BEST PRACTICES FOR HARDWARE MAINTENANCE

RECORD GENERAL DETAILS ABOUT YOUR HARDWARE

THE COMPUTER'S SERIAL NUMBER

Windows: There is often a sticker on the underside of the computer (for laptops) or the back of the computer (for desktops). If there is no sticker, or it is unreadable, you can obtain the same information typing **wmic bios get serialnumber** in a command prompt window.

Macs: Click on the Apple menu and select About This Mac. See this help article for additional information.

CONTRACT NUMBER AND CONTACT INFORMATION FOR ANY EXTENDED WARRANTY CONTRACT

Windows: The manufacturers have different names for support contracts. Lenovo calls them "Premier Support." Dell calls them "ProSupport" and "ProSupport Plus." Coverage terms run from one to five years. The top-tier contracts provide that a repair technician comes to your location within 24 hours.

Macs: Apple's extended support contracts are "AppleCare," which is available as a monthly or one-time purchase for a maximum of three years upfront. If you make a one-time purchase of AppleCare, you can often buy additional years annually after your initial contract term expires. Apple does not offer onsite repair technicians, relying instead on their network of retail stores.

For both types of computers, if you bought the machine and extended warranty simultaneously, the contract and machine are usually linked at the time of purchase. It's best to buy a manufacturer's extended support offering over one offered by a store or retailer.

You can usually lookup your device's warranty status on the manufacturer's website. Typically, you must have your device's serial number handy (see above). For example, here are the lookup pages for Apple, Dell, and Lenovo.

MAC ADDRESS OF COMPUTER

The MAC address consists of six pairs of letters and numbers separated by colons. An example MAC address is 2C:54:91:88:C9:E3. Any computer capable of connecting to a network has at least one MAC address. The MAC address marks it as a unique endpoint on the network. A computer having both an ethernet (wired) option and a WiFi (wireless) option will have two MAC addresses, one for each method of connecting to a network.

MAC is shorthand for Media Access Control. The MAC address is the location or "address" of your device on the network. Every networked device has a MAC address. MAC addresses are not limited to Apple's Macintosh (Mac) laptops and desktops (note the difference in capitalization). Windows machines have MAC addresses, so do Chromebooks, smartphones, tablets, internet-connected TVs, and streaming boxes like Roku and AppleTV.

Windows: Find your MAC address by right-clicking the Start menu, then select Network & Internet. For wired connections, select the Ethernet sub-menu, then scroll down to find the MAC address. For wireless connections, select Wi-Fi, then Hardware properties.

Macs: Open System Settings (in macOS 13 Ventura or later) or System Preferences (versions prior to macOS 13 Ventura). Click on Network. Then select your connection method (*e.g.*, Wi-Fi), then click Advanced.

You may have noticed above that some locations and instructions vary based on the type (*e.g.* Mac or Windows) and version of computer operating system your device runs (*e.g.*, macOS 15 Sequoia or Windows 11 24H2). Typically controls and options change only in "major number" system updates (*e.g.*, macOS 14 to macOS 15, or Windows 10 to Windows 11), but not always.

Windows: Your computer likely runs either Windows 10 or Windows 11. Both versions come in Home and Pro variants. Further, Microsoft often issues interstitial updates that are not mentioned in the branding. These updates come via Windows Update, which you should set to automatically run and apply updates to ensure the best security. Updates are identified by the date of their release, such as 24H2, meaning the update released in the second half (H2) of 2024. A full description of a current Windows installation might be Windows 11 Pro 24H2.

To determine your version of Windows, see this [help article](). Note that Microsoft ends support coverage for Windows 10 in October 2025. That means Windows 10 will not receive security updates or bug fixes after that point. If your current Windows laptop runs Windows 10, it likely supports an update to Windows 11. Read additional details about upgrading to Windows 11 [here]().

Macs: Versions of the operating system are identified by a name and number. For example, in October 2024, Apple released macOS Sequoia 15.0. Like Microsoft, Apple provides security and feature updates throughout a product's lifecycle. As of this writing, the most up-to-date version of macOS is macOS Sequoia 15.5. The version preceding Sequoia was Sonoma. Its final update was macOS Sonoma 14.7.6.

To determine your version of macOS, see this [help article]().

