

Power PC

Hi-Grade Ultis PV4 3.0GHz HT

High-end PC users may already be familiar with Intel's HT (hyperthreading) technology thanks to its appearance in the Xeon range of processors. But for the average home and small business user, the 3.06GHz Pentium 4 chip will be their first glimpse of a concept that Intel hopes will be an integral part of every future processor release.

Thought processors

The thinking behind HT is that a huge amount of processing power is wasted by giving one gigantic chip a single set of instructions to process. By making a virtual duplicate of the Pentium 4 chip and fooling the PC into thinking that it actually has two processors on board rather than one, HT technology can hand out tasks to both 'processors' at the same time.

Operating systems such as Windows XP, 2000 and Linux are already designed to take advantage of HT technology. By breaking down tasks into a number of 'threads', each one of which can be sent to a single processor, these operating systems can handle two or four processors just as easily as one – they simply need to send out more threads at a time.

Good news

This would appear to be good news for HT users, since the multi-threading capabilities can be sampled in many of today's applications. Unfortunately, until programmers start designing software with HT in mind its effectiveness will vary from title to title.

The video encoding results were superb: the Pentium 4 completed our tests in little more than six minutes, giving it the fastest time of any PC by a clear 30-second margin. In fact, for high-end graphics applications (ray tracers, games and so on) HT looks to be the ideal choice.

On the other hand, *PC Advisor's* own test suite, WorldBench 4, struggled to make sense of HT. The score of 124 with HT disabled was disappointing for a 3.06GHz chip, but it was far more impressive than the 118 notched up when HT was turned on.

This highlights the fact that, in some cases, HT technology will cause the two 'processors' to get in each other's way. HT will not go away, so most software programmers

The thinking behind HT is that a huge amount of processing power is wasted by giving one gigantic chip a single set of instructions to process



will probably design future titles in order to play to the strengths of the technology. Nonetheless, Intel's claims of 20 percent speed increases look wide of the mark.

Hi-Grade, high-spec

HT's superb graphics performance may draw video enthusiasts to the Hi-Grade which boasts a graphics subsystem – featuring the current benchmark in graphics cards, the ATI Radeon 9700 Pro – that's almost as good as it gets. Elsewhere this PC's specifications are no less impressive. There's 512MB of DDR (double data rate) RAM onboard and a massive 160GB Maxtor

hard drive. Not so fresh, but lent finesse by the rock-steady image and sizzling colour palette, Mitsubishi's Diamond Pro 920 remains a superior 19in CRT (cathode ray tube) monitor.

Hi-Grade also proves how easy it is to put together a superlative sound system, pairing the Creative Audigy with

the six-piece Inspire 5300 speakers, while the 2.4-speed DVD+RW Ricoh drive deservedly holds a commanding position atop our DVD writers chart.

Verdict

The Hi-Grade is generally a good system and HT is an interesting technology that may grow in stature. But performance is likely to remain inconsistent for the next few months. Combine this with the steep £1,701 price tag and the Ultis looks more an expensive experiment than an unmissable deal. ■

Robin Morris

Hi-Grade Ultis PV4 3.0GHz HT

- Hi-Grade: 020 8532 6100
- Website: www.higrade.com
- Price: £1,701

Specifications

3.06GHz Intel Pentium 4; 512MB DDR RAM; 160GB hard drive; 32x12x10x CD-RW; 2.4/2.4x DVD-RW; 16x DVD-ROM; 19in monitor; Windows XP Home; 3-year onsite warranty.

Build quality



Features



Value for money



Tablet PC Toshiba Portege 3500

Microsoft's efforts to change the way we use computers is gathering momentum, as more of its hardware partners release their products based on Tablet PC technology. The latest to arrive in *PC Advisor's* Test Centre is Toshiba's Portege 3500.

The Portege is truly portable, measuring 290x230x30mm and weighing less than 2kg. It's a 'convertible' Tablet PC, which means it can be used as a standard notebook with full keyboard and trackpad. But the screen is hinged which means you can flip it around so it hides the keyboard – this is the so-called Tablet mode.

Write on target

Using a special pen on the touch-sensitive screen in Tablet mode, you can select objects and move around onscreen as you would with a mouse. A tap is equivalent to a left-click, while holding down a button on the side of the pen activates a right-click.

Windows XP Tablet PC edition is geared up for getting the most out of Tablet PC devices and features built-in handwriting recognition. Instead of the keyboard, you write into the Input panel docked to the bottom of the screen. Your scrawl is then transcribed into the document you're working on. Alternatively, you can use the Journal application to jot down notes as if you were writing on a pad and then either keep the notes as they are or import them as text into emails or Word documents.

Practice makes perfect

While it wasn't perfect, we were impressed by the accuracy of the handwriting recognition engine – helped, no doubt, by the sensitivity of the Portege's screen. Getting the device to behave how you want it to takes some effort, but feels natural after a while.

The down side is that, because the screen is touch-sensitive, the picture is not as clear as you'd expect from an LCD (liquid crystal display). The contrast is not as high and the viewing angle is quite narrow – if you're not looking at the screen straight on, colours are distorted and text is much harder to read.

The Toshiba Portege also gets pretty hot after a couple of hours use – not ideal if you're supposed to be carrying the device around with you all day. Then again, the three-hour battery



life means you won't be able to stray too far from your desk.

Software goodies

Other features of the Portege make up for some of these limitations. The software bundle is good, including packages such as Sensiva Symbol Commander for pen-based access to shortcuts and navigation functions, and Zinio, a portable magazine reader. It's truly designed

The Toshiba Portege gets pretty hot after a couple of hours use – not ideal if you're supposed to be carrying the device around with you all day

with mobility in mind, with just about every connectivity method under the sun built in, including ethernet, Wi-Fi, Bluetooth and an impressive array of expansion slots for CompactFlash, secure digital and PC Cards.

As well as its tablet functions, the Portege makes an adequate notebook, with a 1.33GHz Pentium III processor, 256MB of RAM and a 40GB hard drive, although at this price it's strictly for business users. Unfortunately, as it is such an early sample of the hardware, we were unable to run the Portege through our WorldBench tests, so we can't give it a score.

