

PCADVISOR
GOLD

Budget notebook

Evesham Voyager 64 3200+

The IT industry is constantly changing and the advances made every month are often hard to keep up with. Everything is getting gradually faster or cheaper, which means that you can get better PCs or notebooks for your money. This is a good thing for consumers, especially if you don't know or care why the system you can buy now is better than the one you could have bought six months ago.

But some developments are more significant than incremental rises in clock speed. Unless you've been living in a cave for the past couple of months, by now you will have heard of 64bit processors. These chips are going to change the face of home computing whether we like it or not.

Having a 64bit processor in your system will make very little difference at the moment because there are no consumer 64bit operating systems or applications to take advantage of them. Backwards compatibility means that 64bit processors will run 32bit software perfectly well. But it's not until programs written specifically for 64bit technology are available that we'll see a real performance boost.

Wanna be a recordbreaker

But now at least we have the hardware in place to make the leap to 64bit computing. Many new PCs boast AMD's 64bit processors and now they are starting to make an appearance in notebooks.

The Evesham Voyager 64 3200+ is the first notebook we've seen with a 64bit chip and, as expected, it broke the existing WorldBench 4 performance record for notebooks with its score of 133. This isn't that far ahead of some other systems we've seen with 32bit processors and certainly not a difference you'd notice in everyday use. But it's still an impressively speedy score.



There's no doubting that the Voyager is intended as a desktop replacement system. Not only is it nearly 4kg, it's rather chunky and has a 15in screen. The keyboard is well laid out with decent-sized keys - a must if you are going to be doing a lot of typing. In terms of memory, 512MB of fast DDR RAM ensures that the Evesham runs smoothly and a 60GB hard drive provides plenty of storage space.

You'd think that a well-specified notebook like this with a 64bit processor would cost a pretty penny, but that isn't the case. Its price tag of £1,400 inc VAT is a good deal for something that's guaranteed not to be out of date in six month's time.

There are areas where Evesham has obviously had to compromise to keep the price this competitive, but we're not arguing - not everyone would want Wi-Fi facilities in a desktop-bound system anyway.

Verdict

The Voyager is very much a replacement for your desktop machine. At 3.9kg it'll pull your arm out of its socket if you try to carry it around too much.

Although it's far from the finished article, the Evesham is more futureproofed than many other notebooks due to its 64bit processor. The fastest notebook we've seen, this machine is great value for money. **Ben Camm-Jones**

Evesham Voyager 64 3200+

- Evesham: 0870 160 9500
- www.evesham.com
- £1,399 inc VAT

Specifications

AMD Athlon 64 3200+; 512MB DDR RAM; 60GB hard drive; 64MB ATI Mobility Radeon 9600 graphics; 15in TFT display; 1,400x1,050 resolution; 24x/16x/8x/2x/1x/1x combi CD-RW/DVD-R/DVD-RAM drive; 56K modem; lithium-ion battery; 337x280x43mm; 3.9kg; 3-year warranty



Good points

Fast; good graphics performance; price



Bad points

No PS/2 port; no Wi-Fi facilities; heavy

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Megahertz myth

AMD has been telling us for years that the clock speed of a processor is not the only factor in the performance of a PC or notebook. The 'megahertz myth', as the company puts it, has led people to believe that the higher the megahertz or gigahertz rating of a processor, the faster it will be. This is not true, says AMD, pointing out that bus speed, cache size and chip architecture play a part in the speed of a system.

AMD's new processors add another factor to the equation. A 64bit processor can address twice as much memory as a 32bit chip in the same clock cycle, which means the 64bit system is faster. But this will only be effective when the PC is running software that has been created with it in mind. While AMD's 64bit processor is backwards-compatible, its performance running 32bit applications is similar to high-end 32bit Athlon processors.

The Evesham Voyager 64 does hold our record for the highest WorldBench 4 score from a notebook, but it's only three points ahead of the field.

Smartphone

Orange SPV E200

The world's first mobile phone driven by Microsoft's Smartphone operating system entered the market 14 months ago. The SPV is now on to its third iteration, with the E200 being released just in time for the Christmas rush. Manufactured by HTC (which also makes the Xda II), the E200 features a number of worthwhile improvements over its short-lived predecessor, the E100. Its basic specification remains the same. First and foremost it's a triband GPRS (general packet radio service) phone, so it can be used around the world. It has the same bright, crisp TFT colour display as before and it integrates slickly with Outlook.

Smooth operator

Externally the E200 is very similar to the E100 but overall it feels a bit smoother. The keypad now has a blue, rather than green, backlight. It also features yet another navipad design, the E100's stubby joystick being replaced by an itty-bitty mushroom.

I must have smooth thumb-tips because I found this a bit too slick to use quickly - some texture here would help. The various Smartphone forums are up in arms about the new navipad but for a different reason - it no longer supports diagonal movements. This has effectively put the kibosh on any decent gameplay on the E200.

The Orange SPV E200 is the first smartphone to run the Smartphone 2003 OS which has a number of subtle changes. The Programs softkey, for example, is now called Start while the email client can retrieve messages from multiple mailboxes.

Home comfort

The new home screen layout on the E200 is functional and displays recently used applications in mini icons at the bottom. Internet Explorer has a one-column mode, which effectively ends all that tedious sideways scrolling. Media Player 9.0 rules the multimedia roost so audio and video playback benefit from the WMP 9.0 codecs.

The phone also has the facility to install unsigned applications. You're simply warned that the software is unsigned, you accept this and it installs okay. MSN Messenger works well and we mustn't forget the new game, Jawbreaker, either. Usefully, the E200 can now recharge from the USB cable alone.

A VGA resolution digital camera is now built in to the rear of the camera. This delivers pretty much the same still-picture quality as the original plug-in camera but it can now record 176x144 AVI 8fps (frames per second) video clips with sound, which is a novelty. There's also much better control over exposure and



special effects. A new app, Caller Photo ID, can throw up a picture of the person on the other end of the line when a call comes in.

Verdict

This is the smartphone that Orange should have released in October 02. It still offers slick integration with oodles of functionality at a good price but it has now been overtaken by its rivals and is looking staid. Despite the welter of minor but important upgrades, if the clamshell Motorola MPx200 had a camera and Bluetooth, it would be the better phone. Roger Gann

Orange SPV E200

- Orange: 0500 802 080
- www.orange.co.uk
- £100 inc VAT (with contract)

Specifications

Triband GRPS/GSM phone; 132MHz ARM OMAP 710 CPU; 32MB RAM; IrDA; Bluetooth; 176x200 pixel; 65K colour transfective TFT display; SDIO slot; integral digital camera; Windows Smartphone 2003 OS



Good points

One of the best colour displays on any mobile; integrates well with Outlook



Bad points

Bluetooth support is a let down; Bluetooth negates all the previous battery life gains; faces competition from the Motorola MPx200

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Bluetooth arrives

The most newsworthy feature of the SPV E200 has to be the long-overdue inclusion of Bluetooth. But after a little use, the joy that this new feature brings becomes somewhat less than unbridled. Bluetooth devices have the option of supporting a number of profiles, roughly analogous to the ports on your PC - if you have a parallel port then you can hook up a printer and so on. The Bluetooth dongle on my PC supports seven profiles. The SPV E200, in common with its blood brother the O2 Xda II Pocket PC, supports just one, dubbed SSA and also known as the Dial-Up Networking Profile. It lets you use the E200 as a modem.

