

Tablet PC

# HP Compaq Tablet PC TC1000

**W**e've seen tablet PCs from a few companies already, and the latest convert to the cause is HP with the Compaq Tablet PC TC1000. The tablet PC form factor offers two main designs – the pure tablet and the convertible, which includes a keyboard.

Pure tablets are the smaller of the two, but you have to be completely sold on the tablet PC concept to choose to operate without a keyboard. The convertibles, meanwhile, are great in theory, but run the risk of appearing simply as expensive, fiddly notebooks.

## Double dose

HP has decided to offer both designs in one, with a nifty swivelling keyboard that can be tucked away at the back when not in use or removed entirely. Its TC1000 is certainly the best designed tablet PC we've seen so far. It's small at 209x274x20mm in its pure form, with the keyboard adding only 12mm more to the thickness when attached but not in use.

A click, swing and tilt later and a full keyboard with built-in track point mouse is at your disposal. The TC1000 also knows when it's been put into keyboard mode, and will helpfully switch orientation from portrait to landscape. Removing the keyboard entirely takes just one more click and from there on it's a tablet through and through.

With the business user firmly in mind, there's

an optional docking station. Click the tablet into the arm and it can be adjusted for portrait or landscape use. The docking station houses a DVD-ROM, plus four USB ports, VGA and audio connectors.

## Fast acting

While the majority of tablets out there are running some flavour of Intel's Pentium III mobile chip, HP has opted for Transmeta's 1GHz Crusoe TM5800. The machine we saw was an early sample with the chip not running at full speed so we were unable to benchmark it, but writing response times seemed nippy enough for everyday use.

HP has provided plenty of quick access buttons, so even when you're running in pure tablet mode it's easy to operate. The Q button brings up a quick menu of common settings. There are also buttons for Tab and Escape, with a Ctrl, Alt, Del button recessed in between.

At the top (or left depending on which way round you're holding it) are three further buttons for changing screen orientation and launching Windows Journal and the text-entry panel. All buttons are user configurable if you don't like the defaults.

There's plenty packed inside, including 802.11b wireless LAN and ethernet. The one Type II PC Card slot has a Type II

CompactFlash slot nestled behind. HP has even found room for a VGA connector for an external monitor and two USB ports.

## Verdict

Tablet PC is a bit of a niche product, especially for those who are used to their keyboards. However, HP's killer feature is the price: at £1,333 the TC1000 compares well with similarly specified notebooks. The removable keyboard is great for flexibility and the addition of the docking station (costing a reasonable £205 more) means you could have a fully functional PC while at your desk and a tablet while on the move. We're still not entirely sold on the tablet PC concept but if we had to choose one to convince us, it would be this one. ■



### HP Compaq Tablet PC TC1000

- HP: 0845 270 4222
- Website: www.hp.co.uk
- Price: £1,333 ex VAT

### Specifications

1GHz Transmeta Crusoe 5800 processor; 256MB RAM; 30GB hard drive; 10.4in TFT (1,024x768); nVidia GeForce2Go graphics card; 802.11b wireless; 10/100 ethernet; modem Type II PC Card slot; Type II CompactFlash slot; removable keyboard; optional docking station; 209x274x20mm; 1.36Kg.

### Good points

Removable keyboard; stylish design; good value for money

### Bad points

No screen protection; screen quite reflective; pen can be fiddly

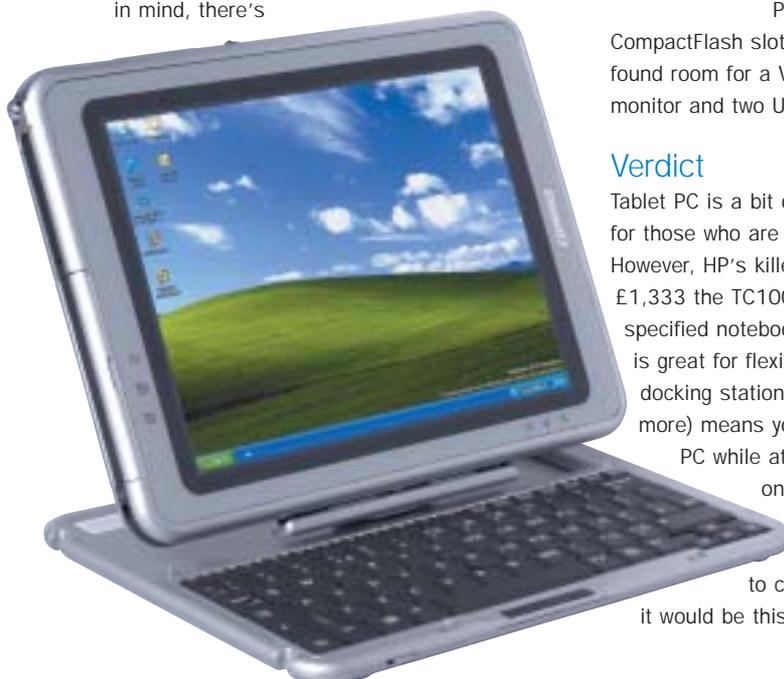
### Build quality



### Features



### Value for money



Will Head

20in flat-panel

# Fujitsu-Siemens 5110FA



**exclusive** We managed to get an exclusive look at Fujitsu-Siemens' high-end business display solution, and we were blown away with the results. On paper the 5110FA is one of the best we've ever seen and after testing we can safely say it has the performance to back it up.