Verdict

The Portege by Toshiba is a strong first attempt at a Tablet PC. It has a number of attractive features, such as its small size, light weight, and virtually limitless connectability, and it nicely demonstrates the benefits of Tablet PC technology. However, because of its limitations, we can't imagine it replacing PCs just yet. Perhaps it will take a few more years (and a significant decrease in price) for Tablet PCs to really take off. ■

Alex Katz



Toshiba Portege 3500

- Toshiba: 0870 444 8944
- Website: www.toshiba.co.uk
- Price: £1,700 (TBC)

Specifications

1.33GHz Pentium III; 256MB RAM, 40GB hard drive; 12.1in polysilicon TFT display (1,024x768); integrated Wi-Fi; 10/100 ethernet; V.92 56K modem; integrated Bluetooth; IR port; Type II PC Card slot; secure digital slot; CompactFlash Type II slot; 2 x USB 2.0 ports; VGA port; Microsoft Windows XP Professional Tablet PC edition.

Build quality



Features



Value for money



Power PC

Mesh Matrix XP 2700+PPC

The Matrix XP 2700+PPC is the first system to feature nVidia's nForce2, launched this summer, in all its finery. With the nForce2, nVidia provides more options for prospective motherboard manufacturers: now they can opt for the low-performance IGP (integrated graphics processor) and offer GeForce4 MX 420-quality graphics, or stick to the SPP (systems platform processor) and let the PC manufacturer add their own graphics card.

The MCP (media communications processor), the chip that orchestrates the motherboard operations, can also be upgraded to the high performance MCP-T, thus adding sophisticated features such as FireWire, DualNet and Dolby Digital decoding. As befits a high-end PC, the Matrix's Asus A7N8X motherboard goes for the expensive options in every case.

Memory matters

Dual DDR (double data rate) memory architecture is one of nForce2's clever innovations. On systems using two or more memory chips (the Mesh spreads its 512MB of memory across two of the three available Dimm sockets) the workload is shared between the chips, thus uniting the two 64bit memory controllers to make one 128bit controller. For the user this results in an effective doubling of the memory bandwidth and should lead to far fewer bottlenecks. Although the Mesh's PC2700 DDR RAM only runs to 333MHz when nForce2 can support 400MHz, this remains one of the faster memory configurations.

Dualism is a recurring theme with the nForce2 and, thanks to DualNet, it can support two LAN (local area network) ports. Although trivial to most users, this feature is invaluable for anyone needing to access a network and a LAN-based broadband connection simultaneously.

Driving force

The hard drive is an excellent 120GB Maxtor which runs beautifully using nForce2's Ultra ATA/133 interface, and the other drives (Pioneer's 16-speed DVD and Teac's 48-/16-speed CD-RW) are at the top of their class. One annoyance is that, though nForce2 supports FireWire, Mesh has chosen not to include FireWire ports. The six USB ports (four of those are 2.0) should offer some compensation, however.

Recent months have seen AMD's Athlon XP processors losing their performance advantage over the Intel Pentium 4 and this showing from the latest 2700+ Athlon chip would appear to confirm the gap has been firmly closed.

Despite the best efforts of nForce2, the Matrix's WorldBench 4 score of 127 only just beats Mesh's 2.8GHz P4 offering from the November issue, while the Recommended Hi-Grade Ultis PV4 (see page 240) is four points faster. The fight remains a close one and, although the P4 systems were significantly faster on video encoding, the Athlon 2700+ is the new

leader on 3D games. This is partly because the 128MB Sapphire Radeon 9700 Pro, aided by nForce2's 8x AGP interface, runs at full pelt.

The 17in flat-panel's clear image quality and invigorating colour palette mark it as one of the best on the market. Thanks to the excellent Creative Inspire 5300 speakers, the integrated

APU (audio processing unit) offers reasonable sound quality and supports Dolby Digital for true impact. It's an improvement on integrated sound cards, but the Creative Audigy would have been a better choice for such a high-end PC.

Verdict

The Matrix sports two *PC Advisor* firsts, but it's not without its niggles. Gamers may find the flat-panel's resolution support limited and, although nForce2 looks an interesting chipset, the tried-and-tested P4 systems hold sway. ■

Robin Morris

Mesh Matrix XP 2700+PPC

- Mesh: 020 8208 4702
- Website: www.meshcomputers.com
- Price: £1,299

Specifications

2700+ AMD Athlon XP; 512MB DDR RAM; 120GB hard drive; 48x48x16x CD-RW; 16x DVD-ROM; 17in flat-panel; Windows XP Home; 3-year collect-and-return warranty.

Build quality



Features



Value for money





MP3 player

Freecom Beatman Flash MP3 Player

Freecom's gadget-sized MP3 player might not have the stylistic quality of its peers but when it comes to delivering quality audio at a handy size (not to mention at a bargain price) it does the job well.

The Beatman is a small, square player, weighing a mere 44g, and its single AAA battery should last up to nine hours. There's 64MB of built-in flash memory for storing MP3 or WMA (Windows media audio) files – enough space for about half an hour's worth of high-quality songs. Freecom has also, sensibly, left space for a SmartMedia card. The player doesn't come with a card but the slot means extra storage is available should you need it.

The player has a rectangular LCD (liquid crystal display) screen large enough to show an array of track information and it's easily navigated with the sparse control buttons. There is also a built-in microphone which enables the player to hold up to 17 hours of voice memos.



Where it counts – audio quality – the Beatman performs impressively. It can handle CD-quality audio and is bundled with decent, Sennheiser headphones. Bundled headphones often result in tinny sound but these ones pump out a lot of power. We were impressed with the overall output of the Beatman.

Installing via the USB is easy and the Digital Audio Manager software is basically the same as using Internet Explorer. There is no extra functionality at your fingertips – just the basics – so you can upload songs from your PC to player and download songs from player to PC.

