice or keyboards. It does have a serial port, phone jack (with internal modem), and a 152-pin 32-bit PDS (processor direct slot) in the back.

The PDS allows docks to connect directly to the PowerBook Duo's logic board. These adapters let you add further expansion to the Duo - something you can't do with any other PowerBook. You can add Ethernet, video output, SCSI, PCMCIA, more serial ports, audio in/out, and more.

The beauty of a PowerBook Duo is that it allows the user the freedom of using the same computer in functionally different environments. You might have a Duo Dock II at home with a 17" monitor, a printer, and several SCSI devices connected, allowing you to use the computer just like any other desktop Macintosh. When it's time to go to the office/library/park, you simply eject the PowerBook from the dock, and you have the same processing power in a ~5 pound computer the size of a textbook.

2) Question: Do I need to buy a dock?

Answer: No. If you live or work in an environment where you have networked access to other computers, you can always install software via a "net install." The only time you will absolutely need a floppy disk drive is if a system file gets corrupted and the computer will not start up. Then you will need a floppy disk drive to start the computer from a Disk Tools disk. But even in this situation, an Apple dealer can restore the system for a fee.

If you regularly use SCSI devices, multiple serial devices, external monitors, external ADB devices, and audio devices, then you will probably want to get a

MiniDock or a full Duo Dock to compliment your PowerBook Duo.

3) Question: What are the differences in the different Duo Docks that Apple has sold?

Answer: There have been three implementations of the full Duo Dock from Apple: the Duo Dock, Duo Dock II, and Duo Dock Plus. As of this writing, the Duo Dock II and Duo Dock Plus are the only full dock products available from Apple. All three versions can potentially have 1 MB of VRAM, an internal SCSI hard drive, and all versions have the same expansion ports - video, audio in/out, ADB, SCSI (HDI-30), two serial ports, two NuBus slots, and a phone jack for the modem.

The Duo Dock Plus and Duo Dock II come with 1 MB of VRAM standard. The original Duo Dock came with 512k VRAM soldered but can be upgraded to 1 MB by installing a 512k VRAM SIMM.

The Duo Dock II comes standard with a 32k RAM cache and a math coprocessor (FPU) installed, an FPU can be added to the original Duo Dock. An FPU is not an option on the Duo Dock Plus. Note that the PowerBook Duo 280 and 280c cannot take advantage of an FPU in any Duo Dock or the 32k RAM cache in the Duo Dock II because they use the 68LC040 processor. The Duo Dock II and Duo Dock Plus can support screen sizes up to 1024x768 at 256 colors while the original Duo Dock (even with 1 MB of VRAM) can only support up to 832x624 at 256 colors.

4) Question: I have an Apple Multiple Scan 17" monitor connected to an original Duo Dock but the only resolution I'm getting is 640x480. What's going on?

Answer: The Apple Multiple Scan monitors can only switch screen resolutions on the fly on the original Duo Dock if System 7.5 (or later) is installed. A display adapter is available from Enhance Cable Technologies that will "trick" the Duo Dock into using the 832x624 screen size, but this size will still be fixed, i.e. the adapter would need to be removed to go back to 640x480. The Duo Dock II and Duo Dock Plus can switch resolutions regardless of which operating system they are running and do not need any display adapter.

5) Question: My external monitor is not displaying an image when I start up my PowerBook.

Answer: Follow this procedure:

Step 1

Shut down the PowerBook.

Step 2

Make sure the video cable connected to both the PowerBook video port and the Monitor video port is secure.

Step 3

Make sure the PowerBook is plugged into the AC Adapter, which is required to use
an external monitor.

Step 4

Start up the PowerBook and open the Monitors control panel. You should see
images of two monitors, representing the PowerBook display and the external
monitor. If you don't see the image of the external monitor, repeat steps 1 and
2.

Step 5

In the Monitors control panel, click (and hold) the "Identify" button. A large 2
should be displayed on the external monitor icon.

Tip: If you wish to use the external monitor as your primary monitor, open the
Monitors control panel and drag the menu bar from the top of the internal
display (labeled 1) to the top of the external monitor (labeled 2).

6) Question: Before connecting a MiniDock, should the PowerBook be on, off, or
sleeping?

Answer: Do not try to connect the MiniDock to the PowerBook while the PowerBook
is on. At best the PowerBook will shut off, at worst you will damage the logic
board.

The PowerBook can be in sleep mode if you are connecting to a MiniDock with
serial, ADB, audio, or modem connections.

The PowerBook should be off if you are connecting to a MiniDock with SCSI
devices or a monitor connected.

7) Question: My PowerBook display is blurry or sometimes has shadowing and
ghosting effects. What can I do to correct this?

Answer: The technology used on the passive-matrix displays is susceptible to
shadowing and ghosting, since it does not individually address each pixel on
the display. Gray-scale passive-matrix displays are particularly susceptible to
the symptoms. The PowerBook 100, 140, 145, 145B, 150, 160, 165, 210, 230, 520,
190, and 5300/100 all use a gray-scale passive-matrix display.

