Media Centre PC
Hi-Grade Xperian

EXCLUSIVE

Hi-Grade Xperian

☐ Hi-Grade: 020 8532 6100
☐ www.higrade.com
☐ £1,249 ex VAT

Specifications

2.66GHz Pentium 4; 512MB RAM; 120GB hard drive; 17in flat-panel display (1,280x1,024 max res); DVD/CD-RW combo drive

Good points

Fast TV, DVD and CD access; sleek design; very good value for money

Bad points

No USB recharger for wireless keyboard

Build quality
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Features
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Value for money
■■■■■■■■■■

W e've heard the hype – PCs are meant to be evolving, converging with our home entertainment kit and forming the centre of our digital lifestyles. Except it hasn't happened… yet.

PCs may have entered the lounges of some, not least those of hardcore enthusiasts, but generally the PC lives in the office or second bedroom. PCs aren't instant-on, they need time to boot. There's no remote control as there are too many keys and you generally have to mess about before you can enjoy a film or watch some TV. At the end of the day they're more trouble than they're worth compared to a TV, VCR or DVD player.

Hey good looking

The Xperian from Hi-Grade could change all that. First up it looks gorgeous – more like an LCD TV than a PC, and not much bigger. This device deserves a place in the lounge where it can be shown off, rather than tucked out of sight in a back room.

Second, it has a feature called Instant Play which means you can access the TV, DVD, CD, MP3 or FM functions without having to boot Windows. Simply press the button on the remote control or keyboard and it will be up and running in 10-15 seconds – very neat.

If you must, you can then enter Windows by simply pressing the PC button. From there on it functions as a normal, albeit better-looking, PC.

You've still got access to all the multimedia functions within Windows, as you would expect.

The Xperian is supplied with silver wireless peripherals and it's clear thought has gone into their design too. The front of the unit has a lip on which to perch the keyboard when not in use, and you can recharge the mouse with the supplied USB cable so you don't need to worry about replacing the batteries. It would be nice if there was a facility to charge the keyboard too, but you can't have everything.

What an experience

Generally the catch with all-in-one, great-looking PCs is performance. They amble along, failing to deliver when compared to a similarly priced boring beige box. Not so with the Xperian – it flies along, racking up a WorldBench 4 score of 130. That score puts it in the top five fastest PCs we've seen.

Games performance isn't bad, either. The Xperian managed 78.1fps (frames per second) in Quake III at a resolution of 1,024x768, dropping to 53.3fps at 1,280x1,024.

The Hi-Grade uses standard PC components: a 2.66GHz Pentium 4, 512MB of RAM and 120GB hard drive. There are four USB ports – two each at the side and back. You'll also find two FireWire ports, S/PDIF out for surround sound, modem, network and speaker connections. There's even a PC Card slot, memory card reader and DVD/CD-RW drive.

With the Xperian, Hi-Grade has shown that you don't need to sacrifice power and performance for good looks and ease of use. The real killer, however, is the price. At just £1,249 it's reasonable for a PC of its spec (remember you're getting a 17in flat-panel).

And if you compare it to the cost of an LCD TV then there's no contest. Would you rather pay £1,249 for an aesthetically pleasing telly or the same amount for a TV that's also a PC, DVD player and media centre?

Verdict

The Xperian is quite possibly the best PC we've ever seen. For the same price as a regular LCD TV you have a full, powerful PC, with TV and DVD functions. You don't need to wait for it to boot if you just want to use the media facilities, either. If you're after something a bit special, but still want the full functionality of a PC, then the Xperian is a clear winner. ■

Will Head

Power notebook
Acer TravelMate 803 LCI

Deciding that merely releasing a new chip isn't exciting enough, Intel has elected to turn the notebook market on its head by bringing out a whole new platform. Named Centrino (knowledgeable readers may know the chip by the codename Banias), the technology encompasses not just a new Mobile Pentium processor, but also the Intel 855 chipset and wireless LAN facilities. Centrino is less about basic speed and more about portability – a good fit for the notebook market – and receives its first airing here in the form of the 1.6GHz Acer TravelMate 803 LCI.

Centrino: hit or miss?

In a division where the average notebook tips the scales at around 3.5kg, the Acer's weight of 2.6kg is astonishing. But the fact that such lack of bulk has been achieved with so few sacrifices makes it all the more impressive.

Considering that Intel has been coy about the performance of Centrino, instead focusing on such features as portability and long battery life, the Acer's turn of speed is surprising. Notching up a massive 126 in our WorldBench 4 tests this notebook is a clear winner on performance, boasting a seven point advantage over its nearest rival – the Evesham Voyager. On this form alone, the TravelMate is more than an adequate replacement for a desktop PC.

The graphics facilities, aided by ATI's 64MB Mobility Radeon 9000, are great as well. At a modest resolution of 1,024x768 it's possible to get Quake III frame rates in excess of 140fps (frames per second). Only diehard gamers will find this inadequate for their needs.

Battery life wasn't so amazing, although one cell was enough to power the TravelMate for three hours and two minutes while our extremely intensive test suite ran. This is well in excess of the two and a half hours that tends to be the norm on modern notebooks.

The crisp TFT screen is an expansive 15in model. And although the maximum resolution of 1,400x1,050 may seem excessive, it's worth noting that in terms of actual viewing area the 15in TFT is only 0.5in or so shy of the space offered by the bulky 17in CRT monitors that frequent the desktop PC market.

The Acer doesn't have the most comprehensive set of ports and connectors – for example, there's no PS/2 – and the single PC Card slot is miserly. However, it scores highly in the important areas. Full 10/100 network and modem facilities are included, while the FireWire connector and four USB 2.0 ports are very good. Best of all for office workers, Centrino's Wi-Fi (802.11b) adapter will allow the notebook to communicate seamlessly with any Wi-Fi equipped network.

Squaring up to the competition

If we were to quibble about the TravelMate we would point to some of the slightly underpowered specifications. The 40GB hard drive and 256MB of DDR RAM, for example, can't match those of our current number one Power notebook, the Evesham Voyager (see page 226). Similarly, while the eight-speed DVD playback is strong, the meagre eight-speed CD-R and RW facilities aren't the best on offer.

