

Portable

Whether you're looking for a desktop replacement or an ultra-portable, this is the place to be as we've put a grand total of 24 notebooks through their paces

Although the desktop PC receives most of the attention, the notebook market is growing stronger all the time. Notebook PCs have split into two distinct camps. The first is the fully featured sector, where users expect their notebook to have all the features of a desktop PC, with little or no compromise. The fully featured notebook is often bulky and heavy since it's generally only shipped to and from the office where it's used as the primary PC for the user. The other notebook camp is the ultra-portable market. Users who crave ultra-portable machines are willing to sacrifice some features and functionality for a small and light machine. The ultra-portable user is likely to have a desktop PC too, but wants to be able to work on the move as well.

To cater for these two distinct markets we've split the group test into two parts and dished out awards in each category. Also we set a maximum price limit of £3,000 ex VAT.

We ran the same SYSmark performance test that we run on desktop PCs (see page 158), as well as our battery rundown test. That said, we didn't put as much emphasis on performance as we do with desktop systems, since build quality and ergonomics are also very important on a notebook.

So, if you're in the market for a notebook, whether it's a fully featured desktop replacement or a svelte ultra-portable, we've rounded up 24 of the best to help you make your mind up.

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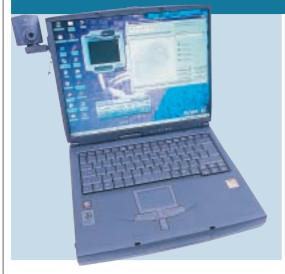
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Acer TravelMate 739TLV



UPON LIFTING THE lid the first thing you notice about the Acer is the silvery square positioned below the keyboard's directional keys. This is a fingerprint sensor. Once set up, you are asked for your fingerprint before the system boots up and you log into Windows. This worked rather well and will appeal to those who are security conscious.

The 739TLV feels sturdy and has a quality finish. The keyboard is well laid out, with positive, full-size keys and an

FULLY FEATURED

embedded numeric keypad. In addition, many of the function keys have dual purposes such as toggling between power schemes, switching the touchpad on or off, and entering the notebook's configuration utility. With no LEDs or separate hot keys, the keyboard is placed close to the 15in TFT display giving you room to rest your palms while typing.

Performance-wise the Acer puts in a reasonable showing. Inside is an 850MHz mobile Pentium

III SpeedStep processor. The unit comes with 128MB of RAM - a bit stingy for the £2,999 ex VAT price tag - but there is a spare slot for more memory.

As for storage, there's a 20GB IBM hard disk and a built-in floppy drive. In the media bay is a Toshiba DVD-ROM drive that makes movie-viewing on the go a possibility. An 8MB ATi Rage Mobility M1 chipset provides a native resolution of 1,024 x 768 and dualdisplay capability over the D-SUB port

at the rear. The internal display is clear and sharp, but the viewing angle in the vertical plane is quite shallow.

As for other ports, you get parallel, serial, modem, network, and IrDA ports together with two PC Card slots, a single USB port and speaker-out, line-in and microphone-in jacks. Furthermore, there's a mini docking connector on the base, but no FireWire port. For videoconferencing, the bundled USB webcam can be fixed to the side of the display.

Considering the price, there are other notebooks that come with more memory and extra ports, but if security is paramount this is the one to go for.

DETAILS

PRICE £3,523.83 (£2,999 ex VAT)

CONTACT Acer 01753 487 000

www.acer.co.uk

PROS Fingerprint recognition; good build quality; webcam; well-positioned keyboard CONS Expensive; no FireWire port; only 128MB of RAM and 8MB of video memory **OVERALL** The fingerprint recognition system makes for a high price and it's ideal for the security conscious, but Acer just loses to Dell

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



ACi **A9000**



THE ACI A9000 carries Intel's mobile Pentium III processor running at 750MHz, with 128MB of PC100 SDRAM sitting in the single SODIMM socket. There's also another 64MB of built-in memory bringing the total to 192MB. This specification helped the ACi achieve a reasonable score of 141 in our SYSmark 2000 tests. The processor uses Intel's SpeedStep system allowing the clock speed to drop to 600MHz when powered by the battery. You can

FULLY FEATURED

set the processor's behaviour in the BIOS. but there's no SpeedStep tab in Windows' power management properties.

On the wedge-shaped front, you'll find the mic and stereo-out jacks, and CD player controls. These can operate the Torisan DVD-ROM drive while the A9000 is switched off. However, do not expect too much as the sound from the Creative Sound-Blaster Audio PCI 64V chip and the internal speakers is rather tinny.

The keyboard is generally well laid out, although we would like to see the Shift key reduced in size in comparison to the Return key. While it cannot match the Dell's positive feel, typing is a comfortable experience with good key travel. Pointer control is provided by a touchpad with selector buttons and a scrolling rocker switch.

The 15.1in TFT screen supports a native resolution of 1,024 x 768 and, apart from the one dead pixel on our review machine, is excellent. The

illumination is even and bright and can be viewed at quite a shallow angle. Feeding the screen is an S3 Savage 4 chipset with 16MB of onboard RAM and dual-display support.

At the rear is a parallel port, a single COM port and a D-SUB. In addition, an expansion port for the optional replicator, two USB ports and a PS/2 port are provided. For video enthusiasts ACi has fitted an S-Video connector and a FireWire port. A modem, 10/100Mbits/sec network card, rearmounted IrDA port and two Type II PC Card slots complete the feature set. All in all, ACi has produced a reasonably priced, solid, well-featured machine.

DETAILS

PRICE £2,163.18 (£1,841 ex VAT)

CONTACT ACi 020 8830 1958

www.aciplc.com

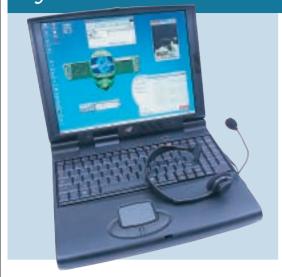
PROS FireWire port; good display; frontmounted CD controls; solid build

CONS Keyboard could be slightly better; not the auickest

OVERALL A decent fully featured notebook that is overshadowed by the Dell



A/P **8500V**



YOU CAN CERTAINLY describe the 8500V as a desktop replacement based on its large size and the full-size 1GHz Pentium III Flip Chip processor beating at its heart. This is, on paper, the fastest processor in the group test and it's backed by a full 256MB of SDRAM. However, when it came down to SYSmark tests it came third overall.

The 8500V tips the scales at a hefty 4.3kg, while the chassis is 358mm wide by 280mm deep with a height of 50mm. **FULLY FEATURED**

This makes it one of the bulkiest notebooks here. but you do get a full-size keyboard with responsive keys. Below this is a touchpad that is positioned to the left and far enough away from the spacebar to free up wrist space and prevent inadvertent text selection.

The 15in TFT display comes with a native resolution of 1,400 x 1,050 that's perhaps a little on the small side for some. If you prefer, an external monitor can be connected to the D-SUB

port to increase your desktop area. An ATi Rage Mobility 128 provides the graphics with 16MB of SGRAM.

For storage, you get a 20GB Hitachi hard drive that can be removed simply by pressing a latch and sliding it out, but for those concerned with security, this may be offputting. A Toshiba DVD-ROM drive sits in a bay to the left together with the IrDA port. On the right side, the 56K modem jack accompanies the removable floppy

drive, along with a PC Card slot that accepts either two Type II PC Cards or one Type III. These hide behind a rather flimsy flap that's just asking to be snapped off. Also on the right side are the speaker-out, audio line-in and microphone jacks.

Around the back, there's the usual array of ports, together with two USB ports, S-Video and Composite jacks, plus a FireWire port.

The battery did well in taking the strain of the full-size chip but, despite this, the mediocre screen and unwieldy size makes it hard to recommend the 8500V.

DETAILS

PRICE £2,046.85 (£1,742 ex VAT)

CONTACT AJP 020 8208 9777

www.ajp.co.uk

PROS Good keyboard; FireWire port; 1GHz processor

CONS Bulky and heavy; display not the best here; non-mobile processor

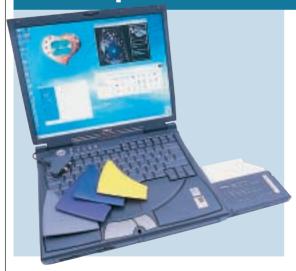
OVERALL Not a bad price and you do get a FireWire port, but build quality and weight ultimately hold it back

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Dell Inspiron 8000 850UT

FULLY FEATURED



DELL'S ENTRY INTO THE fully

featured category is an impressive one. Inside is a mobile PIII processor running at a speedy 850MHz together with 256MB of RAM. The CPU also comes with Intel's SpeedStep technology but, as with many of the machines here, there's no Windows applet in the power management properties to control how SpeedStep behaves.

There are battery level indicators for the left and right compartments, but in

the current setup a single lithium-ion cell sits in the right-hand bay. A spare battery can be purchased as an optional extra for £79 ex VAT, but to use both you'll have to remove the floppy drive from the left bay.

The keyboard is the best one here. When you strike the keys, you're rewarded with a solid and very positive action. You also get the choice of a touchpad or trackpoint for pointer control.

The 15in TFT is also very good. The native

resolution is a striking 1,600 x 1,200, which comes very close to the limit for comfortable use. However, the picture is sharp, bright and evenly illuminated. The graphics are provided by an AGP 4x ATi Rage Mobility 128 chipset with a healthy 32MB of memory on board.

