Helpdesk

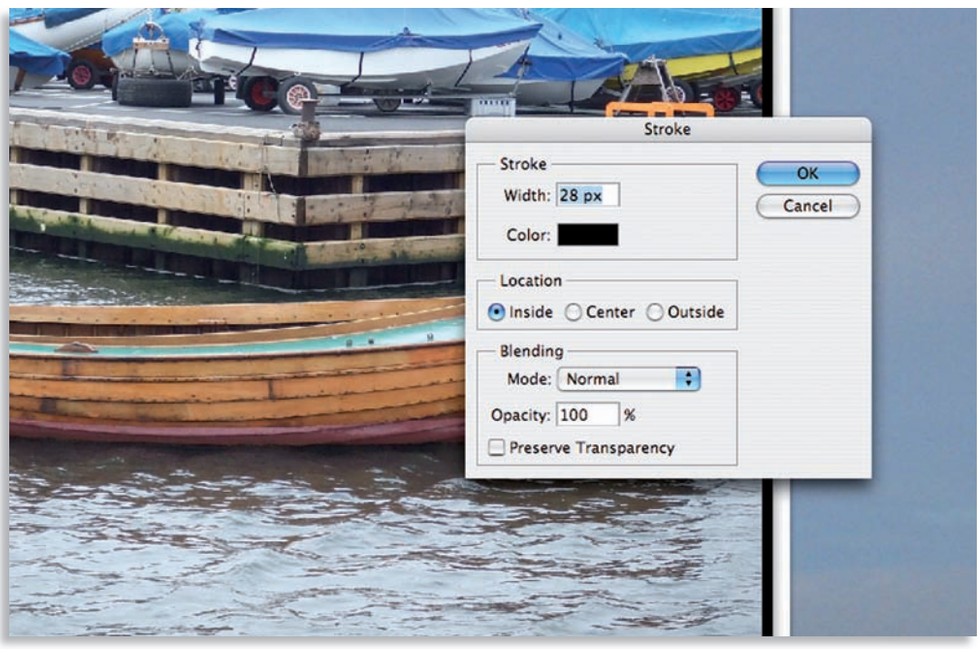
Our Photoshop pro tackles your editing woes and sets you on the path to image enlightenment BY **JULIE EASTON**

PERFECT KEYLINES

I am relatively new to Photoshop CS and I want to know how I can add a keyline around the outside of my finished artwork. This seems to be such a simple thing to do, but I can't work out a way of doing it.

Simon Holmes

The simplest way to add a keyline to an image is to go to Edit>Stroke. You can pick the size, colour and position of the stroke from the dialog box that comes up. If you want to enter a value in centimetres rather than pixels, type the value followed by 'cm' and Photoshop will convert that value into pixels. The only problem with this method is that you have to sacrifice the edges of your image. You can get around this by using a different method. Open your image and then go to Image>Canvas Size. Enter a value that is double the width of the keyline you require (this is because it will add half the value to the top and half to the bottom), and make sure that the background colour is set to whatever colour you wish your keyline to be. This will give the appearance of a keyline, without any loss of picture.



ADDING A KEYLINE: *Use the Edit>Stroke command to add a keyline to your image, or extend the canvas size to preserve the whole of an image*

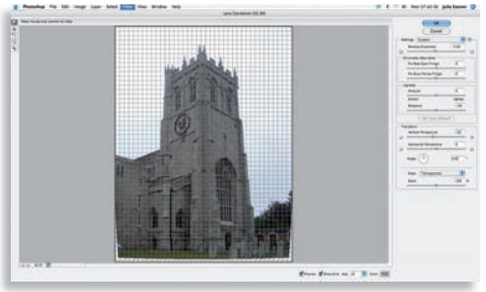
"THERE ARE A NUMBER OF TYPES OF DISTORTION PRESENT IN ARCHITECTURAL IMAGES"

STRAIGHTEN IT OUT

I'm not really a photographer, but I really need some photographs of old buildings to incorporate into my design work. All my attempts thus far have resulted in noticeable distortion. Rather than having to go back out and shoot all my source images again, will the Lens Correction filter in Photoshop help straighten things out?