The lack of a floppy drive is less of a problem in these days of portable USB drives and low-cost flash memory cards, and the Acer includes a flash drive capable of supporting major formats like SmartMedia, Secure Digital, Multimedia Card and Memory Stick.

Verdict

With its light design, relatively long battery life and superior turn of speed, the TravelMate 803 LCI is a perfect showcase for Intel's new technology. Having the latest kit may not be cheap, but the Acer shows that the Centrino platform is going places. ■

Robin Morris

Acer TravelMate 803 LCI

☐ Acer: 01753 699 200
☐ www.acer.co.uk
☐ £1,549 ex VAT

Specifications

1.6GHz Pentium-M; Windows XP Pro; 256MB DDR RAM; 40GB hard drive; 64MB ATI Mobility Radeon 9000; 15in TFT max res 1,400x 1,050; 24x/8x/8x combo DVD/ CD-RW drive; FireWire; SmartMedia; 2.6kg; 330x272x 29.5mm; 2-year collect-and-return warranty (1-year international traveller)

Good points

Extremely powerful; good battery life; lightweight

Bad points

Selection of ports; only one PC Card slot; low CD-RW speeds

Build quality
Features
Value for money

Budget notebook
Toshiba Tecra S1

While Acer has opted to put the fastest processor in the Centrino family into its TravelMate 803 LCI, Toshiba has gone for the more affordable option. Moderation is the keyword here and, whereas the TravelMate used its 1.6GHz Mobile Pentium chip to decisively trounce the competition, the Toshiba Tecra's 1.3GHz version falls some way behind.
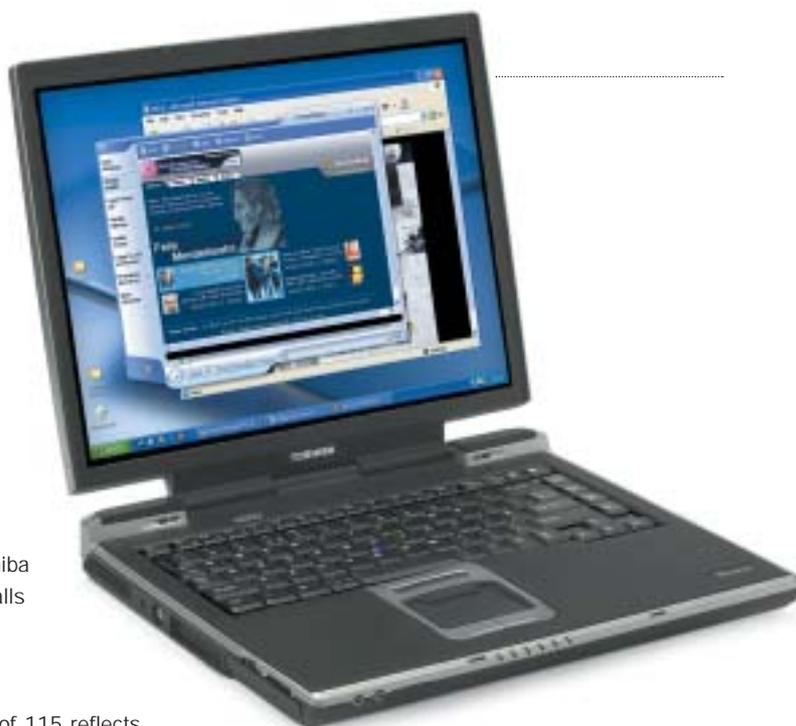
Good vs bad
The WorldBench 4 score of 115 reflects the Tecra's solid performance, but even in the Budget category there are plenty of notebooks better equipped to handle Windows applications. There are compensations, though – for instance, the 32MB ATI Mobility Radeon 9000 graphics engine will please gamers with its three-figure frame rates. The lack of power is also good for battery life; even when running our intensive tests, the Tecra was able to keep going for three hours and 21 minutes.

Considering the processor's low clock speed, the lack of performance isn't surprising. However, an even more significant factor is the low-key specifications list and, component for component, the Tecra never tries to compete with the Power division. The 30GB hard drive, for instance, is half the size of the units seen in last month's chart-topping notebook trio, although it's still hard to see the average user filling the Tecra's disk space in a hurry.

Perhaps more worrying for the Windows XP generation is the memory allocation – ideally, just to be on the safe side, we would like to see the 256MB doubled to 512MB.

The good-quality TFT screen only offers 14.1in of workspace, which may leave some customers feeling Toshiba hasn't harnessed the full potential of the Centrino technology. At just 2.55kg the Tecra may be a lightweight model, but when you consider just how much extra Acer has provided in its TravelMate (see page 39) for a meagre 50g more – the 15in screen for starters – you'll realise that the Toshiba isn't as trim as it first looks.

Burn out
We've been spoilt recently by the glut of CD-RW drives working their way into the mobile market, so it's surprising that the Tecra doesn't have any CD burning capabilities at all. Eight-speed DVD playback is provided, but if you want to write CDs then you'll need to upgrade.

An SD (Secure Digital) card reader is included, although as this format is the most expensive of the current flash memory crop not everybody will feel that it makes up for the lack of an integrated floppy drive.

The panel of ports and connectors is adequate, although we were unhappy with the omission of FireWire. There's three USB 2.0 ports, which should be ample, and the other connectors include PS/2, two PC Card slots and an external volume control – always a convenient feature for anyone who might want to use the notebook's solid SoundMax audio facilities. As with all Centrino products, Wi-Fi (802.11b) facilities are included – a bonus for anyone working on an office network with wireless capabilities.

Verdict
In terms of general performance, the Toshiba isn't up to the standard of the competition. It does, however, boast good battery life, while its low weight and Wi-Fi features will make it a good acquisition for the executive on the move. ■

Robin Morris

Toshiba Tecra S1
☐ Toshiba: 0870 444 8944
☐ www.toshiba.co.uk
☐ £999 ex VAT

Specifications
1.3GHz Mobile Pentium; Windows XP Pro; 256MB DDR RAM; 30GB hard drive; ATI Mobility Radeon 9000; 14.1in TFT max res 1,400x1,050; 8x DVD drive; 24x CD drive; Secure Digital; 2.55kg; 312x274x36.5mm; 3-year international warranty

Good points
Value for money; good battery life; lightweight

Bad points
No writeable CD drive; small screen; no FireWire

Build quality

Features

Value for money

Personal digital assistant
HP iPaq h1910

We've often complained in the past that HP iPaqs are too expensive, so the release of a sub-£300 model is very welcome. But not only is the h1910 HP's cheapest iPaq yet, it's the slimmest too. Put it next to Dell's Axim X5 and you can really see the difference – the HP is smaller in every dimension. One of the reasons for this is the SD (Secure Digital) slot. If HP had opted for CompactFlash instead, we would expect the h1910 to be considerably larger.