As for drives, this version ships with a Toshiba DVD-ROM and a CD-RW that can be swapped with the floppy drive so that you can make backups from the spacious IBM 32GB hard disk.

Dotted around the sides of the 8000 are three line-in ports (mic, headphone and audio), a FireWire port and two Type II PC Card slots. A network port. modem jack, IrDA and S-Video are also provided. The remaining ports are around the back, including parallel, serial, PS/2, D-SUB and two USB ports.

With this Inspiron, Dell offers a well-built and feature-rich desktop replacement at a reasonable price. And at 3.7kg it isn't too cumbersome either. A one-year European-wide collect-andreturn warranty along with Mircrosoft's Office 2000 Small Business Edition helps the Dell scoop up a Highly Commended award.

DETAILS

PRICE £2,642.58 (£2,249 ex

CONTACT Dell 0870 907 5664

www.dell.co.uk

PROS Good feature set; sharp high-resolution display; CD-RW; large hard disk; good price CONS Not the quickest; resolution could be too high for some

OVERALL A desktop replacement, that does





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Elonex Piranha Pro



THE PIRANHA PRO occupies a slightly different niche compared with the other notebooks in this group test. In fact, it could be classed as an ultraportable especially when the unit is without its docking bay. However, the larger 13.3in TFT display just carries the Piranha into the fully featured section.

General build quality is reasonable, but in terms of functionality, it is rather similar to the HP Omnibook 500 with its two docking bays.

FULLY FEATURED

Most of the necessary ports and connectors are provided on the docking bay – including a floppy drive, Panasonic CD-RW, mini and full-size FireWire ports, one USB port, as well as an S/PDIF out port. In addition, the other docking bay comes with a Toshiba DVD-ROM drive. Both are interchangeable between bays.

Dotted around the notebook case is a single PS/2, headphone and mic jacks, a single PC Card slot and separate modem

and network port. There is also a D-SUB and the standard parallel and serial ports, but interestingly no S-Video.

The display provides a decent amount of desktop space at its native resolution of 1,024 x 768. The image is sharp but we did notice that some of the edges varied in intensity. The keyboard felt comfortable and the keys are placed in sensible locations.

Under the cover you'll find a nippy 850MHz mobile Pentium III with

SpeedStep, that drops down to 700MHz on battery power. This is backed by 192MB of RAM, although performance is not spectacular.

However, when this is combined with the 20GB Fujitsu hard drive, the 8MB ATi Rage Mobility-M graphics chipset, and the docking bays, you end up with a well-featured portable and functional notebook that can be classed as a desktop PC replacement.

Also bundled is a spare battery, Logitech wheelmouse, HP Deskjet 350CBi inkjet printer and for videoconferencing an Intel webcam. Elonex has also rounded everything off with a copy of Office 2000 Professional.

DETAILS

PRICE £3,049.13 (£2,595 ex



CONTACT Elonex 0800 037 4466

www.elonex.co.uk

PROS High-end mobile processor; CD-RW; two docking bays; extra peripherals **CONS** Smaller screen; no S-Video **OVERALL** A well-specified machine that gives

you the best of both worlds and walks away

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



evesham.com Voyager 7000

FULLY FEATURED



IF THE VOYAGER 7000 looks familiar to you, it's probably because Dell's Inspiron 5000, and ACi's Precedent that we reviewed last year both use the same chassis as the Voyager. Tapei-based Compal Electronics originally manufactured this casing, which is now beginning to look a little dated.

Pulling the dual latches towards you releases the slightly overhanging 15in TFT display that comes with a native resolution of 1,400 x 1,050. This brings

the font down to a size that some users may find too small. Having said that, the display is pin sharp and quite bright, although the viewing angle is not as wide as others here. Handling the graphics is an ATi Rage Mobility 128 chipset with 16MB of video RAM.

The processor is a mobile Intel 750MHz PIII with SpeedStep capability, although this can only be manipulated from within the BIOS. Backing this up is a full 256MB of RAM in the

shape of two 128MB sticks. The Voyager 7000 comes fourth overall in SYSmark, overtaking the similarly specified ACi, thanks to the extra 64MB of memory.

The keyboard is a bit bouncy but the key presses are positive. The layout is also good with a full-size Return key and a Ctrl key in its standard position.

Situated at the front of the unit is a Toshiba DVD-ROM drive. This is not the ideal spot if you use the Voyager on your lap, as the draw is likely to hit your

stomach when you press eject. Next to this is the lithium-ion battery and the hard drive module that accommodates a 20GB Fujitsu hard disk.

A floppy drive resides on the left, along with the audio line-in, external mic-in and headphone jacks. On the right, you'll only find two Type II or one Type III PC Card slots.

Most of the important connections sit at the rear. You'll find a D-SUB for hooking up to a monitor, a port replicator port, only one USB and a single PS/2 port. There's no network port, but an IrDA port and S-Video out round everything off.

DETAILS

PRICE £2,055.08 (£1,749 ex VAT)

CONTACT evesham.com 08707 290 908

www.evesham.com

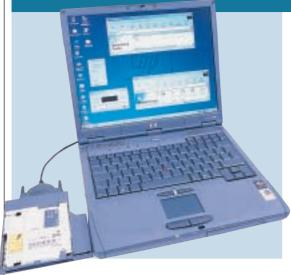
PROS Good price; decent keyboard layout; reasonable performance

CONS Dated design; rear-mounted IrDA port; no network port; no FireWire

OVERALL Common looks aside, the Voyager is a reasonable notebook but it doesn't come with as many ports as some models



Hewlett-Packard Omnibook 6000



THE TWO FRONT CORNERS of the Omnibook 6000 are encased in rubber, which should be welcomed by those whose machines can get a battering. The edges of the lid are rubberised too, but there is no impact point beneath the hard drive so you'll want to be careful about dropping it onto a desk.

Windows 98 SE is the OS of choice, and as with most notebooks there is little else in the way of bundled software. A touchpad and trackpoint are both

present, with dedicated selector buttons for each. The keyboard, as you would expect from HP, is comfortable and well spaced, although the travel on the keys is less than you might like.

The 14.1in TFT screen has a native resolution of 1,024 x 768 and is bright, vibrant and easy on the eyes. Illumination was even across the whole surface of the panel on our review machine.

A fairly standard 128MB of memory and a 20GB hard drive matches

what most decent desktops offer these days and should keep the average user happy for some time to come. The processor is an Intel Pentium III SpeedStep running at 800MHz on the mains and 650MHz on batteries. A look around the edges reveals the usual family of ports: audio and Kensington lock points to the right; modem (cable bundled), network and two Type II PC Card slots to the left. Running along the rear there's the power, external monitor,

parallel, serial, USB and PS/2 ports. It's also here that you'll find the docking port for use with a base station.

Sound is more than adequately handled by a pair of internal speakers that produce bright clear output. In the box you'll find floppy and either DVD or CD-ROM drives, as well as a cable to use the floppy drive externally if you wish.

Performance-wise, the 6000 should be proud of itself. Beaten only by the rockdirect.com Agenda XT, it scored 148 in our SYSmark test. This, combined with sturdy build quality and a design that is comfortable in use make this a truly desirable machine. Our only real gripe is that you can't have two removable media drives installed at once.

DETAILS

PRICE £2,756.55 (£2,346 ex VAT)

CONTACT HP 08705 474 747

www.hp.com

PROS Fast; good keyboard; great screen; hardware volume controls

CONS Room for only one drive; no IrDA **OVERALL** Good looks and impressive performance combined

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Hitachi HN8400-700



THE MOBILE PENTIUM III 700MHz SpeedStep processor lurking inside this notebook, combined with 128MB of RAM, produced the slowest SYSmark score of the fully featured machines tested. This aside, however, the HN8400-700 is well built and slim at about 38mm in height. In fact, the whole unit is quite compact and tips the scales at a portable 3kg.

The 14.1in TFT display is bright, but it was quite difficult to find a viewing angle

FULLY FEATURED

that did not vary in illumination from top to bottom. The 1,024 x 768 native resolution is typical for a screen of this size, and if you want more desktop space, the 8MB S3 Savage MX chipset provides support for an external monitor plugged into the D-SUB at the rear.

The keyboard is fairly good in terms of feel, but there are better examples elsewhere in this group test. The keys have a reasonable amount of travel, but the layout is where it falls down. Again

the Ctrl key isn't found in the usual bottom left-hand corner, and the Return key is easily missed, being narrow and positioned in a vertical orientation.

The touchpad is responsive and comfortable to use but there's no installed utility to alter its settings.

For the money, you get the usual array of ports including S-Video, two PC Card slots, two USB ports and IrDA. Unfortunately, there's no FireWire port and the modem and network facilities

share the same port. A floppy drive and Toshiba DVD-ROM drive are conveniently located on the right side, together with an anolog dial that controls the volume emanating from the front-mounted stereo speakers. The sound quality from the speakers is also pretty good.

For added security, Hitachi has pre-installed some personal firewall software that increases your level of security while connected to the Internet or your local network.

For the money, you do get a relatively compact notebook that is built well. However, the NEC looks the better deal.