Carrie Turner

There are a number of different types of distortion that are likely to be present in architectural images and often these will only show up once you start using the Lens Correction filter. The most obvious form of distortion in this type of photograph is keystoning, where you get converging verticals and the top of the image appears wider than the bottom. This happens because you are often pointing the camera upwards in order to capture the top of the building. To correct this, use the Vertical Perspective slider. Once you have done this you may find that your image suffers from bad composition, with the building itself not quite vertical. The Straighten tool will help you to sort this out (it's the second button down on the left-hand side of the Lens Correction dialog). Finally, you can sort out any barrel distortion that has become apparent. This is done using the Remove Distortion slider. You will have to make all these adjustments a little at a time, so that you can see the effect. Going over the top will only make things worse.



ARCHITECTURAL WOES: *The Lens Correction options can look overwhelming, but they can really help sort out problems common with architectural images*

SHAKE IT

I'm looking at buying a new camera and as I do a lot of action photography I want a good image-stabilisation system. However, I don't know whether I am better going for a lens-based system, or a sensor-shift system. Which gives better results?

Thelma Harris

It is hard to say whether one system gives better results than others. Sensor-shift technologies are relatively new and it is unlikely that many professional photographers have tried both in order to give an accurate comparison. Also sensor

SHAKE IT: *The new Sony Alpha DSLR uses sensor shifting to stabilise images*

shifting is less common on high-end cameras, though this is beginning to change. There are advantages to both methods, but one thing to consider is whether you will be purchasing a number of different lenses and whether you are likely to upgrade often in the future. Lens-based systems mean that they will work with any compatible body, whereas sensor-shift solutions should give the same level of stabilisation whatever lens you use with one body. It is better to take into consideration other factors of a new camera, such as high ISO settings, wide shutter speed range, continuous shooting capabilities and sturdy build, all of which are important in action photography.

NEW COMPUTER

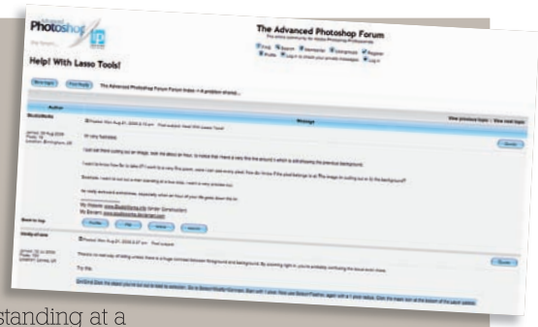
I really need to upgrade my four-year old computer to meet the demands of my image-editing work, but working for myself I am trying to stick to a tight budget. Which features are the most important for image-editing tasks?

John Barrow

One thing that you don't want to scrimp on and yet is often overlooked is the screen. CRTs are becoming a thing of the past and you are likely to get an LCD with your new computer purchase. Most budget PCs come with a 15-inch screen, and this really isn't going to cut the mustard for heavy-duty image editing. We recommend investing in a 17-inch or 19-inch model for a better working area. Another important factor is the viewing angle, which you want as wide as possible in order to be able to view the whole of your image accurately. Make sure that you invest in a good screen calibration kit to ensure perfect colours. There's a lot of talk about dual-core processors at the moment and you've probably seen this in your hunt for a PC. However, we feel that for your needs this is less important, as it is there to allow you to do two things at once, whereas single processors backed up by enough memory will cope just as well. Look instead for the most RAM and Hard Drive memory that you can afford. Images and Photoshop files take up gigabytes of space, and will slow your computer down if there's not enough room for them all. Finally don't worry too much about getting a high-power graphics card; unless you're a hardcore gamer, you probably won't see the benefit. Once you've got your base computer sorted, use any left over cash to invest in essential peripherals, like a good printer, graphics tablet and spare Hard Drive, all of which will make your new PC more efficient.

ON A BUDGET: *Check out PC World for great value PCs, where you can refine your search to suit your needs*

CUT IT OUT



I'm very frustrated. I just sat there cutting out an image. It took me about an hour, only to notice that I have a very fine line around it, which is still showing the previous background. I want to know how far to take it? I work to a very fine zoom, where I can see every pixel. How do I know if the pixel belongs to: a) the image I'm cutting out, or b) the background? I want to cut out a man standing at a bus stop and I want a very precise cut. It's really awkward sometimes, especially when an hour of your life goes down the tin.