While it doesn't have the chic styling seen on many expensive flat-panels, the 5110FA shines with high-quality display output. It sports a maximum resolution of 1,600x1,200 and because it's a large screen you can work comfortably at this resolution. The 0.25mm dot pitch helps create sharp black text so you don't have to squint to see what you're doing.

## Bright lights

It's also possible to work in a bright room and still see clearly because of the high-end specifications. The impressive 600:1 contrast ratio is complemented by the 250 candelas brightness, giving the 5110FA superb luminance and colour intensity. The wide 170-degree viewing angle also allows for several people to see the screen at the same time making it fine

for multimedia presentations.

Round the back of the flat-panel are two ports – one is an analogue VGA connection and the other supports DVI (digital visual interface). So if you have a similarly equipped graphics card you can get the best in digital picture quality.

It lacks a USB hub and you can't flip the screen to portrait mode but it does have integrated stereo audio. The onscreen menu system is easily operated and when we tested the 5110FA we didn't come across any ghosting problems.

## Verdict

Big screen flat-panels are expensive pieces of kit. Pay £1,000 for a model it's easy to assume you'll get decent picture quality just because you spent a lot of money, but this isn't always the case. Fujitsu-Siemens' 5110FA provides top quality and, in the 20in market, great value for money as well. ■

### Fujitsu-Siemens 5110FA

- Fujitsu-Siemens: 0800 004 003
- Website: [www.fujitsu-siemens.com](http://www.fujitsu-siemens.com)
- Price: £899 ex VAT

### Specifications

1,600x1,200 maximum resolution; 0.25mm dot pitch; 600:1 contrast ratio; 170-degree viewing angle; 250cd/m<sup>2</sup>; 32bit colour; 3-year swap-out warranty; 482x200x458mm; 9.2Kg.

### Build quality



### Features



### Value for money



Spencer Dalziel



## Professional digital camera Nikon D100

The D100 is a digital SLR which can use most of Nikon's huge range of F-Mount 35mm lenses, although their effective focal length is multiplied 1.5 times. It is based on the popular F80 body, but instead of 35mm film there's a 6.1Mp (megapixel) CCD (charge-coupled device). This may only be 1Mp higher than the top-end models, but it's physically much larger, thereby reducing electronic noise; it's also means a wider 3:2 aspect ratio which matches the shape of 35mm film. The end result are pictures which look great printed up to A3.

Images can be saved either as uncompressed Tiffs, in Nikon's proprietary RAW format, or with three levels of Jpeg compression. Storage is on Type I or II CompactFlash cards, but you'll need to supply your own.

In terms of exposure control, you couldn't ask for more options: there's separate Program, Manual, Aperture and Shutter Priority modes,

and the choice of shutter speeds between 30 seconds and 1/4000.

As with other digital SLRs, the rear 1.8in screen is just for playback or configuration. Composition is with the optical SLR viewfinder which, like conventional 35mm SLRs, reveals exactly what you're getting.

Handling is superb, with instant startup, fast focusing and a burst mode of 3fps (frames per second) for up to six frames. Image and build quality is excellent and the rechargeable battery really lasts. The real killer? It's around £250 cheaper than Canon's roughly equivalent EOS-D60.

Handling is superb, with instant startup, fast focusing and a burst mode of 3fps for up to six frames

## Verdict

Nikon's D100 may seem expensive at £1,616 for the body only, but it's pretty cheap for a high-performing 6.1Mp digital SLR. Amazingly it's about £250 less than Canon's D60, but do also consider Sigma's SD9 and FujiFilm's S2 Pro. ■

Gordon Laing

### Nikon D100

- Nikon: 0800 230 220
- Website: [www.nikon.co.uk](http://www.nikon.co.uk)
- Price: £1,616 ex VAT

### Specifications

6.1Mp CCD; lens not supplied (takes most Nikon F Mount lenses); storage not supplied (takes CompactFlash Type I or II); 2.5MB image file size at best quality; 1.8in LCD screen and optical SLR viewfinder; lithium-ion battery and charger; 144x116x80mm; 700g.

### Build quality



### Features



### Value for money



## Personal digital assistant Sony Clie PEG-T675C

Sony has recently announced its first device using an ARM-based processor, so the T675C is probably the company's last device based on Motorola's Dragonball chip, which is not compatible with latest Palm operating system. This is not necessarily a bad thing, however, as initial indications are that ARM-based devices will be relatively expensive.

The T675C is similar in most ways to the T625C, the model it replaces. Indeed, aside from having a 66MHz Dragonball VZ processor, as opposed to the T625C's 33MHz chip, there's only one real distinction between the two models. It's a crucial one though: a built-in music player that plays either MP3 or Atrac3 format music files, which you manage and download from the desktop. A set of earphones, complete with remote control, is supplied, and the sound quality is excellent.

