

External Device

We start with the easiest kind of hardware to replace, external hardware. This technology is the easiest to replace because it is simply connected with an interface port (SCSI , USB, IEEE 1394, etc.), and a power cable. The reasons for removing/replacing this kind of hardware are: 1) you have determined the hardware to be faulty, 2) the hardware has a conflict with another, more important, device, or 3) you simply don't want it anymore. Whatever your reason, here are the steps for replacing an external device:

Removing

1. Uninstall Device - This step is, in most cases, unnecessary. The Windows OS will recognize upon the next time that the computer is powered up that there is a change in the hardware configuration and make the necessary modifications. If you want to play everything safe though, you will want to make sure that you not only uninstall all of the device software that came with the device, but also delete the device from the Device Manager (see Control Panel page below for the steps necessary to accomplish these tasks). Note: This step is unnecessary if you plan on plugging in a replacement device that is the exact same device that you previously had installed (the computer will not recognize a change from when you shut it down to when you start it back up).
2. Turn Off Computer - You NEVER want to remove any device from your computer without first turning off your computer. Although computers have advanced to a point where disconnecting an external device may not cause any problems whatsoever, if you want to avoid any potential problems (now and in the future) you will turn off your computer before removing any installed device. There are sometimes situations where a manufacturer will tell you that it is OK, such as a device that is capable of Hot Plugging, but just to be safe you may want to do this anyway.
3. Turn Off Device - Once your computer is completely shut down you will want to turn off the power to the device you wish to remove. This step is almost unnecessary, but is a good habit.
4. Unplug Device Power - Today, it does not matter the order in which you unplug the cables, but, for ultimate safety, and good habits, you will want to remove the power before removing the cord that interfaces the device with you computer.
5. Remove Interface Cable - All communication is dead, it is now safe to remove the interface cable.

Adding

1. Check Computer's State - In order to add an external device to your computer it should be completely powered down and unplugged. If you have any doubts about your computer's state follow step (2) above.
2. Connect Interface Cable - Connect the device's interface cable to the appropriate open port (USB, SCSI , IEEE 1394, etc). It may be entirely likely that you will need

to buy some sort of adapter if you do not have the required port available on your computer (e.g. an adapter to convert USB to PS/2).

3. Plug in Device Power Cable - Plug in the device power cable to the device and to an available outlet. It is always a good idea to plug in any electronic device into a surge protector, as power surges can overload circuit boards, which in turn makes the device completely unusable.
4. Turn on Device - You want to make sure that the device is completely powered up when you restart your computer. When your computer powers up it automatically detects hardware changes and sets up any plug-and-play devices that it finds, having your device powered up and connected to your computer means that there will be very little work for you to do.
5. Turn on Computer - The drive is all set up, let's see if it installs correctly.
6. Install Device in Windows - There are very few devices that are currently on the market that Windows will not recognize and install upon startup, but if you encounter such a device you will have to use the installation disks that came with the device in order to have your computer communicate properly with it. Also, most device CDs come with added programs and utilities that you may find useful to have when working with the device.