Media Center PCs

Evesham e-Media 2.6 & EXCLUSIVE ATI 9100 IGP MCE Reference

Microsoft is after your lounge; Media Center is coming. Not content with dominating the office and the study, Microsoft now wants to infiltrate your living room with the latest incarnation of its XP operating system: Media Center Edition (MCE). And if what we've seen is anything to go by, it has a fairly good chance.

This month we managed to get our hands on not one but two of the hottest properties in town at the moment: a ready-to-go system from Evesham and an exclusive look at a reference design from ATI.

While the Evesham is a shipping system, the ATI is more a look at what you can expect manufacturers to produce. ATI doesn't actually plan to sell MCE PCs itself but put this system together to interest potential PC manufacturers so it should appear on the market in a similar form.

Evesham e-Media 2.6

Good points
Digital tuner; nice design; easy to use

Bad points
Bit on the expensive side if you just want the Media Centre functions

Simply exciting

So what is MCE and why are we getting excited? MCE basically allows you to combine TV, music, DVD and photos into one single box in your lounge. You don't even need a monitor – you can hook it straight up to your TV.

The Media Center application provides a simple-to-use interface that looks good and is easy to use on a TV. From here you control everything with the supplied remote control. Indeed, if you never closed the app you could forget you were using a PC completely. It's all very simple to operate and it works – something we've forgotten to expect in the PC space.

You get an EPG (electronic programme guide – see *What's an EPG?* right), so you can browse what's on and set up recordings with a single click, you can pause TV, listen to music, watch DVDs and play a slideshow of images.

And it's full of nice touches, from the Replay button that will repeat the last seven seconds of TV – useful if you missed an important moment – to the photo slideshow that pans across photos so it doesn't just look like a load of static images.

Sticking to the spec

Let's move on to the machines themselves. Since the MCE hardware spec is quite stringent (see *Why you can't just buy the software,* below), there's little difference when it comes to use except that where the ATI system has an analogue tuner, the Evesham supports DTT (digital terrestrial television).

The ATI uses a small Shuttle box, of which we're quite familiar, but includes ATI's Radeon 9100 IGP chipset – which means you can have good onboard graphics without having to plug in a graphics card. The box also contains ATI's brand-new E-Home Wonder TV tuner card, designed specifically to work with MCE.

Despite being analogue, picture quality was good although you are restricted to the five channels and you'll need to hook up some sort of set-top box if you want more.

Although the specific configuration will vary depending on which OEMs take up ATI's design, ATI put this machine together for less than $1,500 Canadian (approx £700) and that's with a DVD writer and 2.4GHz Pentium 4.

The Evesham goes for a more traditional lounge shape (short and

Why you can't just buy the software

Although it would appear that Media Centre Edition (MCE) is a completely new version of Microsoft's XP operating system, it's little more than the existing OS bundled with the Media Centre application.

This being the case, you may wonder why you have to buy a complete system with MCE installed on it and can't simply buy MCE and upgrade your existing PC. Although it pains us to say it, Microsoft may have taken the right approach here.

Since MCE is making a stab at the consumer electronics space it's important that the product as a whole is reliable. While we accept our PCs will crash every now and then, this kind of behaviour isn't acceptable in the lounge. When was the last time your TV crashed? And if it did, would you still continue to use it or take it back to the shop?

The lack of standards when it comes to TV cards proves a major problem here. For this reason, only certain cards are certified to work with MCE and it's up to the OEM to ensure it all fits together and is working before you get the thing home.

Obviously this doesn't benefit the upgrader, but it does help ensure that for the less techie user the system will work right out of the box.

A compromise would be offering a MCE upgrade kit, including the operating system, TV card and necessary drivers – although whether this will ever happen is another matter.

Media Center Edition: tuning in channels, browsing the Now and Next info and viewing recorded shows

wide) so it should fit in with the existing boxes around your telly. It's not a case we've seen before, but top marks to Evesham for making it blend into the lounge environment.

Brownie points

Evesham's gets a second Brownie point for including a DTT tuner. Although we did have some stability problems due to seeing a very early model (which should be sorted out by the time you read this), when it works it's fantastic.

Because the card picks up a digital stream, what you're recording to disk is the same quality as the original broadcast. There's also a greater channel choice due to the extra channels available on Freeview and no mucking about with external set-top boxes.

At just over £1,000 excluding monitor, it's obviously an expensive toy. But then in addition to the Media Center functions you are getting a full PC, which for the spec isn't too bad. However, if you're going to use it as a PC as well you'll probably want to invest in a monitor too, of which Evesham has many options to suit.

Verdict

Of the two, we liked the Evesham model best – it fits into lounge better and the DTT tuner really is a bonus. That said, a model based on the ATI design is likely to be cheaper.

As for Media Center itself – it's great. It works, is easy to use, looks great and does everything you could ask for. It's just a shame that Microsoft kept the rest of the PC in there too – come out of the application and you feel a bit like you should be doing some work rather than just having fun. ⊠ **Will Head**

Evesham e-Media 2.6

○ Evesham: 0870 160 9500
○ www.evesham.com
○ £1,069 inc VAT

Specifications

2.6GHz Pentium 4; Windows XP MCE; 512MB DDR RAM; 120GB hard drive; Sony DW-U14A 8x/4x/4x/2x/4x (DVD-ROM/-R/+R/-RW/+RW); ATI Radeon 9600 128MB DDR; modem; network; onboard sound; Creative DTT 5300 Inspire 5.1 speakers; 2-year onsite, 1-year RTB warranty

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ATI 9100 IGP MCE Reference

○ www.ati.com

Specifications

2.4GHz Pentium 4; Windows XP MCE; 512MB DDR RAM; 80GB hard drive; Pioneer DVR-106D 12x/4x/4x/2x/2.4x (DVD-ROM/-R/+R/-RW/+RW),; onboard Radeon 9100 IGP graphics; no modem; network; onboard sound; no speakers

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What's an EPG?

PVRs (personal video recorders) have had little success in the UK. It doesn't look like there'll be a new Tivo anytime soon and people aren't exactly flocking to Sky+. The main reason? Apparently we're not too happy about shelling out an extra tenner a month for the EPG (electronic programme guide) updates.

Without an EPG, all you've got is a pretty swanky video recorder. The EPG allows you to ditch that arcane method of setting up recordings by time and date and simply select the shows you want to record and click a button.

The EPG data basically lists upcoming programmes on all channels. An EPG allows you to do clever things like tape a whole series with just a single click. No more remembering to manually setup a recording each week. Even if shows move in the schedule later on, provided the EPG is up to date you won't miss an episode.

However, this data isn't cheap and costs money to supply on a recurring basis. Somehow Microsoft accountants have managed to find a way of providing something for nothing. EPG updates won't cost you a penny if you buy an MCE PC.

So all you skinflints out there who wouldn't buy a £200 machine because you had to pay £10 a month can now spend £1,000-plus on a new PC but be safe in the knowledge there's no recurring monthly cost. Though whether those free updates will still be available a few years down the line is anyone's guess.

ATI 9100 IGP MCE Reference

ⓘ **Good points**
Compact design; good value for money

ⓘ **Bad points**
Analogue tuner; design may look out of place in a lounge

Power PCs

Mesh Matrix 64 FX Plus & Advent 3617

P*C Advisor* managed to get hold of two of the very first Athlon 64 production PCs shortly before the processor's official launch. Mesh's Matrix 64 FX Plus and PC World's Advent 3617 represent both flavours of the new processor – the Matrix is based on the high-end Athlon 64 FX-51, while the Advent uses the Athlon 64 3200+ CPU.

Sitting inside the Mesh is an Asus Opteron motherboard, the SK8N, a cutting-edge design that is fully equipped with all the fast I/O a serious PC requires. This is a Socket 940/Athlon 64 FX-51 design: the actual socket is surprisingly small but you wouldn't guess that from the size of the CPU heatsink and fan combo. It was fitted with a generous 1GB of PC-27000 DDR RAM.

The Advent's motherboard is the MSI 6741, a much more modest Socket 754 design as the Advent 3617 supports the entry-level Athlon 64 3200+. It also came equipped with plenty of DDR RAM, but could only boast half the amount found in the Mesh.

Mesh Matrix 64 FX Plus

☺ **Good points**
Fastest PC yet; fab audio hardware; gorgeous 18in LCD display

☹ **Bad points**
Dead USB ports; memory bandwidth disappointing; performance comes at a price

Spec it out

The Athlon 64 FX-51 fitted to the Mesh had a PR rating of 3400+ but ran at a comparatively slow clock speed of 2.2GHz, with an 11 times multiplier. This CPU has a built-in memory controller but using the SiSoft Sandra memory bandwidth test revealed only moderate scores – at 4,435MBps (megabytes per second) it was outclassed by some P4s that manage in excess of 5,000MBps.

The lower-spec version in the Advent was a tad slower, as you might expect. It had a PR of 3200+ and a clock speed of 2.0GHz. Its memory bandwidth was distinctly average, managing little more than 3,000MBps.

Storage status

Both machines were reasonably well equipped with storage commensurate with their 'flagship' status. The Mesh was also well-stocked with rewritable optical hardware: not only did it have a Sony 4X multi-format DVD rewriter but a 52-speed CD-RW drive as well.

Despite the SK8N supporting the faster Serial ATA standard, (and Maxtor making a 200GB SATA drive), the Mesh was fitted with a 200GB ATA-133 Maxtor hard disk, which is a pity. However, when push came to shove, the actual performance of the ATA drive was pretty close to its SATA relative.

The storage arrangements on the Advent are similar – a 16-speed DVD-ROM drive and an LG DVD-writer. Its hard disk arrangement is, however, a little odd. The MSI motherboard supports Raid arrays on either of its IDE or SATA ports but the pair of 150GB Samsung ATA drives

fitted, which you might reasonably presume to be in a Raid configuration, were in fact just two separate drives. Odd that.

On the video front, both machines sported top-notch graphics cards – an ATI Radeon 9800 Pro in the Mesh and an MSI nVIDIA GeForce FX 5200 AGP card in the Advent. These were connected to an NEC MultiSync LCD 1860NX 18in LCD on the Mesh and a 17in Philips widescreen LCD on the Advent. Things were less evenly-balanced on the audio front.

The Mesh had the very latest Creative Labs Audigy2 ZS sound card plus the Creative Inspire 7.1 surround sound speaker set, a gamester's dream. The Advent audio capabilities were nowhere near as good – it relies on the integrated audio on the motherboard plus a pair Harman Kardon Creature speakers/subwoofer.

First impressions

Appearances always count and here the Mesh scored easily over the Advent. The Matrix came in the familiar jet-black Mesh mini-tower case, which, despite being well kitted-out with goodies, still offers room for internal expansion.

Flipping a lockable latch on the side gave access to a tidily-arranged and well-cooled interior, with all the cabling either tucked away or neatly routed. There was one minor niggle – the front USB ports, although connected, didn't work.

The Advent 3617 came in the standard blue metallic Advent small tower case, which is comparatively crude by modern standards and well past its retirement date. It's small and so there's no room for expansion at all. Its innards weren't particularly neat either.

32bit compatibility

With absence of any 64bit software at the moment, it's pretty important for the Athlon 64 to possess good backward compatibility with 32bit apps – something it does have.

The Athlon 64 actually supports three operation modes: 32bit 'legacy' mode, dual 32/64bit 'compatibility' mode and pure 64bit mode. The last two require a 64bit OS, and are essentially sub-modes of the chip's 64bit 'long' mode.

AMD also has some entry-level Athlon 64 variants, codenamed Paris and Victoria, in the works. These will be offered as 32bit upgrades to the current Athlon XP line.