Verdict

It may lack styling when set beside other digital audio players on the market, but the Beatman offers great functionality and the audio performance of more expensive players. It is good value for money and has the option of extra storage via the SmartMedia card slot making it worthy of a *PC Advisor* Gold award. ■

Spencer Dalziel



Freecom Beatman Flash MP3 Player

- Freecom: 01423 704 714
- Website: www.freecom.com
- Price: £85

Specifications

64MB internal memory; SmartMedia card storage; 1 x AAA battery; Windows 98/2000/Me/XP; MP3+WMA files; voice recording; 53x57x18mm; 44g; 2-year return-to-base warranty.

Build quality



Features



Value for money



MP3 and audio cassette player

Digisetete Duo-DX AR-496

This intriguing device marries old technology with the relatively new. Shaped like an audio cassette tape, it is an MP3 player that encodes and plays back digital audio files, but can also be used in a

standard tape deck and functions as a digital memo recorder into the bargain.

Having been available in the US for some time as a basic MP3 player, the Duo-DX has been beefed up for UK release with an improved 96MB of Flash memory – sufficient, in theory, to store 90 minutes of music. The Duo Manager PC software is used to do this, but the Digisetete's drag-and-drop setup is efficient and we found no difficulty transferring a combination of MP3 and WMA (Windows media audio) files to the Digisetete. The no-frills, in-ear headphones attach to the side of the unit and the playback is surprisingly good.

If you don't wish to invite curious looks as you bop away, you can slip the aluminium device inside its black plastic sheath. This isn't ideal as using the small and fiddly buttons on the

top-right corner of the cassette becomes harder still. The Play button often seems unco-operative and this quickly becomes tiresome.

In a cassette deck (a neat touch for in-car use) the Digisetete was more reliable and the ability to record from vinyl, FM radio stations, other cassettes, CD and vocals via the digital encoding cable is a real boon. Audio books and other audio content can be downloaded using the supplied Audible software and the Duo-DX can record up to 12 hours of speech, so there is no need to take detailed notes during interviews or lectures.

Verdict

At first glance the Duo-DX seems to be an expensive MP3 device with a gimmicky secondary function bolted on. However, its potential is realised as part of a home entertainment system where it can record from an exceptional range of sources, not least the hard-to-replicate vinyl tracks, and easily copy them to and from your PC. ■

Rosemary Haworth

Digisetete Duo-DX AR-496

- Digisetete: 0870 240 5522
- Website: www.digisetete.com
- Price: £240

Specifications

166MHz Pentium or higher; Windows 98SE/Me/2000/XP or MacOS; 96MB MMC flash memory (expandable to 224MB or more via add-in cards); supports MP3, WMA, WAV files, records from MP3, CD, FM radio, speech; rechargeable NiMH battery; 70g; 63x102x12mm; USB connection; direct-to-digital encoding cable.

Build quality



Features



Value for money



Global positioning system unit Navman GPS 3400

Maps are great for finding your way around unfamiliar streets and towns, except when you're trying to drive. What you really need is a map that talks to you, so you can keep your hands on the steering wheel and eyes on the road.

With the Navman GPS 3400 that is effectively what you get. Designed as a slide-on sleeve for the iPaq PDA (personal digital assistant), it provides you with route planning while keeping an eye on where you are via GPS (global positioning system) technology.

The kit contains the sleeve, which houses the GPS receiver (the big sticky-out bit) and a CompactFlash Type II slot, plus a suction arm for car windscreen mounting and an in-car power adapter. You also get the route planning software SmartST Professional.

We installed the software okay, but activating it over the internet was not so easy. Eventually we had to send the whole thing back to Navman and request a replacement.

Short drive

With it finally working, we took it out for a drive. A rather short one it turned out, as the supplied car power adapter refused to work in our car. Once it has located its position you need to enter a destination, which turned out to be a seemingly random and frustrating affair.

If you know exactly where you're going then it's easy, but even then you have to enter the area, followed by road and house number – and areas can be vague sometimes. There's also no way to enter a postcode.

Road to nowhere

The Navman's intersection option was also fairly unhelpful unless you know the road names. Entering M25 and A13 yielded 'Unable to find location. Please be more specific'.

We then tried the Points of interest option, which again was annoyingly inconsistent – for example, listing Bluewater shopping centre but not Lakeside.

This time, if it doesn't recognise your area it simply ignores it and returns to the list of all entries. That would be okay, except it only lists the first 40 so if you can't work out the area it's looking for and it begins with anything beyond the letter C, you're unlikely to find it at all.

In despair we ordered Navman to take us home – which it actually managed to do quite well. The prompts tell you what to do and when; the voice even sounds quite natural. If you go the wrong way it will get you back on course – although we weren't entirely sure if it was telling us to perform an 'illegal u-turn' or 'a legal u-turn'.

Verdict

Navman works, but from installation right up to entering a destination it's a long-winded affair. And at £323 (plus the price of an iPaq if you don't already own one), it's very expensive. For the time being, we'll be sticking to maps. ■

Will Head



Navman GPS 3400

- Navman: 01293 449882
- Website: www.navman-mobile.com
- Price: £323

Specifications

GPS receiver for iPaq; CompactFlash Type II slot; mounting arm; car power adapter; SmartST Professional software; internet connection required for activation.

Build quality



Features



Value for money



External hard drive

Western Digital 120GB External Drive

WD 120GB External Drive

- Western Digital: 01372 360 055
- Website: www.wdc.com
- Price: £237

Specifications

120GB hard drive; FireWire interface; 7,200rpm; 111GB formatted space; external power supply; 150x217x45mm.

Build quality



Features



Value for money



For those in desperate need of extra gigabytes who would rather keep their PC cases closed, adding an external drive need be no more bother than plugging in a box. Western Digital's 120GB External Drive comes in FireWire and USB 2.0 varieties. The FireWire drive we tested requires its own power supply, so it's best suited to semi-permanent connection.

The install procedure requires you to launch an application to set up the drive on your PC – but after that it appears as another drive in My Computer. In terms of performance, the drive came out on top. Copying a single 495MB file took just 28 seconds while copying 5,226 files (totalling 336MB) took 55 seconds.

