



How to reset the System Management Controller (SMC) on your Mac

Learn when and how to reset the SMC on an Intel-based Mac.

What the SMC does

The SMC is responsible for these and other low-level functions on Intel-based Mac computers:

- Responding to presses of the power button
 - Responding to the display lid opening and closing on Mac notebooks
 - Battery management
 - Thermal management
 - Sudden Motion Sensor (SMS)
 - 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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How to know if you need to reset the SMC

These symptoms might mean that an SMC reset is necessary:

- Your computer's fans run at high speed, even though it isn't under heavy usage and is properly ventilated.
- The keyboard backlight behaves incorrectly.
- The status indicator light, if present, behaves incorrectly.
- Battery indicator lights, if present, behave incorrectly on Mac notebooks with a non-removable battery.
- The display backlight doesn't respond correctly to ambient light changes.
- Your Mac doesn't respond when you press the power button.
- Your Mac notebook doesn't respond properly
- Your MacBook or MacBook Pro doesn't charge through its built-in USB-C port.
- Your MacBook or MacBook Pro doesn't recognize external devices that are connected to its built-in USB-C port.
- The MagSafe power adapter LED, if present, doesn't indicate the correct charging activity.
- Your Mac performs unusually slowly, even though its CPU isn't under an abnormally heavy load.
- A Mac that supports [target display mode](#) doesn't switch into or out of target display mode as expected, or it switches into or out of target display mode at unexpected

- when you close or open the lid.
- Your Mac sleeps or shuts down unexpectedly and you can't turn it back on.
- The battery doesn't charge properly.

- times.
 - The illumination around the [I/O ports on a Mac Pro \(Late 2013\)](#) doesn't turn on when you move the computer.
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Before you reset the SMC

Try each of these steps in this order before you reset the SMC. Test the issue after each step to see if the issue still occurs.

1. If your Mac isn't responding, press and hold the power button until it shuts down. You'll lose unsaved work in any open applications. Then press the power button again to turn on your Mac.
2. Press Command-Option*-Escape to force quit any application that's not responding.
3. Put your Mac to sleep by choosing Apple () menu > Sleep. Wake the computer after it's gone to sleep.
4. Restart your Mac by choosing Apple menu > Restart.
5. Shut down your Mac by choosing Apple menu > Shut Down, then press the power button again to turn on your Mac.

If you're using a Mac notebook that's having power or battery issues, follow these steps:

1. Unplug the power adapter from your Mac and the electrical outlet for several seconds, then plug it back in.
2. Choose Apple menu > Shut Down and wait for your Mac to shut down.
3. Remove and re-insert the battery if it's removable.
4. Press the power button again to turn on your Mac.

If the issue still isn't resolved, you might need to reset the SMC using the steps below.

* On some keyboards, the Option key is also labeled Alt.

How to reset the SMC on Mac notebooks

If your Mac notebook has the [Apple T2 Security Chip](#), skip ahead to the [T2 section](#).

To reset the SMC on a Mac notebook, first determine whether the battery is removable. Most older Mac notebooks have removable batteries. Mac notebooks that have nonremovable batteries include MacBook Pro (Early 2009 and later), all models of MacBook Air, MacBook (Late 2009), and MacBook (Retina, 12-inch, Early 2015 and later). Learn more about [Mac notebook batteries](#).

If the battery is nonremovable:

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Press Shift-Control-Option on the left side of the built-in keyboard, then press the power button at the same time. Hold these keys and the power button for 10 seconds. If you have a MacBook Pro with Touch ID, the Touch ID

If the battery is removable:

1. Shut down your Mac.
2. Remove the battery. If you need help removing the battery, contact an [Apple Authorized Service Provider](#) or [Apple Retail Store](#).
3. Press and hold the power button for 5

button is also the power button.

3. Release all keys.
4. Press the power button again to turn on your Mac.

seconds.

4. Reinstall the battery.
5. Press the power button again to turn on your Mac.

How to reset the SMC on Mac desktop computers

If your Mac desktop computer has the [Apple T2 Security Chip](#), skip ahead to the [T2 section](#).

Follow these steps for iMac, Mac mini, Mac Pro, and Xserve.

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Unplug the power cord.
3. Wait 15 seconds.
4. Plug the power cord back in.
5. Wait 5 seconds, then press the power button again to turn on your Mac.

For Intel-based Xserve computers that aren't responding, you can shut down locally or by using remote commands. You can also press and hold the power button for 5 seconds.

How to reset the SMC on a Mac that has the Apple T2 Security Chip

Follow these instructions for [Mac computers that have the Apple T2 Security Chip](#).

Mac desktop computers with the T2 chip

Try this first:

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Press and hold its power button for 10 seconds.
3. Release the power button, then wait a few seconds.
4. Press the power button again to turn on your Mac.

If that doesn't resolve the issue, follow these steps:

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Unplug the power cord.

Mac notebook computers with the T2 chip

Try this first:

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Press and hold the power button for 10 seconds.
3. Release the power button, then wait a few seconds.
4. Press the power button again to turn on your Mac.

If that doesn't resolve the issue, follow these steps:

1. Choose Apple menu > Shut Down and wait for your Mac to shut down.
2. Press and hold the right Shift key, the left

3. Wait 15 seconds.
4. Plug the power cord back in.
5. Wait 5 seconds, then press the power button again to turn on your Mac.

Option key, and the left Control key for 7 seconds. Your Mac might turn on and show the Apple logo on its display. Keep holding those keys while you also press and hold the power button for another 7 seconds. If your Mac turned on when you first pressed the keys, it turns off at this point.

3. Release all three keys and the power button, then wait a few seconds.
4. Press the power button again to turn on your Mac.

Learn more

Resetting the SMC doesn't reset or otherwise change the contents of [NVRAM](#) or [PRAM](#) on Intel-based Mac models.

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