The screen is superior to rival manufacturers'. It's the same transflective type that's used on higher-end iPaqs, so it looks bright and colourful indoors and is even visible outdoors to an extent. Build quality is good, the lightweight unit weighs in at 120g, buttons are sensibly placed and the stylus is comfortable to hold.

So far, so good. But compromises have been made. There's only 16MB of flash memory installed, which means that HP has opted for a cut-down version of Pocket PC 2002. If you want to use media player, instant messaging or e-book software then you must install them into the system memory. There's 64MB of memory to go round, although oddly you only have access to 46MB.

You'll find a bundled USB cable and a pair of stereo headphones but unfortunately no cradle. Unforgivably, HP has designed the h1910 so that you can't use older iPaq cradles – or other peripherals come to mention it. To keep costs down further, HP has employed a 200MHz processor rather than the usual 400MHz model although most people won't notice the difference.

Verdict
We'd recommend the iPaq h1910 for those that want to use a Pocket PC as a flash diary and address book but little else. It's an excellent buy, however, for those that value size, weight and the quality of the screen above all else. For others, the compromises that have been made in the memory, operating system and processor departments will be too much to bear. ■

Stan Everett

HP iPaq h1910
☐ HP: 0845 270 4222
☐ www.hp.co.uk
☐ £255 ex VAT

Specifications
200MHz XScale; 64MB RAM (46MB available to user); 16MB flash ROM; 3.5in screen with 65,536 colours; SD slot; li-ion rechargeable main battery (user-replaceable); NiMH rechargeable backup battery

Build quality
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Features
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Value for money
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External hard drive
La Cie Data Bank

Just when you thought that the complex world of portable storage devices was getting less confusing, along comes La Cie's Data Bank to blur the issue afresh.

USB pen drives and flash memory offer portability, but you're limited by capacity. External hard drives don't have the same storage restrictions and provide a far better pence-per-megabyte ratio, but you'd be hard pushed to carry one (and its power supply) around in your pocket.

Which brings us to the La Cie Data Bank. Although still not as small as a USB drive or flash memory, this hard drive is portable and could, at a stretch, be squeezed into your pocket. In fact, you'll probably have to guard this drive closely since its gorgeous design comes straight from the artistic hands of Porsche). No power supply is needed, making installation a breeze, and for Windows XP users no drivers are required either.

Cables are provided for both supported interfaces – that is, USB 2.0 and FireWire – but they should have been much longer. If you can't place the Data Bank right next to the ports then you'll encounter problems.

Performance is good – we were able to copy a 475MB file in 36 and 37 seconds on USB 2.0 and FireWire respectively. The 20GB Iomega HDD (copying the data in just 29 seconds) is faster, but the La Cie is still in a different class to portable USB drives and flash memory.

Verdict
As a basic external hard drive, the La Cie loses out to Iomega's HDD. It's not as fast and, at £229, it's almost £100 more. Nonetheless, it's light and compact in comparison and, with the speed and capacity to slaughter the more portable flash and USB devices, the stylish Data Bank offers the best of both worlds for anyone who can afford the price tag. ■

Robin Morris

La Cie Data Bank
☐ La Cie: 020 7872 8000
☐ www.lacie.co.uk
☐ £229 ex VAT

Specifications
20GB storage space; USB 2.0; FireWire; 111x63x13mm; 140g; no AC adapter; 2-year warranty

Build quality
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Features
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Value for money
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Wireless networking kit
Linksys WRT54G Wireless-G Router & WPC54G PC Card

WRT54G Wireless-G Router
☐ Dabs.com: www.dabs.com
☐ www.linksys.com
☐ £120 ex VAT

Specifications
802.11g 54Mbps router; 4 x 10/100Mbps switched ethernet ports; WAN port

Good points
Fast Wi-Fi; easy to setup; not much dearer than 802.11b

Bad points
Not five times faster than 802.11b; based on early 54-G draft

Build quality
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Features
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Value for money
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WPC54G Wireless-G PC Card
☐ Dabs.com: www.dabs.com
☐ www.linksys.com
☐ £60 ex VAT

Good points
As for WRT54G Wireless-G Router

Bad points
As for WRT54G Wireless-G Router

Specifications
802.11g 54Mbps PC Card Cardbus wireless network adapter

Build quality
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Features
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Value for money
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A t long last, fast 54Mbps (megabits per second) wireless networking kit is hitting dealer's shelves. Among the very first manufacturers to stray in to this relatively uncharted territory is Linksys, with its Wireless-G Router and PC Card.

For the uninitiated, 'G' stands for the latest IEEE wireless specification, 802.11g. There's more than one wireless networking standard, but all are variations on the same IEEE 802.11 ethernet format.

Thinking caps on
The well-established 802.11b standard, otherwise known as Wi-Fi, offers a maximum speed of 11Mbps and broadcasts at 2.4GHz. For broadband internet access and simple file sharing this is plenty of bandwidth.

This improved with the recent release of 802.11a, which offers a maximum speed of 54Mbps and broadcasts at 5GHz. The down side is that it isn't backwardly compatible with 802.11b. Hard on its heels comes 802.11g, aka 54-G. This also offers a maximum speed of 54Mbps but operates at 2.4GHz and so is backwardly compatible with Wi-Fi – at least it is in theory.

Until 54-G is formally ratified, there can be no guarantees about 802.11b and 802.11g interoperability. The ultimate brow soother, however, is the presence of the Wi-Fi badge which ensures compatibility and compliance, though at the moment that badge is a relatively rare sighting.