Verdict

External storage always carries a price premium over internal drives, but if you'd rather keep your PC sealed or just want an easy way to add more storage it's great. For such a large amount of hassle-free storage, £237 isn't really that much to pay. ■

Will Head



Ultra-thin digital camera Fujifilm Axia SlimShot

Disposable cameras have been around for a while now, providing an alternative for film-based photographers, and their digital equivalents are now creeping on to the market. These devices are not exactly throwaway, but their cut-down features tend to result in a far smaller and compact body and a basic model will set you back a very reasonable £30-£40.

The Axia SlimShot may cost double this amount, but it takes the concept of a discreet, ultra-portable digital camera to the extreme. It isn't much bigger than a credit card and an unlikely sounding 6mm in depth (you won't be surprised to learn it's the world's slimmest camera). This means you can dance the night away with the SlimShot in your back pocket and discreetly retrieve it when alcohol leads your mates into various intriguing situations.

Up to 101 low resolution (320x240 pixel) or 26 reasonable quality (640x480 pixels) images can be taken before you need to download them from the built-in media card via the USB connection – a cinch.

Pictures we took in daylight were variable, but in general the Axia SlimShot captured

well-balanced, crisp images. This was helped by the AutoBrite feature which evens out saturation and compensates for low and difficult lighting conditions.

The Axia's miniscule dimensions don't leave room for a flash (although outdoor evening shots were possible), a zoom or an LCD (liquid crystal display) viewfinder. But that's hardly the point. Armed with this barely-there chrome-coated sliver of technology, we had instant party cachet and some photos to remind us of a great night out.

Verdict

This is a great-looking, inexpensive camera. There is no flash so it doesn't work well in dimly lit bars but, given a reasonable amount of light, the Axia SlimShot takes acceptable snaps that you can then email to friends (and soon-to-be enemies) as a memento – or evidence. ■

Rosemary Haworth



Fujifilm Axia SlimShot

- Fujifilm: 020 7586 1477
- Website: www.fujifilm.co.uk
- Price: £80

Specifications

8MB internal flash memory; rechargeable lithium-polymer battery; 35g; 86x54x6mm; 0.3Mp image capture; USB PC connection; recharges while downloading images to PC.

Build quality



Features



Value for money



Personal digital assistant Handspring Treo 90



Handspring Visors (personal digital assistants) and Treos are combined PDA/phones, right? Not in the case of the Treo 90 which houses no mobile gubbins inside its case. A shame, as previous Treos have been bigger and bulkier, but the 90 is just the right size for a mobile replacement. But it isn't, so we have to move on.

What the 90 does offer is still good in plain old boring PDA terms. It has a colour screen, runs Palm OS 4.1, sports 16MB of internal memory, an SD (secure digital) slot for expansion and a dinky keyboard. The keyboard is actually surprisingly easy to use, given that so

many keys have been crammed into such a small space. For general operation you need never resort to the stylus – which is a great timesaver and useful if you just want to make a quick note.

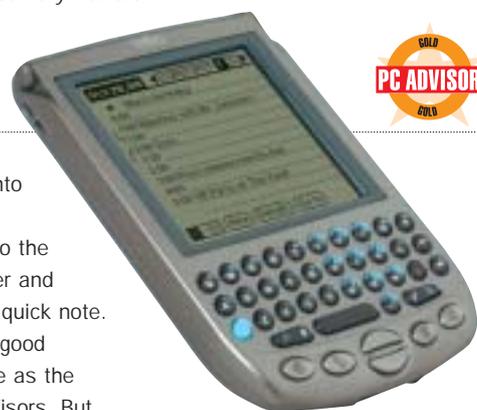
The inclusion of an SD slot is good for expansion, but not as versatile as the Springboard slot sported by the Visors. But size constraints mean it's not possible and a bolt-on solution – like that seen on the Visor Edge – isn't really that practical.

You don't get a cradle, but there is a USB cable supplied for synching with a PC.

Verdict

As a PDA, even without the bundled phone functionality of its bigger siblings, the Treo 90 is a good device. It's small and light, has a colour screen and can be expanded thanks to the SD slot. The keyboard is small but usable and to top it all off it's good looking too. All for a reasonable £212. ■

Will Head



Handspring Treo 90

- Handspring: 020 7294 0157
- Website: www.handspring.co.uk
- Price: £212

Specifications

33MHz Dragonball VZ processor; 16MB RAM; colour screen; SD/MMC slot; keyboard; rechargeable lithium-ion battery; Palm OS 4.1; 71x108x16mm; 113g.

Build quality



Features



Value for money



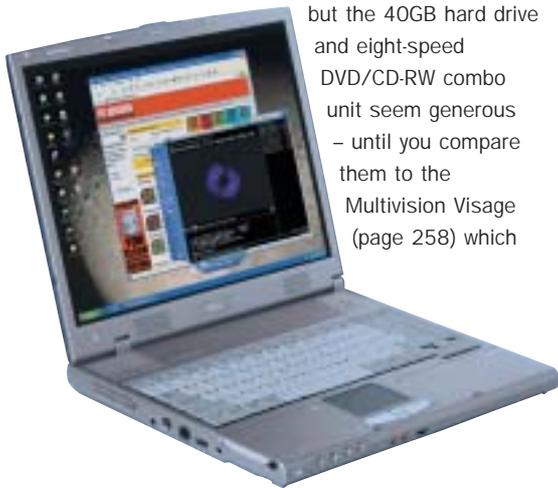
Budget notebook Rock Xeno-m

The Rock Xeno range has taken a starring role in our Notebook charts before, but the Xeno-m is a new addition to the family that manages to offer a little bit of everything without actually offering too much. On the face of it, the notebook is dripping with features, starting with the inclusion of a wireless network mini PCI card. This allows the Xeno-m to be dropped into any IEEE 802.11b Wi-Fi network and make contact with other wireless devices (such as a projector) within a range of 100-300ft.

Weighty issues

For those not ready to join the ranks of the wire-free, standard 56K modem and 10/100 internal network facilities are also built in. FireWire and the three USB ports are fine additions – indeed, given the number of features, it's a surprise that the slender Xeno-m weighs a mere 2.4kg.