Although not explicitly listed, you can also use a Bluetooth headset with the E200 - but that's it. No other Bluetooth profiles are supported, which kind of goes against the spirit of Bluetooth connectivity. The other major problem posed by Bluetooth is that it eats battery for breakfast. The original SPV had a working life of about a day, gradually improved to several via a couple of firmware updates. All that gain has been lost with the E200. With Bluetooth on, it's back to a day's use before it has to be reunited with its docking cradle.

Personal digital assistant PalmOne Tungsten E

When Palm (or PalmOne, as we should now call it) first launched its Zire and Tungsten ranges last year, the idea was to create two distinct product lines aimed at consumers and business users respectively.

At first this was a good concept, making it easy to understand which sorts of users each new product was aimed at. But recent releases from the company have blurred this boundary and a PDA being classified as either a Zire or a Tungsten by no means helps you to work out how much the product will cost or what features it will offer.

Business or pleasure?

The Tungsten E is a case in point. Its name and appearance mark it out as a business product. It's a natural successor to the Palm V/m515 series thanks to its slim, compact form factor and aluminium case. But its price and relatively limited feature set see it competing at the consumer end of the market. So rather than debating for whom this PDA is intended. What do you get for your £165? Actually rather a lot.

The Tungsten E boasts a 320x320 pixel transreflective LCD screen as good as you'll get on any PDA. It runs the latest Palm operating system, version 5.2.1, and has a 126MHz ARM-based processor. This is nowhere near as fast as the CPUs housed in some high-end PDAs, but this model is not meant as an all-singing, all-dancing device like, say, the Tungsten T3.

It has all the standard Tungsten extras such as a chunky stylus - not like the nasty plastic ones you get with the Zires. There's an infrared port, an expansion slot that accepts SD (Secure Digital) and MMC (Multimedia Card) as well as a headphone socket that can be used in conjunction with the supplied RealOne Player software. This means the Tungsten E can double as an MP3 player.

Catch in the cradle

The Tungsten's one and probably only significant failing in the hardware department is that, just as with the Zire, Palm has eschewed the traditional



HotSync cradle. This would be fair enough (after all, this is a low-cost device) were it not for the fact that the USB cable plugs into a non-standard USB port, rather than attaching to the Palm universal connector found on all other Tungsten models.

This means that the user doesn't have the option of adding a cradle or any of the peripherals such as keyboards and modems that use this method of connection. The USB and power cables have to be plugged in separately. And to top it off, the supplied USB cable doesn't even have a HotSync button - you have to initiate a synchronisation from within the HotSync software. These limitations will probably not have too much impact on customers with a sub-£170 budget, but they make the Tungsten E less flexible and expandable than we'd have liked.

Otherwise this is an impressive product. It boasts a substantial software bundle which, as if to justify the Tungsten moniker, has a distinctly business bent. You get the latest version of DataViz's Documents To Go Professional for viewing and editing Office documents, Handmark Mobile DB database software, VersaMail for email, SMS software and Adobe Acrobat and Palm document readers, plus a selection of entertainment software.

The bundle points out one further glaring omission from the Tungsten's hardware specs: no built-in Bluetooth. So unless you happen to have an old-fashioned phone with

an infrared port the Tungsten E's capabilities will be rendered useless.

Verdict

The PalmOne Tungsten E's market positioning may be cause for some confusion, but more important than who it's aimed at is what you get for your money. It's a relatively well specified and attractive PDA with a good software bundle that will meet the needs of most users. It's just annoying that Palm decided to do away with the universal connector and it really could have done with built-in Bluetooth. [☒ Mike Hirschhorn](#)

PalmOne Tungsten E

- PalmOne: 0118 927 8700
- www.palmone.com
- £165

Specifications

Palm OS 5.2.1; 126MHz Texas Instruments OMAP processor; 32MB RAM; 8MB flash ROM; TFT transreflective colour display with backlight; 320x320 pixels; 65,536 colours; infrared/IrDA port; SD/MMC expansion slot; headphone socket; built-in lithium-ion polymer battery; 114x79x12mm; 131g



Good points

Value for money; great screen; substantial software bundle



Bad points

No HotSync cradle; no Palm universal connector; no Bluetooth

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Professional digital camera

Fujifilm FinePix S7000 Zoom

Fujifilm's FinePix S7000 Zoom is a 6.3Mp (megapixel) high-end digital camera with a 6x optical zoom lens, plenty of photographic control and a design inherited from the earlier S602 that will appeal to enthusiasts. It employs one of Fujifilm's own SuperCCD HR sensors which delivers images with 2,848x2,136 pixels and enough detail to make great-looking A4 inkjet prints. Like all SuperCCD cameras, the S7000 can also internally scale the image to output double the effective resolution - in this case to a whopping 12Mp.

Images are stored on either XD or CompactFlash cards and the IBM Microdrive is supported. To keep costs down Fujifilm supplies the S7000 with a measly 16MB XD card, so budget for something bigger straight away. The supplied 16MB card will squeeze 10 or three best-quality Jpegs in 6Mp or 12Mp modes respectively.

Now for your closeup

The S7000 sports an impressive 6x optical zoom lens with a 35mm equivalent range of 35-210mm and relatively bright focal ratio of f2.8-3.1. The lens extends 33mm during a swift three-second powerup and takes the lens cap with it if you've forgotten to remove it. The motor-assisted ring at the end of the lens barrel doubles up for either zooming or manual focus, the latter temporarily magnifying the centre of the image by 2x.

Two macro modes focus as close as 10cm and 1cm respectively. And despite the latter suffering from some distortion, you'll enjoy a coverage of just 34mm across the frame.

The threaded cable release has been inherited from the earlier S602 Pro but sadly its PC-Sync port for external lighting has not. There is a pop-up flash and hotshoe, though, and the USB port has been upgraded to support version 2.0.


Composition is with either the detailed electronic viewfinder or the 1.8in colour screen.

There's a live histogram option and gridlines can also be superimposed to aid framing. The S7000 is powered by four AA batteries, but with alkalines supplied you'll need to budget for rechargeable cells.

The main mode dial selects between auto, program, manual, aperture and shutter priority, along with four scene presets and one of the best movie modes in the industry. The 640x480 video mode with mono audio at 30fps (frames per second) lasts as long as your remaining memory. While not as good as a camcorder, it's much better than most still cameras. Shutter speeds range from 1/10,000 to 15 seconds, while burst mode can grab five shots in one second. Sensitivity runs from 160 to 800 ISO but the resolution drops to 3Mp at 800 ISO.

In terms of image quality the S7000's native 6Mp mode resolved slightly more detail than traditional 5Mp models, which places it just ahead of the pack. The 12Mp mode resolved fractionally more detail still, although only around 1Mp extra - still impressive though. Admittedly, like earlier SuperCCDs, there's noise speckles and smearing on flat colours when viewed very close up but it's barely noticeable on prints. In short, it's the best SuperCCD result we've seen from a Fujifilm high-end camera and at least as good as its 5Mp competition.