The limitation, as with all such devices, is the T675C's storage capacity. To get a reasonable amount of storage, you'll need to add a Memory Stick expansion card, preferably a 128MB one – the largest currently available. This costs around £75 and stores roughly two hours of music, that doesn't compare favourably with the iPod which stores around 100 hours of music for significantly less than the cost

of a Clie and a Memory Stick together. The obvious advantage of the Clie system is that you don't have to carry separate devices around with you – you can listen to your music while working on a spreadsheet, for example.

The closest competitor to the T675C is Palm's £230 m515 which makes the T675C look pretty expensive by comparison. But for the extra £70, you get not only the built-in MP3 player (which the Palm doesn't provide), you also get a processor which is twice as fast and, perhaps most importantly, a 320x320 resolution display as opposed to the Palm's 160x160. The high-resolution screen makes the device infinitely more versatile and it's much better suited to viewing business documents. Of course it's also better for the all-important task of playing games.

### Verdict

The T675C didn't impress to the extent of some other of Sony's recent Clies as it's basically an evolution of an existing model. But with its excellent screen, attractive design, and built-in music-playing functionality, it's an exceptionally capable device. ■

Alex Katz



### Sony Clie PEG-T675C

- Sony: 08705 424 424
- Website: www.sony.co.uk
- Price: £297 ex VAT

### Specifications

Palm OS 4.1; DragonBall VZ 66MHz processor; 16MB RAM; 8MB flash memory; infrared port; Memory Stick slot; backlit TFT colour display 320x320 pixels, 65,536 colours; MP3 and Atrac3 audio function; built-in lithium-ion battery; 71.8x118x12.5mm; 140g.

### Build quality



### Features



### Value for money



## Personal digital assistant accessory Sony PEGA-GC10 game controller

To emphasise the notion that its Clie handhelds are not just for business use, Sony has brought out a range of accessories to enhance them. The PEGA-GC10 is a game controller which clips on to the bottom of the Clie and replaces the standard application buttons with a set of game-specific buttons similar to those you'd find on a dedicated device such as a console or GameBoy. The controller plugs into the Clie expansion port (so you'll have to remove it if you want to HotSync).

The PEGA-GC10 is supplied with the legendary Sega Columns, a Tetris-type game where you clear blocks from the bottom of the screen by dropping new ones in the correct order. Games like this benefit from a dedicated controller, but to truly see the benefits of such a device, you'll want to get your hands on some of the excellent commercial and shareware available.

### Verdict

There are much better portable gaming devices than a Sony Clie, but we don't all want to use our PDAs just for work, do we? It's hardly an essential, but the Clie game controller will make one of the best stocking fillers we can think of this Christmas. ■

Alex Katz



### Sony PEGA-GC10 game controller

- Sony: 08705 424 424
- Website: www.sony.co.uk
- Price: £27 ex VAT

### Specifications

89x22.5x42.5mm; 35g; compatible with Clie T, SJ, SL or NR series.

### Build quality



### Features



### Value for money



## Budget notebook AJP 8640 NB



**A**JP notebooks might lack the beauty we have seen in some of the competition but when it comes to number crunching performance they've always done well. One reason for their accomplishments in our WorldBench 4 tests is AJP's use of desktop Pentium processors.

While these lack the luxury of Speedstep technology, they are currently about 1GHz faster than Mobile Pentium 4s. The new 8640 NB from AJP continues the tradition of packing sheer power while putting in some firsts for the Budget chart. All this plus a reasonable cost and a two-year warranty makes the 8640 a worthy winner of our Gold award.

### Big budget

The 8640 sports a 2.4GHz desktop processor twinned with a massive 512MB of DDR (double data rate) memory and a generous 40GB of hard drive storage. If you look at our Power notebook charts you'll see that some of the entrants there can't match these amazing specifications, so its credentials as a Budget model are outstanding.

The desktop processor needs more power to run than a mobile Pentium 4 and so will be harder on battery life. However, the WorldBench 4 score of 118 speaks for the power within; it was matched only by Hi-Grade's Ultinote M6400 at the top of the Power chart. If you want the best in performance from a Budget notebook there's nothing in the same price bracket that comes close to competing with AJP's model.

### Great graphics

Notebook graphics technology has only truly approached desktop performance with this year's solutions from nVidia and ATI, so it's nice to see the 8640 bundled with the best. As you'll see from our charts the 14.1in TFT screen with a top resolution of 1,024x768 is a standard inclusion on Budget models but when it's combined with 32MB GeForce4 420 Go graphics from nVidia it really shines. For business applications, such as PowerPoint presentations, integrated graphics will probably suffice but with the inclusion of nVidia's power this notebook will cope with any graphics task thrown at it.

Unlike its superb visuals the 8640's audio production is fairly basic, but since good sound solutions for notebooks are still a way off AJP

can't really be blamed. Apart from external cards, it's the same story for all notebooks.