A floppy drive comes as a £49 optional extra, but the 40GB hard drive and eight-speed DVD/CD-RW combo unit seem generous – until you compare them to the Multivision Visage (page 258) which



matches the majority of these specs for £400 less. The Rock also compares unfavourably with the Visage on overall system performance. Its 2GHz Intel Mobile Pentium 4 should be enough to see off much of the competition, especially with a healthy 512MB of DDR (double data rate) RAM onboard. But the WorldBench 4 score of 104, although quite respectable, seems slightly disappointing in light of the sparkling hardware.

Screen if you wanna go faster

The Rock Xeno-m's 14.1in screen is a good example of its kind, however, the onboard video proves a bad compromise and results in sluggish 3D performance. At least the audio quality is a triumph and the built-in volume control is a convenient touch. A leather carrying case is included with the notebook, although the software bundle (McAfee AntiVirus) is almost nonexistent.

Verdict

The Rock Xeno-m packs a lot of features into a very small space. Undoubtedly, there are areas where we would have liked to see improvements. Performance isn't as startling as you might expect from the 2GHz Mobile Pentium processor and 512MB of DDR RAM combination. Even less appealing is the integrated graphics solution and the allure of the sub-£1,000 Multivision Visage will divert many a bargain hunter. Nonetheless, the Rock is feature-rich and the Wi-Fi option is one of many inclusions that will make this a sound purchase. ■

Robin Morris



Rock Xeno-m

- Rock: 0870 990 8888
- Website: www.rockdirect.com
- Price: £1,368

Specifications

2GHz Mobile Pentium 4; 512MB DDR RAM; 40GB hard drive; 32MB Sis 650 integrated graphics card; 14.1in 1,024x768 TFT display; 24x/8x/8x/8x DVD/CD-RW combo; 56K modem; Wi-Fi card; lithium battery; 305x270x25.4mm; 2.4kg; 3-year collect-and-return warranty.

Build quality



Features



Value for money



PC Card GSM modem Sony Ericsson GC75

Sony Ericsson GC75

- Sony Ericsson: 020 8762 5858
- Website: www.sonyericsson.com
- Price: £250 (£50 with contract)

Specifications

Triband (900/1,800/1,900) GSM modem; GPRS; HSCSD; Type II PC Card; detachable antenna.

Build quality



Features



Value for money



Obtaining internet access while travelling with a notebook isn't always easy, especially if you need a mobile connection. Even infrared dialup using a mobile phone can be tricky.

Sony Ericsson's GC75 builds the data functionality of a mobile phone into a Type II PC Card. It's by no means the first to do it but the GC75 does have a couple of interesting features, including support for HSCSD (high speed circuit switched data) and GPRS (general packet radio service), so you won't be stuck for a fast connection. It's triband, too, so it will work wherever there's a GSM network, plus you can detach the antenna but leave the card in place.

Setup was extremely easy and there's even a Dialup Networking Wizard to help you get online. There's no voice support, though it's unlikely to be much use anyway so most people won't miss it.

Verdict

The GC75 is reasonably priced at £250 offline, but you should be able to pick one up for around £50 with a new contract. It supports all the current standards and as it's triband you can use it on any GSM network. ■

Will Head



Power PC Dell Dimension 4550

While it's hard to tell one beige box from another these days, the Dimension 4550 certainly has the look of a cutting-edge 21st century PC. Dell calls the casing 'midnight grey' and though it looks more like black to us we can't dispute that it's very stylish. The PC maker aimed to create a system that doesn't look out of place in a family living room and the Dimension 4550 definitely isn't the sort of machine you'll want to keep hidden away upstairs.

Boasting a 2.8GHz Pentium 4 processor, 128MB ATI Radeon 9700 Pro graphics card and a capacious 120GB hard drive, the 4550 achieved a WorldBench 4 score of 127 – just four points away from the highest result we've ever seen. There's also a DVD+RW drive – the eight-/2.5-/2.5-speed (read/write/rewrite) Philips DVD+RW D01 will be a welcome addition for those with large amounts of data to back up.

The Dell 1702 flat-panel display looks just as good as the tower – the sleek black design isn't the only strong point of this monitor either, as it offers excellent image quality and will stretch to a resolution of 1,280x1,024.

Audiophiles might be wary of a system that doesn't use a Creative Audigy sound card,

but despite not offering a FireWire port the Turtle Beach Santa Cruz offers excellent performance and supports six channels. The speakers on offer are Altec Lansing's ADA 995 system and, not only is the look perfectly in keeping with the rest of the system, but the quality is top-notch too.

Verdict

The Dell Dimension 4550 is a good all-round system – the performance and components combine to make a PC that should perform well whatever you use it for and it is also a good-looking system. However, at £1,649 it is quite expensive and a one-year collect-and-return warranty doesn't provide adequate cover, especially when the system itself is pricey. ■

Ben Camm-Jones



Dell Dimension 4550

- Dell: 0870 152 4628
- Website: www.dell.co.uk
- Price: £1,649

Specifications

2.8GHz Pentium 4; 512MB DDR RAM; 120GB hard drive; 128MB ATI Radeon 9700 Pro; 17in flat-panel display; 48x/40x/12x CD-RW; 8x/2.5x/2.5x DVD+RW; 1-year collect-and-return warranty.

Build quality



Features



Value for money



Flat-panel display CTX s530

CTX s530

- CTX: 01923 810 800
- Website: www.ctxeurope.com
- Price: £249

Specifications

15in screen size; 1,024x768dpi; 0.297mm pixel pitch; 3.7kg; 372x171x355mm; no DVI; no USB; 3-year onsite warranty.

Build quality



Features



Value for money



In the flat-panel market, true value for money is to be found among the smaller displays. A 15in screen will save you around £150 on a 17in model and give you a viewing area equivalent to that of a 16in CRT (cathode ray tube) monitor.

For the high-end user, the CTX will seem short on features. There are no USB ports, for instance, and no DVI (digital visual interface) connector. Specifications are generally adequate, however. The 0.297mm pixel pitch and 300:1 contrast ratio are common across the 15in market, as is the resolution support of 1,024x768.