Mercifully, Windows XP for 64bit PCs will support both 32bit and 64bit apps. Once it's released, users keen to migrate will have the nightmare of ditching 32bit device drivers for things like their graphics cards and hard disk drives in favour of proper 64bit versions as and when they become available.

And then there's the question of upgrading all your apps to 64bit. You can be sure of one thing with the Athlon 64 – achieving the nirvana of true 64bit computing isn't going to happen overnight.

Why 64bit?

The labels '64bit' and '32bit' refer to the number of bits that a processor's GPRs (general-purpose registers) can hold. So a 64bit processor is one with GPRs that store 64bit numbers. So why have a 64bit processor? A 64bit chip can process a pair of 32bit instructions in one go. That doesn't mean it's twice as fast, but it will run 32bit code quicker than an equivalent 32bit processor. Quite how much faster is a moveable feast.

The main advantage is 64bit CPUs allow single processes running on a computer to handle more than 4GB of memory – the limit on 32bit CPUs. Existing 32bit processors can, in theory, address more than this but a single process running on that processor will hit the 4GB ceiling.

Increasing the amount of memory in a computer increases performance because more data can be kept 'close' to the processor, rather than on the hard drive. In workstations and PCs, 64bit hardware and software leads to better graphics and game performance because complex 3D backgrounds and large chunks of video can be kept in memory.

To get the maximum out of the Athlon 64 requires the use of 64bit software – operating systems, apps and drivers. This raises a compatibility issue: in its pure 64bit mode (aka AMD's x86-64), the Athlon 64 won't work with existing 32bit/x86 apps so programs will have to be specially written to run in this mode. A further twist is that 64bit apps written to run on Intel's 64bit IA-64 platform won't run on Athlon 64's and vice versa.

One final difference – keyboards. The Mesh comes with the Logitech Cordless Desktop Navigator keyboard/mouse set, which is fine. In fact it's positively luxurious in comparison to the keyboard which came with the Advent. For reasons best-known to PC World, this PC was bundled with a rather nasty 'space-saving' keyboard, a bit like a PC/XT model dating from the last century. We were not impressed.

The bottom line

So how did the PCs perform? No doubt about it, the Athlon 64 is a fast processor. Indeed, the Matrix 64 FX Plus has the honour of returning the fastest WorldBench 4 score we've seen at *PC Advisor* – a hearty 144.

Commendable though this figure is, it isn't a dramatic improvement over the previous leader, the £1,599 Carrera SSS Extreme FX. This 3.2GHz P4 design managed 140, making the Mesh but a few percent faster but several hundred pounds dearer into the bargain.

The Advent didn't do badly either, returning a creditable 139, making it the third fastest system we have tested . The only problem with that is it's only a point or so faster than the Athlon XP 3200+ PCs that have been through our Test Centre – machines which are cheaper and better specced.

Verdict

Both Athlon 64-powered PCs proved themselves to be very fast, very capable PCs, though the speed gains over existing 32bit CPUs are modest. If you simply must have the very fastest, then, if you've got deep pockets, the Matrix 64 FX Plus can be recommended. And if you want a future-proof Athlon XP-class machine, then the Advent isn't a bad choice, though the specimen we saw did exhibit some minor instability during testing. It also looked as if it'd been rather hastily assembled.

But it's early days for the Athlon 64 and we won't be able to squeeze top performance from it until we're running 64bit software from end to end. And that won't be for while. ⊠ **Roger Gann**

Advent 3617

☺ **Good points**
Very good benchmark scores; generous storage; fast graphics

☹ **Bad points**
Modest audio capabilities; stability issues; ancient case design

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Mesh Matrix 64 FX Plus

○ 0870 046 4747
○ www.meshcomputers.com
○ £1,996 inc VAT

Specifications
2.2GHz AMD Athlon 64 FX-51 processor; Windows XP Home; 1GB PC2700 DDR RAM; 200GB hard disk; 18in NEC MultiSync LCD 1860NX monitor; 3-year onsite, parts and labour warranty

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Advent 3617

○ Advent: 01442 355 802
○ www.pcworld.co.uk
○ £1,599 inc VAT

Specifications
2GHz AMD Athlon 64 3200+; Windows XP Home; 512MB PC2700 DDR RAM; 320GB hard disk; 17in Philips 170W4P widescreen TFT monitor (not pictured); 1-year RTB, parts and labour warranty

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Power PC
Apple Power Mac G5

The Mac is back and for once it seems like Apple's Wintel-bashing claims might actually be justified. The Power Mac G5's anodised aluminium case mean it doesn't look as sexy as the old G4s did, but the sleek lines hide a monster of a machine.

There's a reason the G5 is reminiscent of an air-conditioning unit – because essentially that's what it is. The design exists for two reasons: to keep up to two 64bit PowerPC G5 chips as cool as possible, and to make the G5 quieter than any powerful PC we've ever seen.

Truck vs sports car
The G5 is one of the first sub-£2,000 machines we've looked at to feature a 64bit processor, which allows a computer to work with more information than 32bit processors such as Intel's P4, Xeon or Apple's previous PowerPC G4 chips.

Don't be put off by the comparatively low gigahertz rating. It's like the top speed of a car: a truck cab can't outrun a sports car, but ask them both to pull a 10-tonne weight and you know who'll win. And it's at managing heavyweight files and applications that the G5 excels.

We looked at the base model, the 1.6GHz Power Mac G5, with an extra 512MB of RAM added to bring the total up to 768MB. This configuration is not available from Apple's own online store but is in keeping with the standard experienced Mac user's practice of buying RAM separately elsewhere to save money.

Performing basic file and Office tasks on the G5 Mac didn't feel any faster than a high-spec Windows PC, but ramp up your requirements and the G5 kicks some serious butt. Putting a 200MB file through 20 tasks in Adobe Photoshop, the G5 – remember this is the base model – was faster even than a dual 3.06GHz Xeon system with 1GB DDR RAM, and three times faster than a dual 1GHz G4 Mac.

The G5 did have the benefit of a 64bit plug-in for Photoshop that made a considerable difference. Few Mac applications are currently 64bit aware, but many will be upgraded soon through free downloads.

Mac vs PC
The G5 performed less well against the competition in NewTek LightWave 3D rendering – a CPU test – losing by a wide margin against Hyperthreading-enabled Pentium 4 and Xeon systems. However, we expect to see definite improvements when a 64bit plug-in for LightWave appears in the near future.

Where the G5 really came a cropper – and deservedly so – was in our Maxon Cinebench real-time 3D test, where the 64MB nVidia GeForce FX 5200 card just wasn't good enough for a £1,500 computer. Other complaints include limited case space, the inability to add IDE drives from your previous computer, and the high price when you consider there's no monitor or speakers included. Also, while Mac OS X is more stable than Goodwood Racecourse, Mac apps aren't any less prone to crashing than their Windows counterparts.

Verdict
The G5 is very much aimed at the traditional Power Mac user – graphics designers – who will love its ability to deal with large image files without pause. But when 64bit plug-ins roll out, it'll be just as adept with a year's spreadsheets as with a building-size image.

Contrary to what Apple would have you believe, a G5 Mac isn't a lifestyle choice. It's just a very fast computer – one even the most hardened Windows power user should take a long look at. ⊠ **Neil Bennett**

A lesson in new technology

The Power Mac G5 includes technology that we've come to expect from workstations costing in excess of £2,000 – packaged at a price of a high-end PC. The PowerPC G5 processor connects to the system controller through a 1GHz, 64bit front-side bus – Intel's chips only connect at up to 800MHz – which allows for a hugely powerful data throughput.

The G5's RAM is standard for a high-end PC, but the G5 supports up to 4GB (1.6GHz model) or 8GB (1.8 or 2.0GHz models), which is very useful in RAM-hungry apps such as Photoshop. It features a Serial ATA hard drive, which isn't much quicker than an IDE drive, but allows for smaller cables to increase airflow.

All models except the 1.6GHz model we reviewed feature 133MHz PCI-X slots. Currently only found in workstations, PCI-X is the next generation of PCI (which currently transfers data at 66MHz or 33MHz) and will replace AGP for top-end graphics cards in the next year. All models feature a FireWire 800 port for connecting external peripherals such as CD/DVD burners and hard drives at twice the speed of standard FireWire.

Apple Power Mac G5

○ Square Group: 020 7692 9990
○ www.apple.com
○ around £1,763 inc VAT

Specifications
1.6GHz PowerPC G5 processor; Mac OS X 10.2.7; 768MB DDR RAM; 80GB Serial ATA hard drive; DVD-R/CD-RW SuperDrive; 64MB nVidia GeForce FX 5200 (ADC/DVI); FireWire 800 port; digital audio in/out

☺ Good points	☹ Bad points
Extremely powerful 2D graphics; quiet; well-designed case; robust OS	Poor 3D spec; case not as sexy as G4's; requires optimised apps; no monitor or speakers as standard

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Digital voice recorder
Olympus DS-660

Olympus is doing its bit to make tape-based recorders obsolete with products like the DS-660. At £339 it's a mite expensive but, as it's name suggests, it offers up to 660 minutes of recording on its 32MB of flash memory.

The DS-660 uses high compression DSS (digital speech standard) and can store recordings in up to five separate folders so you can manage your files more easily. In Standard mode you can get just over five hours of recording, while Long play will give you the full 11 hours.

Olympus has made the DS-660 as idiot-proof as possible, with comprehensively laid out buttons and easy access to that all-important record control. If you're navigating submenus on the bright LCD screen you can still record immediately so you don't miss any important information.

In fact, the only feature that didn't impress was the batteries: two AA alkaline cells power the DS-660 instead of an expected built-in, rechargeable lithium-ion unit. It makes perfect sense, especially when the bundled USB cradle could double as a recharger. At this sort of price we were surprised at such an omission.

Portability isn't a problem as the DS-660 has svelte dimensions. There's a side clip too, although we would recommend sticking it into the case as it has a sturdy strap on the back for carrying around.

Verdict
With a decent battery and a lower price this would have been a near perfect gadget but it's still an extremely useful product. For anyone whose job involves interviews, dictation, note-taking or attending conferences, this is a worthwhile buy. ⊠ **Spencer Dalziel**

Olympus DS-660

○ Olympus: 0800 072 0070
○ www.olympus.com
○ £339 inc VAT

Specifications
32MB Flash memory; -70dBv specified input level; 12Hz sampling frequency in standard mode; 8Hz sampling frequency in long play mode; AC adapter; case; 2 x AA alkaline batteries; USB cradle; 108x21x42mm; 75g

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7.1 sound cards and speakers
Creative Audigy2 ZS Pro & Inspire T7700

Creative's already fantastic Audigy2 has been tweaked and plumped up with some extra features including 7.1 surround sound support. At present 7.1 soundtracks are very rare, so buying a 7.1 card and speakers is more to ensure you have the kit when (or if) the 7.1 revolution comes. That said, you can 'upmix' a 5.1 signal to a 7.1 using this kit.

The ZS will come in two versions: Standard, which is just the 7.1 card with a FireWire port, and Platinum Pro, which includes the external breakout box that came with the Audigy2 EX.

Besides the addition of an extra output, there's little to separate the card itself from the Audigy2. It still has the same output capability (24bit and up to 192Kbps) which keeps it at the head of its class when it comes to sound quality. It also supports Asio 2.0 for low-latency Midi response times.

Signal-to-noise ratio has been improved, again putting it top of the pile at 120dB. It also supports DTS ES, the enhanced version of the DTS standard that's compatible with 7.1 sound as well as Dolby EX and THX.