### Well-connected

Since the 8640 has a combo DVD/CD-RW drive to take care of extra storage capabilities and watching films, we thought there would be room for an internal floppy. However, the floppy is an external USB peripheral, so if you want to be on the move with the 8640 you'll have to carry the drive around too.

Linking up to peripherals is no problem, as there are four USB ports round the back plus a FireWire connection. The built-in antenna and wireless LAN module makes it a great

corporate model. Should your company network have Wi-Fi capabilities this notebook will be ready to go without the need for a PC card.

The black and gunmetal grey finish gives the 8640 a simple look that will suit any office environment but it does have one redeeming feature: a card reader slot. It takes an array of cards from SmartMedia to secure digital so you can put your digital photos on to the 8640 without having to worry about hooking up the camera.

### Verdict

If you want any kind of notebook chic, AJP's 8640 won't deliver the goods. If, however, you're after the best performance money can buy then there's nothing around to touch this model. It's a brilliant performer with a list of specifications and features that will still be at the cutting edge for quite some time. ■

Spencer Dalziel



#### AJP 8640 NB

- AJP: 020 8208 9700
- Website: www.ajp.co.uk
- Price: £1,149 ex VAT

#### Specifications

2.4GHz Pentium 4 processor; 512MB DDR RAM; 40GB hard drive; 32MB nVidia GeForce4 420 Go graphics; 14.1in 1,024x768 TFT display; 24x/8x/8x/8x (read/write/rewrite/DVD) combi CD-RW/DVD; 56K modem; lithium-ion battery; 332x285x39mm; 3.4kg.

#### Good points

Performance; 2-year warranty; integrated card reader.

#### Bad points

No Speedstep; plain-looking; external floppy.

#### Build quality



#### Features



#### Value for money



## Projector CTX PS-5140



Although the best projector technology has tumbled in price in recent times, the truly affordable projector has remained largely unattainable. A handful of projectors have been released for £1,700 or less but, by and large, these have proven costly mistakes, as the combination of low-grade specifications and dull colours will have reduced many a polished presentation.

Set against this backdrop, the arrival of CTX's PS-5140 is a cause for some jubilation. It would have been well received with a £1,500 price tag, but to see it hit the streets at just £1,025 makes it a sensational release.

The pitfall with this projector is its resolution support, and although it can theoretically be pushed up to a mode of 1,280x1,024, in practice you won't want to be stretching it beyond its native resolution of 800x600. But while this won't make it the best choice for displaying high-detail applications or the Windows workspace, there's no reason why it can't handle most tasks (for example, PowerPoint or video) as well as any XGA projector. You're unlikely to be mourning the poor specifications, since the PS-5140 is as well equipped as any number of models costing twice the money. The extremely acceptable brightness rating of 1,400 Ansi lumens, for instance, means that the CTX's image will be visible

in all but broad daylight, while the 400:1 contrast ratio is quite adequate for an LCD projector.

Run the projector at 800x600 and the image quality is superb. Its rich colour palette and sharp delineation wouldn't look out of place on a £2,000 model. You'll miss out on the stunning output created by the best DLP projectors, but within the confines of its LCD technology, the PS-5140 manages well. Even the video playback is balanced and well focused although, sadly, the CTX's rather high 37dB (decibel) operating noise makes it a contentious choice for home cinema.

### Verdict

The PS-5140 isn't quiet, and its lack of resolution support will put off those looking for the highest detail levels; if you can afford it, you should still look to the £2,500 DLP projectors for the best results. But for general office use, the CTX punches well above its weight and, with a price tag of just £1,025, this is the bargain of the year so far. ■

*Robin Morris*

### CTX PS-5140

- CTX: 01923 810 800
- Website: www.ctxeurope.com
- Price: £1,025 ex VAT

### Specifications

1,400 Ansi lumens; 150W EHPL lamp (life of 2,000 hours, replacement bulb cost £249); maximum native resolution 800x600; 2.7kg; 283x243x91mm; 2-year warranty.

### Build quality



### Features



### Value for money



## Mobile phone Motorola T720

### Motorola T720

- Motorola: 08000 151 151
- Website: www.motorola.co.uk
- Price: £102 ex VAT with contract

### Specifications

GPRS; 120x160 pixel 4096 colour display; Java (J2ME) compatible; 165 hours standby; 168 minutes talktime; 48x90x21mm; 101g.

### Build quality



### Features



### Value for money



With monochrome displays being considered passe in this day and age, Motorola has opted for a full-colour display to brighten up its latest clamshell, the T720. The 28x38mm screen can display up to 4,096 colours, and comes with a new menu system to make the most of it. With selectable icons, it's fairly easy to find your way around. However, the T720 doesn't offer the must-have of the moment: MMS (multimedia messaging), aka photo messaging.

When it comes to entertainment, the T720 shouldn't disappoint. It comes with three games as standard, and you can download further applications as it can run Java. In addition to the full-colour screen, there's also a two-line display on the outside providing information like battery and signal strength as well as incoming calls. However, if you recognise the number but don't want to talk to the caller there's no way to 'busy' the call which is annoying.

