

## The Monitor

A monitor is a piece of **computer hardware** that displays the video and graphics information generated by a connected computer through the computer's **video card**.

Monitors are similar to TVs but usually display information at a much higher **resolution**. Also unlike televisions, monitors typically sit atop a desk rather than being mounted on a wall. A monitor is sometimes referred to as a screen, display, video display, video display terminal, video display unit, or video screen.

Because there are so many different types of monitors and ways to use them, we've gathered together articles that can help you wade through everything. To use the guide, open the links in the navigation bar and click links on the individual articles that interest you. The guide is divided into five sections: Monitor Basics, Add or Connect a Monitor, Calibrate It Yourself, Troubleshooting Issues, and Our Recommendations: Best Monitors.

### General Monitor Description

On a desktop computer, the monitor connects via a cable to a port on the computer's video card or **motherboard**. Even though the monitor sits outside the main computer housing, it's an essential part of the system.

It's important to differentiate between the monitor and the actual computer, especially on a desktop system. Shutting off a monitor connected to the computer isn't the same as **powering down the actual computer**, whose components (such as the **hard drive** and video card) are housed within the **computer case**.

Monitors are built-in as part of the computer in laptops, **tablets**, **netbooks**, and all-in-one desktop machines. However, you can buy one separately if you want to upgrade from your current monitor or configure a **multi-monitor setup**.

Monitors come in two major types, **LCD** and **CRT**. CRT monitors, which are deep in size, look like old-fashioned TVs. LCD monitors are much thinner, use less energy, and provide better graphics quality. **OLED** is another type of monitor that's an improvement on LCD, providing even better color and viewing angles but also requiring more power.

LCD monitors have obsoleted CRT monitors due to the higher quality, smaller footprint on a desk, and decreasing price of LCDs. However, OLED monitors are still more expensive and therefore not as widely used in the home.



Most monitors range in size from 17 inches to 24 inches, but others are 32 inches or more, some even much wider like the gaming monitor shown above.

The size of a monitor is measured from one corner of the screen to the other, not including the outer casing.

Most monitors are considered output devices since they usually only serve the purpose of outputting information to the screen but some of them are touch screens as well. This type of monitor is considered an input/output device, or an I/O device.

Some monitors have integrated accessories like a microphone, speakers, a camera, or a USB hub.

## Important Monitor Facts

The most popular brands of computer monitors include [Acer](#), [Hanns-G](#), Dell, [LG Electronics](#), [Sceptre](#), Samsung, HP, and [AOC](#). You can purchase monitors from these manufacturers directly or through retailers like Amazon and Newegg.

A monitor usually connects to an [HDMI](#), [DVI](#), or [VGA](#) port. Other connectors include [USB](#), [Display Port](#), and [Thunderbolt](#). Before investing in a new monitor to use with your computer, make sure both devices support the same type of connection.

For example, don't buy a monitor that has an HDMI port when your computer is only capable of accepting a VGA connection. Although most video cards and monitors have multiple ports to work with various kinds of devices, it's still important to check their compatibility.

If you do need to connect an older cable to a newer port (such as HDMI to VGA) there are adapters for this purpose.

## How to Take Care of Your Computer Monitor

Your computer's monitor displays images on its screen, such as the Microsoft Windows7 desktop or a document in a software program. Because you'll be looking at the monitor every time you use your computer, you need to take care of it to maintain its longevity:

- **Use a surge protector.** Never plug your display directly into wall current. Instead, be sure to use a good-quality surge protector. Damage caused by an electrical spike ordinarily isn't covered by manufacturer warranties.
- **Keep the air vents open.** Never cover the air vents on the top or sides of a monitor. Doing so may result in a dangerous buildup of heat that can damage components or shorten their lives. Periodically, use a new paintbrush or the brush attachment of a vacuum cleaner to remove accumulated dust on the monitor's ventilation holes.

- **Leave your monitor on.** The most dangerous moment in an electronic component's life is when power is first applied, and the component goes from cold and uncharged to warm and full of electricity. Avoid turning your monitor on and off more than necessary.
- **Check the connections.** Make sure that the cable between the monitor and the video card is firmly attached at each end and not crimped or pinched. If you need to make adjustments and your monitor has a removable cable, unplug it and then re plug it into the receptacle on the monitor. This step could reset a loose connection and remove corrosion on any of the connectors.



- If that doesn't work, unplug and reconnect the monitor cable at the computer end. You may have to use a screwdriver or thumbscrew to unlock the connection before you can unplug it. Use these locking screws when you re plug the cable.

- **Safe proof your monitor.** Be sure that the monitor is safely installed on a sturdy desk, with its cable properly out of tripping range of passersby. And, of course, don't place cups of coffee or soda anywhere in the vicinity.

## **How to Work in Safe Mode on Your Computer**

When you run a computer in safe mode, you can start it, test most of its systems, and change certain settings. Safe mode is an excellent way to diagnose — and often fix — your computer's problems.

### **Start your computer in safe mode**

If you can start your PC in safe mode, its basic hardware probably isn't the cause of your problem. If you can't start your PC in safe mode, you have a problem with basic hardware or the basic elements of Windows. If your PC starts in safe mode all by itself, some component is preventing normal startup.

1. Remove any discs from the CD/DVD drive, if your PC has one and shut down your computer.

If you can't do a normal shutdown, press the Ctrl+Alt+Del key combination and then release the keys. Next, press and release the Alt key; press the U key to select the Shut Down menu; and press the U key to turn off the computer. (This works in XP, but not in Vista or Windows 7.)

2. Wait a few moments to allow the computer to shut off fully; then restart.

The computer begins processing its self-test, and you should be able to see messages on the screen, including advice on alternative ways to start the computer.

3. When the self-test is complete and the computer pauses before it begins loading Windows, repeatedly press and release the F8 function key on the keyboard.

Keep doing so until the Windows Advanced Options Menu screen appears.

If you begin tapping the F8 key too soon, you'll see a "keyboard error" message; restart the computer and try again. If you begin tapping too late, the computer will go on to load Windows, and you have to repeat the shutdown/startup process.