CTX's trump card, though, is image quality. The s530 is excellent for graphics and its intensely colourful palette catches the eye. Text on flat-panels is often far from successful, but the CTX's sharp character definition will make it easy to concentrate for long sessions. In fact, CTX is so confident you'll luxuriate in the s530's



flawless picture, it is offering a 101-day guarantee against dead pixels. When a totally black screen is being displayed on your flat-panel, look for any tiny white dots. These are caused by defective pixels in the LCD (liquid crystal display) screen. Budget flat-panels tend to have quite a few dead pixels, but if you can find even one on the s530, CTX will replace the screen.

Verdict

Buying a low-end flat-panel doesn't have to mean putting up with below-par performance. Manufacturers such as CTX and LG know what to cut and what to leave in when producing a value-for-money screen and the s530 belies its specs to offer a silky smooth picture untainted by dead pixels. If you wish to sample the delights of flat-panel technology without paying a high price, this is an excellent purchase. ■

Robin Morris

External sound card M-Audio Sonica



M-Audio Sonica

- M-Audio: 01442 416590
- Website: www.midiman.co.uk
- Price: £45

Specifications

External USB sound card; 24bit/96KHz analog-to-digital converter; optical output; line-out; USB cable supplied, 52x84x20mm; 11g.

Build quality



Features



Value for money



Until Creative released the SoundBlaster Extigy (reviewed June 02), external sound cards were only available for high-end audio processing used mostly by musicians. Now manufacturers are targeting a new audience and building external sound cards for notebook users who want an enhanced audio experience.

Following Extigy's lead is the Sonica from sound solutions company M-Audio. It doesn't have the full-blown functionality of Creative's external card, but it is the first truly mobile solution we've seen for top-quality audio on a notebook. At just £45 it is also incredibly cheap and we were impressed with the results.

Squaring the rectangle

The Sonica is a rectangular, metallic, external sound card that adds high-quality 24bit/96KHz audio to desktops and notebooks. It uses the power from the PC or notebook it is plugged into via USB, negating the need for an adapter.

At the front of the Sonica there's a digital optical-out and an analog line-out. The optical-out provides the best possible quality to any audio device with a digital input, such as a Mini Disc player. If you've got a suitably equipped amplifier you can hook up surround sound speakers via the digital output.

The line-out serves as a port for powered speakers or for plugging straight in to a stereo. If you're without the benefit of 5.1 channel speakers the Sonica has a built-in utility called TruSurround for a simulated surround sound experience.



Public speakers

Creative might have beaten M-Audio in providing notebook users with a high-quality sound solution but the Extigy bundle is about the same size as a subnotebook, so it is not the most portable option. The Sonica is tiny in comparison and easy to carry around with your laptop.

Notebook audio is notoriously tinny due to a combination of bad onboard sound and small speakers, but the Sonica offers sound quality a few steps up the evolutionary ladder – even with portable stereo speakers. Connecting up some Altec Lansing ACS33 speakers via the line-out port produced a vast improvement over a notebook's normal output.

Verdict

Audio quality on notebooks is the last step in offering mobile technology that truly competes with desktop solutions. We haven't seen any internal notebook sound cards yet but this external card from Sonic is the best you can get. Great quality, portable and very cheap. ■

Spencer Dalziel



Portable DVD players tend to be rather expensive so, at just £106, Waitec's Vision would seem to be a bargain.

However, while it can be accurately described as a portable DVD player, it lacks the built-in screen of its costlier, larger counterparts.

The Vision is a small (135x156x45mm) unit that, when hooked up to a suitable display, lets you watch movies. But it doesn't end there. Using the supplied cable you can also link it to a PC or notebook and use it as a DVD-ROM drive.

For its size the Waitec packs in functionality. It supports S-Video as well as composite output

(providing better quality) and also has a coax digital connector for hooking up to a suitably equipped surround sound amplifier. There's even a remote control for couch potatoes. Connection to a PC is simple. If you're running Windows XP or 2000 no drivers are required – just plug it in and it's automatically recognised as a DVD drive.

Verdict

The lack of internal screen inhibits the Waitec's use on the go, but when near a display or PC it performs admirably. While it won't win any style awards, at £106 it's good value for money. ■

Will Head

Portable DVD player Waitec Vision

Waitec Vision

- Waitec: 0031 77 3261 040
- Website: www.waitec.com
- Price: £106

Specifications

Portable DVD player; S-Video; composite; coax digital-out; USB 2.0 connection; supplied AC adapter; 135x156x45mm.

Build quality



Features



Value for money



Video capture device

Adaptec VideOh DVD



Life is tough for analogue camcorder owners. There are very few decent hardware devices that allow us to capture top-quality footage directly from Hi8, Video8, S-VHS and VHS sources to our hard disks. Why can't it be as simple as FireWire, which for digital camcorder owners is as easy as plug-in-and-go?

Thankfully, Adaptec has noticed that recent increases in hard disk speeds and data transfer rates can be harnessed to make life easier for analogue video buffs. The VideOh DVD is a neat idea that makes use of USB 2.0's speed benefits to capture quality Mpeg-2 video from your old analogue tapes in real time. You can then convert your old home movies or VHS recordings into VideoCDs or even DVDs if you own a DVD burner. VideOh will work with a standard USB socket, although the quality of your footage will suffer dramatically as a result.

Breakout room

An entirely external solution, installing the VideOh DVD breakout box is as easy as plugging it in and installing some drivers. Front panel access to all the sockets (phono audio, composite video and, for better quality, S-video) makes practical use of the device a breeze – there's none of that scrambling around the back of your system to plug something in. On the software side, Adaptec has opted to rely almost solely on Sonic MyDVD to capture, make rudimentary edits and author discs. MyDVD is a fantastically simple program and perfect for beginners, although those seeking to create Hollywood-style mini epics will have to consider investing in a separate, dedicated editing application to really get to work on their footage.

