

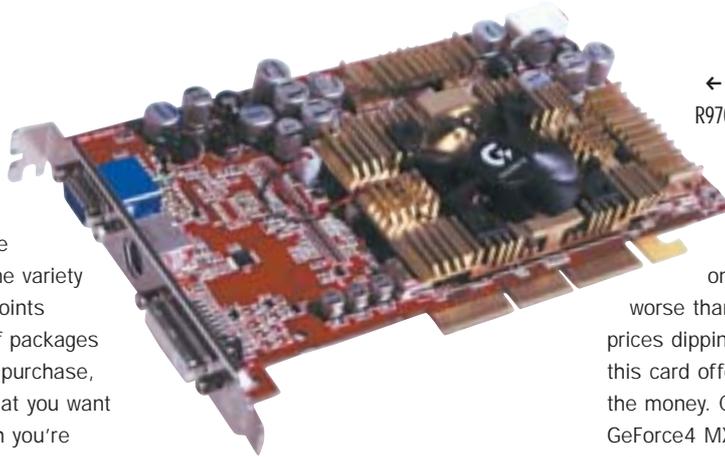
buying advice: graphics cards

Graphics cards: they all look the same, so how do you tell them apart? Price is obviously a main differentiator, but not necessarily the one you should use to make a choice. It can be hard to know what to look for in this component, so here's our guide to the market

The same names may dominate graphics card feature after graphics card feature, but that doesn't make the choice any easier when you're buying a new card. Indeed, the variety of different chips and price points culminate in such a variety of packages that, before going to make a purchase, you should try and decide what you want from your card and how much you're prepared to pay.

Chips and cards

The key to a good graphics card is the chip. And here we have the first point of confusion – the difference between a graphics chip manufacturer and a graphics board manufacturer. Just as Intel and AMD make processors but don't physically build any PCs, so the manufacturer of the graphics chip may not necessarily build the graphics card. For example, nVidia manufactures the GeForce4 family of



← Our new Best Buy, the Gigabyte Maya II R9700 Pro, features ATI's pricey Radeon chip

Bargain boards

If you're looking to upgrade your graphics engine on the cheap, you could do worse than ATI's Radeon 9000 Pro. With prices dipping well below the £100 mark, this card offers incredible performance for the money. Cards featuring the nVidia GeForce4 MX 440 and 460 chips are good value at around the £60 mark, as is the SIS Xabre 400. You should expect no more than 64MB of memory on sub-£100 cards, although make sure you're getting DDR (double data rate) RAM rather than the older and slower SDR variety.

chips, but other companies (Gainward, Chaintech, Albatron, PNY and so on) construct the actual cards.

High end, high price

Right at the top end we have cards featuring the new ATI Radeon 9700 Pro chip. Retailing for around £250, these are an expensive option but worth it if you live and breathe computer games. The graphics quality is superb, the speed is unrivalled and the 9700 Pro's advanced technology will keep it abreast of new developments in the gaming world.

The only drawback is that the former market leader, nVidia, has a new product slated for release in the coming months and the cautious may want to wait before committing themselves. In the future 256MB versions will become available but, in the meantime, 128MB should be enough.

In the middle ground

Former graphics colossus nVidia's GeForce4 Ti 4600 chip can still whip up a storm. If you want to snap up a bargain, you could invest in one of these if it falls around the £150 mark. Alternatively, the GeForce4 Ti 4200 is a good middle-of-the-road chip that works beautifully with most of today's games. Boards featuring the GeForce4 Ti 4200 cost around £120, although make sure the card comes with 128MB (rather than 64MB) of memory.

Two screens are better than one

The digital revolution hasn't yet gone into full swing, but if you can find a card with a DVI (digital visual interface) connector this could save you an upgrade in the future. Most £100-plus cards now come with two connectors and generally one of these will be a DVI. The real benefit is that you can plug in two monitors and double your workspace. These facilities are now offered by the nVidia GeForce4 Ti (nView) and ATI Radeon 9700/9000 (DualView) cards. The Radeon 9000 Pro cards also offer dual-screen functionality despite their sub-£100 price tags, making them the perfect choice for users that don't yearn for top-flight frame rates.

Socket to 'em

In the future expect more PCs to come with 8x AGP ports (the new standard graphics card slot on the motherboard). To take advantage of this you'll also need a graphics card that supports 8x AGP. This isn't a top priority since, despite being dedicated to graphics, AGP ports haven't made a large amount of difference in the past. If you have the choice, though, specify a card with 8x AGP to be sure of wringing the last ounce of speed from your graphics system. ■

Cheap but cheerful

Buying a budget graphics card doesn't mean you can't enjoy the latest games, you just won't necessarily be able to have all of their features turned on.

The most effective way of making the best of a cheap card is to play at a lower resolution. It's the screen resolution that defines how many pixels are used to construct the image. Play a game at a resolution of 1,024x768 and you'll see much less detail (and less well defined graphics) than you would at a resolution of 1,600x1,200. The bonus is that, whereas the graphics might be slow and jerky at 1,600x1,200, drop to 1,024x768 and gameplay will be fast, smooth and thoroughly engrossing.