PRICE £1,786 (£1,520 ex VAT)

CONTACT Hitachi Software Engineering 020 8566 0378

www.hitachi-software.co.uk

PROS Good build quality; personal firewall software; compact

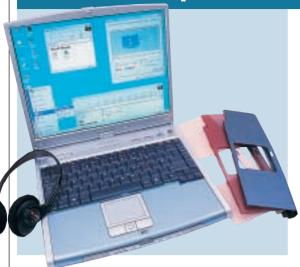
CONS Slow performance; combined modem/network port; no FireWire port

OVERALL Not a bad effort, but loses out on the specification





NEC Versa Aptitude



BOTH THIS MACHINE and the Packard Bell use the same silver-coloured chassis, which you'll either love or hate. Inside the NEC, is a speedy mobile 800MHz Pentium III processor that makes use of Intel's SpeedStep technology. Under a flap on the base is a single 128MB stick of RAM that sits in one of two SODIMM slots. In this setup, the Aptitude achieved a SYSmark 2000 score of 137 – some 15 points higher than the similar looking Packard Bell.

FULLY FEATURED

This is because the Easy Note Sc uses a processor that is clocked at only 700MHz.

The 14.1 in TFT display is reasonably well focused, but it exhibits uneven lighting. It supports a native resolution of 1,024 x 768 and the 8MB ATi graphics chipset will allow the resolution to be pushed up to 1,280 x 1,024 albeit in a virtual desktop environment.

The hard drive is a well-sized 20GB IBM model that should

provide plenty of storage while on the move. Unlike some of the notebooks, the hard drive bay hasn't been designed to be user-upgradable.

The keyboard is a rather flimsy, seethrough affair, although the keys have a decent amount of spring-back. NEC has also managed to squeeze in a full-size Return key and keep the Ctrl key in its familiar position, which helps make typing that bit more efficient.

Above the keyboard are three

chrome buttons: the power button and two hot keys for launching into your mail program or Internet browser.

On the right of the Aptitude is an integrated Toshiba DVD-ROM drive and a floppy drive. The opposing side offers two PC Card slots, an analog volume dial and the standard triple set of audio jacks. Around the back there's one PS/2 port, two USB ports, network and modem ports and a FireWire port, sitting in line with the parallel, serial port and D-SUB.

Completing NEC's offering is a set of interchangeable covers that add a bit of individuality to the machine.

DETAILS

PRICE £1,761 (£1,499 ex VAT)

CONTACT NEC 0870 010 6322

www.nec-online.co.uk

PROS Fast processor; upgradable RAM; FireWire port; good price

CONS Unevenly illuminated display; no IrDA; its design may put you off

OVERALL A reasonable unit that has a better specification than the Packard Bell, but is not as highly specified as other machines

BUILD QUALITY
PERFORMANCE
VALUE FOR MONEY
OVERALL RATING



Packard Bell Easy Note Sc

FULLY FEATURED



NEC OWNS PACKARD BELL, so it doesn't come as a surprise that both companies have come up with desktop replacements that use the same silver-coloured chassis. The Packard Bell is the cheaper option and we've been told that the Easy Note Sc is aimed more at the home consumer rather than the corporate user. This market stance amounts to a lower clocked mobile Pentium III with SpeedStep beating away at 700MHz, and the omission of a

network port. As for the rest of the features there's a 20GB Fujitsu hard drive that should give you plenty of room for your data, together with the same arrangement of ports as the NEC. This includes two PC Card slots for either one Type III or two Type II PC Cards. The FireWire port is there, so transferring your digital movies from your DV camera shouldn't be a problem. However, an IrDA port has not been included.

The keyboard is the same as the transparent one used by NEC, and above this are those rather garish chrome hot keys and power button. The touchpad is responsive and, like the NEC, comes with a sliding scroll button that does the job, but is a little flimsy. The touchpad is a bit close to the space bar but at least Packard Bell has followed NEC's example and made sure that the touchpad utility has been installed, with the option of deactivating the tapping feature.

The 14.1in screen looks the same as the Aptitude's displaying a similar degree of uneven illumination but reasonable sharpness. The 8MB ATi Rage Mobility-M1 chipset drives the display at a resolution of 1,024 x 768.

For the money, you also get the option of playing CDs without powering up the system. Skip, Stop and Play/ Pause buttons can be found on the front, either side of the LCD display or in between the speakers.

Both the Easy Note Sc and the NEC Versa Aptitude come with Microsoft Works pre-installed along with a copy of Word 2000.

DETAILS

PRICE £1,799 (£1,531.06 ex VAT)

CONTACT Packard Bell 01628 508 200

www.packardbell.co.uk

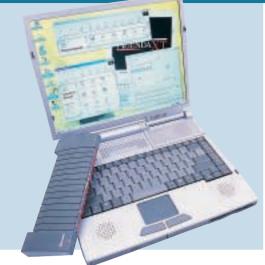
PROS Good price; FireWire port

CONS TFT has slight uneven illumination; no IrDA; some may not like the silver finish; slower processor

OVERALL If you're on a budget and don't mind the flashy look and reduced performance then this is not a bad option



rockdirect.com Agenda XT



AS ONE OF THE cheaper models on test, the Agenda XT comes in a silvercoloured metal and plastic shell similar to that found on budget stereo systems. The XT uses a mobile Pentium III SpeedStep processor running at 850MHz. There's also 192MB of RAM as standard, although there are no vacant SODIMM slots for further upgrades. In this configuration, the Agenda managed to put in the best showing in the SYSmark test with a score of 152.

FULLY FEATURED

The unit measures 328 x 275 x 36mm, quite a thin desktop replacement, that also allows for a reasonable-sized keyboard. The keys have a soft action but the travel is a little short. As is often the case with notebooks, the Fn key is where you would expect to find the Ctrl, which is a little irritating especially if you regularly cut and paste.

Unfortunately, the noisy processor fan and heat sink are positioned above the keyboard which reduces the area for

resting your palms while typing. You'll find that your wrists cover the built-in speakers, muffling their sound, and the touchpad also feels unresponsive.

The front of the machine houses the Torisan DVD-ROM and floppy drive, which makes access to them somewhat awkward when working with the machine on your lap. On the left-hand side are the microphone and headphone jacks, the SiS 10/100 Ethernet adaptor, as well as an IrDA port and a single Type

II PC card slot. The right-hand side has a PS/2 port, 56K modem port and one USB port. As for the rear, an S-Video connector sits with a D-SUB, parallel port and a COM port. rockdirect.com also provides a Xircom PortStation that allows you to plug in a range of devices through a single USB port.

Connected to the 8MB Silicon Motion Lynx 3DM video chipset is an impressive 15.1in TFT display that produces a bright image in its native resolution of 1,024 x 768.

Although this system performs well it is let down by the keyboard position, a noisy fan and a less than stylish finish.

DETAILS

PRICE £2,010.43 (£1,711 ex VAT)

CONTACT rockdirect.com 0870 990 9090 www.rockdirect.com

PROS Good performance; large display; thin design

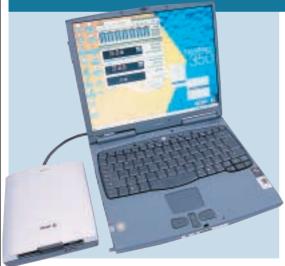
CONS Badly placed fan, keyboard and speakers; touchpad buttons feel unresponsive **OVERALL** A reasonable machine for the money, but design and ergonomics need more consideration

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Acer TravelMate 351TEV





THE ACER TRAVELMATE 351TEV is the first of the ultra-portable laptops on test and it's an impressive unit. Featuring a smart card reader as standard it is also one of the most secure solutions available at present.

The smart card controls most of the security features on the TravelMate except for the power on and hard drive access passwords. There are several options on how to use the smart card but the most secure option allows you

to lock the laptop down to the degree that even if you replace the hard drive it is useless without the smart card.

The rest of the laptop is based on a 700MHz Pentium III SpeedStep processor that slows down to 550MHz in power save mode. One interesting point is that the chipset from ALi is something that we haven't seen before in a laptop. The chipset itself is nothing remarkable but it incorporates the Trident CyberBlade

graphics chipset, which shares either 4 or 8MB of system RAM for video as well as having integrated sound.

Our review model also came with a V.90 Winmodem from Lucent and a 10/100Mbits/sec Intel network adaptor, and there's also an option for a built-in wireless 802.11b network card.

The hard drive is a reasonably sized 10.6GB IBM Travelstar and an external unit houses the DVD and floppy drive. The only minor gripe is that the flap that hides the connector for the external drives is a bit flimsy.

FireWire is built in as standard as well as two USB ports and a frontmounted IrDA port.

The keyboard is excellent with good key travel. Acer has designed the keyboard to be slightly curved on the 350 series, which worked well in use.

The other important area of a notebook is the screen and the Acer sports an impressive 13.3in TFT display with a resolution of 1,024 x 768.

All in all this is a very good laptop at a respectable price, but it might be too heavy for some, a fact that ultimately loses Acer the Editor's Choice crown.

PRICE £1,996.33 (£1,699 ex VAT) **CONTACT** Acer 0870 900 2237



PROS Excellent keyboard; very good security CONS A bit larger than the competition **OVERALL** If you are after a secure laptop solution you can't go wrong with the TravelMate 351TEV. It's also well built and feature packed





ACi Elite



THE ELITE IS ONE OF the cheaper laptops that we received for this roundup and it's not hard to see where costs have been cut. The choice of CPU is the obvious area of compromise - a 600MHz mobile Intel Celeron. This CPU won't break any speed records and the display is a budget 800 x 600 TFT unit driven by a Trident Cyber 9525DVD graphics chipset with 2.5MB of graphics memory.

