

Device Drivers

More commonly known as a driver, a device driver or hardware driver is a group of files that enable one or more hardware devices to communicate with the computer's operating system. Without drivers, the computer would not be able to send and receive data correctly to hardware devices, such as a printer.

What devices need drivers?

Hardware devices that are unknown by the operating system or that have features that are unknown by the operating system all require drivers. Below is a list of hardware devices and peripherals that require drivers.

Card reader

Controller

Motherboard chipset

Network Adapters (wired and wireless)

Printer

Scanner

Sound card

USB devices

Video Adapter

What devices may not need drivers

Today's operating systems have a lot of generic drivers that allow hardware to work at a basic level without needing drivers or software. However, if that device has features unknown to the operating system, it will not work without drivers. For example, you could plug any keyboard into a computer and expect it to work. However, if that keyboard has any special keys or features, they will not work until the drivers are installed.

CPU

Disc drive

Fan

Hard drive

Heat sink

Joystick

Keyboard

Mouse

Monitor

Power supply

RAM

Speakers

Thumb drive

UPS (Uninterruptible Power Supply A.K.A. battery backup)

What happens if a driver is not installed?

If the appropriate driver is not installed, the device may not function properly, if at all. With some devices, the device may work, but all of its features may not work. For example, a computer mouse usually works without drivers, but if it has more buttons than the traditional mouse, those extra buttons will not work until the drivers are installed.

For Microsoft Windows users, missing drivers may cause a driver conflict or an error that can be seen in the Device Manager. If problems or conflicts are encountered with drivers, the computer manufacturer or hardware manufacturer releases a driver update to fix the problems. If updated drivers are available, those drivers need to be installed to replace the existing driver code.

Can a driver make my computer do more?

Installing a driver only makes the hardware installed in the computer function properly. If the correct driver is not installed, installing the latest driver for the hardware can take full advantage of the device. However, you cannot install a driver for hardware not installed in the computer and expect it to make your computer faster or more capable. In other words, installing video card drivers for a video card that's not installed in the computer does not give your computer all the capabilities of that video card. In this example, you'd need the video card hardware as well as the video card drivers to be installed.

Common Drivers

Network Adapters (Wired LAN)

Intel

Broadcom

D-Link

Realtek

Wireless Adapters (WiFi)

Netgear

Broadcom

Ralink

Intel

Tenda

Belkin

Qualcomm Atheros

Realtek