

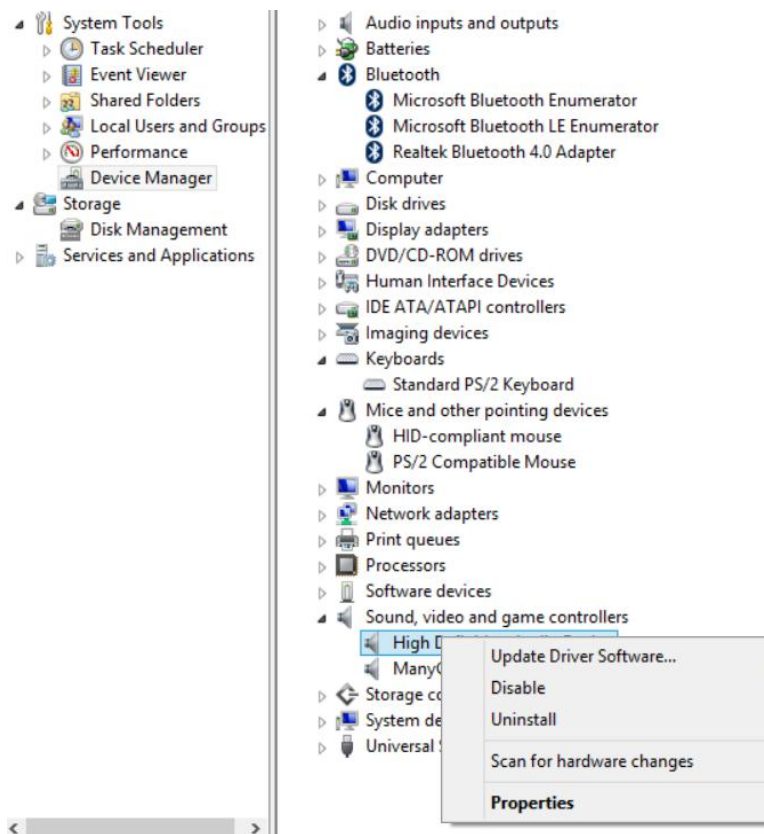
Device Manager Services and Applications

The **Device Manager** is a Control Panel applet in Microsoft Windows operating systems. It allows users to view and control the hardware attached to the computer. When a piece of hardware is not working, the incompatible hardware is highlighted for the user to deal with. The list of hardware can be sorted by various criteria.

For each device, users can:

- Supply device drivers
- Enable or disable devices
- Tell Windows to ignore malfunctioning devices (failing to function normally)
- View other technical properties

You can use Device Manager to view a list of hardware devices installed on your computer and set properties for each device, view and update the device drivers installed on your computer, check to see if hardware is working properly, and modify hardware settings..



What does a device driver do?

A **device driver** (commonly referred to as a **driver**) is a computer program that operates or controls a particular type of device that is attached to a computer. A driver provides a software interface to hardware devices, enabling operating systems and other computer programs to access hardware functions without needing to know precise details of the hardware being used.

A **driver** is software that a device uses to work with your PC. Every device needs a driver to work with your PC. Device drivers simplify programming by acting as translator between a hardware device and the applications or operating systems that use it.


A **driver** is a specially written program which understands the operation of the device it interfaces to, such as a printer, video card, sound card or CD ROM drive.

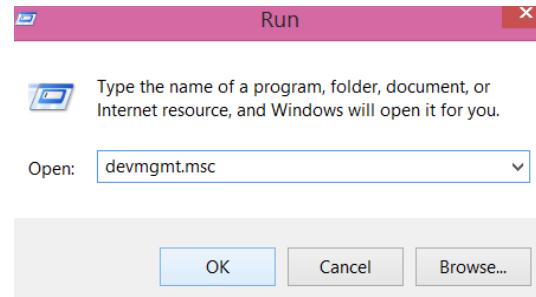
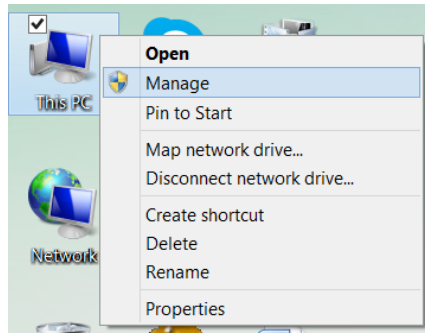
* It translates commands from the operating system or user into commands understood by the component computer part it interfaces with.