Linksys' first 54-G offerings are based on an initial draft of the 802.11g standard. These early devices find themselves in the same boat as pre-V.90 56Kbps (kilobits per second) modems – until the V.90 format was ratified, there were significant interoperability issues. However, like early 56Kbps modems, all 54-G devices are firmware upgradable which means they can eventually be made fully 802.11g-compliant when the time comes.

Cable-free and stress-free
At the front, the Wireless-G Router is festooned with bright status LEDs while the rear of the case features four 10/100Mbps autosensing ethernet ports plus an extra one for your wireless internet connection and two adjustable rubber antennae.

Linksys has simplified installation. The setup wizard checks your present broadband connection settings and suggests any necessary configuration changes. It then tells you to insert the router in to the ethernet 'chain' between your PC and ADSL modem while it pops the configuration data it has gleaned from your PC into the router's setup.

This works well for standalone PCs, both with static and dynamic IP addresses, but it was less successful at coping with an existing network that had internet connectivity. That doesn't matter too much because it's possible to configure the router via its web-based interface, a pretty common site on routers these days.

Installing the PC Card was easy. One point to note: this is a Cardbus PC Card and so, unlike the slower 802.11b PC Cards, it won't fit in older PC Card slots on notebooks.

So what about performance? As with all network connections, wireless and cabled, you only get a fraction of the maximum bandwidth in real-world use. In terms of 11Mbps 802.11b, this translates to an effective data transfer rate of roughly 5Mbps.

Now 802.11g has almost five times the bandwidth of 802.11b, but in reality this is more like three times faster. You'll get about 15Mbps out of this Wireless-G device, though interestingly some reports suggest that network bandwidth rises to as much as 20Mbps once the wireless clients have 'warmed up'.

Verdict
The early arrival of 802.11g kit looks likely to leave 802.11a dead in the water. The WRT54G offers a significant speed improvement making it a good buy for offices looking to upgrade existing 802.11b networks. Its easy setup, decent performance and high-end features will appeal to novices and network administrators alike. ■

Roger Gann

Professional digital camera
Minolta Dimage 7Hi

Many of the latest high-end digital cameras have essentially been improved versions of earlier models – Sony's DSC-F717 and Fujifilm's FinePix S602 Pro spring immediately to mind. Minolta's new Dimage 7Hi is also an update of an earlier model, the 7i, which itself followed the original Dimage 7. Fortunately the 7i was a fine camera, which bodes well for an improved version.

The most striking difference with the 7Hi is its smart new rubber-coated black finish. Serious photographers will also welcome the standard PC Sync terminal for external lighting. The 7Hi's other improvements include a significantly increased buffer (allowing up to nine full-resolution images to be stored in Burst Mode), along with selectable colour spaces which can even be embedded as ICC profiles within actual images.

The 7i grows up

The core features remain the same: at the heart of the 7Hi lies a 5Mp (megapixel) CCD (charge coupled device) sensor, delivering 2,560x1,920 files with sufficient detail to make great-looking 13x10in colour inkjet prints. The finest Jpeg mode produces 3MB files, but the middle setting looks good at 2MB. Jpegs are Exifprint (Exif 2.2) compliant and uncompressed Tiff and RAW modes are also available.

Images are composed with either the 1.8in screen or electronic viewfinder. The latter is coarse compared to its rivals but can be adjusted upwards by 90 degrees, although the screen can't be flipped out. On the up side the display can be overlaid by a grid or measurement lines and there's also a live histogram option.

The best feature of the 7i, and now the 7Hi, is without a doubt their 7x optical zoom with an equivalent range of 28-200mm. The 28mm end is also much wider than virtually any other digital camera. Better still, the zoom is operated by a mechanical ring rather than the usual electrical buttons, which makes for a more responsive experience. The 25cm closest focusing distance may sound disappointing, but since it unusually works with the lens fully zoomed in you can actually get decent macro results.

While the 7Hi takes great photos in automatic mode, it excels when it comes to manual control. There's the usual Program, Manual, Shutter and Aperture Priority modes along with five presets. Shutter speeds range from 15 seconds to 1/4,000, with a 30-second bulb option.

Movie mode captures up to 60 seconds of 320x240 video at 15fps (frames per second) with sound. More exciting is the time-lapse mode which records images at set intervals and can even turn them into a 4fps high-resolution movie.

Memory loss

The 7Hi takes four AA batteries and Minolta supplies a set of NiMH cells and a recharger. On the down side the supplied 16MB CompactFlash card is simply mean at the price – you'll have to purchase more memory from day one – although the slot can take IBM's Microdrive.

The 7Hi's optical quality was very good with sharp corners and virtually no colour fringing. Overall image quality was also impressive but, viewed at 1:1, revealed more electronic noise than its rivals while ultimate resolving power was slightly lower too.

The biggest problem with the 7Hi, though, is its £935 price tag and lack of memory. It's £85 more than the Nikon 5700 and £175 more than Sony's F717. Its two closest rivals offer fewer features but slightly higher image quality.

The bottom line is the 7Hi is the best-featured professional digital camera we've tested – it handles beautifully too. Ultimately the choice between this Dimage, the Nikon 5700, Sony F717, and indeed Minolta's earlier 7i, boils down to budget and personal preference.

Verdict

Minolta's Dimage 7Hi is the best-featured high-end digital camera on the market, but it's also costlier than its rivals. Many photographers will be satisfied by the cheaper Nikon 5700 and Sony F717 which, under the closest examination, have slightly higher image quality. That said, the 7Hi is excellent and many people will buy it based on its superb lens and handling alone. ■

Gordon Laing

Minolta Dimage 7Hi
- Minolta: 01908 200 400
- www.minolta.co.uk
- £935 ex VAT

Specifications
5Mp; 2,560x1,920 output res; 7x optical zoom; 28-200mm (35mm equivalent) lens; 16MB CompactFlash; Microdrive-compatible, 3MB image size at best Jpeg quality; 1.8in LCD and EVF; 4 x rechargeable AA batteries; 117x91x123mm; 639g inc batteries

Good points
Optical zoom; large image buffer; selectable colour space and embedded ICC profiles

Bad points
Image quality; expensive; 16MB card

Build quality
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Features
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Value for money
■ ■ ■ ■ ■ ■ ☐ ☐ ☐

DVD writer
Teac DV-W5OEK

The fight for supremacy in the DVD writers market has taken another twist this month with the release of Teac's latest drive. The battle had come down to two main camps – DVD-R/-RW against DVD+R/+RW – and back in October 02 we decided that the fast but pricey DVD+R/+RW route was the way to go. However, rather than shuffling away with its tail between its legs, the cheaper DVD-R/-RW camp is fighting back.