On the other hand, the Elite does come with 192MB of RAM and one of ULTRA-PORTABLE

the larger hard drives in the test, at 12.07GB, which is another unit from Hitachi.

You also get an external CD-ROM and a USB floppy drive as well as a USB port replicator.

The standard set of ports on the Elite consists of three USB, an RJ-45 and RI-11 for network and modem respectively, along with a proprietary CD-ROM and D-SUB connector that comes as standard.

There are also headphone and mic

sockets on the right-hand side and a single Type II PC Card slot on the lefthand side. The port replicator has two PS/2, two USB, and a serial and parallel port, but occupies one of the USB ports on the laptop when in use. The port replicator is finished in a silver and blue mix that matches the laptop perfectly.

The CD-ROM is a very big and chunky external unit fitted with a Matsushita drive.

The keyboard is a bit too bouncy and

the layout is less than ideal, making it hard to find the right keys. Another design point is that the quick-launch buttons are positioned where your left wrist is when you're typing. It's very easy to hit a button by mistake resulting in spurious application launches.

It's a shame that the price doesn't reflect the overall system, as it is not the cheapest machine on test despite the slower CPU and lower-resolution screen.

The performance of the Elite is not wonderful, but it does manage slightly better than some of the competition.

Ultimately the ACi Elite has too many compromises without a significantly lower price.

DETAILS

PRICE £1,810.68 (£1,514 ex VAT) **CONTACT** ACi 020 8357 1116

www.aciplc.com

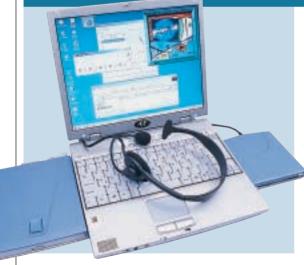
PROS Port replicator; loads of memory CONS Slow CPU; low-resolution display; poor keyboard

OVERALL If you're looking for a slim notebook in this price range, you'd be better off looking at the Hi-Grade

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



M722



THE AJP M722 IS VERY similar to the ultra-portables from rockdirect.com and Sharp, but AJP has gone for a higher spec processor, supplying a 750MHz Intel Pentium III SpeedStep and a hefty 192MB of memory.

The hard drive is relatively capacious at 20GB. An external sliver and blue CD-ROM is supplied by QSI and there's also a USB floppy drive in the same colour scheme. The M722 features the same set of ports as the rockdirect.com,

ULTRA-PORTABLE

namely two standard USB and two mini-USB ports. a mini FireWire, a D-SUB, the CD-ROM interface and an IrDA port as well as the headphone and mic ports on the front. You also get RJ-11 and RJ-45 on the front righthand side for modem and network connectivity.

It's good to see IrDA and FireWire as standard, adding to the AJP's connectivity options.

Unfortunately, as with the rockdirect.com and Sharp machines, the keyboard is quite poor on

the M722. This is a real shame and makes it difficult to recommend this machine if you're planning on typing for an extended period of time.

The display is yet another 12.1in TFT screen with a resolution of 1,024 x 768. The sound is provided by an AC97 solution from Crystal that provides sufficient sound for general use.

An extended battery comes as standard and, even though this gives the laptop a very long battery life, it does

add to the weight a fair bit - it's almost as heavy as the laptop itself. AJP has supplied a pouch to carry the M722; it doesn't accommodate the drives, but then the point of having an ultraportable is that you travel light and leave all the optional peripherals at home.

If you're interested in the AJP it's worth trying it out before you buy. Although it's reasonably priced, the keyboard lets the package down.

The AJP M722 does, however, offer quite good value for money since it's reasonably priced and offers a fairly strong feature set. Ultimately you'll have to decide how much typing you're planning to do on the move, and whether you can get on with the keyboard.

PRICE £1,733.13 (£1,475 ex VAT)

CONTACT AJP 020 8208 9744

www.ajp.co.uk

PROS IrDA; FireWire; above average specification

CONS Poor keyboard; the battery is very heavy **OVERALL** With a better keyboard this would be a reasonable laptop at a very attractive price



Fujitsu-Siemens Lifebook S-4546



THIS IS THE ONLY ultra-portable in the group test with a built-in drive. Some might say that it's not an ultra-portable due to this, but Fujitsu-Siemens has done a remarkable job and fitted the rest of the components into a very small space so the laptop is still compact.

Fujitsu-Siemens has used a 600MHz Intel Pentium III SpeedStep processor along with 128MB of RAM. A Toshiba eight-speed removable DVD drive comes as standard. The hard drive is also from

Toshiba and sports a capacity of 10GB. We did find it a bit puzzling that there was no TV-out port, preventing you from watching DVDs on a TV. The 12.1 in TFT display is hardly big enough to watch a film on, even with a 1.024 x 768 resolution.

A clever feature is the port replicator supplied as standard with the Lifebook, as it lowers the weight of the laptop when you don't need the extra connectors, but gives you the option of using them when you do need them.

Built-in ports on the laptop are two USB, IrDA, D-SUB and a modem and network connector. There is also a Type II PC Card slot on the right-hand side surrounded by audio connectors.

The port replicator consists of two PS/2, one USB, a serial and parallel port, a D-SUB, an RJ-45 passthrough and a floppy connector for the external floppy drive that's bundled.

The Lifebook has a small LCD below the screen that has a battery/charge

display as well as other system indicators.

There are also four programmable shortcut buttons above the keyboard. These double as a security panel to prevent you booting up the machine without entering the correct pass code. This might not be as good as Acer's solution as it does not encrypt the hard drive, but it does offer a level of security.

A minor issue is the way the keyboard is laid out as the right Shift key is behind the cursor keys, making it a bit awkward to use.

Fujitsu-Siemens has done a good job with the Lifebook S-4546 and if you are after a small notebook with a built-in drive this is definitely worth a look.

DETAILS

PRICE £2,274.80 (£1,936 ex VAT)

CONTACT Fujitsu-Siemens 01344 475 555

www.fujitsu-siemens.com

PROS Built-in drive; security feature; overall quality feel

CONS Keyboard layout; price

OVERALL A very capable notebook that offers a built-in drive while remaining compact. The feature set is good but it's a little pricey

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Gateway Solo 3350SE

ULTRA-PORTABLE



GATEWAY IS A well-known brand in the PC arena and won an Editor's Choice award in the last notebook group test here at PCW. This time around it supplied us with the Solo 3350SE, which is a silver-coloured ultraportable unit.

The Solo 3350SE is based on a 600MHz Intel Pentium III SpeedStep processor, like many of the other laptops that we have seen this month. The rest of the specification consist of 128MB of memory, a 20GB hard drive from Toshiba and a 12.1in TFT display capable of 1,024 x 768 resolution. The graphics chipset is an ATi Rage Mobility with 4MB of memory.

Our review unit came with an eight-speed DVD-ROM drive from Toshiba and a floppy drive that shares the same external swappable drive box and cable, limiting you to only one drive at a time.

Gateway has done a good job on expansion ports. It's not the best,

but the 3350SE does have a set of the most commonly needed ports. Around the back is a PS/2 port, the CD/floppy interface, a parallel port, a D-SUB and the RJ-11 and RJ-45 ports for modem and network connection. On the lefthand side is a single USB port next to the headphone and mic sockets and on the right-hand side is a single Type II PC

It's a shame that Gateway is yet another manufacturer that has decided to omit the IrDA interface. This limits your connection possibilities, especially if you have a mobile phone with an infrared modem, making the 3350SE less attractive to the true road warrior.

The keyboard is quite good apart from a slight bouncy feel, but it has most of the keys in the right place, even though some of them are slightly smaller than on a full-size keyboard. Gateway has supplied a copy of Microsoft Works Suite 2000. It's good to see some kind of an office bundle included since this is what most people would want to use on an ultra-portable laptop.

Overall the Solo 3350SE is a reasonable notebook but is quite pricey compared to some of its competitors.

PRICE £2,265.40 (£1,928 ex VAT)

CONTACT Gateway 0800 973 132

www.uk-gateway.com

PROS Small and light; better then average kevboard

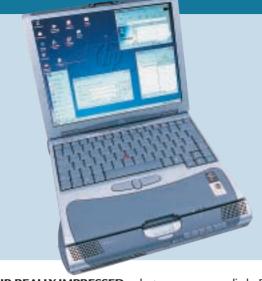
CONS Quite expensive; not enough USB ports **OVERALL** A good product but the high price makes it hard to recommend





Hewlett-Packard Omnibook 500

UITRA-PORTABI F



HP REALLY IMPRESSED us last month with its Omnibook 500 (page 76) so we decided to throw it in against the rest of the competition in this month's group test and see how well it fared.

The Omnibook 500 is a very versatile notebook and it can even double as a desktop replacement if you don't need the larger screen size that some of the fully featured notebooks sport.

Together with the docking base the Omnibook 500 offers more expansion

capabilities than any of the other ultra-portables.

The processor is a 600MHz Intel Pentium III SpeedStep but it differs slightly from the competition by being a low-power CPU, drawing less juice and resulting in longer battery life.

Our review model came with 128MB of RAM, a 10GB hard drive, and a 12.1in TFT display capable of a 1,024 x 768 resolution. The docking base contains a CD-ROM and a floppy drive.

It's a shame HP hasn't

supplied a DVD drive as standard, but it does help keep the cost down. The keyboard is by far the best we have seen on any ultra-portable and it's comfortable to type on for extended periods. HP even claims that it's spill-proof, but we wouldn't recommend you try this.