* It also translates responses from the component computer part back to responses that can be understood by the operating system, application program, or user.

When you connect a device to your PC, such as a printer, mouse, or keyboard, Windows automatically tries to install the correct driver for your device. Every device needs a driver to work with your PC. So, in many cases, you can plug in a device, and it'll work automatically, windows will automatically install the appropriate driver if it's available, this feature called **plug and play**. If it's not, Windows will prompt you to insert a software disc that may have come with your hardware device.

Open Device Manager : using one of the following

- By clicking the Start button , clicking Control Panel, clicking System and Security, and then, under System, clicking Device Manager. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.
- By R-click on computer and select manage then device manager.
- By run write devmgmt.msc



[Update a driver for hardware that isn't working properly](#)

If you have a hardware device that isn't working properly with your computer, you probably need an updated driver.

There are [three ways to update a driver](#):

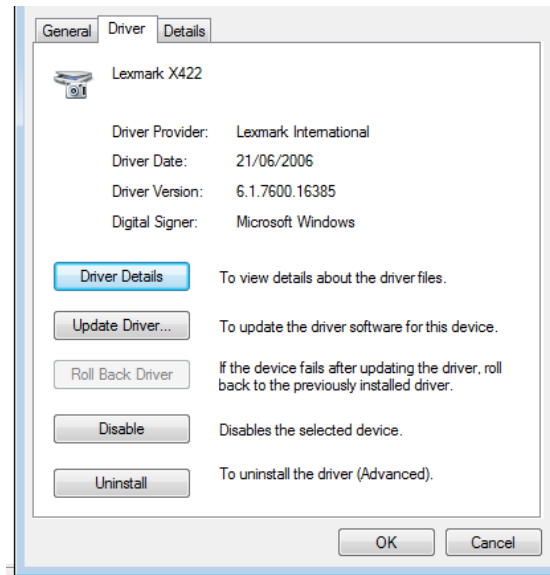
- [Use Windows Update](#). You might need to set Windows Update to automatically download and install recommended updates.
- [Install software from the device manufacturer](#). For example, if your device came with a disc, that disc might contain software that installs a driver for the device.
- [Download and update the driver yourself](#). Use this method to install a driver that you download from the manufacturer's website. Do this if Windows Update can't find a driver for your device and the device didn't come with software that installs a driver.

[Restore a driver to its previous version](#)

You must be logged on as an administrator to perform these steps.

If you encounter problems with your computer or device after upgrading its driver, you might want to restore the driver for a device to a previous version.

1. Open *Device Manager*. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.
2. Double-click the category containing your device driver, and then double-click the name of the *device* that you want to restore to a previous driver version.
3. Click the *Driver* tab, and then click *Roll Back Driver*.