Teac is known more for its quality than its low prices, but the DV-W50EK is still a snip at £195 – between £50 and £80 cheaper than the top-flight DVD-R/-RW models. The DV-W50EK also boasts four-speed DVD-R capabilities, making it (on paper at least) the fastest drive we've seen yet.

The Teac wrote our 3GB test DVD-R in a mere 16 minutes 47 seconds – almost a minute faster than the next best drive. DVD-RWs were slower, requiring almost 20 minutes. If DVD-RWs (as opposed to write-once DVD-Rs) are your speciality then you'll still find the Ricoh and Philips drives the faster models (see our chart on page 235).

The 2MB data buffer improves reliability by giving the drive more time to recover from writing errors, while its 140ms access time holds up well against the competition. Installation through a standard EIDE cable is straightforward, but it's the software bundle that really impresses.

Ahead Software's Nero package, including the simplified Nero Express, is regularly bundled with CD and DVD writers due to its fantastic ease of use and high consistency. For those seeking an introduction to video editing, the bundled Pinnacle Studio 8.0 offers a host of facilities and features for Hollywood hopefuls to train their sights on.

Verdict

Although DVD-RW times are disappointing, for DVD-R the Teac has no rivals. Add to this the good software bundle and the excellent price tag and you have an obvious purchase for anyone looking to dip a toe into the waters of DVD burning. ∎

Robin Morris

Teac DV-W50EK
☐ Teac: 020 8906 9111
☐ www.teac.co.uk
☐ £195 ex VAT

Specifications
DVD-R/-RW drive; 4x DVD-R; 2x DVD-RW; EIDE; 2MB buffer; 32x/16x/8x CD (read/write/rewrite); Ahead Nero; Pinnacle Studio 8.0; 1.1kg; 140ms access time; 2-year warranty

Build quality
■■■■■■■□□
Features
■■■■■■■■□
Value for money
■■■■■■■■□

CD-RW drive
MSI CR52-A2

There may be no such thing as a free lunch, but the virtually free CD-RW drive comes closer to reality each month. Retailing for £41, the MSI CR52-A2 astounds with its top-of-the-range specifications. Promising 52/52/24-speed read/write/rewrite rates, only the Asus CRW-5224A can match the MSI on figures.

When CDs are spinning this quickly some advanced technology is required and the range of features goes far beyond the almost-obligatory BurnProof facilities (designed to guard against buffer underruns). AWSS, for example, cuts out unnecessary vibration, while the Exact-Rec technology chooses the right writing mode for the occasion. Other highlights include the 2MB data buffer and upgradable firmware.

The MSI is a cinch to use. The installation routine is standard and the drive connects to the PC through an EIDE cable. Printed instructions aren't always included with drives (especially at this price), but MSI provides both diagrams and a quick installation guide.

Nero is a popular burning software package – and rightly so. Its self-explanatory user interface, helpful wizards and consistent performance place it ahead of the competition.

In terms of speed the Asus CRW-5224A remains the top performer. However, the MSI took just one minute 58 seconds to burn our 350MB CD-R test – that's just seven seconds behind the Asus. Move to CD-RWs and the results were no less impressive, with the drive requiring three minutes one second to finish the test.

Verdict

Light on price but heavy on features, the MSI CR52-A2 is a strong contender and justifiably takes a Gold award this month. The Asus may be faster, but the difference is small. Whether you're a first-timer looking to sample the delights of CD burning or an old hand wanting to bring dated technology into the year 2003, this drive is the perfect fit. ∎

Robin Morris

MSI CR52-A2
☐ Simply: 0870 727 2100
☐ www.msi.com.tw
☐ £41 ex VAT

Specifications
52x/52x/24x read/write/rewrite speed; EIDE; 2MB buffer; Nero/Nero Express; 0.85kg; 85ms access time; supports 790MB discs; 1-year warranty

Build quality
■■■■■■■□□
Features
■■■■■■□□
Value for money
■■■■■■■■□

Portable digital radio
Perstel Adapt DR101

The quiet revolution of digital radio is slowly coming to pass, though you'll might miss it if you're not paying attention. However, it's worth checking out if you're a regular listener as it offers you constantly perfect reception without any twiddling of tuning knobs. At least that's the theory. In practice, it depends on the hardware you use and unfortunately the sounds you'll get from this neat Adapt device will only be clear as a bell about half the time.

At first glance this is a compact, attractive and easy-to-use package. However if you find you need to use the antenna, which depends on where you are listening from, already the DR101's dinkiness is obviated. Then there's the issue of tuning, which with digital radio shouldn't be an issue at all.

Digital radio is organised into channels or 'multiplexes' – groups of stations that broadcast on the same frequency. On the DR101 you choose a channel, the radio tunes in and then you can browse the six to 10 stations on it. According to www.uk-dab.info, this system should mean the end of crackling reception.

This isn't how it turned out with the Adapt, however. In London there are seven available channels, but the DR101 would only pick up four of them at any one time. Nevertheless, this still provided a wide choice of music, discussion, sport and foreign language programming.

The reception quality was also weak. The last thing you want in a portable radio is an unstable reaction to movement – either as you walk around or handle the device. However, both of these actions resulted in staccato breaks in reception making it worse than a crackling analogue signal and impossible to listen to.

The Adapt's battery life was tolerably good, providing several hours of listening time. If you took it on a trip for more than a few days then you would need to take some spares.

