



How to Reset NVRAM on your Mac

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Learn about your computer's NVRAM, and when and how to reset it.

What is NVRAM?

A small amount of your computer's memory, called "non-volatile random-access memory" or NVRAM, stores certain settings in a location that OS X can access quickly. The settings that are stored in NVRAM depend on the type of Mac you're using, and the types of devices connected to it.

Information stored in NVRAM can include:

- Speaker volume
- Screen resolution
- Startup disk selection
- Recent kernel panic information, if any

If you experience issues related to these features, you might need to reset the NVRAM on your computer. For example, if your Mac starts up from a startup disk other than the one you've specified in Startup Disk preferences, or if a question mark icon appears briefly when your Mac starts up.

Resetting NVRAM

1. Shut down your Mac.
2. Locate the following keys on the keyboard: Command (⌘), Option, P, and R.
3. Turn on your Mac.
4. Press and hold the Command-Option-P-R keys immediately after you hear the startup sound.
5. Hold these keys until the computer restarts and you hear the startup sound for a second time.
6. Release the keys.

After resetting NVRAM, you may need to reconfigure settings for speaker volume, screen resolution, startup disk selection, and time zone information.

If issues related to these features continue on a desktop Mac (like an iMac, Mac mini or Mac Pro), its logic board battery may need to be replaced. The logic board battery on desktop computers helps retain NVRAM settings when your Mac is unplugged. You can take your Mac to an Apple Store or Apple Authorized Service Provider to replace the battery on the logic board.

Learn more

On older Mac computers, similar information was stored in Parameter RAM (PRAM). Resetting NVRAM on Intel-based Macs using the same key combination is like resetting PRAM.

Power related settings can be controlled by the System Management Controller (SMC) on your Mac. If you are experiencing issues with powering on your computer, sleep, wake, charging your Mac notebook battery, or other power-related symptoms, you might need to [reset the SMC instead](#).