StudioWorks, on the forum

This question was posted on the Advanced Photoshop forum. Plenty of you jumped at the chance to help out, with some great tips that other readers could benefit from. Trinity-of-one suggests that you Ctrl-click (or Cmd-click on a Mac) to load its selection. Then go to Select>Modify>Contract, entering a value of 1px. Feather the selection with a 1px radius and click on the Layer Mask button at the bottom of the Layers palette. This should give a smoother blend and the mask can be undone if it goes wrong. Garry79 adds that you could introduce a brightly coloured layer between the cut-out and the background to see the outline more clearly. We think that these are top tips and show exactly why the forum is so useful.

SUPERSIZE GRAPHICS

I love working with a graphics tablet, as it allows me to be more creative with my work. I want to invest in a new tablet, as my A4 one is just not big enough anymore. I get carried away and end up running my pen off the edge of the screen. What options do I have for upgrading?

Dominique Turner

Wacom really are your best option for graphics tablets. The Intuos range goes up to A3, which may be enough for your needs. However, we think that a great option is the new Cintiq 21UX, which offers a different way of working for graphic designers and image editors. The tablet is a whopping 21 inches, and acts as both a screen and a tablet. What this means is that you draw directly on your display, rather than on a separate tablet. You won't find a bigger working area in the world of tablets yet, but we can see this being a popular solution. It is more expensive than standard tablets, though, and if price is an issue you should take a look at the large-scale A3 tablet instead.

HERE'S A TIP: *The new Cintiq 21UX gives a new way of working for tablet lovers*

HELPDESK
CALL FOR QUESTIONS

Want help with your Photoshop problems? Then let our team of experts sort you out.

Send your emails to us at:
advancedpshop@imagine-publishing.co.uk

Remember to specify whether you are using a PC or Mac and the version number of your edition of Photoshop.

GRAPHICS CARDS

Need a new one? You might be surprised at how much money you can save…

Upgrading your PC is a minefield of technical terms and incompatible standards, and this is particularly true when it comes to graphics cards. Years ago it was all fairly simple – PCs came with chipsets that allowed them to display basic 2D graphics and little else. But with the release of 3D-capable games consoles, new companies appeared offering advanced 3D add-on cards, and eventually these also replaced the 2D chipsets.

Today's graphics cards are powerful processing units with as much on-board RAM as the average home PC, but the trouble is there's such a huge amount of choice that it can be difficult to know what to look for, and the situation isn't helped by a plethora of confusing jargon and obscure, meaningless model numbers.

Although there's a great variety of models, there are only two brand names really worth considering – Nvidia and ATi. Other makes such as Matrox and 3D Labs were once major contenders but now produce specialist hardware that isn't intended for general home use.

The differences between Nvidia and ATi are largely irrelevant for most of us. There was a time when Nvidia had more stable drivers and generally faster hardware, but ATi's software and hardware caught up a while ago and now they're an equal match. Both are embroiled in a constant battle to get one-up on the other to the point where every month or two a new 'world's fastest' graphics card will be announced, only to be bested a short time later by the other company.

> "FIRST DECIDE WHAT YOU WANT TO DO WITH YOUR NEW CARD"

When it comes down to it though, you can't tell the difference between two cards of a similar specification in most situations once they're plugged in without running benchmarking software, so your choice is going to be decided by whichever happens to offer the best features or value to suit your needs at the time.

Manufacturers license the designs from the two companies and produce their own products based around the chipsets, which can result in two cards with the same base design that differ wildly in price, performance and features. Some will be optimised for performance with large high-speed fans, more memory, faster clock speeds and a higher price tag to match, while others could be fitted with silent heatsinks to reduce the noise of your internal components or might have less RAM to bring down the price.

You'll also find that the same model from different manufacturers can have different outputs and inputs, but unless you're planning on editing video it isn't likely to be of much concern – though there are now graphics cards out there that support HDCP, meaning they'll let you output protected high definition content once it becomes available (and assuming the rest of your system also supports HDCP).