Verdict

Despite having to budget for rechargeable batteries and a bigger memory card, the S7000 represents good value for money. While not delivering anywhere near 12Mp worth of detail, the S7000 still captures slightly more than most 5Mp cameras while also featuring a 6x optical zoom and superb movie mode - all for a very reasonable £699.  **Gordon Laing**



Fujifilm FinePix S7000 Zoom

- Fujifilm: 020 7586 1477
- www.fujifilm.co.uk
- £699 inc VAT

Specifications

6.3Mp resolution; 4,048x3,040 pixels output; 4:3 aspect ratio; 6x optical zoom; 16MB XD supplied (also takes IBM Microdrive & CompactFlash); 5MB/1.6MB Jpeg images at 12Mp/6Mp modes; 1.8in LCD screen & EVF; takes 4 x AA batteries (disposable alkalines supplied); 590g inc battery; 121x82x97mm; 1-year warranty



Good points

6x optical zoom lens; higher-than-average resolution; excellent movie mode; relatively low priced



Bad points

12Mp mode delivers only around 7Mp worth of detail; no rechargeable batteries; stingy 16MB memory card

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SuperCCD explained

The FinePix S7000 Zoom employs one of Fujifilm's fourth generation SuperCCD HR sensors, with an effective resolution of 6.3Mp (megapixels). Like earlier Super CCDs, the HR chip uses octagonal photodiodes arranged in a honeycomb pattern. Fujifilm claims this increases the detail on horizontal and vertical axes, as opposed to the 45-degree axes on the rectangular photodiodes of conventional sensors. Tests have shown that the human eye is more sensitive to detail in these axes.

Fujifilm uses this as justification for offering an option to internally scale the image to 12Mp. As with our earlier SuperCCD tests, we measured only fractionally higher detail in this mode, but it's worthwhile if you're making big prints. Otherwise, stick with the native 6Mp mode and squeeze more images on your card.

Video jukebox

Thomson Lyra PDP2860

The race is on to create the next iPod and plenty of manufacturers are preparing to bet the bank that the way to win it is to produce a device capable of playing video on the move as well as music and pictures. We've already taken a look at the first of the new generation of video-playing jukeboxes, the Archos AV320 (see November 03, page 49). Here is Thomson's effort, the Lyra PDP2860.

The idea is that you record TV directly to the 20GB hard disk inside the Lyra - which is enough for 80 hours of programmes - and watch the shows while you're out and about. All the cabling you'll need to connect a video recorder, set-top box or DVD player with a Scart socket to it is in the box and the cables plug directly into the ports at the side.

Ropy recording

Novices will find it easy to start recording TV thanks to the Lyra's intuitive interface, but unfortunately the quality of recordings is poor. We noticed plenty of artefacts on the picture and the sound was tinny, occasionally overlaid with a screeching noise. Movies transferred from the PC via USB 2.0 (the Lyra will play Simple Profile Mpeg-4 encoded files only) suffered from none of the same problems.

The Macrovision copy-protection system employed on DVD discs should prevent you from recording DVD movies to the Lyra. But when we tried capturing the opening battle scene in *Gladiator* we encountered no problems, suggesting that this device has the ability to get around this copyright-protection system.

The screen is good and it is large enough to watch TV. One strange design feature is the centimetre or so of blank space located between the edge of the screen and the frame. It looks as though Thomson wanted to gift the Lyra with a larger display and then changed its mind at the last minute.

Playback of MP3s and Windows Media Audio files is decent enough.



The Lyra can read tag information, which makes it easy to browse a large collection of tunes. MusicMatch software is provided as the standard package. This is a fairly uniform decision but that doesn't excuse the fact that the application is about as user-friendly as a Rubik's Cube.

A couple of handy extras are welcome: a fold-out stand and a car kit that lets you recharge the batteries while driving and listen to music stored on the Lyra using a car cassette player. You can also transfer digital pictures to the hard drive for viewing via the CompactFlash slot.

Verdict

A brave attempt at a video jukebox that is better than the competition in many aspects. It's undermined, however, by an idiosyncratic screen and poor-quality TV recordings. We have high hopes for generation two, however. Stan Everett

Thomson Lyra PDP2860

- Thomson: 020 8344 4444
- www.thomson-europe.co.uk
- £499

Specifications

Plays MP3, MP3Pro, WMA, Simple Profile Mpeg-4; 3.5in LCD; 20GB hard drive; battery life: four hours for video, 12 hours for audio; CompactFlash slot; USB 2.0; analogue video & audio in/out; 275g; 135x80x24mm



Good points

Easy to use;
good MP3 player;
fold-out stand



Bad points

Poor quality video
recordings; too
wide; MusicMatch

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Which to buy?

If you're in the market for a video jukebox there are currently only two choices: the Thomson Lyra or the Archos AV300 series. It's impossible to say which is better as both have their relative strengths. The Thomson Lyra looks better and is a shade thinner and lighter. It has a superior display and MP3 player. We also found it easier to use and record programmes with. To record TV on the Archos, you need to connect an add-on module which is a bit fiddly. With the Lyra, you just plug the cables in. The knock-on effect is that the Lyra is wider than the Archos.

Although the Lyra is the more user-friendly of the two video jukeboxes, the quality of the recordings on the AV300 series is much better - a key consideration for a device of this type. We recommend you hang on for a few months yet. A raft of devices that run Microsoft's Windows Mobile software for Portable Media Centres (formerly known as Media2Go) are due shortly and they will offer similar functionality to both these devices.

Intermediate digital camera

Benq DC C50

C lad in aluminium and the kind of high-gloss plastic that'll have you constantly wiping off fingerprints, the Benq DC C50 certainly looks good. However, it's the 5Mp (megapixel) CCD and low price that are more likely to attract potential customers.

Like Toshiba's PDR-5300, the Benq is essentially a restyled and rebadged version of the DC5330 from Taiwanese manufacturer Premier Image Technology. As such, it shares the same feature set and is small enough to fit into a relatively tolerant pocket.

Power is supplied by a rechargeable lithium-ion battery, while a 32MB SD (Secure Digital) card is provided for your pictures. At the DC C50's top resolution of 2,560x1,920 pixels and highest quality setting, this is good for around 10 shots before you need to upload or swap cards.

A dim view

The lens is a standard 3x optical zoom with a maximum aperture of f2.8, so it's not as well equipped for dim lighting conditions as some of the more expensive 5Mp models. The 1.5in LCD is inevitable on a camera this small and the display can get a little crowded with information at times. The LCD button toggles the data display on and off but it lacks any of the newer LCD technologies for improved daylight visibility like the Hybrid LCD you'll find on the similarly priced 5Mp Sony DSC-P10.

However, the DC C50 does come with a surprising array of manual controls. These include aperture and shutter priority modes, exposure bracketing, ISO equivalences of 100, 200 and 400 plus a full manual mode for the control freak. It also gives you the choice of manual balance plus six lighting presets, spot or average weight (multi-point) metering and three exposure presets for portrait, sports and low-light photography.

If you find yourself shooting in the dark, the autofocus illuminator will prove handy and it also has a time-lapse mode that lets you take shots at up to one-minute intervals as well as a three-shot full-resolution burst mode.

**Easy operation**

The camera itself is fairly easy to operate with a clear menu system and logical switchgear, though the power button is much too small. We also liked the way it pauses slightly before engaging the 4x digital zoom, letting you know when you've left the range of the lens.

Image quality is about what you'd expect for the price with a tendency towards over-sharpening and slightly vivid colour balance, although to be fair these can be adjusted along with image contrast in the camera setup. However, the image detail isn't quite as crisp as you might anticipate from a 5Mp model, suggesting that the optics aren't really up to scratch.

Despite the low price, Benq hasn't cut many corners on the DC C50. You'll find a power supply that doubles as an internal battery charger along with a soft case and lens cloth inside the box. The 32MB SD card is also generous – Toshiba, for instance, only packs 16MB with its version.