HP has incorporated a few good features in the notebook, such as a one-touch presentation button. This allows you to preconfigure the Omnibook 500 for a specific projector and at the touch of

a button, Windows and the app of your choice automatically launch.

A wireless networking option gives you the type of freedom that you expect from a machine like this.

It is hard to find fault with the Omnibook 500 except for the omission of IrDA and FireWire ports, but we hope HP will correct this in future models. The Omnibook is not as impressive on its own as it is when it's docked with the expansion base, but it is still a very cable laptop and we highly recommend it to anyone who is after a small yet very powerful and versatile laptop.

DETAILS

PRICE £2,185.50 (£1,860 ex VAT) **CONTACT** HP 08705 474 747

www.hp.com/uk

PROS Excellent keyboard; good overall layout and expansion base

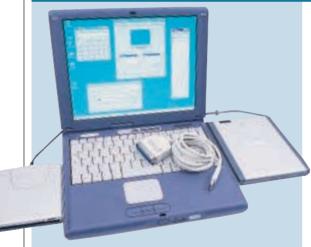
CONS No IrDA or FireWire

OVERALL A very well-rounded laptop with just about everything that you could expect from an ultra-portable, but it still offers many features that you would only normally see in a fully featured notebook

BUILD QUALITY
PERFORMANCE
VALUE FOR MONEY
OVERALL RATING



Hi-Grade **\$8200-850**



THE S8200-850 IS A FAIRLY new model from Hi-Grade. We reviewed the slightly lower specified S8200-800 in the February 2001 issue (page 77). The unit Hi-Grade supplied us with is based on an 850MHz Intel Pentium III SpeedStep processor, which is the fastest chip in the ultra-portable range. Memory is a more conservative 128MB and the hard drive is one of the largest at 20GB.

The display is a 12.1in TFT unit capable of 1,024 x 768, driven by a

ULTRA-PORTABLE

Lynx3D graphics chipset from Silicon Motion, supported by 8MB of graphics memory. Some extra features come with this graphics chip, such as screen rotation, although we are not certain why this would be needed.

The keyboard is reasonable, although the Enter and Backspace keys are smaller than on a normal keyboard, which makes it hard to find them at times.

As far as connectivity goes the S8200 is not that different from the

competition, with two USB, a D-SUB, modem and network connectors included, as well as an IrDA port. There is also an interface at the back for the external eight-speed Toshiba DVD-ROM, plus headphone and mic sockets on the front.

On the right-hand side are two Type II PC Card slots that also double as one Type III slot. It's good to see two PC Card slots in an ultra-portable, but there are few Type III devices around these days.

As the S8200 is missing a parallel port, Hi-Grade supplies a USB-to-printer cable as standard, making it as versatile as possible. You also get a USB floppy drive into the bargain.

Overall this is not a bad laptop from Hi-Grade. The keyboard isn't as good as some of the other models on test and we had some problems getting the DVD-ROM to work, but these are minor issues.

Hi-Grade just missed out on the Editor's Choice award due to the stiff competition, but if you're looking for a fast ultra-portable at a reasonable price, the S8200 is worth considering.

DETAILS

PRICE £1,795.40 (£1,528 ex VAT)



CONTACT Hi-Grade 020 8532 6111 www.higrade.com

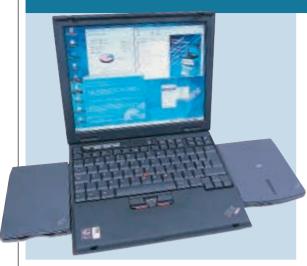
PROS Very fast; large hard drive

CONS Bad keyboard layout; some minor problems with the DVD

OVERALL A respectable laptop and one of the fastest on test this month with masses of storage, and grabs a Highly Commended award



IBM ThinkPad X20



IBM HAS ALWAYS been known for its jet-black laptops and the X20 is no different. Another thing IBM is famous for when it comes to laptops is build quality and durability and with the X20 there is little to fault.

The X20 is a compact unit but it's not as small as some of the competition. The keyboard layout is good, although, strangely, IBM has not included the 'Windows' keys. That said, in use the keyboard is up to IBM's usual high

ULTRA-PORTABLE

standard. As always IBM has employed a trackpoint as the input device. Whether you prefer this to a touchpad is pretty much a matter of taste.

The processor is yet again a 600MHz Intel Pentium III SpeedStep and IBM supplied 128MB of RAM with our review model.

Storage comes in the shape of IBM's own Travelstar drive with a capacity of 10GB. The display is a 12.1in TFT unit with a resolution of

1,024 x 768. Just above the display is a small light that illuminates the keyboard when activated - useful if you're typing in a dark environment.

IBM also makes the MicroDrive - a tiny hard disk in a Type II Compact Flash form factor. To cater for this there is a Type II Compact Flash slot built in to the X20 alongside a standard Type II PC

Where the X20 stumbles is expandability. Although IBM offers an

optional docking base, the X20 itself lacks many common ports. The full set of ports consists of a D-SUB, two USB, an RJ-11 for a modem and three audio connectors. The lack of an IrDA port was disappointing, but is becoming more common. Our review model also came with an external six-speed USB CD-ROM and a USB floppy drive.

IBM has supplied an excellent set of extra applications for things such as power management and general configuration of the laptop, making it easier to set up and manage.

The X20 is a solid machine that carries the kudos of the IBM brand. However, the equally branded HP Omnibook 500 leaves the IBM in the shade.

DETAILS

PRICE £1,860 (£1,583 ex VAT) **CONTACT** IBM 0800 169 1460

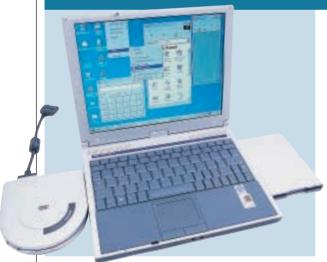
www..ibm.com/shop/uk

PROS That IBM quality feel; good keyboard CONS No IrDA; general lack of ports OVERALL If you're a fan of the ThinkPad range it's worth a look, but it's no match for the HP

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



NEC Versa Lite FXi



NEC MIGHT NOT BE the most wellknown notebook manufacturer in UK, but it has a wide range of laptops available. The Versa Lite FXi is NEC's ultra-portable offering. It is based on yet another 600MHz Pentium III SpeedStep processor with 128MB of RAM.

The main flaw with the Versa Lite has to be the 12.1in TFT display as it only manages an 800 x 600 resolution. The graphics chipset is a Lynx3DM with 4MB of graphics memory from Silicon Motion. **ULTRA-PORTABLE**

The Toshiba hard drive is a good 20GB and there is an external DVD drive from Matsushita that looks like a portable CD player, but sadly there is no option to use it as such because it doesn't come with any Play buttons, external power source or battery option.

The external floppy drive shares the same connector as the parallel port, which is supplied on a lead instead of being built in to the laptop.

The ports around the chassis consist of three

USB, the CD/DVD-ROM interface, D-SUB, RJ-11 for the modem, the parallel/floppy interface and frontmounted headphone and mic sockets.

All the ports have small flaps in front of them and having to move these every time you use the port is annoying. NEC has used rubber hinges on these flaps so they should be pretty robust.

Expansion is covered by two PC Card slots on the front left-hand side that will accept one Type III or two Type II cards.

The keyboard is a little disappointing and the layout leaves a lot to be desired. Both the Return and Backspace keys are much smaller than they need to be, which causes problems when typing at speed. There are also two quick-launch buttons above the keyboard that allow for easy access to your email and webbrowsing software.

Our review unit was supplied with the extended battery, which makes the laptop very chunky and adds to its overall dimensions.

Although the Versa Lite is not bad, it's marred by its low-resolution display and poor keyboard, while the relatively high price puts it further out of the running.

DETAILS

PRICE £1,820 (£1,549 ex VAT)

CONTACT NEC 0870 010 6322

www.nec-online.co.uk

PROS Small; two PC Card slots

CONS Poor keyboard; low-resolution display; no IrDA

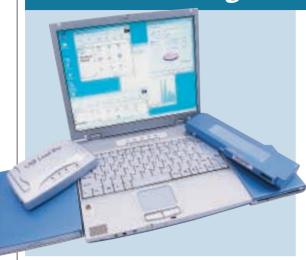
OVERALL With the competition offering higher specifications at lower prices, it's impossible to recommend the NEC





rockdirect.com Pegasus XS

ULTRA-PORTABLE



ROCKDIRECT.COM HAS supplied one of the smallest and lightest laptops in this group test.

But size isn't everything and the Pegasus XS can't compare to some of the competition when it comes to usability as well as ergonomics.

To start with, the keyboard is a little disappointing as the keys have very short travel and at times you find that letters are repeated when you're typing. The keyboard is also very cramped, with several keys in unusual places, and it lacks a good wrist rest.

As far as expansion ports go, the Pegasus XS has two standard USB ports as well as two laptop-specific mini-USB ports. rockdirect.com has supplied one adaptor to allow you to use a regular USB device in one of them. There is also a FireWire port and a standard D-SUB monitor connector hidden behind a small cover at the back.

A flap on the righthand side covers the

CD/DVD connector and an IrDA port is on the same side. On the left-hand side are the modem and network ports as well as a single Type II PC Card slot.

Graphics are supplied by an ATi Rage Mobility chipset with 4MB of video memory, while sound is provided by a Crystal solution. A soft modem and a Realtek Fast Ethernet card was built in to our review model. A DVD-ROM and a USB floppy drive come as standard, but several drive options are available.