Adaptec VideOh DVD

- Adaptec: 01276 854 500
- Website: www.adaptec.com
- Price: £129

Specifications

Composite (RCA); S-Video (7-pin DIN) and stereo audio (RCA) inputs; PAL/NTSC-compatible; Mpeg-1 and Mpeg-2 capture formats; USB 2.0 interface.

Build quality



Features



Value for money



Verdict

Simple to install and easy to use, the VideOh DVD is an analogue video user's dream come true. It's great for turning old tapes into DVDs and CDs but there is no analogue video output. To get the most out of it, you'll also need a USB 2.0 port, a recordable DVD drive and some extra editing software. ■

James Bennett



Smooth Operator

Put the **Microsoft® Wireless IntelliMouse® Explorer** through its paces and experience unprecedented performance, accuracy, control and a clutter free desktop. It features five programmable buttons that can be customised to perform popular commands in most applications, offers a uniquely stylish, comfortable design and includes the World's most powerful optical technology that lets you Point, Click, Roll and Scroll with freedom and accuracy on practically any surface. Combined with its breakthrough power-saving technologies it's the first choice for optical precision and wireless freedom.

www.microsoft.com/uk/hardware/desktop



Microsoft®

Colour laser printers

Minolta-QMS Magicolor 2300 Desk laser & HP Color LaserJet 2500L

Mono laser printers may now be sufficiently affordable for home and small office users to obtain fast and flawless text output, but the inability to print colour graphics will always rankle. As a result, manufacturers are working harder than ever to force colour lasers into the mainstream. We took a look at two well-priced models that might fit your budget as well as your aspirations.

Minolta-QMS Magicolor 2300 Desk laser

As an office ornament, the Magicolor is fairly unengaging and the rather weak construction of the plastic paperfeeds make it feel less than robust. The built-in control panel is a nice touch, though, letting you check on the printer's health, monitor toner levels and alter the network configuration without a PC.

With just 200-page input and output trays on the basic model, the optional 500-page tray will be a must for anyone printing large volumes. Manual duplex facilities are included as standard, but for instant double-sided printing you might want the optional automatic duplexer.

The Magicolor has 32MB of memory, upgradable to a massive 288MB for demanding workloads. Resolution support is strong with a sizeable 2,400x600dpi (dots per inch) available for maximum detail and the Magicolor shows an impressive turn of speed across all resolutions.

At a basic resolution of 600x600dpi, the printer averages 12.5 and 2.6ppm (pages per minute) in mono and colour respectively, getting fairly close to the manufacturer's quoted rates of 16ppm and 4ppm, and comfortably outpacing HP's LaserJet 2500 range. Output quality is extremely high, with the focused text and intense but colourful pictures impressing on all levels.

HP Color LaserJet 2500L

HP's efforts to get away from the breezeblock printer design that habitually passes for style in the laser market has resulted in a finely curved multicoloured printer that could only have come from the HP stable. Installation was simple thanks to HP's truly comprehensive instructions and tutorials, however it still took around 30 minutes.

The 2500 range has four models: 2500L, 2500, 2500n and 2500tn. In terms of paper handling facilities, the £771, 125-page tray



2500L is almost certainly a model to avoid.

The 250-page trays of the £925 2500 and £1,155 2500n (complete with internal print server) make these better options; and for any sizeable print jobs, the £1,461 2500tn's 500-page tray will prove its worth. All four models are hampered by a 125-page output bin, however.

All 2500 models come with 64MB of memory, upgradable to 256MB. Basic resolution support of 600x600dpi is the only real option. The 2500 series is enhanced by HP's ImageRet 2400 colour layering technology, however, and in practice the results were extremely similar to the 2400dpi modes of other printers.

In text mode, the 2500 series is very good, producing clean and precise text output. But turn to graphics and the prints are just a little too light and lack the fine detail offered by the Magicolor. Print times are inferior, too, with the HP averaging just 11.5 and 2.1ppm (pages per minute) on mono and colour, as opposed to the Magicolor's 12.5 and 2.6ppm. Nonetheless, the HP remains a swift performer.

Verdict

Neither of these printers would be out of place in a self-respecting home or small office. The Magicolor, in particular, generates fantastic print quality at high speeds. With an enticing £649 price tag this would make an excellent choice, although the limited paper handling on the basic model could exclude it from high volume printing.

The HP is more problematic. Even in its cheapest incarnation, it fails to match the price, speed or print quality of the Magicolor. And ideally, you would want to upgrade to at least the straight 2500 model (at a less-pleasing £925). For these reasons, the HP is a clear runner-up behind the superb Magicolor. ■

Robin Morris

Magicolor 2300 Desk laser

- Minolta-QMS: 01784 442 255
- Website: www.minolta-qms.co.uk
- Price: £649

Specifications

Installed/maximum memory 32MB/288MB; hardware resolution 2,400x600; manufacturer's print speed (mono/colour) 16/4ppm; actual print speed 12.5/2.6ppm (mono/colour); 356x500x392mm; 27.8kg; interface parallel, USB; toner (high capacity) £55 for black, £75 for magenta, yellow and cyan; print life 4,500 pages; 1-year warranty.

Build quality



Features



Value for money



HP Color LaserJet 2500L

- HP: 0870 547 4747
- Website: www.hp.co.uk
- Prices: 2500L £771, 2500 £925

Specifications

Installed/maximum memory 64MB/256MB; hardware resolution 600x600; manufacturer's print speed (mono/colour) 4/16ppm; actual print speed 11.5/2.1ppm (mono/colour); 480x450x325mm; 21.5kg; interface parallel, USB; toner £70 for black (5,000 pages), £85 for magenta, yellow and cyan (all 4,000 pages); 1-year warranty.

Build quality



Features



Value for money



USB device

Lindy USB Share

Lindy specialises in solving simple but frustrating PC problems that you seem to be the only person in the universe suffering from. In the case of USB Share, the problem is that you have a USB device (printer, scanner)



that you want to use on several PCs, but you don't like the constant plugging and unplugging that ensues every time you move it. The solution is Lindy's black box. Plug the device in, connect the USB Share to as many as four PCs or Macs at once and click the button to cycle between them. It's hardly the most elegant of solutions, but the chances of anything going wrong are remote. It's quick to set up (no drivers are needed), highly portable and requires no power and, most importantly, it works.