The default, built-in browser for Windows is [Edge](). For macOS, it's [Safari](). If something is malfunctioning on the computer, such as not being able to connect to the internet, check if the same thing happens with the "factory default" browser. That's one way to eliminate a variable when troubleshooting.

UPDATE YOUR OPERATING SYSTEM

UPDATE WINDOWS
Windows 10: Click the Start button, then Settings, then Update & Security, then Windows Update.

Windows 11: Click the Start button, then Settings, then Windows Update.

Additional details are available [here]().

UPDATE MACOS
macOS 13 Ventura and Later: Open System Settings, click General, then Software Update.

macOS 12 Monterey and Earlier: Open System Preferences, then click Software Update.

Additional details are available [here]().

PICK AND CHOOSE YOUR STARTUP PROGRAMS

Computers run many programs at startup. The more programs the operating system must load at startup and continuously run in the background, the fewer resources are available to you, the user. Some programs, such as cloud sync utilities or antivirus or anti-malware programs, should launch at startup and run continuously. But non-essential, rarely used programs also launch at startup. Review the list of programs you run at startup.

Windows: This [article]() explains how to check startup programs for both Windows 10 and 11.

macOS 13 Ventura and Later: Open System Settings, click General, then Login Items & Extensions.

macOS 12 Monterey and Earlier: Open System Preferences, click Users & Groups, then select your username, then click Login Items.

Additional information for Macs is available here.

GENERAL HARDWARE MAINTENANCE SUGGESTIONS
CHECK ACCESSORIES FOR DAMAGE OR WEAR AND TEAR
- **Keyboard**: Clean the keyboard with a dust brush. Compressed air is also helpful for cleaning out underneath keyboard keys, especially if you eat at your desk. For laptops, you can also place the computer open sideways on your desk, like a hardcover book, and spray "down" under the keys.
- **Keyboards and Mice**: Wipe these down with cleaning and disinfectant wipes designed for electronics. Example brands are Weiman Disinfectant Electronic Wipes, Endust for Electronics, and products from iKlear. Do not use "standard issue" cleaning products, especially those with ammonia, on electronics. Anything you use should state specifically that it is safe for electronics, LCD/LED screens, etc.
- **Bluetooth Accessories**: If your keyboard or mouse connect via Bluetooth, check their battery levels. On Windows 10/11, connect the device to the computer, then right-click on the Start button and select "Settings." Then select Bluetooth & devices and click on the device you want to check. Battery status may also be displayed beneath the device's name in the list. On Apple Macs, battery level information is available from the Bluetooth icon in the top right of the menu bar. Alternatively, go to System Settings (System Preferences in older versions of macOS) and select Bluetooth. Battery status will display beneath the device's name.
- **Dust Equipment**: Dust is an enemy of electronics. It builds up on things you don't move, like desktop computers, monitors, and docking stations. Dust blocks air vents, traps in heat, and conducts static electricity, particularly in the winter and in dry climates. Turn off the equipment and dust it with an anti-static cloth. You can also use compressed air to clean vents.

ORGANIZE YOUR CABLES
- Organize cables by color and function. With the transition to USB-C connectors, there are now numerous cables with the same connector that could offer different functions and data speeds. A cable with USB-C connectors could provide the speeds, capabilities, and limitations of USB3, USB4, Thunderbolt 3, Thunderbolt 4, or even Thunderbolt 5. The cable could provide data or merely power a device. Keeping cables well-identified is more important than in the past, when different connection ends ensured that the "wrong" cable wasn't connected. Connecting "the wrong" USB-C cable will not damage equipment but may prevent it from functioning properly or turning on at all.
- Make sure no cables are obstructing access to the machine.
- Make sure no cables are obstructing access to the workspace.
- Make sure all cables are in good condition. If something is malfunctioning, try replacement cables. Cables can and do wear out. This fact is especially true for those wound and unwound frequently, such as power adapters or a set of "travel cables" that you pack and unpack.

DON'T OVERCHARGE YOUR BATTERIES
Resist the temptation to keep your portable devices always plugged in. Although hardware is much better than in the past at protecting batteries from being "overcharged," draining the battery to below 20% every so often remains a good policy. Once every month or two is sufficient.