The display is a very good 12.1in TFT unit with a resolution of 1,024 x 768, and a wide viewing angle. There is also a front-mounted battery meter so you can check how much charge the battery has without out even powering up.

Rounding the package off are two batteries and a USB breakout box that sports three USB ports and single parallel and serial ports.

rockdirect.com's laptop definitely fits the bill as far as ultra-portability is concerned, but due to the lacklustre keyboard it's really hard to recommend the Pegasus XS to anyone who will want to use it to type for extended periods on the move.

DETAIL

PRICE £1,892.93 (£1,611 ex VAT)

CONTACT rockdirect.com 0870 990 9090

www.rockdirect.com

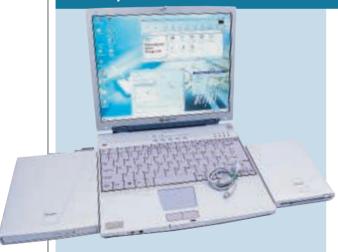
PROS Loads of extras; small and light CONS Poor keyboard; not as solid as some of the competition

OVERALL The Pegasus XS is one of the smallest laptops in this round-up but there are better models available elsewhere

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Sharp PC-AX20



SHARP SUPPLIED us with one of the smallest notebooks, but hardly the most innovative design as it's essentially the same as the AJP and the rockdirect.com. Sharp has, however, added a few of its own tweaks to make it slightly different.

The PC-AX20 is based on a 600MHz Intel SpeedStep processor, but strangely Sharp has only supplied 64MB of RAM. The lack of memory does not seem to be a cost-cutting measure as we set the price limit at £3,000 ex VAT.

ULTRA-PORTABLE

The hard drive is a reasonable 12.07GB model from Toshiba; this is far from the largest drive, but still offers plenty of space. There is also an external CD-ROM from Matsushita that connects to a proprietary interface and an external floppy drive that connects to one of the mini-USB ports on the right-hand side of the laptop.

There are two standard USB ports as well as two mini-USB ports, CD-ROM interface, D-SUB, IrDA, line out, mic

and the RJ-11 and RJ-45 connectors for the modem and network interface.

Sound is provided by an AC97 solution from Crystal. A clever feature is the front-mounted battery indicator that gives you a quick overview of how much charge there is in the battery.

Unfortunately the keyboard is as disappointing as the ones on the AJP and rockdirect.com notebooks, making it really tiresome to type on for long periods of time.

There are five programmable shortcut keys that allow for quick access to your own choice of programs.

Sharp has only supplied the standard battery, making the notebook feel lighter and smaller than when it's supplied with the long-life battery, but it does reduce the running time. There's no FireWire port as Sharp has removed this to save some cost, but at least the PC-AX20 comes with an IrDA interface.

The PC-AX20 doesn't offer anything to make it stand out from the crowd. Even compared to the almost identical rockdirect.com and AJP machines, the meagre memory and lack of FireWire port make the Sharp less attractive.

DETAILS

PRICE £1,874.13 (£1,595 ex VAT)

CONTACT Sharp 0800 262 958

www.sharp.co.uk

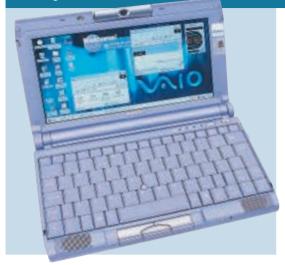
PROS IrDA interface; lightweight

CONS Disappointing keyboard; only 64MB of memory; no FireWire

OVERALL It may be cheap but the low memory compliment and poor keyboard put the Sharp out of the running



Sony PCG-C1VE



THE C1VE IS PRETTY much in a class of its own. It's not just the design that sets it apart from the competition though; it's also the only notebook in the test that isn't running an Intel processor. Instead the C1VE sports a Crusoe processor from newcomer Transmeta. This is a low-power chip that allows notebooks to run for longer on battery power. Although it's not a true x86 CPU the Crusoe translates x86 code into its native code, allowing it to run

ULTRA-PORTABLE

Windows and all its associated apps.

Backing up the 600MHz Crusoe is 128MB of memory, a 12GB hard drive and an 8MB ATi Rage Mobility graphics chipset.

Even though the battery life of the C1VE is impressive, performance is nothing to write home about. That said, the type of user who wants a device like this isn't driven by performance.

Despite its small size, the C1VE has a decent kevboard. Obviously it's

smaller than a full-size notebook, but once you've got used to it it's easy to type on. Pointer manipulation is taken care of by a trackpoint with three buttons at the front edge of the casing.

The 8.95in TFT screen has a widescreen aspect ratio with a corresponding resolution of 1,024 x 480. The screen is excellent, although some users may find the resolution too high for the size.

It may be small but the C1VE is very well featured. On the right you'll find a

jog dial for scrolling through and launching apps. There's also a USB port, a set of audio connectors, a VGA out (via an adaptor) and the power socket. On the left is a FireWire port, a Type II PC Card slot and a Memory Stick slot.

One final feature that's exclusive to the C1VE is the integrated digital camera mounted in the lid. This will take still images at 640×480 or video at 160×120 . There's even a button to take the pictures, complete with shutter sound.

The C1VE is a great product, but it's hard to compare it with the other machines on test. If you're looking for a full-blown Windows notebook that's as small as it can possibly be, this is it.

DETAILS

PRICE £1,499 (£1,276.59 ex VAT)

CONTACT Sony 0990 424 424

www.sony-europe.com

PROS Very small and light; power-saving CPU; digital camera; great design

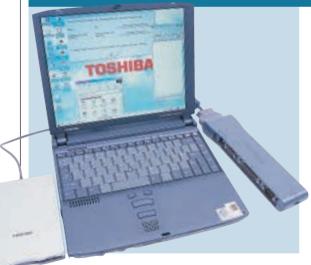
CONS Too small for some; slow performance **OVERALL** The C1VE is an excellent product, it's small, light well featured and reasonably priced. Just don't expect to use it as your main PC

BUILD QUALITY PERFORMANCE VALUE FOR MONEY OVERALL RATING



Toshiba Portégé 3480CT

ULTRA-PORTABLE



THE CHASSIS OF THE 3480CT is very thin and light, with a magnesium alloy lid to protect the screen. However, the battery does protrude slightly at the rear which adds to the size.

Beating at the heart of the Portégé is a 600MHz Pentium III SpeedStep backed up by 64MB of RAM. Performance isn't ground breaking, but that's not really what a machine like this is all about.

A single catch at the front releases the lid revealing a stylish grey interior.

The 11.3in TFT screen has a crystal-clear image at a resolution of 1,024 x 768. Driving the display is an S3 Savage chipset.

The Portégé doesn't fare quite so well in the keyboard area. The action is quite shallow due to its size, but you can achieve a decent typing rate before too long. The main problem is the keyboard layout. The worst culprit is the tiny Return key which is easily missed when typing at speed, while the small space bar doesn't help matters.

Pointer manipulation is handled by a very responsive trackpoint with well positioned selector buttons below the space bar. There are also two buttons for scrolling through documents.

Toshiba has squeezed in two stacked PC Card slots that can accept one Type III or two Type II cards. On the righthand side of the case are mic and headphone ports, a USB port covered by a rubber flap, an expansion port for the port replicator and a modem port. A

network port is conspicuous by its absence, although there is one on the port replicator along with parallel, serial, D-SUB, USB and PS/2. A full-size D-SUB allows connection to an external screen without an adaptor.

Bundled with the Portégé is a USB floppy drive, but there's no CD-ROM. That said, Toshiba notebooks are a favourite with corporate users where network installations are more common.

The 3480CT is a very stylish and well-built ultra-portable. Unfortunately, the excellent HP Omnibook 500 offers that little bit more in terms of features and value.

PRICE £1,937.57 (£1,649 ex VAT)

CONTACT Toshiba 01932 828 828

www.toshiba.co.uk

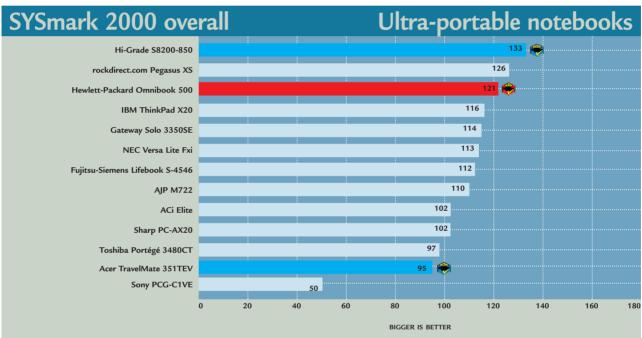
PROS Slim; stylish; light and well built CONS Mediocre performance; poor keyboard layout; no optical drive; no network port on the chassis

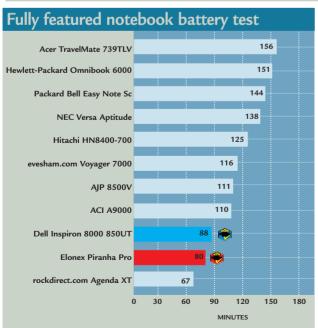
OVERALL A very attractive and well-built ultra-portable notebook, but the lack of network port and optical drive let it down