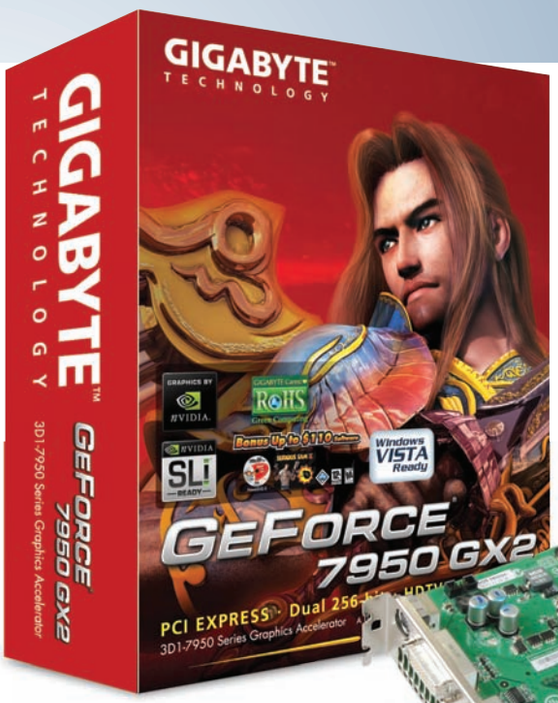
Embellishments and extras aside though, pay particular attention to the clock speed of the GPU, memory and memory speed and also the number of pipelines, as this defines how powerful the hardware will be. The general rule is usually the higher the number the faster the card, but as with many things relating to PC hardware this doesn't always prove to be true, so it's worth doing some investigating to compare benchmarking results.

You'll often find sub-£100 cards with engine clock speeds that compare to pricier models, but the difference will be the number of pipelines and the amount and speed of memory. And although there are cards with 1GB RAM, you don't need to worry about buying something with that amount unless you're planning on doing some serious gaming and want a card that's future proof. Right now 256 or 512MB is quite sufficient for most users.

Before rushing out to buy anything, though, you need to decide what you want to do with your new card and how much you're willing to spend.

If you're into gaming at all, you'll want to be looking at mid-to-high-end cards with plenty of memory and fast clock speeds, and it goes without saying that aside from specific requirements like particular types of inputs or outputs, these will also be more than sufficient for handling other tasks like graphics and video work – there are some geared toward video editing which include accessories such as breakout boxes with extra connections.

But if you're not concerned about game performance or don't have specialist requirements, you can save a great deal of money by looking at the lower end of the market. If you use Photoshop, browse the web and do some word processing,



Gigabyte Nvidia 7950 GX2

Web: www.gigabyte.com.tw
Best Froogle price: £368.94 / $545.99

Specifications

Core clock: 500MHz
Memory: 1GB GDDR3
Memory speed: 1200MHz
Connections: 2x DVI, TV-out, HDTV support

MSI Nvidia NX7900GTX

Web: www.msi.com.tw
Best Froogle price: £248.16

Specifications

Core clock: 450MHz
Memory: 256MB
Memory speed: 1320MHz
Connections: 2x 2x DVI, TV-in/out, HDTV support

> "EVEN THE CHEAPEST STANDALONE CARD IS MORE THAN CAPABLE OF DRIVING WINDOWS"

there's absolutely no need to buy high-spec graphics hardware because even the cheapest standalone card is more than capable of driving Windows. If you don't use any apps that need the rapid processing of 3D visuals, the more expensive products are a waste of money.

If you're on a really tight budget you might consider using the built-in graphics chipsets that are included on many systems (usually found in cheap mass-produced units), but the reality is that while it may sound tempting you're better off spending a little on a cheap dedicated card. For one thing, these on-board graphics processors utilise the system memory, which can take quite a chunk off the available RAM and have an impact on the performance of memory-hungry applications. Another concern is that they're not capable of reaching high resolutions and so are unable to drive larger monitors – something which could be a real hindrance for designers using the latest generation of widescreen displays.

We can't stress enough, though, how important it is not to spend money on hardware you don't need. Don't be fooled by the marketing and flashy packages on high-end graphics cards. Unless you're a gamer or have some other specific need for a computer that can crunch complex 3D imagery, a powerful graphics card is a waste of money.

One final point to remember is to take the rest of your system into consideration. A shiny new card is wasted if your processor is old or you don't have enough hard disk space or RAM – the slower components will simply cause a bottleneck. Make sure the rest of your system is also up to the job of handling whatever tasks you have in mind, and make components like the processor and memory a priority before considering the display.

Also remember that there are currently two types of interfaces for graphics cards found on motherboards, so you'll need to make sure you buy the correct type. AGP – Accelerated Graphics Port – is the older type and still very common. If your system is a few years old, chances are you've got one of these. PCI-Express is the newest interface and is now standard; any system bought in the last year or so is very likely to support PCI-E. AGP is not compatible with PCI-E and vice versa, so make sure you buy the correct type or you'll have to waste time returning and exchanging the part.

