# **What Is a Video Card?**

The video card is an expansion card that allows the computer to send graphical information to a video display device such as a [monitor](https://www.lifewire.com/what-is-a-monitor-2618155), TV, or projector.

Some other names for a video card include graphics card, graphics adapter, display adapter, video adapter, video controller, and add-in boards (AIBs).

A staggering number of companies manufacture video cards, but almost every one includes a graphics processing unit (GPU) from either NVIDIA Corporation or AMD.

## Important Video Card Facts

Each [motherboard](https://www.lifewire.com/motherboards-system-boards-and-mainboards-2618154) supports only a limited range of video card formats so be sure to always check with your motherboard manufacturer before making a purchase.

Many modern computers do not have video expansion cards but instead have on-board video - GPUs integrated directly onto the motherboard. This allows for a less expensive computer but also for a less powerful graphics system. This option is wise for the average business and home user not interested in advanced graphics capabilities or the latest games.

Most motherboards with on-board video allow [BIOS](https://www.lifewire.com/bios-basic-input-output-system-2625820) to disable the chip in order to make use of a video card installed to an [expansion slot](https://www.lifewire.com/expansion-slot-2625870). Using a dedicated video card may improve overall system performance because it includes its own [RAM](https://www.lifewire.com/what-is-random-access-memory-ram-2618159), power regulators, and cooling so that the system RAM and [CPU](https://www.lifewire.com/what-is-a-cpu-2618150) can be used for other things.

## What Video Card Do I Have?

In Windows, the easiest way to see what video card you have is to use [Device Manager](https://www.lifewire.com/device-manager-2625860). You can find the video card listed under the Display adapters section.

Another way to see what graphics card you have is through a [free system information tool](https://www.lifewire.com/free-system-information-tools-2625772) like [Speccy](https://www.lifewire.com/speccy-review-2625770), which identifies the manufacturer, model, BIOS version, device ID, bus interface, temperature, amount of memory, and other video card details.

Opening the computer case is another option, allowing you to see for yourself what video card is installed. Doing this is of course required if you plan to replace the video card, but just identifying information about it is best done through the software mentioned above.

## How to Install or Update a Video Card Driver

Like all hardware, a video card requires a device driver in order to communicate with the operating system and other computer software. The same process you'd use to update any sort of hardware applies to updating a video card driver.

If you know what video card driver you need, you can go to directly to the manufacturer's website and manually download it. This is always the best way to get drivers because you can be confident that the driver is stable and doesn't contain any malware.

If you don't know the specific video card driver that you need, or if you'd rather not download and install the driver manually, you can use a free program to automatically detect the driver you need and even download it for you.

## Benefits

The primary benefit of running two graphics cards is increased video game performance. When two or more cards render the same 3D images, PC games run at higher [frame rates](https://www.lifewire.com/optimizing-video-game-frame-rates-811784) and at higher resolutions with additional filters. This extra capacity improves the quality of the graphics in games. Most graphics cards render games up to [1080p](https://www.lifewire.com/720p-1080i-1080p-explained-3276378) resolution. With multiple graphics cards, games run at higher resolutions, such as on [4K displays](https://www.lifewire.com/4k-resolution-overview-and-perspective-1846842) that offer four times the resolution. In addition, multiple graphics cards can drive [multiple monitors](https://www.lifewire.com/multiple-monitors-833039).

A benefit using an SLI or Crossfire-compatible motherboard is that a PC can be upgraded at a later time without replacing the graphics card. A second graphics card can be added later to boost performance without removing the existing graphics card. Manufacturers upgrade graphics cards about every 18 months and a compatible card may be difficult to find after two years.

## Requirements for Dual Graphics Cards

To use dual graphics cards, your computer needs AMD or Nvidia technology that links the cards together to produce a single output. The AMD graphics solution is called [CrossFire](https://www.amd.com/en/technologies/crossfire" \t "_blank) and the Nvidia solution is named [SLI](https://www.nvidia.com/en-us/geforce/products/10series/geforce-gtx-1080-ti/#sli/). For each of these solutions, the computer must have a [compatible motherboard](https://www.lifewire.com/pc-motherboard-buyers-guide-833070) and the [motherboard](https://www.lifewire.com/motherboards-system-boards-and-mainboards-2618154) must have the necessary PCI Express graphics slots. Dual graphics cards also require a desktop case that is large enough to fit the extra hardware and a power supply that can run multiple cards. The cards must be linked using a bridge connector; which may be included with either the GPU or the motherboard. Finally, the SLI or Crossfire feature must be enabled in the GPU driver control panel.

## Who Should Run Dual Graphics Cards?

If you don't play video games or use two monitors with your computer, you won't see an improvement in system performance by running dual graphics cards. The cost of the motherboard, the cards, and the other core hardware can be expensive.

However, if you run games across several displays or at extreme resolutions, dual graphics cards will improve your game speed and enjoyment.

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<https://www.lifewire.com/multiple-graphics-cards-834088>