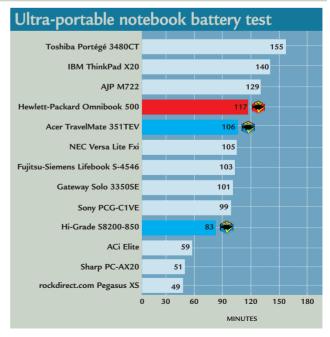








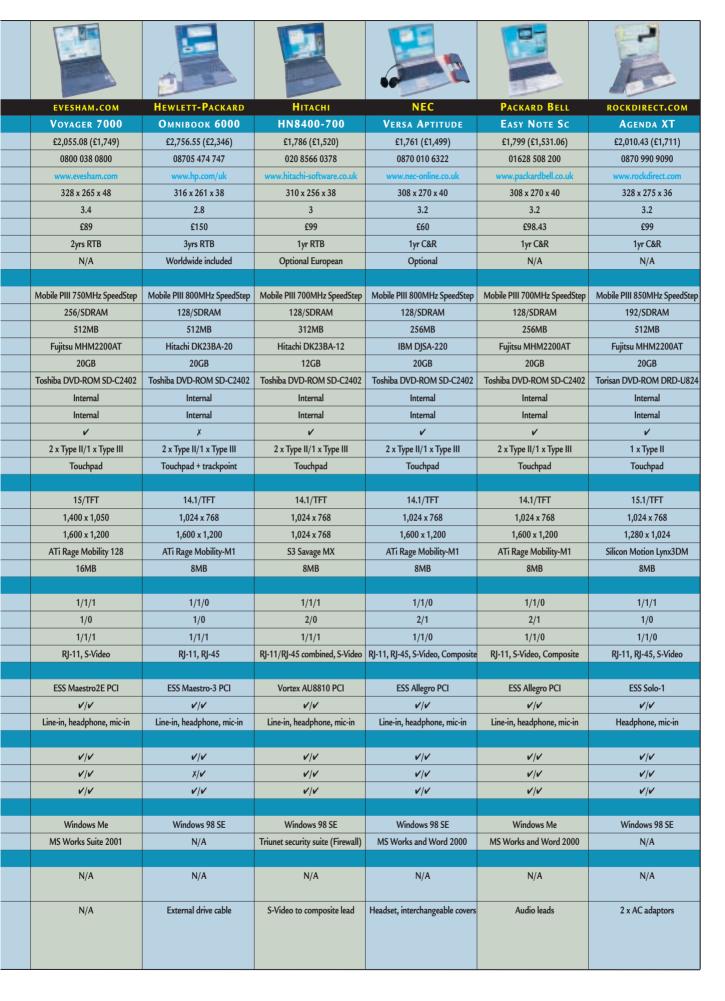






Fully featured notebooks

Table of features					Computer	
MANUFACTURER	Acer	ACı	AJP	DELL	ELONEX	
Model	TRAVELMATE 739TLV	A9000	8500V	Inspiron 8000 850UT	PIRAHNA PRO	
Price inc VAT (ex VAT) inc delivery	£3,523.83 (£2,999)	£2,163.18 (£1,841)	£2,046.85 (£1,742)	£2,642.58 (£2,249)	£3,049.13 (£2,595)	
Telephone	0870 900 2237	020 8830 1958	020 8208 9777	0870 907 5664	0800 037 4466	
URL	www.acer.co.uk	www.aciplc.com	www.ajp.co.uk	www.dell.co.uk	www.elonex.co.uk	
Dimensions (mm) (w x d x h)	324 x 271 x 41	322 x 276 x 42	358 x 280 x 50	330 x 274 x 47	308 x 241 x 28 (48 with bay)	
Weight with battery (kg)	3.2	3.4	4.3	3.7	3.7 (with bay), 2 (without bay)	
Price of extra battery ex VAT	£90	£129	£125	£79	£70	
Standard warranty	3yrs C&R	1yr RTB	1yr RTB	1yr C&R	1yr RTB	
International warranty	Worldwide included	N/A	N/A	Europe included	N/A	
HARDWARE		4	,		7	
Processor	Mobile PIII 850MHz SpeedStep	Mobile PIII 750MHz SpeedStep	Intel Pentium III Flip Chip 1GHz	Mobile PIII 850MHz SpeedStep	Mobile PIII 850MHz SpeedStep	
Memory fitted (MB)/type	128/SDRAM	192/SDRAM	256/SDRAM	256/SDRAM	192/SDRAM	
Max memory	256MB	512MB	512MB	512MB	320MB	
Hard disk manufacturer and model	IBM DJSA-220	Hitachi DK23AA-12	Hitachi DK23BA-20	IBM DJSA-232	Fujitsu MHM2200AT	
Hard disk size	20GB	12GB	20GB	32GB	20GB	
CD/DVD manufacturer and model	Toshiba DVD-ROM SD-C2402	Torisan DVD-ROM DRD-U824	Toshiba DVD-ROM SD-C2402	Toshiba DVD-ROM SD-C2402	Toshiba DVD-ROM SD-C2402	
Internal or external CD/DVD	Internal	Internal	Internal	Internal	External (in bay)	
Internal or external floppy	Internal	Internal	Internal	Internal	External (in bay)	
Simultaneous floppy and CD	v	V	V	v	V	
No of PC Card slots and type	2 x Type II/1 x Type III	2 x Type II/1 x Type III	2 x Type II/1 x Type III	2 x Type II/1 x Type III	1 x Type II	
Trackpoint/touchpad	Touchpad + scroll	Touchpad + scroll	Touchpad	Touchpad + trackpoint	Touchpad	
DISPLAY		·				
Size (in)/type	15/TFT	15.1/TFT	15/TFT	15/TFT	13.3/TFT	
Max internal resolution	1,024 x 768	1,024 x 768	1,400 x 1,050	1,600 x 1,200	1,024 x 768	
Max external resolution	1,280 x 1,024	1,280 x 1,024	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	
Graphics chipset	ATi Rage Mobility M1	S3 Savage 4	ATi Rage Mobility 128	ATi Rage Mobility 128 AGP 4x	ATi Rage Mobility-M	
Video memory	8MB	16MB	16MB	32MB	8MB	
Ports						
No of VGA/PS/2/IrDA	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	
USB/FireWire	1/0	2/1	2/1	2/1	1/0	
Serial/parallel/docking station	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	
Other	RJ-11, RJ-45,S-Video	RJ-11, RJ-45,S-Video	RJ-11, RJ-45, S-Video, Composite	RJ-11, RJ-45, S-Video	External drive port, RJ-11, RJ-45	
Sound						
Sound chipset	ESS Solo-1	Creative SB Audio PCI 64V	ESS Allegro PCI	ESS Maestro PCI Audio	Crystal SoundFusion CS4281	
Internal speaker/mic	V/V	V/V	V/V	V/V	V/V	
External sockets	Line-in, speaker-out, mic-in	Speaker-out, mic-in	Line-in, headphone, mic-in	Line-in, headphone, mic-in	Headphone, mic-in	
POWER MANAGEMENT						
ACPI/APM compliant	V/V	V/V	V / V	V/V	V/V	
Suspend to disk/RAM	√ /X	V/V	V/V	√ /X	V/V	
Auto suspend/hibernate	V/V	V/V	V/V	V/V	V/V	
Software						
Operating system	Windows 98 SE	Windows 98 SE	Windows Me	Windows Me	Windows Me	
Bundled software	N/A	N/A	MS Works, IBM ViaVoice	MS Office 2000 SBE	MS Office 2000 Pro	
OTHER INFORMATION						
Docking bar/expansion base ports	N/A	N/A	N/A	N/A	S/PDIF, PS/2, USB, mini + full-size FireWire, FDD/CD-RW/DVD bay	
Other	Acer USB webcam,	CD player controls and LCD	Headset microphone	Interchangeable palm rests,	Spare battery, HP Deskjet 350CBi	
Calci	fingerprint recognition	CD player collidors allu ECD	ricauset inicropriorie	S-Video , Sony CRX700E CD-RW	inkjet, Intel webcam, 2 AC	
	ingerprint recognition			C TIME JOSHIY CIVY OUL CD-IVV	adaptors, Logitech wheelmouse,	
					external drive cable, 2 docking bays	