### Verdict

The T720 is reasonably priced and if games are your thing, then you'll be well covered. However, there are still a couple of design niggles and the lack of MMS is a disappointment. ■

*Will Head*



## 5.1-channel speakers

# Creative MegaWorks THX 5.1 550

We thought Creative had turned out the best desktop 5.1-channel speakers with its flagship MegaWorks 510D set, but that was before we listened to the MegaWorks THX 5.1 550. These speakers are no great evolutionary step up from the 510Ds, but tweaks have been added and they come with the THX seal of approval from Lucas Arts, guaranteeing quality cinematic audio. If you want the best sound solution for gaming, music or home theatre there's no substitute for the MegaWorks 550.

The speaker system delivers the same power output as its predecessor, with the subwoofer pumping out 150W rms (root mean squared) and the satellites offering 70W rms each. The 500W total output is achieved using Bash amplification technology, a type of digital amplifier that offers high efficiency in a compact form factor.

The frequency response range is wider on the 550 and the SNR (signal to noise ratio) is an impressive 99dB (decibels). On an Audigy 2 sound card the results are stunning: pure, distortion-free audio and thumping subsonic bass.

You will need a lot of desktop space to set these speakers up; the 19 metres of cable

produce a certain amount of mayhem, but we thought it worth the space because sitting in the middle of this 5.1-channel setup is an aural joy.

While the design is similar to the 510D's, Creative has made a couple of important changes. The centre speaker now has a monitor stand so it won't fall off when you adjust your screen and the wired remote control has a master volume as well as separate volumes for each speaker.

### Verdict

You can pick up 5.1-channel speakers for under £100 these days but you can't find the quality offered by Creative's 550s. They are expensive and you'll need a decent sound card to appreciate what they're capable of, but they are without doubt the best. If you get them you're in for an audio treat. Just don't wake up the neighbours. ■

Spencer Dalziel



#### MegaWorks THX 5.1 550

- Creative: 0800 376 954
- Website: www.creative.com
- Price: £248 ex VAT

#### Specifications

5.1-channel surround speakers; THX certification; five satellites 70W rms; subwoofer 150W rms; maximum power 500W; 99dB SNR; 25Hz to 20KHz frequency response.

#### Build quality



#### Features



#### Value for money



## Beginner digital camera

# Mustek MDC 3000

When we picked up the MDC 3000 from Mustek we wondered how a digital camera manufacturer could offer a 3.1Mp (megapixel) camera for a mere £108. There are a couple of options: sacrifice other elements to keep your costs as low as possible, or don't advertise the fact that it's actually a 2Mp camera.

The branding on the box actually provides the interpolated resolution of 3.1Mp with a maximum resolution of 2,048x1,536. The optical resolution is actually 1,600x1,200, because it comes with a 2Mp CCD (charge coupled device). A 2Mp camera for £108 is still impressive – just don't go for it on the megapixel-per-pound ratio.

Photo quality is pretty good for such a cheap model, but the interpolated resolution simply adds to the file size and processing time. In fact, after testing the camera we'd recommend leaving it on the 1,600x1,200 optical resolution, which gives you an impressive 60 shots on the 16MB CompactFlash card.

Despite being labelled a multifunction digital camera the MDC 300 lacks a lot of features.



True, you have a movie mode and a generous software

bundle, but there's no optical zoom, the LCD is terrible and the plastic case doesn't feel built to last. At least it has four AA alkaline batteries.

To be fair to Mustek it's still a good first-time model. It offers photo quality that was unheard of at such a low price just a year ago but it doesn't quite do what it says on the tin.

### Verdict

The MDC 3000 reminds us of Kodak's entry-level cameras based purely on point-and-click simplicity but it isn't quite as well made. That said, Kodak doesn't fall into the same low price category and first-time buyers will be snatching the MDC 3000 off the shelves when they see the claims on the box. ■

Spencer Dalziel



#### Mustek MDC 3000

- Mustek: 0870 870 4457
- Website: www.redstore.com
- Price: £108 ex VAT

#### Specifications

3.1Mp; maximum resolution 1,600x1,200 (2,048x1,536 interpolated); 16MB CompactFlash; 2x digital zoom; four AA alkaline batteries; 116x42.5x75mm; 200g; 201 low-res photos on 16MB; 24 high-res photos on 16MB; 1-year return-to-base warranty.

#### Build quality



#### Features



#### Value for money



## TV-based digital imaging kit Visioneer PhotoPort TV100

Trying to get non-techie people to discover the joys of digital imaging is a persistent problem for manufacturers. With so many consumers teetering on the edge of embracing digital photography it's a potentially huge market but many shy away from digital family snaps because of the need for a PC. Enter scanner company Visioneer with the PhotoPort TV100. It's a wireless keyboard solution that plugs straight into a TV and allows the user to view and edit photos without the need for a PC.