Verdict

Competent but not outstanding, the DC C50 is worth a look if you want a compact 5Mp camera. But there are similar models in the same price range from manufacturers such as Kodak, Sony and Kyocera. It's worth taking a look at the alternatives before you get your chequebook out. [☒ Laurence Grayson](#)

Benq DC C50

- Benq: 01442 301 000
- www.benq.co.uk
- £299 inc VAT

Specifications

5Mp; max res 2,920x1,920 pixels; f2.8, 3x optical zoom lens; 32MB SD card; lithium-ion battery; USB 1.1; A/V out; 96x63x35mm; 180g; 2-year warranty

**Good points**

Low cost; compact form factor; comprehensive set of manual control options; logical control interface; attractive styling

**Bad points**

Fiddly power button; uninspiring image quality; small LCD; limited manual focus; lens not as fast as some; lacks a daylight LCD

BUILD QUALITY**FEATURES****VALUE FOR MONEY****Protection bracket**

In film photography, exposure bracketing describes taking a shot at the correct settings and then taking two others at slightly higher and lower exposures by changing either the aperture or shutter speeds. It's a good way of protecting yourself against incorrect exposure, particularly in conditions where a light meter might not get it right. Rather than changing aperture or shutter settings, digital cameras such as the DC C50 do this by shifting the exposure compensation circuit up and down a notch. As well as requiring no manual intervention, using a digital camera means that you won't find yourself paying to have unwanted photos developed.

Power notebook AJP D480V

Desktop-replacement notebooks tend to be too big to carry around for any period of time. The D480V from AJP, though, is big even by these standards. It's nearly 40cm wide because of its 17in screen, which will appeal to those of you who want to watch DVD movies or play games on your notebook.

It's also rather heavy at 4.3kg and the bulky exterior contains some pretty hefty components. A 3.2GHz Pentium 4 processor is currently the most powerful Intel chip available. Though it has been somewhat overshadowed by the new Athlon 64bit processors, it's still a capable model.

Even so, the AJP's performance in our WorldBench 4 tests left something to be desired. A score of 115 isn't anything to be ashamed of but we've seen far better scores and we were expecting the AJP's to be somewhere more in the region of 125.

The HT (hyperthreading) technology used by the newer Intel processors often hinders rather than helps systems in WorldBench 4 tests, but the AJP didn't appear to like having the HT disabled and would only run through the tests with it turned on.



The results of our other tests were more encouraging. The Annihilator demo in Quake III ran through at 86.7fps (frames per second) at a resolution of 1,024x768, dropping to 83.8fps when the resolution was upped to 1,280x1,024. Encoding two-and-a-half minutes of DV footage into Mpeg-2 format took five minutes 50 seconds - results that would flatter a high-end PC.

Should you want to play games or watch DVD movies you'll find that the 128MB Mobility Radeon 9600 card does a fantastic job and the high-quality widescreen gives a sharp, clear image.

Verdict

With 1GB of DDR RAM and a 60GB hard drive, this notebook can truly call itself a desktop replacement. Though it isn't quite as quick as we'd like, it does a great job with games and movies. The major stumbling block is the price. [✉ Ben Camm-Jones](#)

AJP D480V

- AJP: 020 8208 9710
- www.ajp.co.uk
- £1,870 inc VAT

Specifications

3.2GHz Pentium 4; 1GB DDR RAM; 60GB hard drive; 128MB ATI Mobility Radeon 9600 graphics card; 17in 1,440x900 TFT display; 24x/24x/10x/8x combi CD-RW/DVD; 56K modem; lithium-ion battery; built-in webcam; 4.3kg; 399x275x37mm

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Power notebook AJP 500P

The 500P is a great home entertainment notebook and is the first power model we've tested that sports ATI's 128MB M10 graphics. Combine that with great specs and an eye on value for money and you have a model worthy of a second look. Our only concern with the 500P is the inadequate battery life. Despite the two-tone, blue-and-grey chassis with built-in hardware keys on the front for playing CDs, our attention was drawn to the inclusion of a 3.0GHz Pentium 4 processor. This proved to be a double-edged sword for the 500P.

On the one hand it delivers hyperthreading technology and the extra clock speed provides plenty of performance for the 500P. With 1GB of DDR RAM it's no wonder it gained a WorldBench score of 127 points. On the other hand, this processor doesn't offer mobile technology. We only got 88 minutes in our MobileMark battery life testing, so if you're interested in this model the optional second battery is a must.

Apart from that everything else on the 500P is top class. With particular attention paid to building a model capable of playing the latest games, we weren't surprised to see the 15.1in screen support a maximum resolution of 1,600x1,200. The 500P returned impressive



frame rates across all resolutions in our Quake III tests, pushing over 90fps (frames per second) even at 1,280x1,024.

While the DVD writer drive might only support the minus format, we haven't yet seen any notebook drives offering the plus or dual format so it's no bad inclusion. It's also a shame that the 500P isn't protected by a better warranty.

Verdict

If you're prepared to overlook the battery life and the one-year warranty we don't hesitate to recommend this model. You're getting a brilliant feature set for your money and it will handle any task you choose to throw at it. [✉ Spencer Dalziel](#)

AJP 500P

- AJP: 020 8208 9710
- www.ajp.co.uk
- £1,644 inc vat

Specifications

3GHz Intel Pentium 4; 1GB DDR RAM; 60GB hard drive; 128MB ATI Mobility Radeon 9600 graphics; 15.1in 1,600x1,200 TFT display; 32x/16x/8x/8x/2x/1x DVD-RW drive; 56K modem; lithium-ion battery; 329x290x44mm; 3.7kg

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Tablet PC

Acer TravelMate C110

We don't see an awful lot of tablet PCs here at *PC Advisor* and this is mainly because they didn't take off in the way the industry expected. Most tablets fall into one of two categories: pure tablets with no keyboard and convertibles that can either be used as a normal notebook or in tablet mode.

Despite the advantages of pen input, the lack of a keyboard on pure tablets invariably meant they were an expensive accessory to a traditional notebook. Convertible units suffered from the awkward change from one mode to another and were underpowered by the day's standards.

Acer has been a supporter of the convertible design and the TravelMate C110 continues in this tradition. It improves on previous Acer tablet designs - the hinge feels sturdier for everyday use - but it's still not ideal.

Time on your hands

Switching between normal and tablet mode still involves disengaging two supports at the bottom of the screen, rotating and folding the display then re-engaging the supports before finally fighting with the clip to get it to latch the other way round and securing the screen in place. Slick, it is not.

But while the design still has its problems, the issue of being underpowered is addressed by Intel's holy Centrino trinity of processor, chipset and built-in Wi-Fi capabilities.

The 1GHz Pentium M processor is an ultra-low voltage chip but punches well above its weight - a WorldBench 4 score of 105 is very respectable for something so compact. We got nearly two-and-a-quarter hours out of the Acer in our battery life tests which leads us to believe that it would be good for taking notes in meetings or lectures when there is no other power source available.

Despite its diminutive form, the TravelMate is a tough little cookie. The shell is robust and many of the ports have rubberised covers for added protection. The hard drive uses Dasp (disc antishock protection) technology and the screen needs to be hardwearing because you'll be

pushing the stylus against it. That said, the display offers impressive sensitivity - it can 'feel' the stylus tip even when it is held some 2-3mm away.