The T7700 speakers are completely new, though, and have a far more stylish design than the Inspire 6300s. They also offer a whopping 125W total output, 25W of which comes from the wooden subwoofer.

Aside from the expected nightmare of tangled wires, setup is reasonably simple thanks to colour-coded satellites. There's also a wired remote that lets you adjust bass and volume, and even allows you plug in a Muvo NX.

Importantly, sound quality is very impressive. We did find it was slightly muffled at high volumes, however.

Verdict
Despite the lack of available 7.1 soundtracks, both the Audigy2 ZS and Inspire T7700 are worthwhile investments providing the best audio output money can buy. ⊠ **Mark Walsh**

Audigy2 ZS Platinum Pro

○ www.europe.creative.com
○ £199.99 inc VAT

Specifications
24bit ADC; sampling rates up to 192KHz; Dolby Digital 7.1 and DTS ES support; DVD Audio-compatible; SNR 120dB; Asio 2.0 support; FireWire; Advanced EAX; breakout box supplied

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Inspire T7700

○ www.europe.creative.com
○ £129.99 inc VAT

Specifications
Total of 125W RMS; 8W (RMS) per surround satellite; 20W centre; 25W (RMS) subwoofer; 2-year warranty
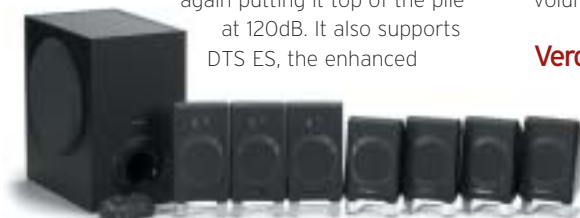
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2.1 channel speakers
Creative I-Trigue L3500

Creative has always knocked out high-quality speakers – regardless of price – but rarely has style been top of the priority list. That has all changed with the release of the Creative's I-Trigue L3500s.

These stylish mini-tower speakers will make a brilliant addition to your system. While the L3500s might be considered pricey for what is, in effect, a subwoofer with only two desktop speakers, the impressively robust hardware and sound reproduction make them well worth the extra.

The 9W RMS (roots means square) silver and black satellites are designed to do more than just look great, ensuring that the best possible audio output is attained. At the front of each speaker are two titanium micro drivers for handling treble, and at the side is what Creative is calling a LFT (lateral-firing transducer). In plain English, that's a side-mounted speaker with dedicated amp for handling mid-range tones.

This has to be heard to be believed. The sound coming from each satellite produces a wider-than-normal range for two desktop speakers – making the audio environment richer and complementing the 30W RMS wood subwoofer perfectly. It's just a shame that the cable is a little on the short side.

Creative has included a versatile remote which gives volume and bass control as well as providing a headphone jack, a line-in and an M-port. The latter is a USB connection for compatible Creative devices such as the Muvo NX player. It would have been great to see the M-port work with a greater array of devices but even so the I-Trigue L3500s remain highly recommended.

Verdict
The 2.1 solution won't appease gamers or DVD fans who always want at least 5.1 channel speakers, but for everyone else the L3500s are brilliant. Indeed, if money were no object this speaker set would immediately qualify for our Gold award. ☒ **Spencer Dalziel**

Creative I-Trigue L3500

○ Creative: 0800 376 954
○ www.europe.creative.com
○ £129.99 inc VAT

Specifications
2.1 Channel Surround speakers; THX Certification; 2 x satellites (9 watts RMS); 1 x subwoofer (30 watts RMS), maximum power 48 watts; 80dB SNR; 30Hz to 20KHz frequency response

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Flat-panel display
LG Flatron LCD L2320A

Offering a glorious 23in screen space, the L2320A is by far the largest flat-panel we've seen. And despite its huge viewing area, the screen is just 2.6in thick. Its 14.4kg frame makes it relatively comfortable to carry over short distances, too.

You get less cable clutter, since the main connections are routed through the attendant Media Station. As an extra bonus, the Media Station supports a host of alternative audio and video connections including special DVD and HDTV facilities.

Both RGB and digital DVI interfaces are supported, although since the DVI interface is restricted to a maximum resolution of just 1,280x1,024, the screen's digital capabilities are limited. In truth you probably won't want to use the L2320A below its native resolution of 1,900x1,200. Not only is a lower resolution a waste of the huge screen size, but the image becomes stretched and blocky.

Aside from this, the specifications are very good. From the 0.258mm pixel pitch and 400:1 contrast ratio, to the 16:9 widescreen capabilities, excellent 176 degree viewing angle and twin USB ports, this screen has the features that count. The 220cd/m² rating might not be the best, but the overall effect is more than bright enough.

Once you've set up the screen properly, image quality is decent, with vibrant colours and reasonably crisp text output. Altering the settings is extremely easy thanks to the wireless remote control. The screen offers a few more advanced features, including BrightWindow (allowing you to highlight a portion of the screen by dramatically increasing the brightness on it), Picture-In-Picture and Split Picture.

Verdict
While the L2320A looks like a huge screen, a couple of 15in flat-panels connected together will offer 20 percent more workspace. Although this setup won't be as attractive as the LG, it will certainly prove more cost-effective – in fact, for the L2320A's asking price, you could buy six 15in screens and connect them together for a truly spectacular effect. ☒
Robin Morris

LG Flatron LCD L2320A

○ LG Electronics: 0870 607 5544
○ www.lge.co.uk
○ £2,499 inc VAT

Specifications
23in flat-panel; native resolution 1,920x1,200; 0.258mm pixel pitch; 400:1 contrast ratio; 176/176-degree viewing angle; digital connector; USB port; speakers; 25ms response time; brightness 220cd/m²; 588x260x443mm; 14.4kg; 3-year onsite warranty

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FEATURES
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VALUE FOR MONEY
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MP3 jukebox
Philips HDD100

Music may be a consumer item, but MP3 players have largely been a product of the computer industry. Apple has done a lot to dispel the geekyness with its iPod, but despite its aspirations it's still largely a computer company. What we really need is for the consumer electronics crowd to get involved – which is exactly what Philips has done with the HDD100.

Look out Apple

Matching, and dare we suggest even surpassing, the iPod for looks the HDD100 is super desirable. Titchy and finished in sleek black and smoky silver, how could you possibly not want to take it home on first looks? Unfortunately the device is particularly susceptible to greasy fingermarks that can ruin the look after a while, but a quick polish will have it back to its original state.

With space for a massive 15GB worth of tracks it's never going to be easy to manage such a large amount of music. But the good-looking interface is simple and easy to navigate, providing you've tagged your tracks correctly (see box below). One criticism is that at times it seems jerky scrolling from left to right but it's not too bad and you don't notice it after a while.

There's even a handy two-speed scroll – a light press moves you up and down the list one track at time. Press harder and it'll zip down the list, while neatly displaying which letter of the alphabet you've reached. Rather than opt for a boring black-on-grey screen, the white-on-black display adds a touch of class.

Songs of praise

The HDD100 supports a USB 2.0 connection so you can transfer your tracks in super-quick time, while the supplied Philips Digital Media Manager makes it easy moving tracks on to the device. There's even an Easy Update button, allowing you to keep your PC music collection and player synchronised. It shows up as a removable drive in Windows, so you can use it to store other files as well as music. The Philips can record too, either from analogue or digital, via the jack socket at the top which is a handy addition.

On the down side, there didn't seem to be any software for ripping and encoding MP3s. So unless you've already got a sizeable MP3 collection, or know what you're doing when it comes to ripping, you may want to think again.

The bundled headphones are reasonable, if a little lacking in bass. Thankfully if you do decide to replace them the in-line remote control is compatible with standard headphones jacks.

Verdict

Apple has a contender to its crown of most desirable MP3 player on the market. The geeks will still favour the iPod, but Philips is better known in the consumer electronics market and the HDD100 should sell well there. And at £299 it competes favourable on price. ⊠ **Will Head**

Get tagging

Accurate tagging is very important if you want to make full use of your digital music collection. Tags are basically embedded information in the sound file (like artist, album, track number, genre and so on). If your files are properly tagged then you can search on specific terms – for example, all music by a certain artist.

Tags are usually added when you rip and encode your tracks, although you'll need an internet connection to save you some hard work. The software needs to know the song titles, artist and album name to embed in the files. Rather than type this in manually, you can use CDDB (CD database).

CDDB is a database of user submitted track listings. Pop in a CD and it'll match it up with appropriate information and drag it down for you. Since CDDB relies on user submissions you'll need to give it the once over for accuracy, but it beats typing in all the information manually.

With a CDDB-aware ripper, an internet connection and a little patience you'll have a comprehensive and easily navigational digital music collection in no time at all.

Philips HDD100

○ Philips: 0870 900 9070
○ www.ce.philips.co.uk
○ £299 inc VAT

Specifications
15GB digital music player; USB 2.0 connection; supplied wired remote control; case; Philips Digital Media Manager software; 64x20x107mm; 167g

⊕ Good points	⊕ Bad points
Looks fantastic; simple to use; good value for money	Slightly jerky interface; no MP3 encoding software

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VALUE FOR MONEY
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Subnotebook
Dell Latitude X300

GOLD

Dell Latitude X300

○ Dell: 0870 907 5668
○ www.dell.co.uk
○ £1,364 inc VAT

Specifications
1.2GHz Pentium M processor; 256MB DDR RAM; 30GB hard drive; 64MB integrated graphics; 12.1in 1,024x768 TFT display; 24x/8x/8x/8x combi CD-RW/DVD; 56K modem; external USB floppy; lithium-ion battery; 275x233x20mm; 1.32kg

☺ Good points	☹ Bad points
Robust; joy to use; truly portable; optional upgrades	Battery life; average performance graphics

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FEATURES

VALUE FOR MONEY

Dell is one of the few manufacturers whose practical business models include that elusive must-have element normally reserved for home consumers. Take the Latitude X300, for instance. Chic without being gaudy, this subnotebook carries a subtle elegance that's well complemented by its mobile credentials and it comes with some of the best optional upgrades on the market.

At only 1.32kg, this is truly one of the better subnotebooks available and, though there's no doubt you can find more bang for your buck elsewhere, you're unlikely to find it in such a portable business solution.

At a mere 275x233x20mm the two-tone silver chassis is incredibly small but it has a robust feel, giving us the impression that the quality hardware on the X300 should easily last the full length of the three-year guarantee. Top marks also go to Dell for the X300's components – a brilliant full-size keyboard, a responsive touchpad and a crystal clear 12.1in TFT screen.

It's a shame the 64MB integrated graphics don't do the screen justice and soak up a lot of the 256MB of RAM (in essence, the X300 is only being powered by 192MB), but it's perfectly adequate for business applications.

Dock of the bay
Our review model also came with an external USB D-Bay that houses a useful CD-RW drive. The drive is removable so if your work requires a serious amount of storage space and the 30GB hard drive isn't enough, you can buy a DVD-RW drive to slot in the D-Bay.

Quite a nifty idea but, with the external USB floppy attached as well, the X300 loses some of its portability. An optional Media Base provides easy docking, space for an optical drive and a good array of ports. Like the D-Bay, however, linking up the Media Base loses the X300 mobility points.

Cool runnings
While the X300 utilises a 1.2GHz Pentium M processor with Centrino mobile technology for extra cool running, we were impressed that Dell still designed the Latitude with heat dissipation in mind. The vent situated on the righthand side of the case was obviously doing its job properly because we could feel the hot air pumping out.

The X300 achieved 106 WorldBench points and lasted for 110 minutes in our MobileMark 2002 battery life tests. No more than average scores, but Dell made up for its middle-of-the-road performance with XP Pro and a full software bundle.

