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 Extreme Card. It does not check external hardware components, such as USB or FireWire devices, non-Apple devices, such as PCI cards from other vendors, nor does it check for operating system (OS) or software-related problems, such as application or extension conflicts.

You may be able to start up your computer with Apple Hardware Test even if the machine will not start up under the Mac OS.

Using Apple Hardware Test

Before using Apple Hardware Test, disconnect all external devices with the exception of keyboard, mouse, display, and speakers. You should also disconnect the Ethernet network cable. Print out these instructions before proceeding with the following steps.

1. If your computer has no internal hard drive or optical drive (selected configurations only), you must connect an AppleCare approved external FireWire optical drive to a FireWire port on your computer in order to run Apple Hardware Test.

2. Restart your computer with the media containing Apple Hardware Test. This should be the same media this document resides on. Hold down the Option key while the computer restarts. Continue to 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.

4. When the Apple Hardware Test language chooser screen appears, select the language appropriate for your locale, and press the Return key or Continue button. The Loading icon then appears.

5. If your computer is not supported by this version of Apple Hardware Test, an error dialog will be displayed. You should Shut Down the computer, locate the correct media containing Apple Hardware Test for this computer, and repeat the above steps.

6. When the Apple Hardware Test main screen appears, follow the onscreen instructions.

Advice about using Apple Hardware Test

If Apple Hardware Test detects a problem, it displays an error code. Make a note of the error code before pursuing support options.

Alternatively if you are able to startup your computer from Mac OS X 10.4 or later, you will be able to retrieve the error code, and optionally send this information to Apple, using the System Profiler utility application (which can be launched from the "About This Mac" dialog).

If Apple Hardware Test does not detect a hardware failure, the problem may be software related.

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

Your computer can use memory modules or DIMMs even when the Power On Self-Test, which runs when the machine is turned 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, it is normal for the screen to appear blank or turned off for extended periods of time, depending on how much video RAM is installed.

On computers with intelligent thermal management, it is normal for the fans to be running at high speed while using Apple Hardware Test.

Advice about hardware compatibility

When you click the Restart/Shutdown button in Apple Hardware Test, the Apple Hardware Test media is not ejected on computers with a tray-loading optical drive. Either manually eject the media or use Mac OS to eject the media.

On some configurations with Bluetooth, the information shown for Bluetooth and USB devices in the Hardware Info panel may be inaccurate. This does not indicate a problem with your computer.

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.

Advice about resolving problems with your computer

• 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 () 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 () menu.

• 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.

• Start up from the media containing the Mac OS software.

Start your system from the media containing the Mac OS software by holding down the "C" key until you see the Apple logo. If the system works properly when started (booted) from the media containing the Mac OS software, the problem may be related to the software installed on your computer.

• 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.

• Reinstall the Mac OS.

In many cases, a clean installation of the Mac OS fixes recurring problems. Make sure you back up the data on your hard drive before reinstalling the OS. Follow the instructions in the Read This First or Read Before You Install documents to reinstall the Mac OS.

• Contact AppleCare Service and Support for assistance.

If the above steps don't resolve the problem, please review the service and support material that came with your computer for information on contacting AppleCare.