As the Acer is so tiny, the CD-RW and floppy drives are external. However, they shouldn't prove too difficult to carry around despite the fact that the case for the convertible tablet itself makes no provision for fitting them in. There's a decent selection of options for connecting peripheral devices, including one FireWire and two USB 2.0 ports. Other ports are few and far between though.

Verdict

At just under 1.5kg, the Acer fits into the ultra-portable notebook category. But it can do so much more than a conventional model. For students and execs it'll prove useful for notetaking and it's not that expensive at just under £1,300. ☒ **Ben Camm-Jones**



Acer TravelMate C110

- Acer: 0870 900 2237
- www.acer.co.uk
- £ 1,292 inc VAT

Specifications

1GHz Intel Pentium M processor; 512MB DDR RAM; 40GB hard drive; user-definable integrated graphics chip up to 64MB; 10.4in 1,024x768 TFT display; Windows XP Tablet Edition; Norton AntiVirus 2004; 257x216x30mm; 1.5kg

Good points

Light; robust; price

Bad points

Awkward to convert; few ports; stylus takes some getting used to

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Hard to swallow

More than a few eyebrows were raised when Microsoft announced that the tablet PC was going to be the next big thing back in the autumn of 2002. Despite the best efforts of Microsoft and prominent vendors including HP, Toshiba and Acer, its reception was lacklustre to say the least.

Originally aimed at business users - although students and healthcare workers were also cited - the high price and poor performance meant tablet PC's were more of an executive plaything than essential tools for the workforce.

Convincing people to spend the best part of £2,000 on anything is difficult and most people didn't really need the benefits tablet PC's offered over a conventional notebook.

Processing power was also a problem at launch. Intel's Mobile Pentium III chips had long since run out of steam, but the Mobile Pentium 4 was exceptionally power-hungry and created too much heat for the tablet PC's design.

Whether people will change their minds about the tablet PC is debatable, but convertible tablets with Centrino technology might just signal the start of a second, more successful generation - particularly if they are more affordable.

Digital audio player Benq Joybee 150

The Joybee 150 is a digital audio player that squeezes a surprising number of features into a small and appealing package. But despite an attractive price and impressive specification, not all is good with this shiny silver accessory.

The product itself is pretty compact, with buttons arranged around the sides to avoid marring the high-gloss plastic fascia that Benq seems to love so much. This hosts the four-line monochrome LCD with blue backlight, while the underside is made of a largely unblemished panel of brushed aluminium.

This instantly raises a couple of questions: can I add additional memory? and can I swap the battery when it runs down?. To which the answer is no you can't. But with 256MB of internal memory and a rechargeable lithium-ion cell that lasts for up to 10 hours, this may not bother you too much.

Instead, you'd be better off worrying about product usability because the Joybee 150 is an absolute pig to control. Button functions are unclear and overcoming the frequently obscure approach to feature activation will require several days' practice with the manual

constantly on hand. Ironically this is partly due to the impressive collection of features - it not only plays back MP3 or Windows Media Audio files but also lets you record them as well, using either the internal microphone or an external source via line-in.

The unit contains an FM stereo radio and is just as happy being used to carry around data files as it is your music. Also on the list are the e-book and lyrics functions, which can play back text files on the LCD while you're listening to music. A range of EQ settings let you tweak your music - you'll probably want to up the bass a little to compensate for the tinny plug-in headphones - and a clip-on remote provides easier access to the playback controls.

Verdict

Although you might be attracted by the Joybee 150's good looks and long list of features, be prepared to wrestle with some pretty inaccessible control functions to get the best out of it. That said, £159 is a pretty good price for a 256MB player. [✉ Laurence Grayson](#)



Benq Joybee 150

- Benq: 01442 301 000
- www.benq.co.uk
- £159 inc VAT

Specifications

256MB internal RAM; USB 1.1; MP3 and WMA playback; audio recording with internal or external microphone; e-book playback; clip-on remote; 4-line LCD; Q-Music audio software; USB flash drive; 10-hour battery life; 8 EQ presets

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TV tuner Lektropacks Presenter 2

If you want a sleek new television but don't fancy the size or cost of plasma then LCD is the way forward. Pop into any electronics store and you'll see countless models on offer. There's no doubting that LCD TVs look far better than traditional CRT models, but they do cost a fair bit more.

While the cost of flat-panel displays for computers has plummeted, the same isn't true for LCD TVs. A 17in LCD TV will set you back around £600 and if you want something a bit bigger then you're looking at about £1,000 for a 20in model.

Compare that to the flat-panel market. You can pick up a 17in panel such as the Iiyama ProLite E431S for £323 and a 19in model such as the CTX S962A reviewed this month (see page 68) for £469. Not only are the PC counterparts cheaper, they also offer far better resolution support.

This doesn't help because you can't watch telly on them. Unless, of course, you have a device like the Lektropacks Presenter. Two versions are available: Presenter 1, which allows you to connect any Scart source to a PC display for £149, and Presenter 2 which offers more features and a TV tuner for £175.



We looked at the second model. Installation is easy - plug your flat-panel into the Presenter and hook up an aerial. It supports three output resolutions (640x480, 800x600 and 1,024x768) and has inputs for composite, S-Video and component as well as PC.

Once connected up you can use the supplied remote to control it. If you've got it hooked up to a PC as well then you can also watch a TV source in a small window at the same time.

Verdict

If you fancy a sleek-looking TV without the cost then Lektropacks Presenter is worth considering. It provides a simple way to get TV on a flat-panel without the additional cost of a dedicated LCD TV. You can also use it with your PC too. [✉ Will Head](#)

Lektropacks Presenter 2

- Lektropacks: 020 8847 2776
- www.lektropacks.co.uk
- £175 inc VAT

Specifications

TV tuner/video scaler; analogue tuner; component, S-Video and composite inputs; 640x480, 800x600 & 1,024x768 resolution support; onscreen display; remote control

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Graphics card

Albatron GeForce FX 5700 Ultra

Recent months have seen graphics chips generating heat in more ways than one. Thanks to Albatron's quiet triple-fan cooling system (a spare fan kicks in for extra protection when the chip temperature rises to extremes) an overheating graphics card shouldn't be an issue. More debatable is whether this card offers an affordable alternative to the competition.

The card may only have 128MB of memory but this is of the special DDR II type rather than the standard DDR RAM. Even the current crop of boards carrying nVidia's flagship FX 5950 chip only use DDR RAM.

With such high-end memory, it's no wonder that the 5700 Ultra's memory clock speed is impressive. The 450MHz (effectively 900MHz) produces a memory bandwidth of 14.4GBps (gigabytes per second) that easily surpasses the 11.2GBps of the 5600 Ultra. Even more surprisingly, the Radeon 9600 XT lags far behind with a memory bandwidth of just 9.6GBps. In practice, this means that the FX 5700 Ultra should have far more room to juggle resource-intensive graphics data.