Verdict
As an all-round package for the business executive, Dell's X300 laptop is hard to beat. It's certainly not the perfect model, but it's good in all the right places and has enough optional upgrades to make sure that it's future-proofed for some time to come. ⊠ **Spencer Dalziel**

Get yourself connected

The way Dell manufactures its products allows users to come up with pretty much any configuration they like for a truly personalised model. From the additional case to a stand that converts the subnotebook into a monitor which moves on its axis, the X300 has everything you could want.

While these features are useful, none beats the excellence of the Media Base. For an extra £132, the Media Base brings you a host of additional ports to make sure the X300 is covered for every situation. What really caught our eye with this option was the second battery – an essential when travelling. Plug in the second battery when the first dies and, our MobileMark 2002 tests reveal, you'll get a total working life of 226 minutes. While the Media Base adds about 2kg to the overall weight, it does have a slot for storage drives so you don't need the optional external USB D-Bay which, we feel, makes the X300 look a little untidy.

Budget notebook
Systemax TourBook 5002

Systemax TourBook 5002

○ Systemax: 0870 729 7364
○ www.systemaxpc.co.uk
○ £1,174 inc VAT

Specifications
1.6GHz Centrino processor; 512MB DDR RAM; 60GB hard drive; 64MB ATI Mobility Radeon 9000 graphics; 15in 1,400x1,050 TFT display; 8x/24x/10x/24x combo CD-RW/DVD; 56K modem; lithium-ion battery; 326x258x25/32mm; 2.6kg

☺ **Good points**
Battery life; great all-rounder; screen; graphics

☹ **Bad points**
No floppy drive; average looks

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FEATURES
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VALUE FOR MONEY
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Going places

When you compare the average PC warranty to the average notebook warranty you could be forgiven for thinking notebook manufacturers are taking you for a ride. The two-year return to base warranty covering this TourBook 5002 is unlikely to impress anyone who's used to three or four year onsite warranties from PC manufacturers, but take a closer look at our notebook charts (see page 266) and you'll see that Systemax is offering a good deal.

Notebook warranties come in many shapes and size, from parts and labour only to collection and return, but the average length of time for your guarantee is a mere year. Some manufacturers have started offering two, sometimes even three years, so the two-year cover on this TourBook 5002 is better than average.

Systemax's desktop PCs are a common sight in *PC Advisor's* Test Centre. They're often good, value-for-money contenders and frequently attain high rankings in our PC charts – but we rarely get a chance to see the company's lesser-known notebook range.

As a result we weren't too sure what to expect from the TourBook 5002. But we were pleasantly surprised to see such a well-balanced entertainment model, benefiting from the latest in Intel's mobile technology.

Despite packing a gorgeous 15in screen with a maximum resolution of 1,400x1,050, the TourBook 5002 weighs a mere 2.6kg. This makes it remarkably easy to carry for a full-size notebook, and its mobile credentials are consolidated by the inclusion of a 1.6GHz Centrino processor. It's currently Intel's second fastest Centrino-based processor and our WorldBench results indicate a better performance from these chips than from higher clocked Mobile Pentium 4s.

Obviously the TourBook's WorldBench score of 120 was aided by 512MB of DDR RAM and a capacious 60GB hard drive, but we also noticed much less of a performance drop when we ran the tests using the notebook's battery. The TourBook only dropped one point to 119 and our MobileMark battery test returned a working life of 190 minutes thanks to the inclusion of a powerful eight-cell lithium battery.

Although our results were still about an hour short of Systemax's claimed four-hours, 190 minutes is undeniably good – indeed the TourBook offers the third longest battery life in both our notebook charts on page 266. So if you want a model that's going to cope with train journeys without running out of juice, this could be a wise choice.

Touchy feely
The chassis itself feels like it's up to the rigours of travelling and we found the responsive keyboard a joy to use. Systemax has put together a good notebook, but it's a plain model that won't be turning any heads because there's nothing outstanding about the TourBook.

We also feel that the floppy will be sorely missed. Though the humble floppy is rapidly being consigned to obsolescence by most manufacturers, there's nothing as quick and easy as saving small files in this format.

Backing up the crystal clear 15in screen is a mobile gamer's dream: ATI's Mobility Radeon 9000 M9 64MB DDR graphics card. Now we know business users need little more than integrated graphics to power the most demanding 2D applications, but the notebook user demographic has rapidly shifted over the past couple of years.

Today there's much demand for the best in mobile graphics, and the TourBook is more than able to meet that need with one of the best graphics cards money can buy.

Verdict
The best mobile technology is normally reserved for business users, so it's great to see Systemax offer consumers such a high quality notebook ⊠ **Spencer Dalziel**

Wide-format A3 inkjet printer
HP DeskJet 9300

No ordinary inkjet printer, the DeskJet 9300 towers over its rivals. Its hefty 10kg frame may alert you to the 9300's main selling point – its ability to work with A3 size paper – but this boon also means the printer carries a relatively high price tag.

Unsurprisingly, the 9300 does away with the flimsy paper trays of smaller inkjets and the construction of this printer will allow it to take the strain of everyday printing. Up to 150 pages can be loaded at once, and the meaty output tray ensures your work doesn't end up on the office floor.

HP's Smart software offers everything from duplex printing to resizing and tiling. The latter lets you enlarge a page up to five times; print a document over several sheets and it's quite easy to create large posters.

A resolution of 600x600dpi (dots per inch) is possible with text documents, although with the use of premium photo paper this can be upped to 4,800x1,200dpi. HP's proprietary PhotoRet III technology allows up to 17 levels of colour intensity to be printed with each dot. ColorSmart III is another useful innovation that optimises colour through a series of image-processing algorithms.

This DeskJet isn't the fastest printer around – even at its lowest setting it could only manage to churn out 8.1ppm (pages per minute) of text, while its fastest graphics mode offers just 2.4ppm. The middle mode produces the best results though, again, you will have to be prepared for a wait – it took well over a minute to process one colour A4 image.

Nonetheless, a strong colour palette and attention to detail makes for eye-catching graphics and text output is also clean even if it's not quite up to the standard of a cheap laser printer.

Verdict

The DeskJet 9300 is rather more expensive than the average inkjet, and for most users a standard A4 model will be quite sufficient. However, if you need wide-format printing you'll find this printer fits the bill particularly if vivid graphics are a must. ⊠ **Robin Morris**

HP DeskJet 9300

○ HP: 0870 547 4747
○ www.hp.com
○ £278 inc VAT

Specifications
A3 max paper size; optical resolution 600x600dpi in text (4,800x1,200 with photo paper); parallel and USB 1.1; 14ppm mono (8.1ppm real-world); 11ppm colour (2.4ppm real-world); 150-page input tray; 592x672x233mm; 10kg; black cartridge £23.99 (830 pages); colour £26.99 (450 pages) or £47.99 (970 pages); 1-year warranty

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FEATURES
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VALUE FOR MONEY
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Inkjet printer
HP DeskJet 5150

Cheap, but not particularly cheerful, HP's new low-end printer copes well with printing clean, accurately coloured images from digital photographs. The standard of the hardware leaves a lot to be desired, however, and this DeskJet's penchant for jamming and spitting paper on to the floor didn't impress.

The 5150 is a grey, no-frills model with an optimised resolution of 4,800x1,200dpi. The hardware resolution is 1,200dpi, though, and you don't get HP's latest PhotoRet enhancement technology or six-ink colour printing as standard.

Thanks to HP's usual idiot-proofing, the 5150 couldn't be easier to install or use. Novice users will appreciate the approachable software features and the kids will have some fun with the Hulk multimedia CD.

Print speed is less impressive – 8ppm (pages per minute) for monochrome and 6ppm for colour printing are miles off HP's claimed rates. But all print jobs do at least look good. Even on fast draft mode, text is crisp black rather than the shady grey we so regularly see on other low-cost printers.

However, if you tend to print in large volume be warned: running costs are quite high and we found that the badly-designed 5150 shot some printouts well past the output tray – wastage which adds to the price-per-page ratio. We also noted the cartridge holders were loose and could be weakened enough to break easily with a little heavy-handed use.

Verdict

If you do opt for the 5150 you won't be let down by the results, even if they do take a while to present themselves. However it has to be said that there are better low-cost starter printers on the market, even from HP's own stable. ⊠ **Spencer Dalziel**

HP DeskJet 5150

○ HP: 0870 547 4747
○ www.hp.com
○ £82 inc VAT

Specifications
19ppm monochrome; 14ppm colour; 4,800x1,200 optimised resolution; USB connection only; cost per page mono=4.4 pence; cost per page colour=7.5 pence; 150 A4 page input tray; 449x371x145mm; 5.2kg; 1-year warranty

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VALUE FOR MONEY
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Laser multifunction device
Lexmark X215

Looking for an all-in-one solution to handle your digital photos? Shop elsewhere because the X215 is all about churning out medium-quality mono text or graphics as quickly as possible – a task it performs extremely well.

While the X215 version isn't networked (though you can upgrade it to work on a LAN) it benefits from a 30-page automatic document feeder, colour scanning, fax and copying facilities. As a result it's quite a desktop beast for a small room but it's a robust model capable of heavy-duty workloads.

Our only bone of contention was that we had to utilise the scan and print software, as there are no hardware buttons on the X215 or on the menu LCD for these facilities.

That said, faxing and copying is fully catered for on the X215 and we were impressed with the comprehensive array of hardware buttons. The three buttons for photo, text or graphics optimise the copier for the best possible output in no time.

The X215's specification list is nothing special but for the array of office-based jobs this device is intended for, its credentials are more than adequate. We found this machine capable of sharp, dark text when printing an A4 text document at 300x300dpi, and there's little discernible slowdown at the maximum 600x600dpi resolution.

And though we couldn't match Lexmark's claimed print speed of 16ppm (pages per minute) we came extremely close at 15ppm. We were also impressed with the speed of the scanner – a full A4 colour photo was processed in just a couple of minutes and looked good.

Verdict
As an all-rounder the X215 doesn't disappoint. It's hardy enough to cope with the load of a small workgroup and if you need more functionality it's possible to buy upgrades. For undemanding text and imaging at a good pace the X215 excels, but don't expect miraculous quality. ⊠ **Spencer Dalziel**

Lexmark X215

○ Lexmark: 0870 444 0044
○ www.lexmark.com
○ £395 inc VAT

Specifications
16ppm monochrome; 600x600dpi print resolution; 600x600 optical scanner resolution; USB or parallel connection; ships with 2,000 pages starter cartridge; replacement toner yield=3,200 pages; replacement cartridge=£38.83; cost per page=1.2 pence; 250 A4 page input tray; 470x419x432mm; 13.6kg; 1-year warranty

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FEATURES
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VALUE FOR MONEY
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Graphics tablet
Wacom Graphire3 Classic

Wacom has updated its line of pressure-sensitive pens and digital pads with the release of the Graphire3 series. The Classic is the entry-level offering, aimed at keen amateurs.

The A6 pad has a larger working area than Wacom's Volito hobbyist tablet and, once you've installed the setup software, you can define your own working parameters to match the dimensions of the project you are producing onscreen.

Rather than a flip-up transparent sheet for tracing, you now get a detachable hard plastic cover. This ought to result in less debris getting caught underneath, but in practice it isn't much of an aid to drawing and the inflexible cover is tricky to remove. Wacom claims the changes it's made are in response to customer feedback, so no doubt others will appreciate this amendment.

