



Apple Diagnostics: Reference codes

Use this article to find more information on codes generated in Apple Diagnostics.

Using the reference code table

1. Find the definition of the specific [Apple Diagnostics](#) reference code and learn what next steps are needed to troubleshoot the issue.
2. For issues you cannot resolve, [contact Apple](#) or take your computer to an [Apple Authorized Service Provider](#) or [Apple Retail Store](#) to find out which service and support options are available. Be sure to share the Apple Diagnostics reference code with Apple or your service provider. If you plan to visit an Apple Retail Store, [make a reservation](#) at the Genius Bar (available in some countries and regions only).

Reference Code	Code Definition	Next Steps
ADP000	No issues found	No issues found. If you think you have a hardware issue, contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
CNW001 CNW003 CNW004 CNW005 CNW006	There may be an issue with the Wi-Fi hardware.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
CNW007 CNW008	No Wi-Fi networks were detected. Either there are no Wi-Fi networks in range, or the Wi-Fi hardware may be having an issue.	Run the test again in range of a Wi-Fi network. If this code appears a second time, further troubleshooting may be required. Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDC001 NDC003 NDC004 NDC005 NDC006	There may be an issue with the camera.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDD001	There may be an issue with the USB hardware.	Disconnect all external devices except keyboard, mouse, and Ethernet adapter. Run the test again. If this code appears again, further troubleshooting may be required. Contact Apple or take your

		computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDK001 NDK003 NDK004	There may be an issue with the keyboard.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDL001	There may be an issue with the Bluetooth hardware.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDR001 NDR003 NDR004	There may be an issue with the trackpad.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NDT001 NDT002 NDT003 NDT004 NDT005 NDT006	There may be an issue with the Thunderbolt hardware.	Disconnect external Thunderbolt devices and run the test again. If this code appears a second time, further troubleshooting may be required. Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
NNN001	A serial number was not detected.	The computer requires service. Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PFM001 PFM002 PFM003 PFM004 PFM005 PFM006 PFM007	There may be an issue with the System Management Controller (SMC).	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PFR001	There may be an issue with the computer's firmware.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPF001 PPF003 PPF004	There may be an issue with the fan.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.

PPM001	There may be an issue with a memory module.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPM002 PPM003 PPM004 PPM005 PPM006 PPM007 PPM008 PPM009 PPM010 PPM011 PPM012 PPM013 PPM014 PPM015	There may be an issue with the onboard memory.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPP001 PPP002 PPP003	There may be an issue with the power adapter.	Disconnect the MagSafe power adapter from the computer and the power outlet, then reconnect. Run the test again. If this code appears a second time, further troubleshooting may be required. Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPP007	The power adapter was not tested.	There may be an issue with the power adapter, or it may not be connected. To test the power adapter, reconnect it to the computer and the wall outlet. Run the test again. If this code appears a second time, further troubleshooting may be required. Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPR001	There may be an issue with the processor.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPT001	The battery was not detected.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.

PPT002 PPT003	The battery will need to be replaced soon. It is functioning normally, but holds less charge than it did when it was new.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPT004	The battery requires service. The battery is not functioning normally, though you may not notice a change in its behavior or the amount of charge it holds. You can continue to use your battery before it's checked without harming your computer.	You should first confirm this issue by running Apple Diagnostics over the Internet, which uses the latest diagnostic information. To do this, turn off your Mac by choosing Shut Down from the Apple (🍏) menu. Then press the power button to turn on your Mac. Immediately press and hold Option-D until Apple Diagnostics begins. If running Apple Diagnostics over the Internet confirms the issue, contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store . They'll tell you which service and support options are available.
PPT005	The battery is not installed properly. Shut down and discontinue use. The computer requires service.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPT006	The battery requires service. The battery is not functioning normally, though you may not notice a change in its behavior or the amount of charge it holds. You can continue to use your battery before it's checked without harming your computer.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
PPT007	The battery needs to be replaced. The battery is functioning normally but holds significantly less charge than it did when it was new. You can continue to use the battery until you replace it, without harming your computer.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
VDC001 VDC003 VDC004 VDC005 VDC006 VDC007	There may be an issue with the SD card reader.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
VDH002 VDH004	There may be an issue with a storage device.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail

		Store to determine which service and support options are available.
VDH005	Unable to start OS X Recovery.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
VFD001 VFD002 VFD003 VFD004 VFD005 VFD007	There may be an issue with the display.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
VFD006	There may be an issue with the graphics processor.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.
VFF001	There may be an issue with the audio hardware.	Contact Apple or take your computer to an Apple Authorized Service Provider or Apple Retail Store to determine which service and support options are available.

Published Date: October 25, 2017

Helpful?

Yes

No



Start a Discussion in Apple Support Communities

Ask other users about this article

[Submit my question to the community](#)

[See all questions on this article >](#)