Its core clock speed of 475MHz is fairly good as well, although the Radeon 9600 XT does trump it with a round 500MHz. On top of the clock speeds the pixel shaders, derived from

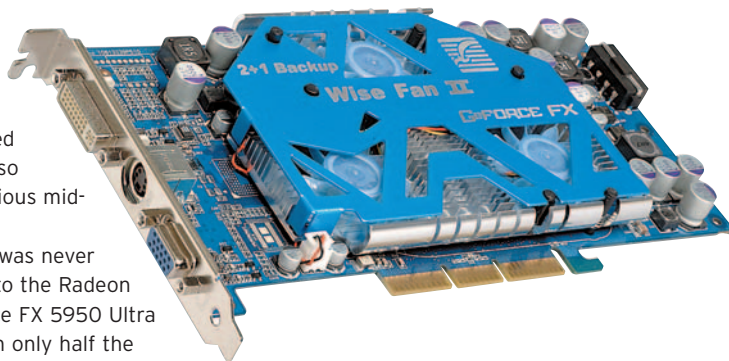
the GeForce FX 5900's sophisticated architecture, are also a notch up on previous mid-range nVidia cards.

The 5700 Ultra was never going to get close to the Radeon 9800 XT or GeForce FX 5950 Ultra chips. It comes with only half the number of pixel pipes, meaning that it takes much longer to draw graphics.

There's very little to choose from between this card and the Radeon 9600 XT. In our graphics tests (Unreal Tournament, Halo, Aquamark III and Code Creatures), the XT just managed to average an extra two frames per second more. The XT was also best on the DirectX 9.0 titles, suggesting that the 5700 Ultra could fall further behind in the future.

Verdict

Costing £179, the Albatron is almost £30 more than the Asus Radeon 9600XT and you can get the superior ATI Radeon 9700 for only slightly more. Even with a sizeable games bundle and a discreet cooling system, the 5700 Ultra looks poor value for money compared to the competition. ☒ Robin Morris

**Albatron GeForce FX 5700 Ultra**

- Midland Computer: 0121 246 4666
- www.albatron.com.tw
- £179 inc VAT

Specifications

nVidia GeForce FX 5700 Ultra; 128MB DDR-II RAM; 475MHz/450MHz core/memory clock; Ramdac 400MHz; 8x AGP; 2,048x1,536@75Hz max res; DirectX version 9.0; DVI; 3-year warranty

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Multimedia graphics card

Sapphire All-in-Wonder 9600 Pro

Although the most vocal debates in the video card industry tend to revolve around which graphics chip produces the highest frame rates, the consistent success of the All-in-Wonder range demonstrates that there is life beyond 3D gameplay.

With this card you can capture and manipulate live video, listen to radio broadcasts - provided you buy a separate FM antennae - and watch television and DVDs from the same glossy front-end. Version 8.6 of ATI's MultiMedia Center is as user-friendly as ever, giving you quick access to the many facilities. The remote control unit works using radio frequencies, so you can control the PC even when you're in another room.

The All-in-Wonder range was an early pioneer of timeshifting. It allows you to pause a live TV broadcast so that you can come back later on and start watching from where you left off. This feature can now be applied to radio broadcasts as well. Thanks to pitchshifting you can alter the speed of playback without changing the tone of voice.

Only high-end users will quibble about the video recording facilities. Live video can be captured at the rate of 30fps (frames per

second) and then transferred to DVD or VCD for future storage. A copy of Pinnacle Studio allows you to embellish the video with special effects and transitions for the full Hollywood effect. And whether you're watching television or video images, you can make the windows translucent so that you can see the images and work on a spreadsheet at the same time.

This is the first version of the All-in-Wonder to offer dual-monitor support, although the absence of a DVI connector is a slight niggle.

Verdict

This isn't the fastest card available but it improves on the specs of the original chip, boosting memory core speed from 300MHz to 325MHz. Combine this with smooth DirectX 9.0 support and you have a card that makes a better job of the latest games titles than the original 9600 Pro or the GeForce FX 5600. Games enthusiasts may look elsewhere, but for the rest of us the Sapphire shows what else you can do with today's graphics technology. ☒ Robin Morris

**Sapphire AIW 9600 Pro**

- Sapphire: 0870 138 3554
- www.sapphiretech.com
- £175 inc VAT

Specifications

ATI Radeon 9600 Pro; 128MB DDR RAM; 400MHz/325MHz core/memory clock; 400MHz Ramdac; 8x AGP; 1,920x1,440 @75 max res; DirectX version 9.0; DVI; 1-year warranty

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Real-time video-editing board

Matrox RT.X10 Xtra Suite

While it used to be the case that dedicated real-time editing hardware was a necessity for digital video editing, many of today's NLEs (non-linear editors) provide functions like real-time previews using software and the processor alone. So it's fair to ask whether there's still a need for products such as the RT.X10 Suite from Matrox.

At £528 the price may seem a little on the steep side, especially if you're a novice editor. But you only need look at the accompanying Adobe software bundle (Premiere Pro, Audition and Encore DVD) to see that you're getting your money's worth. The cheapest alternative would be Adobe's £830 Video Collection. While this gives you After Effects 6.0 Standard, it lacks any form of capture or effects processing hardware.

For more details about the capabilities of these applications, take a look at the individual reviews in our September 03 issue.

Hefty hard drive

Because the RT.X10 hardware is designed to assist your processor rather than replace it, certain tasks such as colour correction, video speed adjustment and DV decoding are handled by the host system. This means you'll need a hefty PC with at least a 2GHz Pentium 4 or Athlon XP 1500+ to cope with the workload,

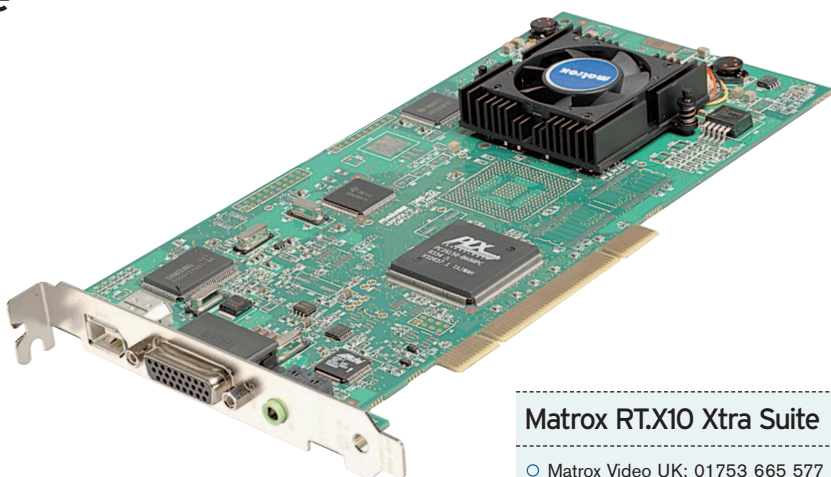
The RT.X10's onboard hardware will take care of the analogue input/output, video filtering and compositing/3D effects processing in real time. In return, you get real-time previews of your effects without the need for rendering or the reduced frame rate/resolution that's commonly used by software-only solutions, along with simultaneous output to a connected camcorder or preview monitor.

In addition to the generous software bundle the RT.X10 comes with a set of useful tools. The first of these provides single-pass batch capturing (timecode-based), frame capture and basic storyboarding. The Wysiwyg plug-in lets you output any video file to your preview monitor from DirectShow-compatible software such as Media Player.

More importantly, the Matrox software comes with a wide collection of high-quality effects, colour controls and filters, all of which are customisable with keyframe accuracy.