More helpfully, there's now an inkwell-style pen holder so you don't lose it on your desk. When you want to pack the product away and use either the bundled wireless mouse or revert to your regular keyboard and mouse input mode, you can snap the Graphire pen into the recess on the front of the tablet.

As you might expect, the main improvements have been made to the Graphire pen itself. It now boasts 512 levels of sensitivity and can be easily configured to launch applications, insert macro text, edit copy or simply to recognise shortcuts with a single- or double-tap or a quick press on its dual side-switch.

The wireless Graphire3 also features an eraser at one end, so you can quickly rub out any mistakes. This can be customised for supported applications such as Photoshop, Freehand and Procreate's Painter.

Verdict
Whether it's video, still images or even text you want to work with, the Classic's impressive pen controls and configurability are likely to suffice for most users – especially recent escapees from the restrictions of working with a mouse. ⊠ **Rosemary Haworth**

Wacom Graphire3 Classic

○ Wacom: 0049 2151 36 140
○ www.wacom-europe.com
○ £69.99 inc VAT

Specifications
Graphire3 wireless pen and mouse; A6 graphics tablet; Corel procreate Painter Classic; max resolution 2,000dpi; 512 levels of pen pressure sensitivity; configurable pen and eraser; photo and video-editing packages; pen stand

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FEATURES
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VALUE FOR MONEY
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Digital radios
Pure Digital Evoke-2, Ministry of Sound MOSDR011 & Acoustic Solutions SP110

At its best, DAB digital radio is a wonderful invention. You get more stations such as the excellent BBC7 and 1xtra and the sound is hiss-free, providing you can receive a strong signal. New receivers are released every month, but here are three of the best.

Pure Digital's Evoke-2 can receive both FM and digital radio stations. You can move it from room to room and it's powered by the mains or batteries. The tiny integral stereo speakers make a decent noise considering their size, but you can also connect it to an amp or headphones.

The Walkman-sized MOSDR011 is the best portable unit on the market. The headphones double as the antenna, which can cause reception difficulties if you swap them for another pair (a good idea, as sound quality is below par), but almost any good-quality pair should be fine. DAB's patchy reception can be a problem at the best of times. Even in strong signal areas you'll still experience the odd drop-out; if you live in a weak reception area don't even bother with DAB.

If you've invested in hi-fi separates over the years, Acoustic Solutions' SP110 is a good model to introduce you to the world of DAB. It's not the final word in quality but it's easy to use, picks up all current DAB stations and the provided ribbon aerial will be adequate for most.

Verdict
Any of these radios would be a fine addition to your household; Pure Digital's offers the greatest flexibility, while Acoustic Solutions' will appeal to those who take hi-fi more seriously. The Ministry of Sound's offering is a gamble due to DAB's imperfect reception, although you can check coverage in your area at www.bbc.co.uk/digitalradio before you buy. ⊠ **Stan Everett**

Pure Digital Evoke-2 *PC ADVISOR GOLD*
- Pure Digital: 01923 260 511
- www.pure-digital.co.uk
- £159.99 inc VAT

Ministry of Sound MOSDR011
- Ministry of Sound: 0870 010 5676
- www.ministryofsound.com
- £149.99 inc VAT

Acoustic Solutions SP110
- Acoustic Solutions: 01327 342 255
- www.acousticsolutions.net
- £99.95 inc VAT

Electrolux Trilobite *PC ADVISOR GOLD*
- Electrolux: 01582 491 234
- http://trilobite.electrolux.co.uk
- £1,000 inc VAT

Specifications
LCD display; 60,000Hz acoustic sonar sensors; brush roller; suspension bumper; mains charging station; rechargeable battery; 130x350mm; 5kg

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FEATURES
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VALUE FOR MONEY
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Irobot Roomba
- Let's Automate: 0871 871 8885
- www.letsautomate.com
- £215 inc VAT

Specifications
Spinning side brush; stair sensors; smart bumper; rechargeable battery; 80x340mm; 3.4kg

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FEATURES
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Robot vacuum cleaners
Electrolux Trilobite and Irobot Roomba

Far from being the impossible dream of housework-weary people with dirty carpets, robotic vacuum cleaners are a reality. But freedom from chores comes at a price and, after testing two machines, we can confirm it's definitely the case that you get what you pay for.

Streets ahead is the Electrolux Trilobite. It uses sonar to figure out where obstacles are, working its way around them automatically. Turn it on and it measures the room, calculates the most efficient cleaning pattern and executes it.

It works best on carpets and picks up tricky items like hair easily. When the rechargeable battery runs low, the Trilobite automatically returns to its charging station for more juice before continuing the clean.

You have to empty the dust holder frequently as it's quite small, but the idea is that you set it to clean more often than you would vacuum yourself so it doesn't get too full. Its only main failings are that it can't do corners, and has an incredibly high price.

Irobot's Roomba is cheaper but less useful. It can't detect obstacles in the same way – when its bumper hits something it changes direction – and the rubber tracks can get caught in carpets. It doesn't plan out a specific cleaning route either, instead it cleans in a spiral from where you turn it on. Charging is manual and the dirt tray fills up too quickly, but the side brushes to grab wall dirt are handy. An admirable, but flawed, attempt to make an affordable robo-vacuum.

Verdict
A robot vacuum is a luxury purchase alright, but if you can afford it, a useful one. Don't go for the Roomba – it needs supervision, which defeats the object. The Trilobite is the only product we've seen that can clean your house while you're out, although you'll still have to take care of the odd spot yourself. ⊠ **Stan Everett**

Internal CD-RW drive
Plextor Plexwriter Premium

With many CD-RW manufacturers moving to writeable DVD formats, the death knell for CD drives is ringing loud and clear. Plextor is normally one of the best performers in the market and this, the last ever Plextor CD-RW drive, is a bit of a mixed bag. While the Plexwriter Premium is far from the cheapest deal on the market, its hefty feature set puts other drives in the shade.

The drive comes with the quickest rewrite rate we have seen – 32-speed – and that's complemented by 52/52-speed figures for read and write. Adding extra versatility, this Premium version can burn up to 1GB of data to special CD-R discs. By making smaller pits in the media's substrate, it can fit more data on to the disc.

While more storage space can't be sniffed at, the downside is you can only burn at a top rate of eight-speed with this so-called GigaRec function. Furthermore, other drives won't recognise a disc that's been burned in this way. A better feature is SecuRec, which offers password protection to keep your sensitive data safe – though this only works for CD-R discs.

Plextor bundles some excellent software with the Premium drive, including a full version of Nero 5.5, and the company's own Plextools that offer a range of functionality rarely seen in similar home-grown software. From tweaking laser power settings to adjusting minor details such as the speed at which your CD tray ejects, this is a powerful little package.

In our tests, the data transfer rate on a 650MB CD-R was 2.6MBps (megabytes per second) and 1.9MBps for a CD-RW. Not bad, but still outclassed by Asus' much cheaper CRW-5224A-U, MSI's Best Buy award-winning CR52-A2 and Teac's CD-W552E (for more on all of these models, see the Top 10 CD drives and DVD writers chart on page 272).

Verdict
As an overall package the Plexwriter is distinctly average. It's also pricey and not as speedy as its specifications might suggest, so we wouldn't blame you for looking elsewhere. If, however, full control over every manual configuration is your thing then this is a great buy. ☒ **Spencer Dalziel**

Plextor Plexwriter Premium

○ Plextor: 01932 828 828
○ www.plextor.be
○ £93 inc VAT

Specifications
EIDE internal drive; CD-RW read/write/rewrite speed 52x/52x/34x; maximum storage 1GB on CD-R; 750MB on CD-RW; access time 65ms; 8MB data buffer size; Nero 5.5 software; 1kg; 2-year RTB warranty

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Teac Vendotto Wall

○ Teac: 0870 700 7350
○ www.teac.com
○ £970 inc VAT

Specifications
Linux-based NAS, 80GB hard disk, 2 x 10/100MB ethernet ports, USB port, parallel port, SonicWall firewall, 2-year RTB warranty

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VALUE FOR MONEY
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Network attached server
Teac Vendotto Wall

Teac, best known for its optical drives and audio tape decks of yore, has launched a range of 'microservers' under the Vendotto brand. With every man and his dog now flooding the market with NAS (network attached storage) devices, product differentiation is the name of the game. Teac has gone to some trouble to add value to what is, underneath it all, a big hard disk and a network card.

For a start, the model we looked at was the Vendotto Wall, which has an integrated firewall from respected firewall vendor SonicWall. It also comes with a five-user license for an obscure web-based groupware suite, called iOffice 2000, from Neo Japan.

The Vendotto Wall is nothing if not flexible. It can be a plain vanilla file and print server or a web server. It runs on Red Hat Linux 6.2 and so can act as an internet router (it comes with two 10/100 mebabit per second ethernet ports). In that mode, you can bring the firewall to bear on hostile internet traffic.

You even plug a Wi-Fi PC Card inside it to make it wireless. As configuration is entirely web-based, the Vendotto is fairly simple to set up – by default, it will pick up an IP address via DHCP (dynamic host configuration protocol). A simple utility locates it on the network and you can then login and set up users and shares and so on.

Where the Vendotto falls down is ease of use – for the kind of market the Vendotto is aimed at the setup process needs to be much simpler. You really shouldn't have to decompress a Zip file from the CD-ROM in order to configure the device; it has to be much slicker than this. The web-based front-end could do with some polishing as could the brief 'getting started' documentation, too. Outfits like Linksys have this sort of thing down to a tee.

Verdict
The Vendotto packs a lot in to a very small box. But so it should – at £825, it's fairly pricey for a mere 80GB of network storage, even one that comes with a good firewall and collaborative software. ☒ **Roger Gann**

PDA accessory

G700 Portable PDA Keyboard for Palm m Series & Sony Clie T Series

In the interests of science, this review has been written using the product in question – Belkin's G700 Portable PDA Keyboard.

We looked at two different versions of the keyboard – one certified for use with Palm m500, m125 and m130 series PDAs, and the other for Sony Clie T Series products. We found, however, that they also worked with more recent PDA models (a Palm Tungsten T and Clie SJ30 in our case).

While they might look identical at first glance, there are a couple of important differences between the two keyboards. For a start, and rather obviously, the connector linking PDA and keyboard isn't the same. Furthermore, each is provided with specific adapters so that you can plug your PDA into the mains and recharge the battery while you're typing.

PDA keyboards have been around for some time, but this model has a less familiar design than most. When closed, it's not quite as small as some we have seen, measuring roughly the size of a large wallet. However, it has the advantage of being very slim at just 14mm making it ideal for those who like to carry their PDA and accessories around in a briefcase.

When opened, the top portion of the case becomes a sturdy and robust stand for your PDA. The keyboard itself is opened by pulling it out at either side, and the middle portion raises up to form a near full-sized notebook-style keyboard. The keys are slightly smaller than standard, but this doesn't take long to get used to.

Verdict

Layout is intuitive with a function key to enable Palm OS-specific commands, such as controlling menus or opening specific apps. My one criticism is that, because of the positioning of the control keys, the spacebar has been mounted just off-centre. That means it doesn't always respond when tapped with the right thumb, and as I rarely use my left thumb to type a space it proved very frustrating. ⊠ **Mike Hirschkorn**

G700 Series Portable PDA Keyboard

○ Belkin: 01933 352 000
○ www.belkin.co.uk
○ £99 inc VAT

Specifications
Requires Palm m500 series; m125 series or later; Sony Clie T series or later

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Flash drive/wristwatch

Memix Mega Memory Watch

Even if the Memix Mega Memory Watch isn't quite snazzy enough for Dick Tracy, it's nevertheless a clever dual-function data storage solution that means you'll never be without your most important documents.