If you don't have either of these connections on your motherboard, you will have the older PCI connection which is also used for many other expansion cards – but if this is the case we'd recommend buying a new computer. PCI cards are still readily available on eBay and other sources, but you're far better off upgrading the entire system.

SLI and Crossfire

You will very likely notice the terms 'SLI' and 'Crossfire' being thrown about in reference to graphics cards. This is another thing that non-gamers can safely ignore. Both are technologies (SLI is Nvidia, Crossfire is from ATi) for running two or more cards in parallel, so that the processing is shared across all of them in order to give much greater performance. Obviously though, this doubles the cost because you have to purchase two cards – not to mention the fact that you must also have an SLI or Crossfire-capable motherboard which has two PCI-Express slots.

graphics cards

Gigabyte ATi X1900XTX

Web: www.gigabyte.com.tw
Best Froogle price: £331.81 / $513

Specifications
Core clock: 650MHz
Memory: 512MB GDDR3
Memory speed: 1600MHz
Connections: 2x DVI, TV-out, HDTV support

MSI ATi X1600XT

Web: www.msicomputer.com
Best Froogle price: £83.70 / $155.08

Specifications
Core clock: 587MHz
Memory: 256MB GDDR3
Memory speed: 1386MHz
Connections: 2x DVI, TV-in/out, HDTV support

MSI ATi RX1800GT

Web: www.msicomputer.com
Best Froogle price: $164.03

Specifications
Core clock: 625MHz
Memory: 512MB GDDR3
Memory speed: 1500MHz
Connections: 2x DVI, TV-in/out

Benchmarking

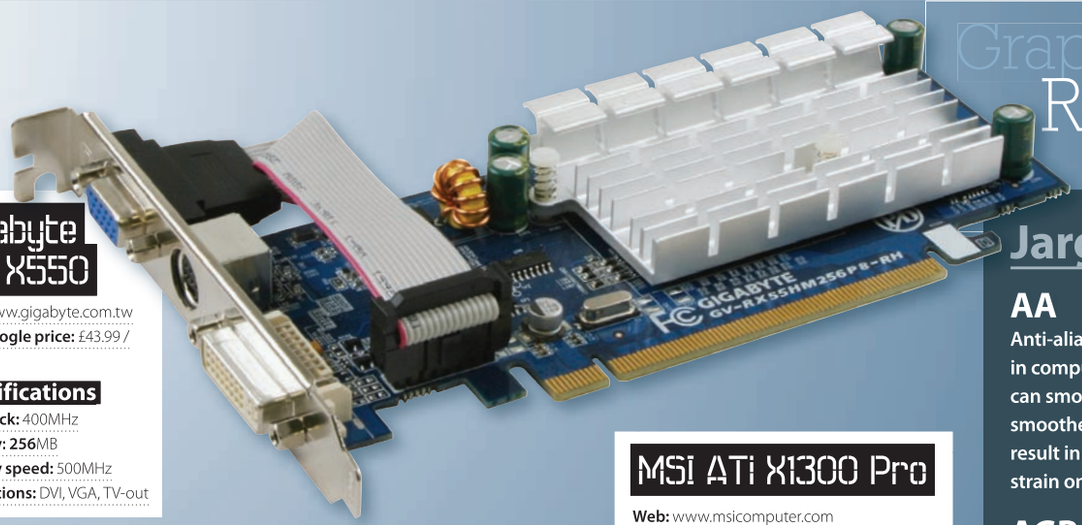
If you take two graphics cards with roughly similar specifications and run them side by side, you'd be hard pressed to notice any kind of difference. Assuming they support the same technology, the image is going to look much the same. So to properly test graphics cards, benchmarking tools are used which push the hardware to its limits, recording the results and allowing you to compare it to other cards. Some benchmarks are comparative, like the well-known 3DMark, producing scores which are meaningless unless sat next to results from other hardware using the same application. For more realistic, and arguably useful, results we use real-world tests, which are done by recording the frames per second (FPS) of a recent game to demonstrate the actual performance of a graphics card. It's usually only hardware and gaming fanatics or reviewers who use benchmarks, but if you want to bench test your own hardware you can do so easily and for free. The basic 3DMark application can be downloaded for nothing from **www.futuremark.com**, and you can use an application such as FRAPS, found at **www.fraps.com**, to display and record the FPS of any game. However, you will find that many titles include that capability already, usually activated by a command-line switch or in-game command.

