Intel-based Macs: Resetting the System Management Controller (SMC)

Summary

In some situations, you may need to reset your computer's SMC. Learn how to identify these conditions and reset the SMC.

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Note: It is possible that the SMC could encounter an issue that may cause unusual system behavior typically related to the symptoms described below. In some cases, resetting the SMC may be the only correct method to resolve the issue, however, an SMC reset should only be attempted after all other standard troubleshooting has been performed.

Before Resetting the SMC

Try each of the following steps in this order *before* you reset the SMC. Test the issue after completing each troubleshooting step to determine if the issue still occurs.

1. Press Command + Option + Escape to force quit any application that is not responding.
2. Put your Mac to sleep by choosing the **Apple (**􀣺**)** menu from the upper-left menu bar and then choosing **Sleep**. Wake the computer after it has gone to sleep.
3. Restart your Mac by by choosing the **Apple (**􀣺**)** menu from the upper-left menu bar and then choosing **Restart**.
4. Shut down your Mac by by choosing the **Apple (**􀣺**)** menu from the upper-left menu bar and then choosing **Shut Down**.

If your Mac appears to be running normally but isn't responding, force the computer to shut down by pressing and holding the power button for 10 seconds. **Note**: You will lose any unsaved work in any open applications.

For Mac portables experiencing issues related to the MagSafe power adapter and/or battery, try:

1. Unplug the MagSafe power adapter from the Mac and the wall power socket for several seconds.
2. Shutdown the Mac. Physically remove and re-insert the battery (if it's removable) and startup the Mac.

If the issue is still not resolved after following the troubleshooting items above, an SMC reset may be necessary.

After performing normal troubleshooting, these symptoms may indicate that an SMC reset may be necessary:

Fans
The computer's fans run at high speed although the computer is not experiencing heavy usage and is properly ventilated.

Lights
The keyboard backlight appears to behave incorrectly (on Mac computers that have this feature).
The Status Indicator Light (SIL) appears to behave incorrectly (on Mac computers that have an SIL).
Battery indicator lights, if present, appear to behave incorrectly (on portables that use non-removable batteries).
The display backlight doesn't respond correctly to ambient light changes on Mac computers that have this feature.

Power
The computer doesn't respond to the power button when pressed.
A portable Mac doesn't appear to respond properly when you close or open the lid.
The computer sleeps or shuts down unexpectedly.
The battery does not appear to be charging properly.
The MagSafe power adaptor LED doesn't appear to indicate the correct activity.

System Performance
The computer is running unusually slowly although it is not experiencing abnormally high CPU utilization.

Video
A computer that supports target display mode does not switch into or out of target display mode as expected.
A computer that supports target display mode switches into or out of target display mode at unexpected times.

Resetting the System Management Controller (SMC)

Resetting the SMC on Mac portables with a battery you can remove

Note: Learn about removing the battery on MacBook and MacBook Pro.
1. Shut down the computer.

2. Disconnect the MagSafe power adapter from the computer, if it's connected.

3. Remove the battery.

4. Press and hold the power button for 5 seconds.

5. Release the power button.

6. Reconnect the battery and MagSafe power adapter.

7. Press the power button to turn on the computer.

Resetting the SMC on portables with a battery you should not remove on your own

Note: Portable computers that have a battery you should not remove on your own include MacBook Pro (Early 2009) and later, all models of MacBook Air, and MacBook (Late 2009).
1. Shut down the computer.

2. Plug in the MagSafe power adapter to a power source, connecting it to the Mac if its not already connected.

3. On the built-in keyboard, press the (left side) Shift-Control-Option keys and the power button at the same time.

4. Release all the keys and the power button at the same time.

5. Press the power button to turn on the computer.
   Note: The LED on the MagSafe power adapter may change states or temporarily turn off when you reset the SMC.

Resetting the SMC for Mac Pro, Intel-based iMac, Intel-based Mac mini, or Intel-based Xserve

1. Shut down the computer.

2. Unplug the computer's power cord.

3. Wait fifteen seconds.

4. Attach the computer's power cord.

5. Wait five seconds, then press the power button to turn on the computer.

Note: For Intel-based Xserve computers that are not responding, you can shut down locally, or by using remote commands, or by pressing and holding the power button for five seconds.

Additional Information

The System Management Controller (SMC) is responsible for many low-level functions on Intel-based Macs. These functions include:

- Responding to presses of the power button
- Responding to display lid opening and closing on portable Macs
- Battery management
- Thermal management
- The SMS (Sudden Motion Sensor)
- Ambient light sensing
- Keyboard backlighting
- Status Indicator Light (SIL) management
- Battery status indicator lights
- Selecting an external (instead of internal) video source for some iMac displays

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