The device's 128MB of flash memory is stored behind a workmanlike Citizen watch movement. The watch – available in grey or black – is more practical than pretty, but it's surprisingly svelte, and somehow looks even thinner when you consider it holds the equivalent of nearly 100 floppy disks.

The USB cable fits ingeniously into the strap, where it is held in place by a catch. To transfer data just insert it in a USB port; Windows XP users don't even need a driver.

Verdict

The Memix is an ingenious backup solution that doesn't cost the earth. So if you're in the market for a new watch, and want a safe place to store your documents while in transit, this could be the answer. ⊠ **Tom Gorham**

Memix Mega Memory Watch

○ Memix: 020 8371 9875
○ www.memixdirect.com
○ 128MB £41 inc VAT
   64MB £26 inc VAT

Flash drive

Crucial Gizmo

This mini storage device plugs into your PC's USB port – most users won't even need a driver – and allows you to copy up to 256MB on to it's thumb-sized flash drive. The Gizmo feels robust and, despite its budget price, corners haven't been cut with the overall package. You'll even find a USB extension cable in the box so stooping behind the PC to find a handy USB port won't be an issue.

There's also a keychain so you don't lose the Gizmo – well, unless you lose your keys that is. A light on the device shows when data is being written to or read from the drive, although unlike some flash drives there's no hardware lock to prevent accidental erasure.

File transfer is both easy and fast. It may only be a USB 1.1 device, but the lack of moving parts means small backups feel surprisingly nippy.

Verdict

If you are searching for a low-cost and unobtrusive device for file backup or transfer, the Gizmo is one of the best looking and least expensive options around. ⊠ **Tom Gorham**

Crucial Gizmo

○ Crucial: 0800 013 0330
○ www.crucial.com
○ 64MB £26 inc VAT
   128MB £41 inc VAT
   256MB £61 inc VAT

Keyboard and pointing devices
Versapoint Communicator

While hardly 10-a-penny, the cost of wireless keyboards and mice has fallen low enough to make them affordable alternatives to traditional cable-tethered models. Indeed, a decent cordless keyboard and mouse combination can be had for around £30 these days. With that in mind, you might wonder why Interlink has fixed the price of its Versapoint Communicator kit at twice that amount.

Certainly the cost hasn't gone into the development of the keyboard. Though solidly built and effective, the 104-button unit is saddled with the look and, perhaps more aggravatingly, the feel of tappers from times past.

The broad spread of keys is fine but their spongy action is unpleasant. There are also 17 shortcut keys for navigating through web pages, controlling audio and video applications, altering the volume and so on.

The optical mouse has a much more modern look – minimalist, it might be said. The pointer is petite indeed, barely longer than an average forefinger, with the usual two buttons divided down the centre by a small scrollwheel.

These all work well enough but the small size of the mouse body does little for usability: it feels a bit like you're pushing a beach pebble around the desktop.

So far, so run-of-the-mill. However, the Versapoint Communicator package comprises another input device – a PowerPoint-compatible remote control. The five switches on this key-fob-sized device can be used to command the main motions of Microsoft's presentations tool.

Perhaps the most impressive aspect of the whole caboodle is that all three devices connect and communicate cordlessly with the PC via a single USB attachment. Slide this thumb-sized widget into the appropriate slot on a notebook or desktop and the Versapoint Communicator components are ready to roll.

Verdict
None of the Versapoint Communicator's three components stands out from the crowd but the package represents reasonable value. However, the keyboard's action is old-school clunky, while the mouse is simply too small. ⊠ **Scott Colvey**

Versapoint Communicator

○ Interlink: +00 1 800 340 1331
○ www.vpcommunicator.com
○ £60 inc VAT

Specifications
104-key wireless keyboard (plus 17 shortcut buttons) powered by 2 x AA batteries; 2-button wireless mouse with scrollwheel powered by 2 x AAA batteries; 5-button PowerPoint/ presentations controller powered by 1 x CR2032 lithium-ion battery

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USB flash drive
Iomega Mini Drive

Iomega's Mini Drive doesn't quite fit the same budget category as Crucial's Gizmo (see page 79). But this well-designed, robust device doesn't need to win a price war.

A light gently pulses on the Mini Drive when the drive is attached and this speeds up during disk activity. But there is also value in the bundled software: aside from Mini Lock software that lets you password-protect an area on the drive, the real gem is an Active Disk program that runs applications, such as Microsoft Reader, directly from the drive, leaving no trace on the host machine. In practical terms this means you can deliver, say, a PowerPoint presentation even if the host PC doesn't have the software installed.
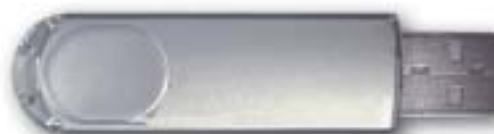
Verdict
Sleek and polished, the Iomega Mini Drive is a fine choice for those looking for storage and quality combined. ⊠ **Tom Gorham**

Iomega Mini Drive

○ Iomega: 020 7635 9527
○ www.iomega-europe.com
○ 128MB £42 inc VAT;
   256MB £71 inc VAT

USB flash drive
SmartDisk FlashHopper

The FlashHopper isn't the most attractive portable Flash USB drive on the market, but it is one of the smallest and fastest we've seen.

There are four versions of the device, ranging from 64MB to 512MB. They work identically: in common with most other USB-based drives, as long as you're using an operating system more recent than Windows 98, you can simply plug the FlashHopper into a spare USB port and it will appear as a removable drive in Windows Explorer. An activity light flashes when files are being transferred. So far it's nothing special, but the file transfers are a stand-out: opening and saving documents to the SmartDisk FlashHopper was nearly instantaneous.

Verdict
There's nothing outstanding about the FlashHopper's appearance or price. But it's fast and efficient: exactly what you want from any removable file transfer or backup device. ⊠ **Tom Gorham**

SmartDisk FlashHopper

○ SmartDisk: 01252 530 960
○ www.smartdisk.co.uk
○ 64MB £35; 128MB £53;
   256MB £76;
   512MB £165 inc VAT

USB digital TV adapter
Hauppauge DEC 2000 Digital Terrestrial TV

Plug Hauppauge's Freeview receiver into your TV and you get digital terrestrial television and radio channels as well as a better picture than your standard TV aerial can manage. Plug it into your PC, and you get all that plus you can watch, record and pause TV shows.

The remote control works with both a PC and TV. Plus, if you've got Scart and both systems are in the same room, you can hook up both and, via your PC, pause the programme you're watching on your TV.

The software lets you record manually as well as pausing the current show, but the EPG (electronic programme guide) on Freeview only covers 'now and next' so you need to use a site like TVTV.co.uk to see what's on when. Hauppauge is promising software to let you set up recordings directly from the site which will make the device more useful.

Verdict
The software is the main drawback with this neat little adapter as the manual recording is tedious. However, you do get excellent picture quality and the full range of Freeview channels on your PC, TV or both. ⊠ **Mary Branscombe**

Hauppauge DEC 2000

○ Hauppauge: 020 7378 1997
○ www.hauppauge.co.uk
○ £129 inc VAT

Specifications
DVB-T receiver; Scart and RF connections; USB 1.1 port; remote control; USB 1.1 cable; RF aerial lead; WinTV software; digital Teletext software; WinDVD software

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Hauppauge WinTV PVR USB 2.0

○ Hauppauge: 020 7378 1997
○ www.hauppauge.co.uk
○ £139 inc VAT

Specifications
Nicam stereo DBX-TV tuner; RF, FM aerial, composite and S-Video inputs; USB 2.0 port; remote control; USB 2.0 cable; RF aerial lead; WinTV software; Ulead DVD Movie Factory 2.0

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USB 2.0 digital TV adapter
Hauppauge WinTV PVR USB 2.0

The USB 2.0 port isn't the only handy connector on this external TV adapter. As well as your TV aerial, you can plug in an FM aerial for better radio reception and S-Video or composite video feeds for hooking up a camcorder or a DVD player.

This means you can watch and record television or pretty much any video device you have. The software setup automatically finds anything you've connected, along with the available TV channels. You can then watch, record and pause TV here or switch to the full-screen image and use the remote control.

With a USB 2.0 connection you get a good quality picture on your PC whether you're watching or recording. USB 1.1 is too slow for seeing thumbnails of the available channels but it still works. The EPG uses TVTV.co.uk to show you what's on and with Hauppauge's sync software you can set a show to record automatically. You also get a copy of DVD Movie Factory.

Verdict
A wealth of connections and an excellent price for USB 2.0 connectivity make this a good way to watch, pause and record TV. But setting up the EPG software is trickier than it ought to be. ⊠ **Mary Branscombe**

USB 2.0 digital TV adapter
Adaptec VideOh Media Center

The TV tuner inside the VideOh Media Center produces excellent TV pictures with none of the jerky images you get with many external TV adapters. Sadly, while the WinDVD interface you use to watch, pause and record TV might look good, its tiny buttons and optional hidden panels make things very confusing.

The EPG (electronic programme guide) is also puzzling. Again it uses the TVTV.co.uk website, which opens up in the window where you'd normally watch TV so you can't see what's on later while viewing. We're also waiting for the promised integration that will let you pick a show on the site for automatic recording.

The quality of recordings is again excellent, especially if you have enough disk space to use the highest setting. You get a copy of ShowBiz for editing taped shows and the easy-to-use MyDVD to burn video to DVD. With composite and S-Video connections you can also use it for transferring video from VHS or a camcorder.

Verdict
Small, sleek and stylish, the VideOh gives you an excellent picture. But the interface is confusing and the EPG isn't quite ready, which makes it a rather pricey way to pause TV. ⊠ **Mary Branscombe**

Adaptec VideOh Media Center

○ Adaptec 01276 854 500
○ www.adaptec-uk.com
○ £179 inc VAT

Specifications
Nicam stereo DBX-TV tuner, RF, Scart, composite, S-Video and audio inputs; USB 2.0 port; remote control; USB 2.0 cable; RF aerial lead; RCA-to-RCA audio/video cable; WinDVD; Sonic MyDVD; Arcsoft Showbiz

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Wireless network access point
Belkin Bluetooth Access Point F8T030uk

In the F8T030uk we at last get an interesting implementation of Bluetooth technology. Its primary function is to bridge the gap between Bluetooth devices and a wired network. This means plugging it into a hub, switch or router via an ethernet cable. A good 100m range allows you to roam relatively far and wide and still communicate between your wireless gadgets and desktop PCs. Encryption, meanwhile, ensures that no unwelcome Blueteeth sink themselves into your valuable data.

Even more beneficial is the USB print server feature. This lets you connect a USB printer directly to the access point and print to it from any of the desktop PCs as well as from any wireless notebook PC or PDA.

Verdict
The Access Point F8T030uk is a clever two-in-one product that makes good use of its Bluetooth capabilities. It's no real substitute for a full-blown Wi-Fi setup, but certainly a useful addition to a more adventurous home office network. ⊠ **James Bennett**

Access Point F8T030uk
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £120 inc VAT

Wireless USB adapter
Belkin Bluetooth USB Adapter F8T001uk

A lack of good products and a few early teething problems have given Bluetooth quite a lot of bad press and stopped it taking off as intended.

Don't dismiss the wireless standard just yet, though. It has now become a common feature on many mobile devices and it's an undeniably convenient way to connect gadgets and get them talking to one another. But even if your PDA or mobile phone handset comes with Bluetooth capability, it's highly unlikely that your desktop PC will be similarly equipped. This small USB adapter from Belkin is very easy to install and has a range of up to 100m.