Improved integration

Matrox has had several years' experience at tying its hardware into Adobe Premiere, so integration with Premiere Pro is as tight as you'd expect. However there is some room for improvement. For example, the editing panel no longer pops up automatically when you apply a Matrox effect and the Photoshop file import



Matrox RT.X10 Xtra Suite

- Matrox Video UK: 01753 665 577
- www.matrox.com
- £528 inc VAT

Specifications

Analogue/digital capture to DV; breakout box; output to preview monitor; hardware-assisted effects processing and file conversion; additional Premiere Pro effects; single-pass batch capture; one-click white balance

Good points

Extremely good value for money; extended real-time editing capabilities with Premiere Pro; analogue/digital capture; comprehensive software bundle

Bad points

No preview plug-in for Encore DVD; no real time preview of PSD files in Premiere Pro; high-specification PC required

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that's key to integration between Premiere Pro and Encore DVD isn't supported by the RT.X10's real-time preview and requires rendering.

It seems strange that Matrox provides a plug-in for Photoshop but not for Encore DVD. It would be far more useful to use a preview monitor to check the appearance of your work before finalisation.

Verdict

Despite a couple of minor shortfalls with software integration, the RT.X10 Suite is an extremely cost-effective and comprehensive solution for video editors looking for professional results. Although Audition and Encore DVD have little to do with the RT.X10 itself, adding this hardware to your system increases the capabilities of Premiere Pro tenfold.  Laurence Grayson

Going the extra mile

If you're really serious about your video work or simply have a large amount of cash burning a hole in your wallet, you might be thinking of buying the RT.X100. But what will adding another £294 to the price of the RT.X10 Suite bring?

Put simply it'll buy you a C-Cube DVXpress-MX, a dedicated piece of silicone that encodes and decodes DV and Mpeg-2 files. It's the same chipset you'll find on the RT2000 and 2500, which considerably increases the hardware capabilities of both products - as well as the cost. With this onboard, you can capture and export in DV and Mpeg-2 IBP formats, where the RT.X10 only captures to DV and typically requires rendering before exporting to tape unless you're working with a very basic edit.

It also increases the number of simultaneous 3D effects to two, as well as lending a hand with effects processing, extending real-time functionality to cover a larger collection of 3D tile, particle and distortion effects, masking and 18-point colour control, pan and scan, plus both chroma- and luma-keying for those compositing effects.

This suite comes with plug-ins for 3DSMax, After Effects and Lightwave, which further confirms that it is certainly not a board for the hobbyist.

Digital video camcorder

Logitech Pocket Video 550

With its slim lines and pocket-sized appeal the Pocket Video 550 will no doubt attract the attention of anyone with a passing interest in gadgets. However, it is guaranteed to disappoint all but the least demanding owner.

As is obvious from both the size and price, the Logitech Pocket Video 550 is not a tape- or disk-based camcorder. It records video and images to solid-state memory instead.

Despite the box loudly proclaiming that the Mpeg-4 encoding used by this camera lets you pack up to one hour of video on to 128MB of memory, it hides the fact that the camera only comes with 16MB of internal RAM somewhere in the small print on the back. This means that you'll need to add the cost of an SD (secure digital) memory card to the bill if you want more than five minutes of video from one session (or two minutes in fine-quality mode).

The VGA image sensor inside the Pocket Video 550 lets you

capture video clips with a resolution of 320x240 pixels at a rather unusual frame rate of 20fps (frames per second). The lens is a fixed-focus type with a focal range from 50cm to infinity. With an aperture of f2.8, the Logitech requires a well-lit subject for reasonable results.

There's no still-capture function and the Pocket Video 550 doesn't work as a webcam either - pretty surprising, given its manufacturer.

Although using the camcorder is straightforward, we found the control buttons were too close together and felt that the absence of a battery charger on the USB docking station was an oversight.

In its favour, the Pocket Video 550 does connect to your TV for playback without a PC. It also comes with software for VideoCD creation (Roxio VideoWave Movie Creator LE) and a well-thought-out connection utility.



Verdict

Once past the undeniably sleeky looks of the Logitech Pocket Video 550 there's little to keep you engaged. The video quality is poor, and we'd expect more features, such as webcam capabilities for this price. [X](#) Laurence Grayson

Logitech Pocket Video 550

- Logitech: 020 7309 1026
- www.logitech.com
- £150 inc VAT

Specifications

VGA Cmos image sensor, 320x240 pixel 20fps M-peg4 video; fixed focus f2.8 lens; 50cm-infinity focal range; USB docking station; TV output; internal mic.; 5min max recording time on internal RAM; SD card slot; 83g; 122x52x17mm

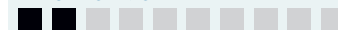
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Flat-panel display
CTX S962A

CTX has put a different slant on the flat-panel market this month. With an incredible £469 price tag, the S962A raises an important question: how can you turn down the chance to own a 19in flat-panel?

Built around MVA (multidomain vertical alignment) technology, the S962A comes with some surprisingly impressive specs - for instance, the 700:1 contrast ratio. Refining the image quality isn't the easiest task, though, and purists may not feel that the CTX's picture matches up to those of the competition.

Even taking into account the 170-degree viewing angle, we found the image was quick to degenerate as we moved away from the screen. This won't necessarily bother users and because of the crystal-clear text quality we suspect office workers will find this one of the most comfortable screens around.

The CTX also houses built-in speakers, so those without a need for strong audio quality will find that the

stylish S962A saves them even more deskpace. Visually the screen looks surprisingly compact and its 5.9kg frame is incredibly light.

What might cause potential customers to think twice is the lack of a DVI connector, which makes this a slight gamble should the standard RGB connection ever be phased out. Though it's an inexpensive 19in flat-panel, not everybody will feel comfortable risking almost £500 on a screen that they might not actually be able to use in a few years.

And while 19in may sound vastly superior, the CTX only has the same native SXGA (1,280x1024) resolution as the 17in screens. This means that you won't get any extra room to work with in Windows, even if what is there actually appears larger.



Verdict

As with most flat-panels, it's worth trying the S962A before you buy it. For those who like the image quality - and we're sure plenty of customers will - this CTX is an astonishingly affordable 19in flat-panel display.

[X](#) Robin Morris

CTX S962A

- Simply: 0870 727 2100
- www.ctxeurope.com
- £469 inc VAT

Specifications

19in flat-panel; native res 1,280x1,024; 0.294mm pixel pitch; 700:1 contrast ratio; 170/170-degree viewing angle; 250cd/m2; 415x205x408mm; 5.9kg; 25ms response time; 3-year warranty

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Server appliance

EmergeCore Networks IT-100

If you want the functionality of a server, but without the hassle and complication, then a server appliance should fit the bill. These devices combine all the features normally found in large, expensive, hard-to-manage servers and shoehorn them in to small, inexpensive, easy-to-run devices.

It's a shame 3Com stopped making its Internet Server range but never mind - there's a new server appliance on the block from Idaho startup EmmergeCore Networks. The IT-100 promises 'IT in a box', a claim that is substantially met. In a smart-looking enclosure no bigger than the Cisco router of yore, EmmergeCore has managed to squeeze a 533MHz Crusoe processor, 128MB of RAM, 20GB of storage, a four-port 10/100Mbps (megabits per second) ethernet switch and an 802.11b 11Mbps wireless access point. So not only can you connect your wired LAN (local area network) devices to the IT-100, you can also connect things such as laptops and PDAs using wireless network cards.

Server software

It does lack an integral ADSL modem but has a WAN port for connection to a separate internet gateway. The server software is comprehensive too. Running under a heavily modified version of Slackware Linux called CoreVista OS, you get a file server, web server, proxy server, FTP and email server. The IT-100 includes NAT, a basic firewall and VPN client and server support. The IT-100 is also capable of being remotely managed and therefore makes a good choice for remote offices.