Some suggestions to reduce the effects of the shadowing:

* Adjust the brightness and contrast settings of the display. Usually a lighter
contrast setting will look better.

* Use a darker desktop pattern. The effects of the shadowing will not be as
apparent with the darker background.

* Open the Monitors control panel and select "Black & White" instead of 16

Shades of Gray.

Although these tips can help mitigate the effects of the shadowing, some amount of screen anomalies will always be present.

8) Question: Sometimes when using my PowerBook in a Duo Dock, the mouse will freeze even though the system is still working. I know the system is still working because I can see the clock in the corner ticking away. How can I fix this?

Answer: Older PowerBook models had an issue with ADB devices cutting out when connected to a Duo Dock. If you are using System 7.1, make sure you have the PowerBook Duo Enabler v1.0 installed in the System Folder to correct the problem, this enabler is installed by the System Update 3.0. System software versions after 7.1 do not have this problem.

9) Question: I just bought a Duo Dock with an internal hard drive. When I tried to start up my PowerBook in the dock, I got a flashing question mark on the screen, yet the PowerBook starts up fine on its own. Why is this?

Answer: The version of the hard drive driver on the Duo Dock hard drive is having a conflict with the hard drive driver on the PowerBook hard drive. As a temporary fix you can hold down the Command (Apple) key while the computer is starting up to force it to boot correctly. The permanent fix is to update both drivers to the same version using a recent (System 7.1.1 or later) Disk Tools disk.

10) Question: When starting up, my PowerBook with Express Modem displays the Fax Modem extension icon with an "X" through it. I can't use my modem to send a fax. What's wrong?

Answer: Open the Preferences folder inside your System Folder and trash the Fax Preferences file, empty the Trash, and restart your PowerBook. The Fax Preferences file can be corrupted due to a system error or screen freeze, disabling the Fax Modem extension as a result.

11) Question: Sometimes I can't seem to use my internal modem and print at the same time. Why is this?

Answer: On most PowerBook models that have only one serial port (200's, 2300's, 190's, 5300's), the serial port is mapped as a modem port. Under normal conditions this isn't 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 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's an update.

12) 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 with a single serial port (200's, 2300's, 190's, 5300's) introduces some variables to serial printing. Three things must be true to print to a serial printer with a single serial port PowerBook:

Step 1

AppleTalk must be set to inactive in the Chooser or something other than LocalTalk must be selected in the Network control panel.

Step 2

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.

Step 3

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.

13) Question: I am upgrading my PowerBook 200 series computer with Express Modem to System 7.5. What version of the Express Modem software should I be using?

Answer: You should upgrade your Express Modem software to at least version 1.5.3. Earlier versions may not work properly with System 7.5.

14) Question: Do I need the Duo Battery Patch?

Answer: The Duo Battery Patch should be installed on any PowerBook Duo 210, 230, or 250 that is using PowerBook Duo Enabler 1.0, and has an Express Modem installed. This is the only configuration of PowerBook Duo which receives any benefit from the presence of the Duo Battery Patch. System software versions 7.1.1 and later do not require the patch.

15) Question: I am trying to connect a SCSI device to my PowerBook. However, when I start up the PowerBook, a diamond icon with a number 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 most likely using the HDI-30 SCSI Disk
Adapter cable (M2539LL/A) which is dark gray and has all 30 pins.

16) Question: I'm trying to connect my Duo 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.

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.

17) Question: Why does my trackball appears to "stick" or "jump" when rolled? I
tried to clean it but it is not smooth.

Answer: Most PowerBook trackball problems are due to contamination of the
rollers. The trackball is just like the standard Apple mouse in that dust and
debris can accumulate on the rollers and impede smooth movement of the
trackball.

Symptoms of a Dirty Trackball
============================

Symptoms that your trackball is dirty are:

* The trackball appears to "stick" or "jump" when rolled.
* The cursor will not track horizontally or vertically.
* It sometimes seems like the cursor is "hitting a wall."
* The movement of the cursor on the screen isn't smooth.
* The trackball is physically difficult to roll.

How to Clean the Trackball
=========================

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 bearings located at approximately clockwise 4:00, 7:00, and 11:00. 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: Are current dock products, modems, and RAM compatible with a PowerBook 200 series computer upgraded to PowerPC?

Answer: Most, if not all docking products, internal modems, and RAM used with a PowerBook 200 series should still be compatible after the PowerPC 603e upgrade. All Apple products are. Check with the vendor of third-party products to be sure.

18) Question: Where else can I go for answers?

Answer: If you haven't done so already, check the other PowerBook FAQ documents. Also, depending on where you found this FAQ, you should have access to Apple's Technical Information Library (TIL). This library contains thousands of technical articles which are easily searchable using boolean search strings.

Article Change History:
28 Nov 1995 - Entire article rewritten to be up to date.

Support Information Services

Copyright 1995, Apple Computer, Inc.

Keywords: supt,kpbook,kfaq,ktoptil

==

This information is from the Apple Technical Information Library.

ArticleID: TECHINFO-0018221

19970218 12:34:27.00

Tech Info Library Article Number: 18221