



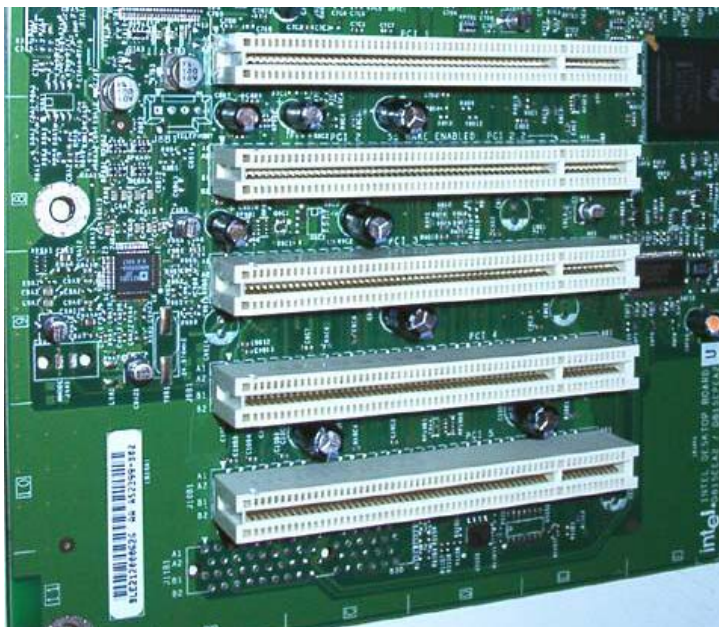
What type of graphics card will work with my computer?

The very first thing that you must determine when selecting a video card is what type of video bus your computer has. That will determine what type of graphics card your computer can accept. Different video bus types can accommodate video cards of varying speeds. There have been a lot of different video busses used over the years, but there are really only three types that are widely used today; PCI, AGP, and PCI Express (typically referred to as PCI-E)

PCI

Of these bus types, PCI is the oldest. Intel debuted the PCI bus when they released the original Pentium computers. A PCI graphics card simply plugs into a PCI slot just like any other PCI based expansion card would.

PCI graphics cards work, but they are quickly becoming extinct. The reason for this is that the PCI bus simply isn't fast enough to keep pace with many of the graphics related demands placed on today's computers. At first, the problem of a PCI bus being too slow probably seems like something that would only be a problem for gamers. You have to remember though that PCI graphics adapters were first introduced in the mid 1990s. At that time, nobody used video resolutions that are considered standard today, and Windows 95 was the hot new operating system of the time. Windows XP and Vista places a much higher demand on the video card than Windows 95 ever did. As below the PCI slot is mainly WHITE in colour although sometimes can be RED and you will have 3 or more of them.