Once you've set it up you can connect to up to seven other Bluetooth devices so you might want to invest in some of the other products on this page.

Verdict
This small, simple device is probably one of the easiest and most discreet ways of adding Bluetooth to your desktop PC or notebook. ⊠ **James Bennett**

USB Adapter F8T001uk
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £50 inc VAT

Wireless PDA adapter card
Belkin Bluetooth PDA Adapter Card F8T020uk

Many top-of-the-range PDAs nowadays come with Bluetooth and Wi-Fi built in – but you'll have to pay a premium for the privilege. If you already own a PDA and want to add Bluetooth capability to it then this little chap may be the answer.

The PDA Adapter Card is a Type II CompactFlash device that ensures compatibility with many models.

Infuriatingly, however, the F8T020uk only works with Microsoft's Pocket PC 2000 and 2002 operating systems, which means that Palm owners will have to look elsewhere. Indeed, even those with Windows for Handheld PC 2000 are left out in the cold and, even worse, you can't pop a PC Card adapter on it and use it in a laptop PC.

Verdict
A comparatively short (10m) range and some compatibility issues mean that, while the F8T020uk is cheaper than some other CompactFlash Bluetooth cards, it might not be the right one for you. ⊠ **James Bennett**

PDA Adapter Card F8T020uk
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £60 inc VAT

Wireless headset
Belkin Bluetooth Hands-Free Headset F8V9017uk

Quite why there are so many Bluetooth headsets on the market is beyond us – it doesn't seem like the most imaginative use of the technology. Nevertheless, the Belkin F8V9017uk is intended to allow you to make and receive calls on a Bluetooth-enabled mobile phone while the latter is safely tucked away inside your pocket, handbag or briefcase.

Operation of the device is fairly straightforward – there are only three buttons – so it's very difficult to go wrong. However, it would have been handy if the instruction booklet had provided some kind of physical demonstration as to how the headset is actually supposed to attach to your head. Cue a lot of fumbling every time you're out and about and get a call on your phone.

Verdict
Small, light and powered by its own rechargeable battery, the F8V9017uk is a neat product but at £80 it's a bit of an unnecessary luxury. ⊠ **James Bennett**

Headset F8V9017uk
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £80 inc VAT

Belkin Wireless Keyboard and Mouse

- ○ Belkin: 01933 352 000
- ○ www.belkin.co.uk
- ○ £40 inc VAT

Specifications
Requires any PC with PS/2 keyboard and mouse ports

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Wireless input devices
Belkin Wireless Keyboard and Mouse

In a market pretty much sewn up by the likes of Microsoft and Logitech, what advantages does Belkin's Wireless Keyboard and Mouse have to offer?

The design of both the keyboard and mouse is simple yet attractive, while the wireless receiver is tall and thin so it takes up very little space on the desk. We found the keyboard comfortable to type on and responsive without being over-sensitive, although heavy-handed typers may find the key action too soft.

Our only grumble is the small and rather off-putting red LED on the top left of the keyboard which flashes whenever you're typing to indicate it's communicating with the receiver.

The mouse was less appealing. It uses a ball rather than being optical, which means it's less accurate and prone to getting clogged with dirt.

We also found it heavy and surprisingly large. The scrollwheel is noisy and like the keyboard it has an unnecessary LED that blinks madly whenever in use.

Verdict
This set brings the benefits of wireless input devices at a decent price. But it's a great shame that a good keyboard is let down by a disappointing mouse. ⊠ **Mike Hirschkorn**

KVM switches
Belkin 2-port KVM Switch, Avocent SwitchView USB 4-port & SwitchView 4-port with audio

KVM switches allow you to share a single keyboard, mouse and monitor between multiple computers. They come in all shapes and sizes, with a surprising variety of features.

At the bottom end of the scale is Belkin's 2-Port KVM Switch. Its built-in cables make it extremely easy to set up – simply plug in your monitor, keyboard and mouse and connect the device to each of your two PCs.

It doesn't even require a power supply, drawing all the juice it needs from the PS/2 ports. This means that it's restricted to use with PS/2 setups and it can't be used for monitor switching only as all devices need to be plugged in to give enough power.

The 2-Port KVM's biggest selling point is its price; at £39.99 it's a mere fraction of most KVM products. However, devices like the two we looked at from Avocent offer much more flexibility. For starters, both are 4-port models so they can be used with up to four separate PCs.

The SwitchView USB works seamlessly with both PS/2 and USB computers allowing you to, for example, use a USB keyboard to control a PC that only has PS/2 ports.

It also acts as a switchable USB hub so you can use up to four USB peripherals on different PCs without having to unplug and reconnect them. Swap between computers using either a keyboard combination or the physical buttons on the front of the device, or change monitors and USB connections independently.

The SwitchView USB with audio is designed for people who want to share a single microphone or set of speakers with multiple PCs. Controlling which PC has control of the audio peripherals works in much the same way as with Avocent's other switch.

However, this device doesn't support PS/2 connections. We found that the audio signal was subject to rather a lot of interference. We were also a little bemused by the rather random positioning of the ports.

Verdict
These very powerful and flexible devices are amazingly useful for anyone with multiple computers and limited desk space. But not only are they expensive, you also have to pay around £15 extra for each set of cables you require. ⊠ **Mike Hirschkorn**

Belkin 2-port KVM Switch

- ○ Belkin: 01933 352 000
- ○ www.belkin.co.uk
- ○ £39.99 inc VAT

SwitchView USB 4-port

- ○ Avocent: 01344 668 049
- ○ www.avocent-europe.com
- ○ £120 inc VAT

SwitchView USB 4-port with audio

- ○ Avocent: 01344 668 049
- ○ www.avocent-europe.com
- ○ £115 inc VAT

Wireless media adapter
Linksys Wireless-B Media Adapter WMA11B

The living room is one place you don't want any more cables. But then you don't want to trek over to your PC to look at digital photos or listen to MP3s either. This Wi-Fi adapter plugs into the S-Video or composite connections on your TV. You can connect to your hi-fi as well, although you need the TV to see the menus. A remote control crammed with buttons makes it easy to navigate the interface on screen.

The wizard makes setup straightforward, but at the moment you have to run it on a Windows XP PC. The software that shares out folders of pictures (Jpeg, GIF, TIF, BMP) and music (MP3, WMA and M3U or ASX playlists) can only run on one PC at a time but you can share network folders.

Wireless-B Media Adapter

○ Linksys: 0870 739 3939
○ www.linksys.com
○ £188 inc VAT

Verdict
The WMA11B isn't fast enough for video, but this is a simple and relatively cheap way to get photos and music from your PC on to your TV screen and hi-fi. ⊠ **Mary Branscombe**

Wireless adapter for ethernet ports
Linksys Instant Wireless Wireless Ethernet Bridge WET 11

Ethernet ports are common on PCs, notebooks, printers and even on some games consoles and home entertainment components. But if it's not convenient to run a cable to them, this adapter plugs straight in to the ethernet port and turns it into an 802.11b wireless connection.

Wireless Ethernet Bridge

○ Linksys: 0870 739 3939
○ www.linksys.com
○ £88 inc VAT

The WET 11 doesn't need any drivers so you can plug it into an Xbox, PlayStation2 or an ethernet-equipped TV or MP3 player, such as the Turtle Beach Audiotron, to make them wireless. You can't just hook it up and start using it unless you already have a Linksys access point on the default settings. However, it's not hard to connect to the bridge from your PC and configure it through the setup wizard or the web interface.

Verdict
A USB Wi-Fi adapter or PCI card is a cheaper way to connect a PC but the WET 11 is ideal for devices where you can't install any drivers. ⊠

Mary Branscombe

Cable/DSL wireless router
Netgear WGR614

Netgear WGR614

○ Netgear 0870 112 1206
○ www.netgear.co.uk
○ £94 inc VAT

If you want to share a broadband connection with all your PCs, this small and sleek wireless router is just what you need. The Netgear WGR614 has four ethernet ports so you can connect to machines on a wired network and the swivelling aerial gives you a good signal. Throughput and range is excellent with 802.11g devices but slower than you'd expect when you add 802.11b connections.

Many wireless devices are boxy and ugly; as well as being good-looking, the Netgear really earns points for its practical design. The wall-mounting slots are placed so you can hang it any way you want – and the base clips in to them so you can stand it up either way too. Setup is simple too, although the wizard skips the security options.

Verdict
The Netgear is excellent value for a combined router and access point. It's well designed and easy to configure through the web interface, while the firewall has good security and access control. ⊠ **Mary Branscombe**

Powerline networking adapter
NeverWire 14

Wi-Fi avoids trailing cables but it's not ideal everywhere, especially if you have two distant areas to connect or you're in a building with modern materials blocking the signal. The NeverWire 14 simply plugs in to a wall power socket, giving you a ready-to-go ethernet cable.

The '14' refers to the 14Mbps (megabits per second) of the HomePlug standard, although you only get the usual 10Mbps ethernet connection with a true throughput of around 7Mbps in practice. This is more than fast enough to connect your broadband modem downstairs to your PC upstairs.

NeverWire 14

○ Lateral Networks: 01491 629 670
○ www.lateralnetworks.com
○ £212 for starter two-pack, £116 each inc VAT

You can have up to 16 boxes, which can connect a network hub as well as individual devices. Simple security is built in but you need to download utility software to set your own passwords.

Verdict
This is a pricey way of getting a connection but it's simple to set up, easier to secure than Wi-Fi and you get the same bandwidth as a standard 10Mbps wired ethernet connection. ⊠ **Mary Branscombe**

Earphones
Shure E2c and Sony MDR-Q25LP

As we use our computers more and more for listening to music, watching movies and playing games, having a good set of headphones is no longer just a luxury. We looked at two sets that take a very different approach.

Shure's E2c is an in-ear pair of earphones, but not in the conventional sense. Wearing them is a complicated business of draping the cord over the top of your ear, figuring out which phone goes in which ear using colour-coding (whatever happened to the letters R and L?) and then finally implanting what feels rather too much like a surgical device into your ear canal.

The E2c comes with a selection of attachments in different sizes to ensure maximum comfort. The idea is to block out as much extraneous noise as possible, which these earphones certainly do. The sensation is disorienting, but we can see how it would be useful on a train or plane, or in the vicinity of a pneumatic drill.

We were disappointed to find that the unquestionably excellent sound quality is only maintained if the earphones are in the correct position – if they're not fully inserted into the ear canal, you lose bass frequencies. A nice concept but too clever by half.

Sony's MDR-Q25LP headphones are a completely different kettle of fish. They're designed with comfort and practicality in mind, and come with that all-important accessory: interchangeable coloured covers. Rather than being inserted in your ears, they simply clip over each ear, rather like the arms of a pair of glasses. This made it a little awkward to put them on when wearing glasses, but once in place they were comfortable.

Verdict
The Sony's earphones don't block out external sound like Shure's do, but this is generally a good thing when used in the house or on the street. And the sound quality is satisfactory but won't please serious audiophiles, lacking a certain amount of richness and clarity. ⊠ **Mike Hirschkorn**

Shure E2c
○ Shure Distribution: 020 8808 2222
○ www.shuredistribution.co.uk
○ £77 inc VAT

Specifications
Requires any device with a 3.5mm stereo output

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Sony MDR-Q25LP
○ Sony: 08705 111 999
○ www.sony.co.uk
○ £25 inc VAT

Specifications
Requires any device with a 3.5mm stereo output

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iPod remote control
NaviPod

With thousands of tracks conveniently organised into playlists, plug a pair of speakers into your iPod and it becomes a versatile home stereo/jukebox. But no self-respecting couch potato wants to get up off the sofa to skip a track or crank up the volume. Enter the NaviPod, a remote control system for the iPod.