Setting up the PhotoPort TV100 is simple. An adapter plugs in to a separate card reader to give it power and the card reader has a TV-out socket so you can plug the lead in to your television. Select the right input on the TV and it will display the welcome page with a walkthrough help guide. You can choose whether you want to use the keyboard or remote to go through the basic functions of the PhotoPort.

As with all remote controls if you haven't got good line of sight for the signal you can end up pressing away and getting no response. We had this problem with both the keyboard and the remote so you have to make sure you've set everything up in order for the signal to be received clearly.

We used a 64MB SmartMedia card packed with high-resolution photos and assessed how easy it was to use the utilities on the PhotoPort.

We never needed to turn to the help key on the small wireless keyboard because every function is self-explanatory and your editing options are strictly limited. In fact, it doesn't come close to offering the functionality of digital camera software bundled with even the cheapest devices. You can add backgrounds, shapes and captions with different fonts and colours (hence the full keyboard). Photos can be cropped, rotated, enlarged or reduced and that's about it.

The PhotoPort is limited as it only supports SmartMedia and CompactFlash so you'll need a compatible digital camera before you can use the kit. Also be warned that when manipulating high-quality shots over 1MB processing takes a lot longer.

### Verdict

Novices to digital photography and general technophobes will appreciate the PhotoPort's ease of use. If you're easily pleased, its functionality will suffice. ■



#### Visioneer PhotoPort TV100

- Visioneer: 01483 445 480
- Website: [www.visioneer-europe.com](http://www.visioneer-europe.com)
- Price: £66 ex VAT

#### Specifications

TV out; supports CompactFlash and SmartMedia; infrared keyboard and remote control.

#### Build quality



#### Features



#### Value for money



Spencer Dalziel

## External hard drive Iomega HDD 120GB FireWire

The HDD range uses existing hard drive technology bundled into an easy-to-use, portable external case. The 120GB version is the top of the range which, unlike the portable versions (reviewed August 02), packs a standard 3.5in drive into a largish case (120x187x37mm) more suited to a permanent location rather than as a method of ferrying large files from one place to another.

The plug-and-play drive was automatically recognised by Windows XP with no need to install any software. There's an external power supply (the drive can't be powered from the host computer) and it uses a non-standard FireWire connector at the drive end, which could prove a pain if you lose the cable.

It wasn't the fastest drive we've seen, but it should still be adequate for everyday use. A single 495MB file took 37 seconds to copy, while a mixed bag of 336MB took one minute 30 seconds.

You also get a copy of Iomega QuikSync 3.0 to save a copy of your files as you work and 1-Step Backup, a more traditional backup tool to help protect your files.



#### Iomega HDD 120GB FireWire

- Iomega: 020 7365 9527
- Website: [www.iomega.com](http://www.iomega.com)
- Price: £208 ex VAT

#### Specifications

7,200rpm disk; FireWire interface; external power supply; QuikSync and 1-Step Backup; 120x187x37mm.

#### Build quality



#### Features



#### Value for money



### Verdict

The 120GB HDD offers a massive amount of storage in an easy-to-use external box. Its performance is sufficient for everyday use and the ease of installation and handy software utilities make it great for those that need extra storage but don't want to delve under the case. ■

Will Head

## Internal CD-RW drive Asus CRW-5224A



Asus has done it again with the release of its new internal CRW-5224A drive. We haven't seen anything else offering blistering read/write/rewrite rates of 52-/52-/24-speed. There's also the inclusion of Asus' innovative CD-RW technology that optimises CD burning for high-speed quality output while ensuring burning errors are minimised. Throw in the two-year warranty and you have the best drive around.

Higher recording speeds make burning problems more likely. Asus' FlextraLink buffer underrun technology prevents the unnecessary creation of unusable discs and advanced Partial-CAV technology when writing information to discs. This overcomes burning error pileups at higher speeds by writing the outer part of the disc at a different speed to the inner. When testing, we didn't come across any problems.

Asus didn't stop there with its technological developments and we were duly impressed with the inclusion of FlextraSpeed, to deal with discs that can't withstand high-speed burning.

FlextraSpeed automatically assesses the quality of the disc and optimises the burning speed – yet another good way to prevent disc write errors.

With so much technology on board the drive looked great on paper and we expected the CRW-5224A to perform well in our tests. We weren't disappointed. We burned a 350MB CD-R on the fastest setting and this took just one minute and 51 seconds. It was the first time we've seen a drive break the two-minute barrier. Formatting discs for drag-and-drop use took a mere 48 seconds and 350MB CD-RW discs only took three minutes.

The bundle contains 10 CD-Rs, two CD-RWs and Nero 5.0, which includes Nero Express to make the recording process easy for first-timers.

Asus' FlextraLink buffer underrun technology prevents the creation of unusable discs

### Asus CRW-5224A

- Asus: 0870 429 3220
- Website: www.asus.com
- Price: £60 ex VAT

### Specifications

Maximum storage 700MB; 2MB data buffer; 52x/52x/24x (read/write/rewrite) speed; Nero Express; 0.9Kg; 2-year return-to-base warranty.