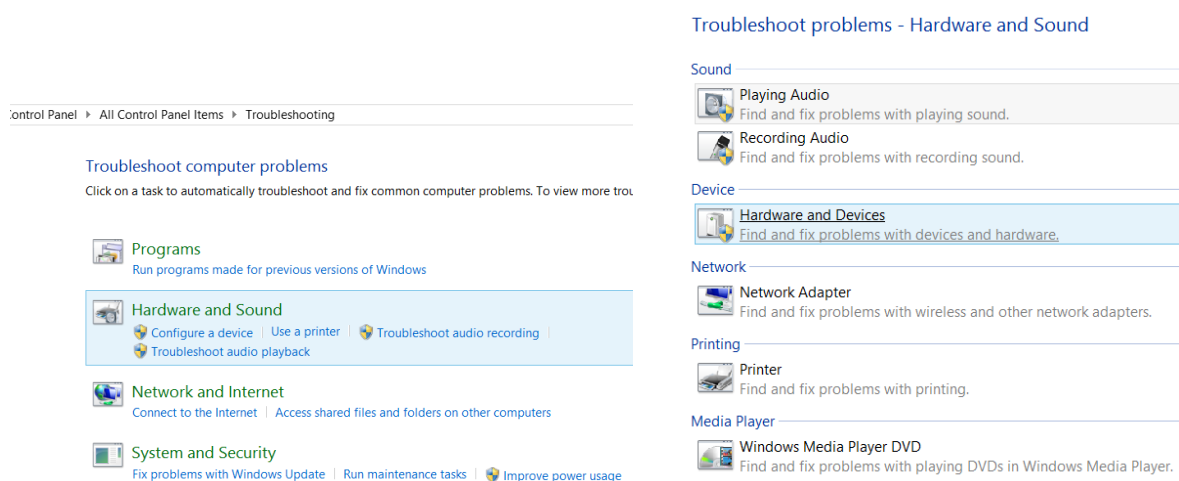


If you are logged on as a standard user, the button will be dimmed, which means it's unavailable. You must be logged on as an administrator to roll back a driver.

Hardware and Devices troubleshooter

If your computer is having problems with a recently installed device or other hardware, try using the [Hardware and Devices troubleshooter](#) to fix the problem.

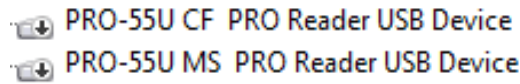
It checks for common issues and makes sure that any new device or hardware attached to your computer was installed correctly.



The Status of devices in Device Manager

▪ *Disabled device*

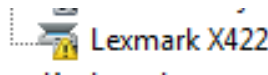
A disabled device has either been manually disabled by a user or by some way of error, this is denoted by a grey downward pointing arrow in the lower right-hand corner of the device's icon.



To resolve this, double-click the device, click the *Driver* tab and click the *Enable* button.

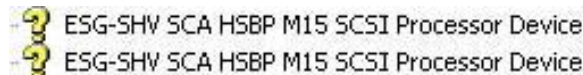
- **Hardware not working properly**

If Windows recognizes a problem with a device, it is denoted by a black exclamation point (!) on a yellow triangle in the lower right-hand corner of the device's icon.



- **Hardware not recognized (Unknown device)**

Windows does not have the proper driver support for a device, so that this hardware may not be recognized if it is not installed properly or not compatible with your system. This is denoted by a yellow question mark in place of the device's icon.

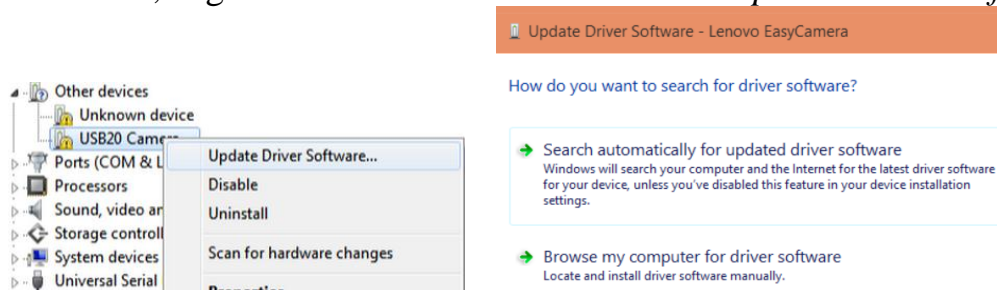


How to Find Missing Drivers for any hardware Components

If there are any components without drivers, you will find a category named *Other devices*



To install the drivers, Right click on the device and select "*Update Driver Software*".



Check for drivers using Windows Update

Even if you already receive automatic updates, you can manually check for and install updated drivers in optional updates. Windows Update doesn't install optional updates automatically, but will notify you when they are available so you can choose if you want to install them.