Oddly the IT-100 has a parallel port on the back but the device has no print server functionality so this port is largely redundant.

It also has a pair of USB 1.1 ports but these can only be used to back up the server config details, so their use is limited.

The only printed documentation that comes with the IT-100 is the nine-page Express Setup Guide. No doubt about it, the IT-100 can be set up in minutes. But while the supplied instructions are helpful, you will really need something a little more substantial if you don't want to be on the phone to

EmmergeCore Networks' tech support for several hours.

Setting up the IT-100 is done through the web browser, as is managing it afterward. Once you've logged in you are taken to the Express Setup screen. A two-pane display gives you the shortlist of tasks needed to be completed to get the IT-100 up and running. Online help is thin on the ground, though, and the setup wizard offers no details about your choices or guidelines for making them.

Once you've finished configuration, you're taken to the System Summary page. This shows an excellent rundown of WAN, LAN and wireless traffic reports and data such as CPU load and disk space. From the summary page you can reach some but not all system configuration screens - the rest are reached via a menu.

Verdict

EmmergeCore Networks' IT-100 is a good, one-stop network server solution for small businesses or remote sites. Connectivity to PCs, Macs, Unix workstations and PDAs are fully supported. It's not perfect but on the whole it delivers on its ease-of-use promise, letting non-technical staff manage it. [✉ Roger Gann](#)



EmmergeCore Networks IT-100

- www.emmergecore.com
- \$1,395 (around £800), UK pricing TBC

Specifications

533MHz Transmeta Crusoe TM5600; 128MB SDRAM; 20GB 2.5in IDE hard drive; four-port switch with 10/100Mbps ethernet; one WAN uplink 10/100 ethernet; 802.11b wireless access point

Good points

Easy to set up and run; comprehensive specification; built-in wireless access point

Bad points

Limited setup documentation; limited configuration granularity; mail server doesn't integrate with Outlook's calendars, tasklists and address books; no WPA wireless security

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Wireless security

The IT-100's WLAN (wireless local area network) security options are outdated and inadequate by current standards. They allow only a single 64bit or 128bit key WEP (wired equivalent privacy) security. There's no support for the newer WPA (Wi-Fi protected access) or 802.1x network authentication.

WEP was designed to offer a similar level of security as that enjoyed by cabled networks, but it was shown to be eminently crackable over two years ago. WPA replaces WEP's fixed single encryption key with a rapidly changing encryption key system called TKIP, which makes cracking much more difficult. It also provides support for the EAP (extensible authentication protocol) user authentication protocol.

Using EAP's an individual requests a connection to the Wi-Fi network through an access point. The identity of that individual is sent by the access point to an authentication server such as Radius, which then communicates with the access point and verifies the authentication of the user before permitting use of its resources. WPA-enabled Wi-Fi hardware is now available and there's a specific WPA upgrade for Windows XP. Most modern Wi-Fi hardware, such as access points, can be firmware-upgraded to support the new wireless security standard. At present, though, the availability of these upgrades is patchy.

Wireless router

Netgear WGT624

As Wi-Fi hardware rapidly becomes commoditised and prices head floorwards, Wi-Fi vendors are always on the lookout for wheezes that'll differentiate their kit from the common herd. Offering higher bandwidth is definitely one way of grabbing customers' attention. Hardly has the ink dried on the ratification of the 802.11g Wi-Fi standard - running at 54Mbps (megabits per second) - than the chip makers began offering chipsets capable of running at 108Mbps.

And so it is that Netgear has delivered its first 'Super-G' Wi-Fi hardware in the shape of a wireless firewall router, the WGT624, and its matching PC Card adapter, the WG511T. Rather than using oversized packets, Super-G (the brainchild of Atheros) uses a combination of tricks to deliver extra bandwidth, including double-channel bonding and compression.

Like the US Robotics 8054 we looked at in January 04, Super-G is entirely proprietary and so isn't interoperable with the USB device or indeed any other non-Netgear Super-G kit. Curiously, 108Mbps mode has to be explicitly activated.

The router side of the WGT624 is par for the Netgear course and so it's very well specified, offering such desirable features as

content filtering, the ability to block outbound traffic, logging and email alerts. It also offers a SPI (stateful packet inspection) firewall and remote management. New to the range is a Smart Setup Wizard and the ability to directly update the firmware - a useful feature. Netgear has been a laggard when it comes to including WPA (Wi-Fi protected access) security so it's nice to see it included in the WGT624.

Wi-Fi vendors should include a pinch of salt with their kit because, predictably, you don't get 108Mbps of bandwidth from the WGT624 - it's nearer 40Mbps. This seems low but it's roughly double that of 54G and is the fastest wireless networking we've seen. Super-G also promises a larger broadcast area and the higher bandwidth was well maintained over distance.

Verdict

So long as you're prepared to standardise on just one vendor, Netgear's Super-G Wi-Fi kit is impressive. It offers double the bandwidth of typical 802.11g devices, along with a laundry list of features. It's easy to use and decently priced. [✉ Roger Gann](#)



Netgear WGT624

- Netgear: 01344 397 021
- www.netgear.com
- £146 inc VAT (WG511T £78)

Specifications

802.11b/g Super-G Wi-Fi router with four-port ethernet switch; VPN; NAT support; DHCP support; content filtering and SPI firewall protection

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USB network interface with virtual private network and firewall

Linksys USBVPN1

The USBVPN1 is a funny little device. It's a USB dongle that has a flip-up ethernet port. In between these two interfaces is a network card plus a stateful packet firewall and VPN (virtual private network) hardware.

VPNs let members securely use public networks such as the internet - an important consideration if you want to keep your company data private. Its small size means that the USBVPN1 is squarely aimed at mobile business users that demand secure access to their head office networks. Normally a VPN client must be installed on each remote computer. This can be either third-party software or a client built in to the operating system, such as L2TP and PPTP in Windows 2000 and XP, but this can be difficult to set up.

A couple of free-for-personal-use IPsec (internet protocol security) clients are available too, but they're expensive for business use. The beauty of the USBVPN1 is that it's much easier to set up than software IPsec clients but costs no more. It's actually a shrunken version of Linksys' BEFxx41 VPN endpoint routers and so the USBVPN1 is designed to be the perfect complement to them.

It's a mini DHCP server so connecting to it is simple. Configuration is performed as per normal via a web browser. All the status LEDs are on the top and there's also a handy Session LED to show when the IPsec VPN tunnel is in use.

The USB adapter further wraps data transmissions in the 56bit DES (data encryption standard) or Triple-DES encryption for applications requiring additional security. The USBVPN1 adapter supports dynamic or static IP, PPPoE and PPTP network-connection methods and can be used on any ethernet web connection, cable, DSL, LAN or even something such as a hotel's high-speed web connection. It connects to nearly any PC thanks to USB and doesn't require an external power supply. It's USB 1.1, however, so throughput isn't brilliant.

Verdict

Easy to install and reasonably priced, the Windows-only USBVPN1 offers a basic IPsec VPN connection. But its limited configuration options means that it won't work with all IPsec gateways and you'll need access to a real ethernet connection. [✉ Roger Gann](#)



Linksys USBVPN1

- Linksys: 0870 739 3939
- www.linksys.com
- £81.08 inc VAT

Specifications

USB 1.1 network interface card with IPsec virtual private network and SPI firewall

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