Verdict
The Adapt DR101 is a great device which, when it works, works well. However, it fails to provide the breadth, depth and quality of reception that a digital radio should be able to deliver. As long as you're not determined to carry it around during use, though, it might pick up your favourite station loud and clear. ■

Simon Easterman
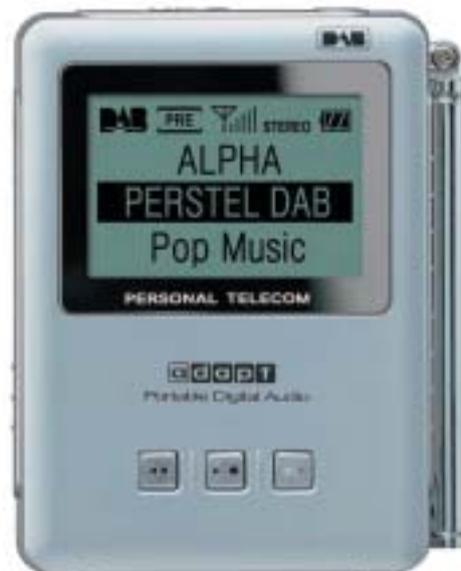
Perstel Adapt DR101
❑ Perstel: +82 31 230 6900
❑ www.perstel.com
❑ £169 ex VAT

Specifications
digital radio; FM radio option; headphones; leather case; 2 x AA batteries; DC in power pack included

Build quality
Features
Value for money

Graphics card
Gainward GeForce3 Ti/450 Golden Sample

GeForce3 Ti/450 Golden Sample
❑ Gainward: 0870 220 0700
❑ www.gainward.de
❑ £55 ex VAT

Specifications
nVidia GeForce3 Ti 200; 64MB DDR RAM; 350MHz Ramdac; AGP 4x; max res 2,048x1,536@75Hz; 16.7m colours; TV-out; 3-year warranty; WinDVD 4.0; ExperTool Performance Tuning utility

Build quality
Features
Value for money

At a time when the GeForceFX cards are emerging from the shadows, Gainward is trying to convince customers that the now ageing GeForce3 Ti 200 is a great bet at a sixth of the price. And comparing pounds with performance, it certainly has a point. But is this chip just too long in the tooth?

Having only 64MB of DDR RAM on board, the Ti 200 was always going to struggle against the competition. At a low resolution (1,024x768) with medium detail settings, the this GeForce3 board trailed behind the middle-of-the-road GeForce4 cards up to 20fps (frames per second). Go up to 1,600x 1,200 and the difference drops to more than 20-30fps. Crucially, the similarly priced Radeon 9000 Pro cards edged ahead by 5fps in our Quake III and Aquanox tests. Considering the 9000 Pro benefits from improved visuals and a second connector for DualView capabilities, it still makes the better buy.
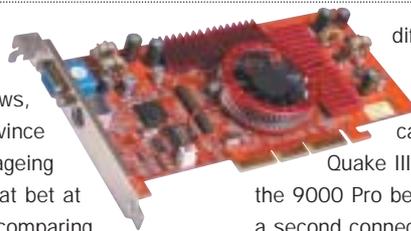
Verdict
While we agree with the idea that the average user won't have to spend a fortune to get good games performance, the Radeon 9000 Pro cards or, if you can get one, the GeForce3 Ti 500, are the minimum you should settle for. ■

Robin Morris

Graphics card
PNY Verto Ti 4800

Build quality
■■■■■■■□□□

Features
■■■■■■■□□□

Value for money
■■■■■■□□□□

While we wait for the first samples of nVidia's next-generation GeForceFX chips, the former graphics leader is trying to keep us happy by updating its existing GeForce4 range. First we had the value-for-money Ti 4200 cards apparently being brought up to speed with 8x AGP facilities. Now we have nVidia applying the same update to the Ti 4600 (this time with a name change to Ti 4800).

If your PC's motherboard has one of the new 8x AGP sockets on it, you can slot in the Verto Ti 4800 and take advantage of the increased speed. In truth, though, the small performance increase won't make a huge difference to your gaming experience. And this leaves us with the same problems that afflict the original GeForce4 Ti 4600 cards.

The frame rates offered by the GeForce4 Ti 4800 are an improvement over the cheaper 8x Ti 4200 versions but, as ATI's Radeon 9700 chips get faster and therefore move further away from the competition, the real-world difference between the GeForce4 Ti 4800 and the GeForce4 Ti 4200 cards becomes less significant.
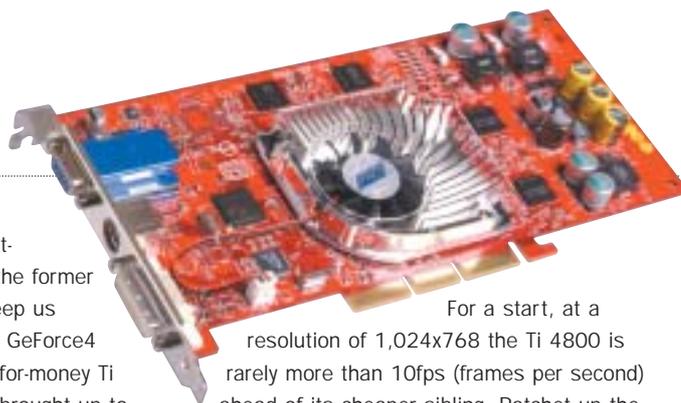
For a start, at a resolution of 1,024x768 the Ti 4800 is rarely more than 10fps (frames per second) ahead of its cheaper sibling. Ratchet up the detail levels, lift the resolution to 1,600x1200 and the gap widens – but not by an awful lot. You're looking at around 13-18fps on games like Quake III, Comanche and Aquanox.

When you consider that the Radeon 9700 Pro cards are generally at least 10 frames ahead, these figures are less than enticing. Even then, you have to consider the advanced DirectX 9 support and much improved graphics quality of the Radeon products.

Verdict

You may now be able to get 8x AGP facilities at a sub-£200 price, but the superior and bang-up-to-date Radeon 9700 cards are available for a mere £60 more. If it's money you want to save then the Ti 4200s aren't that far behind despite costing less than two thirds of the price. ■

Robin Morris

Bluetooth adapter
MSI Bluetooth Key

If you want a quick and easy way to add Bluetooth to a notebook or desktop computer then MSI's Bluetooth Key is worth looking at. Similar in size and shape to the numerous USB storage keys on the market, simply plug it into your PC, install the drivers and you're ready to go.

Once up and running, you'll find My Bluetooth Places allow you to talk to other Bluetooth-equipped devices. The Key supports plenty of profiles – we had no problems hooking it up to an Ericsson phone and Toshiba notebook.