PNY Nvidia 7300GS

Web: www.pny.com
Best Froogle price: £51.65 / $72.99

Specifications
Core clock: 550MHz
Memory: 256MB DDR2
Memory speed: 533MHz
Connections: DVI, TV-out, HDTV support

Graphics cards ROUND UP



Gigabyte ATi X550

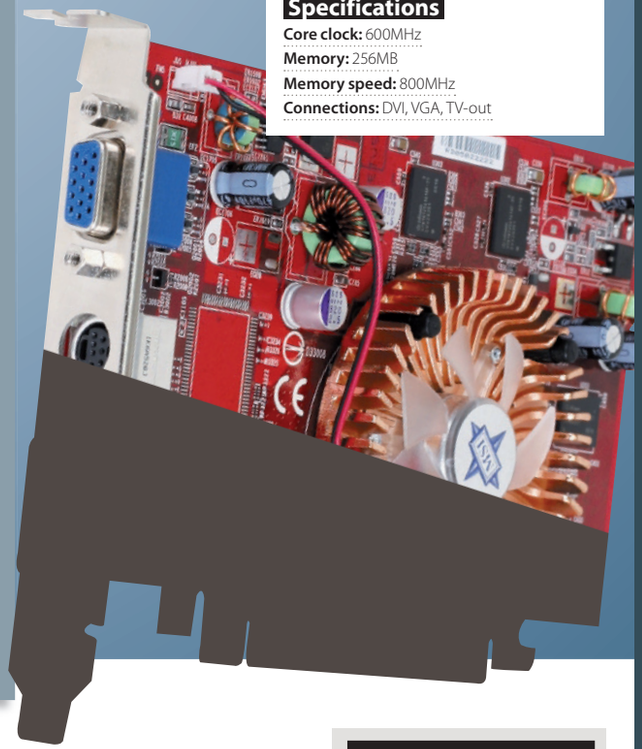
Web: www.gigabyte.com.tw
Best Froogle price: £43.99 / $73.09

Specifications
Core clock: 400MHz
Memory: 256MB
Memory speed: 500MHz
Connections: DVI, VGA, TV-out

MSI ATi X1300 Pro

Web: www.msicomputer.com
Best Froogle price: £51.27 / $77.17

Specifications
Core clock: 600MHz
Memory: 256MB
Memory speed: 800MHz
Connections: DVI, VGA, TV-out



MSI Nvidia NX7600GT

Web: www.msicomputer.com
Best Froogle price: £121.48 / $174.90

Specifications
Core clock: 500MHz
Memory: 256MB GDDR3
Memory speed: 1530MHz
Connections: 2x DVI, TV-in/out, HDTV support

Gigabyte Nvidia 6600GT

Web: www.gigabyte.com.tw
Best Froogle price: £119.99 / $99

Specifications
Core clock: 500MHz
Memory: 256MB DDR2
Memory speed: 800MHz
Connections: DVI, VGA, TV-out

Jargon

AA
Anti-aliasing is a way of reducing 'jaggies' in computer-generated images. While it can smooth out jagged edges to give a smoother, more natural image, this does result in some blurring and increases the strain on the graphics card.

AGP
Accelerated Graphics Port. Interface designed specifically for graphics cards to replace the general-use PCI connection. AGP offers much higher speeds than PCI and these cards are still very common. You can easily pick up a powerful AGP card for less than £100.

Dual-link
Some newer widescreen monitors have very high resolutions, but you need a graphics card that supports dual-link connection. If you plan on driving a 30" display, make sure your graphics card and monitor cable are both dual-link.

GPU
Graphics Processing Unit. This is the processor at the heart of every graphics card, and it's designed to handle complex graphics processing tasks. The core clock or core frequency tells you the speed of the GPU on a particular card.

RAM
Random Access Memory. Just like the RAM in your PC, graphics cards use RAM to temporarily store data. The more you have the more info can be shunted there, speeding up load times and performance.

PCI
Peripheral Component Interconnect. An interface designed by Intel, this has been in use for many years now and is still the standard connection for sound boards, video adaptors and other expansion cards. PCI graphics cards are still available but not as common as AGP.

PCI-Express
Intended as a replacement for PCI and AGP, it's currently only used for graphics cards. It has a far higher bandwidth than other interfaces, so all the new high-performance graphics cards support it. Any new system should have at least one.