### Build quality



### Features



### Value for money



### Verdict

Asus is offering an excellent deal with the CRW-5224A. It performs as well as it should and comes with great technological innovations to protect discs in the burning process. All this for £60 and a generous bundle to boot. ■

Spencer Dalziel

## PDA accessory Pocket Loox Keyboard

Fujitsu-Siemens



- Fujitsu Siemens: 01344 475 555
- Website: www.fujitsu-siemens.co.uk
- Price: £63 ex VAT

The trouble with palmtop handwriting recognition is you're never going to approach anything like 40wpm on a touchscreen. If you plan for heavy-duty input then you'll need a keyboard like the Pocket Loox Keyboard, an add-on for Fujitsu-Siemens PDA range.

When closed it's a compact 148x93x18mm – small enough to slip into a jacket pocket and not too much to carry around. Pull out the sides and it expands, somewhat reminiscent of IBM's butterfly keyboard, into a 235mm wide full Qwerty keyboard. Slip in your Pocket Loox and you can type away to your heart's content.

### Verdict

The Pocket Loox Keyboard is a handy and neat addition to your Fujitsu-Siemens PDA. However, at £63 you're going to have to do a lot of data entry to make it worthwhile. ■

Will Head

## SIM card backup device Teleadapt SIMbackup

- Teleadapt: 020 8233 3000
- Website: www.teleadapt.com
- Price: £21 ex VAT

This tiny sliver device, not much bigger than a matchbox, backs up all the contacts held on a mobile phone SIM card. If you are wondering how this might be useful, just imagine all the numbers you'd lose if your phone was lost or stolen. The process of backing up contacts is easy. Just slip your SIM card into the slot on the side of the device, type in your PIN number, press the Menu button, then the Enter button. Wait a couple of minutes and all your contacts are safely stored on the 8KB of memory. It can store up to 250 numbers and you can back up your SIM as often as you need.



### Verdict

A simple but effective way to safeguard those all-important contacts stored on your SIM card. ■

Ursula Seymour

Card reader

# PNY USB 6-in-1 Flash Reader

**PNY USB 6-in-1 Flash Reader**

- PNY: 01784 224 220
- Website: www.pny-europe.com
- Price: £34 ex VAT

**System requirements**

Windows 98 SE/2000/Me/XP; spare USB port.

**Specifications**

SmartMedia/CompactFlash/secure digital/Microdrive/Memory Stick/multimedia card storage; 110x27x110mm30g; 2-year warranty.

**Build quality**



**Features**



**Value for money**



With so many competing card storage formats, it's good to have a product such as the 6-in-1 Flash Reader that can cope with most of them. If you're handling different storage media and want a helpful low-cost solution to cope, this £34 device is a great option.

PNY's 6-in-1 multislot card reader is a nicely designed external box that connects via a USB port and should sit comfortably on top of your PC. It supports SmartMedia, CompactFlash, SD (secure digital), Microdrive, Memory Stick and MMC (multimedia card). At the front of the box are four slots for different cards and once the hardware is connected each slot corresponds to four extra drives that are set up on your PC.

Although the reader supports six card types it only needs four slots because Microdrives are the same size as CompactFlash and SD cards are the same size as MMCs.



You can drag and drop files easily between cards or directly to and from your PC in Explorer. It's simple enough to set up, but Windows 2000 users should make sure they connect the hardware before they put any drivers on; all other operating systems do this the other way round.

The transfer rates differ depending on which media you're using to download. Microdrive data is downloaded at 300KBps (kilobytes per second), whereas MMC cards transfer information at 150KBps. We would have liked to see USB 2.0 support rather than 1.1 but to be fair this would only really be necessary if you had a full 1GB Microdrive.

**Verdict**

Anyone with a range of peripherals such as PDA's or digital cameras will be laden with different storage formats so this 6-in-1 reader really makes sense. If you're short on USB ports and don't want to tether a multitude of peripherals to your PC or notebook to retrieve the information from the storage cards, PNY's reader is the perfect solution. ■

*Spencer Dalziel*

USB accessory

# Lindy notebook light



- Lindy: 01642 754 000
- Website: www.lindy.co.uk
- Price: £8.50 ex VAT

If you've ever had to use your notebook in the dark, you'll know it isn't that easy. The screen emits some light, but rarely enough to illuminate the keyboard. For some time, IBM users have been furnished with

a little typing light in the top of the screen for exactly this purpose. Now, thanks to Lindy, everyone else can benefit too.

The device fits into a spare USB port and provides enough light to type by. The flexible metal construction means it's easy to position, and it requires no drivers at all. Simply plug it in and you're ready to burn the midnight oil. Lindy claims it has very low power consumption and won't drastically reduce your battery life. The light's directional too, so you won't risk upsetting passengers tucked up asleep on a transatlantic flight.

**Verdict**

An elegant and cheap solution to the problem of trying to use a notebook in low light. ■

*Will Head*

External notebook battery

# Electrovaya PowerPad 160

- Electrovaya: 0208 690 6164
- Website: www.electrovaya.com
- Price: £300 ex VAT



Notebooks are convenient for moving from A to B, but the majority of work you do on them is usually conducted within the vicinity of mains power. For users who have let their notebook stretch its mobile legs, the results can sometimes be frustrating. It will generally give up before you do within two or three hours.

