

Update Firmware Before Installing Jaguar!

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Last week, I began to see credible reports that installing Mac OS X 10.2 Jaguar on some iMacs was "frying" the motherboards. Users would run the Jaguar installer, everything would proceed correctly, and when users tried to restart the screens would remain black, rendering the machines unusable. Furthermore, the screens stayed black: restarting the machine from a Mac OS 9 CD or other bootable volume made no difference. Some users who contacted their Apple dealers were reportedly told the only solution was to replace their iMac's motherboard, potentially at a cost of \$700 or more.

So, after some investigation, here's the deal:

1) Installing Jaguar on some slot-loading iMacs can render the machine unusable by blacking out the internal display, even when trying to start up in Mac OS 9. The bug is apparently in Jaguar, not the installer.

2) You can avoid the problem altogether by updating your iMac's firmware before installing Jaguar. The current firmware version is 4.1.9; it's a 1.2 MB download.

<<http://docs.info.apple.com/article.html?artnum=75130>>

3) If you've already been hit by this problem, no, the iMac's motherboard is not fried, and replacement is not necessary. See below for the fix.

4) A reasonable person would think the Jaguar installer would check for a supported firmware revision before attempting to install. It does not, though the ReadMe and slim installation brochure that comes with Jaguar both hint at the possible need for a firmware update.

****Firmware Versions**** -- At this time, it's not entirely clear which iMacs are vulnerable. The original "slot-loading" iMacs and iMac DVs introduced in September of 1999 are affected; the problem may extend to later iMac models with built-in CRTs, which Apple designates "Summer 2000," "Early 2001," and "Summer 2001." Neither flat-screen iMacs nor eMacs are affected.

Be sure you read the instructions before attempting to update the

firmware: you'll need to locate and use the programmer's button on the side of your iMac. Firmware updates can be run only when launched from a writable disk under Mac OS 9.x (or Mac OS 8.x, if your computer is old enough). You cannot run a firmware update from the Classic environment in Mac OS X, nor can you run one when the computer is started up from a CD-ROM or network disk. Your PRAM will be reset after installing a firmware update, so you may need to check some of your system settings. In particular, make sure the setting in your startup disk control panel is correct if you have multiple bootable drives or partitions.

If you don't know what firmware version you're currently running (and who does?), you can find out by using Apple System Profiler; an entry for "Boot ROM version," "ROM revision," or "Boot ROM info" appears under the System Profile tab. If you're using Mac OS 9, the version will appear in an ugly decimal format like \$0004.17f1 - that corresponds to firmware version 4.1.7.

The following Knowledge Base article lists the current firmware revisions for Macs which support Mac OS X.

<<http://docs.info.apple.com/article.html?artnum=86117>>

****Seeing Black?**** If you've already attempted to install Jaguar and are looking at a black screen, you can recover, but it's not simple. Essentially, you must find a way to update your iMac's firmware from a writable drive without having use of the iMac's screen.

Perhaps the best approach is to open the iMac, remove its hard drive, and connect the hard drive to a second computer (like a Power Mac G3 or G4 with an available drive bay). Then copy the firmware updater to the iMac's drive, install a remote control program like Timbuktu onto the hard drive and configure it to allow incoming access, and set the drive to boot in Mac OS 9. Next, move the hard drive back to your iMac and boot the machine in Mac OS 9 (the screen will still be black). Then, connect to the iMac over a network from another Macintosh using the remote control program and run the firmware updater. Once you've done that, the iMac's video should be restored. If your iMac is under warranty, note that opening your iMac to remove the hard drive may void that warranty.

Obviously, not every iMac owner has a second computer and a remote control program at their disposal, or the technical acumen to

transplant hard drives between machines. An Apple dealer may be able to perform these or similar steps for you to recover your iMac, but they're unlikely to do so for free even if your iMac is still under warranty: expect to pay at least an hourly rate for the dealer's time, but that's certainly cheaper than a new motherboard. A well-versed Mac consultant might be faster and less expensive. Under _no_ circumstances should you let a dealer convince you that your iMac's motherboard must be replaced. Motherboard replacement was initially Apple's official solution to this problem; however, now that the issue has been more thoroughly identified, Apple dealers now have access to information about it how to recover iMacs without replacing the motherboard. If your dealer isn't yet aware of it, ask them to look.

****Seeing Red?**** This situation is troubling. It's incredible that Apple would release operating system software dependent on particular firmware revisions and not check that appropriate firmware was available before installing. C'mon: that's just common sense! We're also disturbed Apple would recommend dealers and service centers replace motherboards on affected machines - a costly solution, especially for machines out of warranty - when there's nothing wrong with the motherboards, and Apple's own software caused the problem. We realize working out solutions for these problems takes time and dealers need to provide solutions as quickly as possible, but we certainly hope Apple plans to provide refunds to affected users who have already paid for motherboard replacements.

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