Verdict

You'll already know whether you need USB Share or not. And if you do, £19 is a small price to pay for such an invaluable accessory. ■

Robin Morris

□ Lindy: 01642 754 000 □ Website: www.lindy.co.uk □ Price: £19

USB device

Lindy USB Docking Station

Opting for an ultra-portable notebook means doing away with superfluous ports and connectors. If you later find you need more ports, you could try Lindy's USB



Docking Station which equips your notebook with four USB ports, two PS/2 ports, one serial, one parallel, one 10/100 ethernet port and a USB port to connect to other PCs for file transfer. At 257x65x30mm it shouldn't add much bulk to the average notebook traveller's bag. When it came to setup, however, the procedure was less than polished. Despite Lindy promising to draw power from the notebook, we failed to get this to work and could only use it with an external power supply. The facility to transfer files from one machine to another over USB is neat – although we found the supplied PC-Linq app to be far from stable, crashing frequently.

Verdict

The USB Docking Station is a great idea, it's just a shame that it's let down in the implementation. If you need the extra ports and you have £100 to spend, you might want to see what your notebook manufacturer can offer first. ■

Will Head

□ Lindy: 01642 754 000 □ Website: www.lindy.co.uk □ Price: £101



Double Act

Now you can get everything you've always wanted with a keyboard and mouse in one package with **Microsoft® Wireless Optical Desktop**. Say goodbye to the clutter of tangled cords and messy wires on your desktop – together this keyboard and mouse offer wireless freedom, superior comfort and stylish good looks. The keyboard features One-touch buttons that allow access to the internet, email and multimedia activities* whilst the mouse provides precise optical technology that lets you Point, Click, Roll and Scroll with superior accuracy on practically any surface. It's the all-in-one desktop solution, built for the utmost in performance and designed for maximum style.

www.microsoft.com/uk/hardware/desktop



Microsoft®

* Internet and email functionality are only available provided the keyboard is used in conjunction with a Windows® compatible PC or Apple Macintosh with OS 9.0 or later that has Internet access as per system requirements. © 2002 Microsoft Corporation. All rights reserved. Microsoft, Windows and the Microsoft logo are trademarks or registered trademarks of Microsoft Corporation in the US and/or other countries.

Personal digital assistant Sharp ZQ-800P



Sharp ZQ-800P

- Sharp: 0800 138 8879
- Website: www.sharp.co.uk
- Price: £94

Specifications

16bit TLC5900 chip; 10MB memory (2MB Flash memory, 8MB SDRAM); 160x160 mono display; 2 x AAA batteries; 68x12x108mm; 108g; serial synchronisation.

Build quality



Features



Value for money



As competition heats up at the high end of the PDA (personal digital assistant) market, with manufacturers bolting on ever more features, Sharp has eschewed such complex functionality in favour of a simpler route with its new release, the ZQ-800P.

This barebones organiser offers none of the bells and whistles we've come to expect. Powered by two AAA batteries, it has a 160x160 mono display, just 10MB of memory, no expansion option and synchronises via the serial port. But the basic approach is becoming a popular choice in this tough market, as evidenced by Palm's recently launched Zire (showcased in New products on page 36) which is little more than a glorified Filofax.

The price is right

The main benefit of such devices, and what the makers hope will win us over, is the price. The 800P is just £94, while the Zire is even cheaper at £76, making both bargains compared to £200-plus Pocket PC-based handhelds. But, as with most things in life, you get what you pay for and the 800P is pared down to the bone.

Unlike the Palm device, it allows you to sync your email messages with Microsoft Outlook, so you can upload and download messages when you connect up via a PC's serial port. You can also download Word, Excel, PowerPoint, PDF and HTML files to the Attachments folder to read on the device, although you cannot edit these documents. It is a shame the 800P has no USB connection to speed

up sharing documents, particularly as even Palm's Zire boasts this piece of modern technology.

Touchdown

The 800P has a touchpad keyboard on which you can tap out words with the built-in stylus. It's easy, if a little slow, to use but an auto word complete feature helps speed things up. The screen is hard to read without the backlight on and that drains the batteries. The operating system, developed by Sharp, is basic but despite this minimalism it is not that intuitive in use. The PC software is equally plain, but worked well in our tests, downloading files and emails with ease.

The spec matches the 800P's basic nature. It uses a 16bit Toshiba microcontroller, the TLC5900, and offers 10MB of memory. This is better than its Zire rival, which boasts a meagre 2MB of storage. The Sharp is smaller than the Zire, too, at 108g and 68x12x108mm, but it is not as attractive.

Verdict

The 800P is not as stylish as the Zire, the software is not as user-friendly and it doesn't use USB. But it does let you manage emails and files on the move, so if you need these features this is the cheapest way to get them. ■

Ursula Seymour



We're supposed to be living in a connected world and working in paperless offices, but when we need authorisation we still use fax machines and the post. The trouble is, a digital signature sent via email could have come from anyone. Interlink aims to solve this with Epad-Ink, a pad that allows you to sign documents electronically and then have that moniker approved by verification software.

This USB device's touch-sensitive LCD (liquid crystal display) feels natural to write on. We tried it out with the Esign software from Valyd. Once we'd set up a signature, signing a document was simply a case of clicking Esign Now in Word.

When you sign the document it checks it against a stored record of your signature – if the two don't match it won't let you sign the document.

The system recognises not just how a signature looks but also how you sign it, so even the best forgers would be hard-pressed to replicate the speed and pressure you use.

Verdict

Digital signatures are still some way off, but the pad solves one half of the chicken and egg problem. While the Epad-Ink is more suited to large corporations, it still represents a step in the right direction. ■

Will Head

Digital signature pad Interlink Epad-Ink

Interlink Epad-Ink

- Interlink: 0870 900 6096
- Website: www.epadlink.com
- Price: £169

Specifications

Digital signature pad; 76x56mm LCD display; 300dpi resolution; USB interface; 151x151x41mm.

Build quality



Features



Value for money