The receiver unit plugs into the top of the iPod and duplicates the stereo jack on the back so you can plug in your speakers. For iPod models with a FireWire port on top, this is also duplicated so you can keep the device powered up.

The remote itself is a dinky white plastic disc that allows you to play or pause, skip backwards and forwards and raise or lower the volume from across the room. We found it frustrating that you can't use the NaviPod to navigate around playlists, but this is a minor concern since you wouldn't be able to read what's on the iPod's screen from the other side of the room anyway.

Verdict
This great add-on makes the iPod an even more versatile must-have gadget ⊠ **Alex Katz**

NaviPod
○ Channel Dynamics: 0870 607 0540
○ www.drbott.info
○ £30 inc VAT

PC headset
Talking Technologies Talk Mic

Talk Mic
○ Talking Technologies: 020 8847 2525
○ www.talking.co.uk
○ £58 inc VAT

There are several reasons why someone might wish to add a headset to their computer setup. Conducting web-based telephone calls, for example, or communicating with other contenders in multiplayer gaming environments. Alternatively, you might wish to employ a headset in order to dictate to a document via a speech-recognition application.

Even so, we can't think of one good reason why anyone would pick Talking Technologies' Talk Mic as their preferred headset. While it works just fine it doesn't do anything particularly remarkable, save for minimising environmental input through its pressure-gradient microphone. But if that makes it sound fancy or high-tech, forget it: the product looks like it's jumped out of an Argos store's bargain bin.

Verdict
The Talk Mic works a treat but it's not worth the money. Moreover, our review model was shoddily constructed. ⊠ **Scott Colvey**

Surge protection hardware
Belkin SurgeMaster Gold Series, Under Monitor Power Center & UPS with AVR

You may go years without experiencing a electrical current surge or untimely power cut, but what price are you willing to pay for peace of mind should disaster or lightning try to fry your hardware, data or both?

The SurgeMaster Gold Series copes with spikes of up to 90,000 amps. It features no fewer than seven standard three-pin plug sockets, two of which rotate to accommodate awkward AC adapter blocks. Spike-shielded F-type and aerial sockets provide additional protection for digital satellite systems, cable modems and/or TVs, while a BT-style input with dual outputs safeguards phone extensions or modems.

This is a wonderbox but consider real-world practicality. Would you really be able to connect a satellite box and TV aerial to the same set of power sockets as your PC and phone?

Belkin's Under Monitor Power Center is a five-socket surge-protected gangplank upon which you sit a monitor. The sockets are located to the rear of the platform and as such are relatively inaccessible. but on/off switches along the front control four of the five circuits.

The third product we looked at is UPS' battery backup unit, which keeps a PC running in the event of a power cut. If you are absent when the battery eventually runs out of steam, software shuts down or hibernates the system in an orderly manner. Surge protection is included on three of the four sockets and built-in automatic voltage regulation maintains a steady spike-free supply. RJ-11/RJ-45 sockets provide welcome protection for modems and networks.

Verdict
Surge protection is a valuable buffer between computer kit and the vagaries of the National Grid, and a backup battery could save the day – or at least your work-in-progress. ⊠ **Kyle MacRae**

Belkin SurgeMaster Gold Series

○ Belkin: 00 800 223 55 460
○ www.belkin.co.uk
○ £49.99 inc VAT

Under Monitor Power Center

○ Belkin: 00 800 223 55 460
○ www.belkin.co.uk
○ £39.99 inc VAT

Universal UPS with AVR

○ Belkin: 00 800 223 55 460
○ www.belkin.co.uk
○ £39.99 inc VAT

Expansion card
Adaptec SATA Connect

The latest development in hard disk interface technology is SATA, aka serial ATA. Though dull as ditchwater, it's a worthy advance that enables data to be transferred to the platters of compatible drives at speeds of up to 150 megabytes per second (SATA-150). Subsequent revisions of the interface will see throughput increase to 300MBps (SATA-300) and, eventually, 600MBps (SATA-600).

If you fancy equipping your existing computer system with a super-fastSATA drive, you'll need an expansion card – like this SATA Connect from Adaptec. As well as adding two SATA-150 drive connectors to the innards of a computer, this PCI card will bring the benefit of thinner cabling requirements to temperature-concerned owners of power PCs. We're tempted to say 'cool'.

Adaptec SATA Connect

○ Adaptec: 0118 934 6160
○ www.adaptecstore.com
○ £47 inc VAT

Verdict
There's not much that can be said about any hard disk interface card other than that it works – and Adaptec's SATA Connect does just that. The only down side is its price tag: it seems a tad too expensive to us. ⊠ **Scott Colvey**

Type II PC Card for notebooks
Adaptec Duo Connect

If you're a bit of a speed freak and want the peripherals attached to your computer to transfer data in the fastest time possible then you need to employ the latest connectors, like the 400Mbps (megabits per second) FireWire or USB 2.0 (which communicates at up to 480Mbps).

That's all well and good if your PC has these ports built in. If it doesn't you'll need to upgrade and that can be a problem for owners of notebook machines.

Fortunately, Duo Connect from Adaptec can lend a hand. Simply slide the device into a portable PC's Type II (Cardbus) PC Card slot, run the installation software and your notebook is primed to communicate with FireWire and USB 2.0 equipment. The Duo Connect includes two of the latter socket variety and one of the former.

Verdict
If you want to add USB 2.0 and FireWire functionality to a notebook, this add-on card will do the job quickly and easily. The seemingly high price is not above the going rate, either. ⊠ **Scott Colvey**

Adaptec Duo Connect

○ Adaptec: 0118 934 6160
○ www.adaptecstore.com
○ £93 inc VAT

Multiformat memory card reader
Crucial Six-in-One Card Reader

Multiformat card readers are a boon to anyone wrestling with the plethora of different card standards on digital cameras, PDAs and MP3 players.

Crucial's well-designed and self-powered reader is compatible with six of the most popular formats via four available slots (CompactFlash and Microdrive cards share a slot, as do Secure Digital and Multimedia Cards).

A single plastic tab conceals a USB cable. When connected on an XP machine each slot appears as a separate removable drive and it can be tricky remembering which is which. Although the reader uses the largely superseded USB 1.1 technology, remember that so do most cameras and you won't notice much slowdown unless you're dealing with huge files.

Six-in-One Card Reader

- ○ Dabs: 0800 013 0330
- ○ www.crucial.com
- ○ £15 inc VAT

Verdict
Even the lack of decent documentation can't take the shine off this device. At this price, the Crucial Six-in-One Card reader is an impulse purchase that you won't regret. ⊠ **Tom Gorham**

Notebook case
APC TravelPower Case TPC1300B

At first glance, the APC TPC1300B looks like an ordinary laptop case. However, it not only stores your notebook but can recharge and power it as well. How long you'll get before the juice runs out depends on how power-hungry your laptop is, but the TravelPower could get you out of a tight spot if you need to finish that all-important presentation before your notebook dies.

If you often travel around Europe, the US or the Far East there's a variety of different plugs in the plug adapter kit. The power adapter doesn't need to be attached to the mains – you can plug it into the cigarette lighter in your car and recharge while you drive.

It isn't just notebooks that you can recharge either – mobile phones and PDAs are also catered for. You will have to buy the USB charging cables separately, however. There's plenty of padding to protect what's inside too.

TravelPower Case

- ○ APC: 0800 279 9254
- ○ www.apc.com
- ○ £140 inc VAT

Verdict
The TravelPower Case could prove to be cost-effective if you are on the move a lot. The only design alteration we'd make would be to have the zips open up further so the case could flip right open, but this is a minor niggle. ⊠ **Ben Camm-Jones**

Electronic note taker
Pegasus PC Notes Taker

Being able to tap information in to an electronic device such as a notebook or PDA is great, but not everything is best expressed in words. Often, you're out and about and want to jot down a quick sketch – the flowing lines of a piece of furniture, an eyecatching logo or a map showing directions to a great restaurant you stumbled across by chance.

Pegasus' neat Notes Taker is ideal for such tasks. Plug it in to a PC or notebook via the USB port (there's a generous cable so being tethered isn't much of a restriction), clamp a piece of paper under the tiny clipboard – you can use pages up to A4 – and start scrawling using the special pen.

Notes are saved into the Pegasus software folder, can be exported as Jpeg images, sent by email or saved directly into MS Word or Excel applications. The configurable pen feels natural to use and even emits ink (worth noting when

tracing pictures). You can switch colours or weights at a stroke and you can re-edit your doodlings at any point. The Pegasus device is powered by three tiny SR41 batteries (like those found in watches) that are hidden within the pen's shaft. A USB connection does the rest and you'll simply need to replace the pen nib from time to time.

Verdict
There's no pouch to keep the Pegasus in so the pen may easily become lost or damaged. The USB cable doesn't detach from the clipboard so it's not that neat to store in your briefcase. And it's not as handy on the move because you can't use it except when connected to a PC or laptop.

That said, sometimes being able to doodle rather than tap in info is exactly what's required and using this e-pen feels more natural than most devices of its ilk. ⊠ **Rosemary Haworth**

Pegasus PC Notes Taker
○ Pegasus: 020 8805 1000
○ www.interactiveideas.com
○ £80 inc VAT

Specifications
Electronic pen with USB clipboard base unit; 90x90mm notepad; write, store and edit notes and graphics; import in MS Office apps; send to network or via email or print directly from Pegasus software; creates notes up to A4 size; alarm reminder function

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USB 2.0 docking station
Belkin Hi-Speed DockStation F5U216uk

Not all notebook computers come with the option of a docking station, a fact that Belkin hopes will help it to carve a market niche for its F5U216uk. Instead of faffing about with half a dozen connecting cables during office comings and goings, the Hi-Speed USB 2.0 DockStation promises to cast loose owners of portable PCs with just two connections. The device will arrange primary desktop connections – parallel printer, ethernet, USB, VGA and serial (nine-pin RS232) – through one USB 2.0 cable and a VGA pass-through socket.

However, while undeniably easier to connect two cables rather than six (or perhaps even more), the DockStation lacks the operational finesse of dedicated docking stations. In other words, it's still a bit of a faff. If nothing else, though, the device acts as an easy-access hub for all the main desktop connections.

DockStation F58216uk
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £90 inc VAT

Verdict
The one-size-fits-all docking station is a nice idea but we fear Belkin's innovation has been stunted by the Heath-Robinson heritage of PC connectivity. ⊠ **Scott Colvey**

USB 2.0 connecting cable
PC ADVISOR GOLD # Belkin Hi-Speed DVD Creator F5U228

Fancy yourself as an amateur moviemaker? Then this unassuming, blister-packed product from Belkin could be right up your showreel. Essentially a low-cost video-capture device, the DVD Creator will connect a camcorder, VCR or any other analogue video source (the device features both composite and S-Video inputs and will accept NTSC, PAL or Secam input) to your PC via a fast USB 2.0 port.

The package includes Ulead VideoStudio 6.0 SE. Though quite limited compared to the full version, this freebie app offers sufficient tools to digitise incoming footage at resolutions of up to 720x480 at 30 frames per second.

If you're feeling particularly creative you can augment your camera work by overlaying titles or adding background music. In short, it's really rather good.

Verdict
While it lacks more advanced functions of pricier products, Belkin's Hi-Speed USB 2.0 DVD Creator is a nifty video-capture package. ⊠ **Scott Colvey**

DVD Creator F5U228
○ Belkin: 00800 2235 5460
○ www.belkin.co.uk
○ £70 inc VAT