AGP

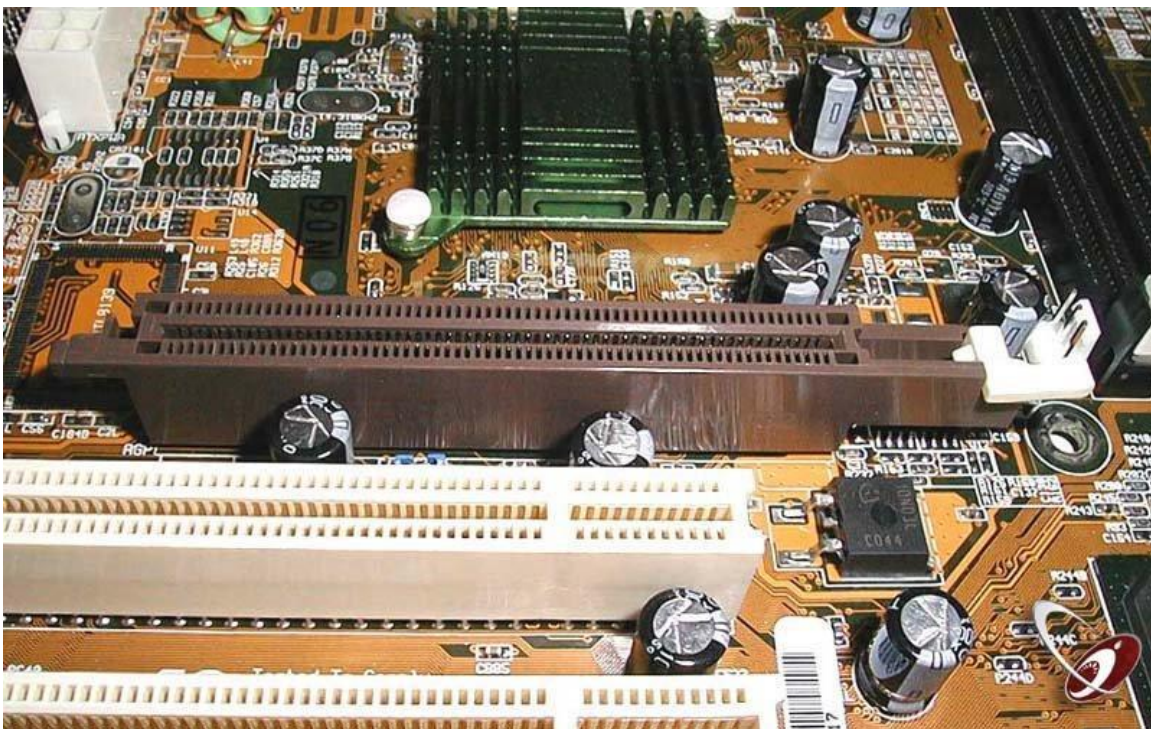
In order to give computers the ability to use higher end graphics, the Accelerated Graphics Port (AGP) was introduced. The reason why AGP is so much faster than PCI is because the AGP socket is connected directly to a computer's Northbridge, rather than to the PCI bus. This means that the AGP slot is not limited to running at the speed of the system's PCI bus.

Although most people simply refer to AGP-based video cards as "AGP cards," there have actually been four generations of AGP cards. The only difference between these various generations of AGP cards is the card's throughput. Throughput refers to the amount of data that the bus can accommodate (not including error checking) within a specific amount of time.

The various generations of AGP cards are usually referred to in terms of a multiplier. First generation AGP devices are now known as AGP 1X, and have a throughput rate of 264 Mbps. AGP 2x devices have double the throughput of AGP 1x devices, with a total throughput of 528 Mbps. An AGP 4x device has a throughput of approximately 1 Gbps, while an 8x AGP card offers a throughput of roughly 2.1 Gbps.

If your system is designed to accept AGP graphics cards, then the higher the multiplier number (8x being the highest), then the better the card will perform. I recommend checking to see which AGP devices your system board can accommodate though. Many system boards can accept any AGP based video card. Some of the newer system boards will only accept 8x AGP cards, and some of the older system boards will only accept the older AGP cards.

As below the AGP slots are BROWN in colour and sometimes GREEN and set further back than the PCI slot.



PCI-E

Just as AGP graphics cards have pretty much completely replaced PCI graphics cards, PCI-E graphics cards are starting to replace AGP cards. In order to accommodate a PCI-E graphics card, a system board must have a PCI-E slot. Typically, system boards that have a PCI-E slot will not have an AGP slot.

As with AGP, there are different speeds of PCI-E slots. At the present time, there is a PCI-e 1X, 4X, 8x, and 16X PCI-E specification. Currently though, only the 16X variety of PCI-E is used for video cards. The other PCI-E specifications are used for normal expansion cards (for NICs, modems, and things like that). At the present time, PCI-E offers the fastest graphics bus available. As you may recall, an 8x AGP video card has a throughput of roughly 2.1 Gbps. By way of comparison, a 16X PCI-E graphics card has a throughput of 4 Gbps.

A PCIE slot can come in many colours, BLACK, BLUE, YELLOW, ORANGE and will not be set as far back as an AGP slot and will be thinner.

Some Motherboards will have two PCIE slots available so you can SLI (NVIDIA) or CROSSFIRE (ATI) the cards together