For true road warriors, Electrovaya has come up with the PowerPad, a slim, notebook-sized external battery. It plugs in where your charger normally would, and promises up to 16 hours of use. We didn't test it for the full 16 hours, but it was still going after 10. Electrovaya supplies a number of different leads for common notebooks, but it's worth checking if yours is supported.

**Verdict**

The PowerPad is compact and provides a significant boost to notebook battery life. At £300 it's expensive, but if it can keep you productive while away from mains power it might just be worth it. ■

*Will Head*

## Mobile colour inkjet printer HP 450CBi



### HP 450CBi

- HP: 0870 547 4747
- Website: www.hp.com
- Price: £189 ex VAT

### Specifications

Optical resolution 1,200x1,200dpi; USB/parallel/infrared/CompactFlash card slot/optional Bluetooth; 9ppm mono printing; 5ppm colour printing; mono cartridge £18.00; colour cartridge £24.99; mono coverage 450 pages@5% (4p per page); colour coverage 400@15% (7.4p per page); 338x82.5x164mm; 1.88kg.

### Build quality



### Features



### Value for money



Imagine HP's mid-range consumer inkjet technology squeezed into the dimensions of a mobile product and you'll get an idea of what the 450CBi is all about. It's a svelte product designed for mobile professionals and has one of the best print outputs we've seen on a mobile unit.

The 450CBi has a maximum resolution of 1,200x1,200dpi that can be bumped up to 4,800x1,200 using HP's PhotoRet IV technology for printing on photo paper. While the 450CBi isn't that small for a mobile model, it has versatility the competition can only dream about. It's bundled with a parallel or USB connection should you wish to tether it to a PC but it also has impressive wireless connectivity options.

You can print via infrared or the rear-mounted CompactFlash slot. This allows you to print shots from a digital camera without the need for a PC, or you can use it for Bluetooth connectivity if you buy a card from a third party. These options mean you can print from notebooks, PDAs or even mobile phones.

It's easy to set up and comes with a comprehensive toolbox for all printing needs but if you want to do photo printing you'll have to buy the photo cartridge as an optional extra. Though it couldn't match the supposed print speeds it was fast enough at 6ppm (pages per minute) in monochrome and 5ppm in colour.

The rechargeable lithium battery should last for 350 pages and print quality beyond draft mode printing is excellent. We do recommend sitting the model at the back of your desktop space when in use because it doesn't have an output tray to catch the paper.

### Verdict

Running costs are high and it won't fit easily into a briefcase but if you're setting up mobile equipment for presentations the 450CBi has to be the mobile printer of choice. Clients will be thoroughly impressed if you print off your presentation slides from your PDA and hand over the high-quality results. ■

Spencer Dalziel

## Backup server and tape backup library Sony StorStation BA-1600

When you think of enterprise storage and backup, the Sony brand probably won't come at the top of your list. But it should. Its latest 'backup appliances', the StorStation BA range, will prove very useful for any small or medium-sized businesses. The BA-1600, comprises two rack-mountable devices: the head unit (essentially a repurposed NAS storage device) and a tape library unit – a total of 3U in rack speak, which is very thin indeed.

Both exhibit Sony's traditionally slick design and wouldn't look out of place in a hi-fi rack. The head unit server has no less than 400GB of fast hard disk storage but this is used exclusively for 'staging' – that is, buffering backup data on fast hard disks before writing to tape – which considerably accelerates backup times.

The LIB-162 tape library is connected to the head unit via an LVD SCSI cable and can offer 1.6TB (terabytes – 1TB is 1,000GB) of storage, boosted by Sony's proprietary compression to over 4TB. The library unit uses Sony's 100GB AIT3 (advanced intelligent tape), which competes directly with the likes of LTO (linear tape open)

and SDLT (super digital linear tape). AIT drives have very fast cartridge load and search times, as well as first-class reliability. The StorStation can handle eight cartridges on a carousel but you'll need to add a second tape drive to take it up to its quoted capacity. The LIB-162 even incorporates a barcode reader for virtually instant media verification and inventory.

Installation is a snap, and it will work on pretty much any network. The head unit comes preinstalled with ARCserve backup software and four client licences.

### Verdict

The Sony BA-1600 has much to offer in terms of capacity, performance and easy management. It may seem expensive but you do get a lot of bang for your buck, all in a very neat package. ■

James Bennett



### Sony StorStation BA-1600

- Adaptec: 01276 854 500
- Website: www.adaptec.com
- Price: £7,750 ex VAT

### Specifications

1,600GB native capacity; 4TB compressed capacity; 10/100BaseT ethernet; CA BrightStor ARCserve 7.0 licence (preinstalled); four client licences (on CD-ROM); 3U rack space; AIT3 tape drive (one standard, one optional); head unit 44x430x374mm; storage device 88x430x680mm.

### Build quality



### Features



### Value for money

