



## About Apple Hardware Test

Apple Hardware Test diagnoses and detects problems with your computer's internal hardware components, such as the logic board, memory, modem, video RAM, and AirPort card. It does not check external hardware components, such as USB devices or FireWire devices, and it does not check non-Apple devices, such as PCI cards from other vendors.

Apple Hardware Test also does not check for operating system (OS) or other software-related problems, such as application or extension conflicts.

Apple Hardware Test for Power Mac Version 2.1 is distributed with the Apple Power Mac G5 computer only. It does not work with other computers.

## Using Apple Hardware Test

Before using Apple Hardware Test, disconnect all external devices except the Apple keyboard, mouse, display, and speakers. Remove any non-Apple cards, such as PCI or AGP cards, that were not included in the original configuration of your computer. You should also disconnect the Ethernet network cable.

1. Restart your computer from the Software Install and Restore DVD (the disc that should currently be in the optical drive).
2. Hold down the Option key until a list of available bootable devices appears.
3. Select Apple Hardware Test and click the right arrow. The Loading icon then appears. Loading takes about 45 seconds.
4. When the Apple Hardware Test main screen appears, follow the onscreen instructions.

If your computer has a hardware problem, Apple Hardware Test can help identify the problem. If Apple Hardware Test detects a problem, it displays an error code. Make a note of the error code before pursuing support options. If Apple Hardware Test does not detect a hardware failure, the problem may be software related.

## Known Issues

If your Power Mac G5 has more than 512 MB of RAM, the Extended Test may take significantly more time than indicated on the screen.

Your Power Mac G5 can use memory modules or DIMMs even when the Power On Self-Test, which is run when you turn the machine on, detects part of a module as being bad. When you start up your computer, Apple Hardware Test reports failed memory modules in the Hardware Tests panel.

While the video RAM is being tested, the screen may appear blank or appear to be turned off for extended periods of time, depending on how much video RAM is installed. This is normal.

When you click the Restart/Shutdown button in Apple Hardware Test, the Software Install and Restore DVD is not ejected. Either manually eject the DVD or use Mac OS to eject the DVD.

If your Power Mac G5 has an ATTO Ultra SCSI PCI card installed, it takes approximately 1 to 2 minutes for Apple Hardware Test to start up because Apple Hardware Test is scanning the card for SCSI devices attached to the computer.

## Recommendations

Apple Hardware Test is one of several tools and procedures you can use to resolve problems. Here are some steps that may help you resolve problems. Please back up your data before you perform any of these steps.

### 1. Turn the computer off and on properly.

You can often eliminate problems by turning off your computer as recommended. To turn off your computer, choose Shut Down from the Apple (AAPL) menu. Do not turn off the computer by turning off the switch on a power strip or by pulling the computer's power plug. Restart your computer by pressing the power button.

To restart your computer when it is on, choose Restart from the Apple (AAPL) menu.

### 2. Check cables, peripherals, and controls.

To see if cables or peripherals are causing conflicts with your system, shut down your computer. Disconnect the cables and peripherals, such as printers, scanners, cameras and external mass storage devices. Then reconnect the cables and peripherals and restart your system. You can also adjust the controls on your monitors and other peripherals.

3. Start up from the Software Install and Restore DVD that came with your computer. Start your system from the Software Install and Restore DVD (the disc that should currently be in the optical drive) by holding down the C key until you see the Apple logo. If the system works properly when started (booted) from the Software Install and Restore DVD, the problem may relate to the software installed on your computer.

4. Start Apple Hardware Test from the Software Install and Restore DVD and run the Quick and Extended Tests.

If the system does not work properly when you start from the Software Install and Restore DVD, the problem may relate to your computer's hardware components.

You can start up your computer with Apple Hardware Test on the Software Install and Restore DVD even if it will not start up in the Mac OS. If Apple Hardware Test passes both the Quick Test and the Extended Test, the problem may be software related. If Apple Hardware Test detects a problem, make a note of the error code and contact Apple. (See step 7.)

5. Refer to Mac Help and the Internet for assistance.

Mac Help, located in the Help menu, includes a wealth of technical information. The AppleCare Knowledge Base and other resources for technical help and support are available 24 hours a day at [www.apple.com/support](http://www.apple.com/support).

6. Reinstall the Mac OS.

In many cases, a clean installation of the Mac OS fixes recurring problems. Make sure you back up data on your hard drive before reinstalling. Then follow the instructions in your Power Mac Setup Guide or on the Software Install and Restore DVD to reinstall the Mac OS.

7. Contact AppleCare Service and Support for assistance.

If these steps don't resolve the problem, please review the service and support material that came with your computer for information about how to contact AppleCare for assistance.

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