As this is a class one device it should stretch to 100m, rather than the usual 10m range. While we didn't test it at its full distance it had no problems transferring files across the office over about 20m.

MSI's Bluetooth Key is a cheap, simple and effective way to add Bluetooth you PC – well worth it if you've got other devices for it to talk to. ■

Will Head

CompactFlash card with built-in USB
64MB Weast USB CF Card

If you want a quick way to get images off your digital camera then a USB card reader is much more convenient than hooking it up to a PC each time. But it's an added expense and you generally leave it tethered to a PC.

Enter the Weast USB CF Card. It can be used just like any standard CompactFlash card but its built-in mini USB port can, with the help of the miniature cable, be connected to any standard USB port. The cable is retractable so the whole kit takes up no more room than even the smallest USB drive. Installation is driverless (except on Windows 98 and Macs) and performance is extremely good – we copied 30MB of files in 45 seconds.

However, the situation isn't as perfect as it might be. Compared to standard CompactFlash cards, this one is quite expensive and will end up costing you over half as much again for the same amount of storage space. ■

Robin Morris
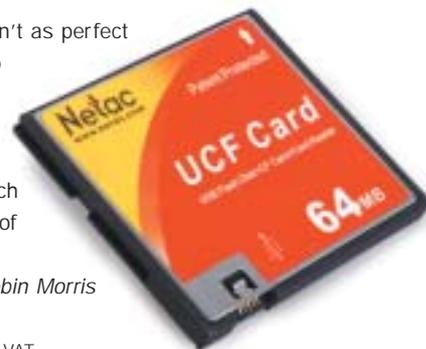
TV card
MSI TV@nywhere

If your life is dominated by the television and its programmes then MSI's new card is here to rescue you. In addition to normal viewing TV@nywhere promises timeshifting (pausing live TV), scheduled recording plus the ability to stream TV over a local network or the web.

When it comes to basic TV viewing, TV@nywhere gives a clear image. The timeshift function also works as expected – press pause and the PC kicks in recording the live stream. Unpause it and playback continues where you left off, with the PC still recording so you can watch the end of your programme.

When it came to recording, however, things weren't as impressive. You're offered three settings – Good, Better and Best – or you can customise things yourself. The first setting worked okay, but when recording at Better or Best the image was noticeably jerky although the resulting file played back without any problems.

Custom settings proved harder to use. Our 2.4GHz Pentium 4-based PC with 256MB of RAM couldn't cope with the DVD setting, resulting in breakup in the recorded file. The card also claims Mpeg-4 compression, although there didn't seem to be a way to create this type of profile other than copying the existing one. Even then, at a high bit rate there were noticeable artefacts in the final recording.

When it came to TV@nywhere's ability to stream TV over a network, we failed to get it functioning satisfactorily. The manual is sparse on information and, at best, we only managed to get poor quality sound and no video over a local network.

Verdict
As a basic TV card TV@nywhere, despite its silly name, functions well and timeshifting is a nice bonus. For recording and network streaming, however, it failed to live up to its promises. If you want to watch TV on your PC then it's still good value, but if you fancy being more adventurous this isn't the card for you. ■

Will Head

MSI TV@nywhere
- VGI Computers: 01268 414 159
- www.msi.com.tw
- £42 ex VAT

Specifications
PCI TV card; NTSC-M/N & PAL-B/ G/D/K/H/I support; WinPVS software; Mpeg-1, Mpeg-2 and Mpeg-4 support; network streaming support; supplied remote control

Build quality
Features
Value for money

Portable USB storage drives
MagicStar MP3 Player and MobileDrive 3 in 1

Thumb – and pen – USB storage drives have become so ubiquitous over the past year that it's getting difficult for manufacturers to make their products stand out from the crowd. So what can a vendor do to make its flash storage devices better than its competitors'?

Maplin Electronics has the answer in the shape of two new thumb drives. The MobileDrive 3 in 1 adds the ability to read certain storage cards, while the MagicStar doubles up as an MP3 player.

The MagicStar MP3 Player we looked at comes with 64MB of RAM but a 256MB model is available. Tiny MP3 players normally require AA or even AAA batteries to work so the charge never lasts long. The MagicStar, on the other hand, has a built-in lithium cell so you get an impressive 7.5 hours of use.

Recharge the battery simply by plugging it back into the USB port on a notebook or PC. Music quality depends on the compression setting your MP3s were created with as well as the type of headphones you use – the supplied pair are adequate for the job, however. It's also a shame there's no USB 2.0 support and there's only one control switch on the hardware. Overall, though, this is an undeniably impressive piece of kit.

The MobileDrive 3 in 1 comes in two sizes allowing you to choose either 32MB or 256MB of flash memory. Rather than the MP3 capabilities of the MagicStar, this device has a small slot on the righthand side for SD (Secure Digital) or MMC (Multimedia Card).

Verdict
The MobileDrive 3 in 1 it isn't as impressive as the MagicStar MP3 Player, but if you have a PC peripheral that requires SD or MMC storage cards then this could be a sensible buy. ■

Spencer Dalziel

MagicStar MP3 Player
- Maplin: 0870 264 6000
- www.maplin.co.uk
- £59.99 inc VAT

Specifications
Powered by USB bus; Windows 98 SE/2000/Me/XP/Mac 10; 33g; 35x100x25mm; 1-year warranty

Build quality
Features
Value for money

MobileDrive 3 in 1
- Maplin: 0870 264 6000
- www.maplin.co.uk
- £34 ex VAT

Specifications
Powered by USB bus; Windows 98 SE/2000/Me/XP/Mac 10; 20g; 30x86x21mm; 1-year warranty

Build quality
Features
Value for money

Multifunction device
HP psc 2210

HP psc 2210

- ☐ HP: 0870 547 4747
- ☐ www.hp.com
- ☐ £212 ex VAT

Specifications

17ppm mono; 12ppm colour; optical res 1,200x1,200dpi; scanner max optical res 1,200x2,400dpi; 48bit colour depth; 1,200x1,200dpi colour copy; 16MB RAM; 33.3K fax; USB; 100-page A4 input tray; 463x370x 220mm; 8.165kg; £12/£18/£15 black/colour/photo cartridge

Build quality

Features

Value for money

One of the new breed of MFDs (multifunction devices), the HP psc 2210's elegant design distances it from the habitually bland models that proliferate on the market. That's not to say that the 2210 is all about looks. Printer, scanner, copying and fax facilities are all provided, although there's no network connection.

Flash memory is a flexible and convenient floppy disk alternative, so we welcome HP's decision to include a flash memory drive. This allows you to take photos straight from CompactFlash, Microdrive, SD (Secure Digital), Memory Stick or SmartMedia cards.

In fact, you can operate the MFD without even connecting it to a PC. The built-in control panel lacks the simplicity and fast operation of the Lexmark X5150, but it allows access to most of the 2210's features. HP's photo and imaging suite is also ideal for novices.

The maximum colour resolution of 1,200x 1,200dpi (dots per inch) isn't this unit's most impressive statistic – the Lexmark X5150 boasts a top resolution of 4,800x1,200

– and it's not going to satisfy those used to crisp inkjet reproduction. On its lowest quality setting, the 2210's text is bold and legible – even if the 8.5ppm (pages per minute) is significantly less than HP's claim of 17ppm – but for a perfect finish look elsewhere.

Graphics output, though marred by banding on the lower quality settings, is bright and clean once the detail levels have been sent through the roof. You'll have to put up with a sluggish 0.5ppm, though. Scanning facilities, on the other hand, are top notch, while the 48bit colour depth and optical resolution of 1,200x2,400dpi offer eye-catching A4 results within minutes

Verdict

The Brother MFC 890 is still far and away the cheapest MFD to run, but the HP's costs (2.8p and 4.4p per page for black and colour) are low. In terms of print quality the HP is inferior to the Brother, but it is almost £70 less. Overall, then, the psc 2210 is a good-looking and powerful MFD that's unlikely to disappoint. ■

Robin Morris

Multifunction device
Lexmark X5150

Lexmark X5150

- ☐ Lexmark: 0870 444 0044
- ☐ www.lexmark.co.uk
- ☐ £180 ex VAT

Specifications

19ppm mono; 14ppm colour; optical res 4,800x1,200dpi; scanner max optical res 600x1,200dpi; 48bit colour depth; 1,200x1,200dpi colour copy; 8MB RAM; USB 2.0; 100-page A4 input tray; 469x395x240mm; 6.6kg; black cartridge £21.50 (600 pages); colour high yield £30.85 (650 pages)

Build quality

Features

Value for money

Manufacturers may be pushing the boundaries of what features can be provided within a single MFD, but there will always be a market for traditional no-frills devices like Lexmark's X5150. This product combines inkjet printing, scanning and copying facilities within one compact and robust package. There's no built-in fax facilities, though, and the lack of a network connection pushes this model firmly in the direction of the home market.

Installing the Lexmark is easy and a USB cable is included for good measure. All of the X5150's facilities can be accessed through the comprehensive built-in control panel. Lexmark's software bundle is good as well, including a photo editor and Abbyy FineReader 5.0.

The X5150 claims to output 19ppm (pages per minute), but we found it impossible to get more than 8.5ppm on the lowest setting. To be fair to Lexmark, though, this still makes it one of the faster MFDs we've seen. On the second

fastest detail setting performance is a reasonable 6.5ppm while text output is dark and clean. Genuine high-quality text isn't an option, however, and the highest detail settings reveals the X5150's limited capabilities. The same applies to graphics: prints are colourful but the HP psc and Brother MFC 890 generate superior output.

Lexmark claims the X5150 can support resolutions of up to 4,800x1,200dpi (dots per inch), but we felt this rather exaggerates the unit's abilities.

Verdict

Running costs aren't that low – 3.6p per page for black and 4.7p each for colour prints – but neither are they excessive. However, while the X5150 is a reasonably priced MFD, it lacks the sophistication of the HP psc 2210 and the sheer value for money of the Epson Stylus CX3200. ■

Robin Morris

NEC MultiSync LCD1760NX

NEC's NX range specialises in offering high-quality flat-panels that aren't going to stretch the finances. The £389 LCD1760NX is a case in point. It's surprisingly good value in light of its expansive 17in viewing area – only the budget CTX PV722i can match such a deal.

The list of specifications such as the 450:1 contrast ratio, 1,280x1,024 resolution support and 260cd/m^2 brightness rating place it very much at the top of the chart. A DVI (digital visual interface) connector is included alongside the standard RGB, although there are no onboard speakers or USB ports.

Not everything is as perfect as it seems, however. The over-fussy menu system, for example, takes some getting used to. The menu tended to pop up onscreen for no apparent reason – a particular irritation if you're concentrating on a complicated spreadsheet at the time. The viewing angle – which, on paper, is a more-than-reasonable 160 degrees – is also a problem. Unless you're standing directly in front of the screen, image quality degrades very quickly.

There are plenty of tools for adjusting the LCD1760NX's image quality, but no matter what we did the screen always felt bright and breezy rather than dark and intense. This won't necessarily count against the NEC, however, and it's very easy to see the detail in intricate images.

The sharp text output will appeal to office workers, although after you've been staring at the screen for a few hours you may find its bright image increasingly grating. Our experience with the LCD1760NX improved with time, though, and if you use the flat-panel day in and day out you'll quickly grow to like (if not exactly love) the cheerful colour palette.

NEC MultiSync LCD1760NX

☐ NEC: 0870 120 1160
☐ www.nec-mitsubishi.com
☐ £389 ex VAT

Specifications

17in flat-panel; max res 1,280x1,024; 0.264mm dot pitch; 450:1 contrast ratio; 160-degree viewing angle; brightness 260cd/m^2; 374x205x 454mm; 6.8kg; 3-year warranty

Build quality
■■■■■■□□□□

Features
■■■■■■■■□□

Value for money
■■■■■■■□□□

Verdict

While it offers the same picture size for the identical price of the CTX PV722i (see our Flat-panels chart on page 234), not everybody will find the viewing angle or colour palette of the LCD1760NX to their tastes. Our search for a virtually flawless but beautifully priced 17in flat-panel has yet to reach a conclusion. ■

Robin Morris