Ultra-portable notebooks

	GOMPUTER			I		COMPUTER	
Table of features			-				
MANUFACTURER	ACER	ACı	AJP	FUJITSU-SIEMENS	GATEWAY	HP	
MODEL	TRAVELMATE	ELITE	M722	LIFEBOOK	Solo 3350SE	Омпівоок 500	
MODEL	351TEV	ELITE	141/22	S-4546	3010 333031	OMNIBOOK 300	
Price inc VAT (ex VAT) inc delivery		C1 910 69 /C1 514\	C1 722 12 /C1 /75\		C2 265 40 (C1 020)	C2 195 50 (C1 960)	
, , ,	£1,996.33 (£1,699) 0870 900 2237	£1,810.68 (£1,514) 020 8357 1116	£1,733.13 (£1,475) 020 8208 9744	£2,274.80 (£1,936) 01344 475 555	£2,265.40 (£1,928) 0800 973 132	£2,185.50 (£1,860) 08705 474 747	
Telephone URL	www.acer.co.uk	www.aciplc.com					
Dimensions (mm) (w x d x h)	292 x 234 x 21	287 x 234 x 24	www.ajp.co.uk 169 x 218 x 24	www.fujitsu-siemens.com	272 x 220 x 26	www.hp.com/uk 279 x 279 x 38	
, ,, ,	1.8	1.6	1.5	1.75	1.63		
Weight with battery (kg) Price of extra battery ex VAT	£90	£95	£125	£75	£75	1.6/2.3 £130	
,	1yr C&R				1yr RTB	1yr RTB	
Standard warranty	,	1yr RTB	1yr RTB	3yrs C&R	•		
International warranty	Worldwide included	N/A	N/A	Europe included	Worldwide included	Worldwide included	
HARDWARE	ZOOMUL Cookies DIII	COOMIL MAL'IL CALANA	750MH C C DIII	COOMIL Cools Cool DUI	COOMIL C IC DIII	COOMIL Is always	
Processor	700MHz SpeedStep PIII	600MHz Mobile Celeron	750MHz SpeedStep PIII	600MHz SpeedStep PIII	600MHz SpeedStep PIII	600MHz low-voltage	
Mannani City L (MAD) (120/DC100 CDD 114	102/06/100 65544	102/06400 600444	120/DC100 CDD114	100 /PC100 CDD414	SpeedStep Pentium III	
Memory fitted (MB)/type	128/PC100 SDRAM	192/PC100 SDRAM	192/PC100 SDRAM	128/PC100 SDRAM	128/PC100 SDRAM	128/PC100 SDRAM	
Max memory	512MB	192MB	192MB	256MB	256MB	512MB	
Hard disk manufacturer and model	IBM Travelstar	Hitachi DK23AA-12	Toshiba MK2016GAP	Toshiba MK1016GAP	Toshiba MK2016GAP	Hitachi DK23BA-10	
Hard disk size	10.6GB	12.07GB	20GB	10GB	20GB	10GB	
CD/DVD manufacturer and model	Matsushita SR-8175	Matsushita CR-176	QSI SCR-242	Toshiba SD-C2402	Toshiba SD-C2402	Teac CD-224E	
Internal/external CD/DVD interface		External	External	Internal	External	Internal (docking base)	
Internal or external floppy	External	External	External	External	External	Internal (docking base)	
Simultaneous floppy and CD	V	V	V	V	Х	✓ (with docking base)	
Number of PC Card slots and type	1 Type II Cardbus	1 Type II Cardbus	1 Type II Cardbus				
Trackpoint/touchpad	Touchpad	Touchpad	Touchpad	Touchpad	Touchpad	Trackpoint	
DISPLAY							
Size (in)/type	13.3/TFT	12.1/TFT	12.1/TFT	12.1/TFT	12.1/TFT	12.1/TFT	
Max internal resolution	1,024 x 768	800 x 600	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768	
Max external resolution	1,600 x 1,200	1,280 x 1,024	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	1,600 x 1,200	
Graphics chipset	Trident CyberBlade	Trident Cyber9525DVD	ATi Rage Mobility PCI	ATi Rage Mobility PCI	ATi Rage Mobility	ATi Rage Mobility-M AGP	
Video memory	4/8MB shared system RAM	2.5MB	4MB	4MB	4MB	8MB	
Ports							
Number of VGA/PS/2/IrDA	1/1/1	1 (on cable)/0/0	1/0/1	1/0/1	1/1/0	1/0/0	
USB/FireWire	2/1	3/0	4/1	2/0	1/0	2/0	
Serial/parallel/docking station	0/0/1	0/0/0	0/0/0	0/0/1	1/0/1	0/0/1	
Other	RJ-11/RJ-45/smart card slot	RJ-11/RJ-45	RJ-11/RJ-45/ext CD	RJ-45/RJ-11	RJ-11/RJ-45/ext CD	RJ-45/RJ-11	
Sound							
Sound chipset	ALi Audio Accelerator	ESS Allegro	Crystal AC97	Yamaha AC-XG	ESS Allegro	ESS Maestro PCI	
Internal speaker/mic	Mono/✔	Stereo/✔	Mono/ √	Stereo/✔	Mono/✔	Mono/✔	
External sockets	Line-in/out	Headphones/mic	Headphones/mic	Headphones/mic/line-in	Headphones/mic	Headphones/mic	
POWER MANAGEMENT							
ACPI/APM compliant	V/V	V/V	V/V	V/V	V/V	V/V	
Suspend to disk/RAM	V/V	V/V	V/V	V/V	<i>V</i> / <i>V</i>	V/V	
<u> </u>			. / -	- / -	· · · · · · · · · · · · · · · · · · ·	V/V	
I Auto suspend/ninernare		VIV	VIV	VIV	V/V		
Auto suspend/hibernate	V/V	V/V	V/V	V/V	V/V	7.	
SOFTWARE	V/V	,		,		,	
SOFTWARE Operating system	V/V Windows Me	Windows 98	Windows Me	Windows 98	Windows 98	Windows 98	
SOFTWARE Operating system Bundled software	V/V	,		,		,	
SOFTWARE Operating system Bundled software OTHER INFORMATION	V/V Windows Me IBM ViaVoice	Windows 98	Windows Me MS Works Suite 2000,	Windows 98 MS Works Suite 2000	Windows 98 MS Works Suite 2000	Windows 98 N/A	
SOFTWARE Operating system Bundled software	V/V Windows Me	Windows 98 N/A 2 x PS/2/serial/	Windows Me	Windows 98 MS Works Suite 2000 2 x PS/2/D-SUB/USB/	Windows 98	Windows 98 N/A 2 x PS/2/2 x USB/	
SOFTWARE Operating system Bundled software OTHER INFORMATION	V/V Windows Me IBM ViaVoice	Windows 98	Windows Me MS Works Suite 2000,	Windows 98 MS Works Suite 2000 2 x PS/2/D-SUB/USB/ serial/parallel/	Windows 98 MS Works Suite 2000	Windows 98 N/A 2 x PS/2/2 x USB/ serial/parallel/D-SUB/	
SOFTWARE Operating system Bundled software OTHER INFORMATION	V/V Windows Me IBM ViaVoice	Windows 98 N/A 2 x PS/2/serial/	Windows Me MS Works Suite 2000,	Windows 98 MS Works Suite 2000 2 x PS/2/D-SUB/USB/	Windows 98 MS Works Suite 2000	Windows 98 N/A 2 x PS/2/2 x USB/	



parallel/serial

Extended battery

N/A

N/A

N/A



Camera, PC Card modem

N/A

parallel/serial/audio out

N/A

Editor's Choice

he fully featured and ultraportable markets are very different so we have awarded accolades in both categories.

There was a good selection of notebooks in both sections making the final decisions difficult. Some fully featured notebooks worthy of mention are The Acer TravelMate 739TLV with its good build quality and fingerprint security system but high price; and the well-rounded, well-finished ACi A9000 that was overshadowed by the winners.

The winners

In the end, the Editor's Choice had to go to the Elonex Pirahna Pro. For the money, it comes with a high level of functionality. There's a CD-RW for backups, a printer and a webcam, but what really separates this notebook from the rest are the two bundled docking bays that allow you to enjoy the features

of a desktop both at home and at work with only a 2kg machine to carry around. The screen, although a bit smaller than the others in this section, operates at a 1,024 x 768 resolution that basically gives you the same desktop space as a 17in monitor. In addition, build quality is good and there's also a copy of Office 2000 Professional.

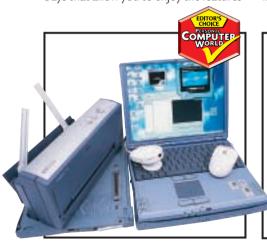
Claiming the Highly Commended accolade is the Dell Inspiron 8000 **850UT**. At £2,249, this is a true desktop replacement. Not only is there an 850MHz processor, 256MB of RAM and a 32GB hard drive, there's also a 32MB graphics chipset, a 15in TFT that runs at a sharp 1,600 x 1,200 resolution, and a CD-RW. Topping this impressive featureset off is a quality keyboard, all the ports you're likely to need, plus Microsoft's Office 2000 Small Business Edition.

When it came to choosing the winner in the ultra-portable category, we had no doubts that the Editor's Choice would go to the Hewlett-Packard Omnibook **500** as it offers one of the most versatile solutions that we have seen. The Omnibook 500 offers the best of both worlds as it can double as a desktop replacement with the docking base if the display size is of no great importance. It's a beautifully crafted machine on its own and has a very good battery life when used without the docking base.

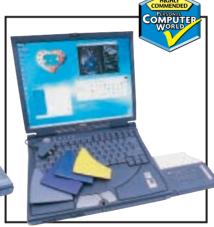
The specifications might not be the highest, but for the price you get a complete solution with good expansion capabilities. We are very impressed with the Omnibook 500's build quality and overall feel, together with an excellent keyboard. At a price of £1,860 ex VAT it offers great value for money too.

The first ultra-portable Highly Commended award goes to the Acer TravelMate 351TEV as it offers one of the most secure laptop solutions available. It's also reasonable value for money at £1.699 ex VAT as it's supplied with a DVD-ROM and floppy drive as standard. The 351TEV has the second best keyboard among the ultraportables. This and the display are two of the most important features on an ultra-portable, together with battery life, and Acer has succeeded very well here.

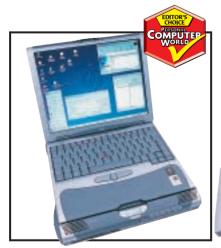
The second Highly Commended goes to Hi-Grade's S8200-850, which was the fastest machine out of the ultraportable notebooks. It ships with an 850MHz processor and performs very well in our benchmarks. The complete bundle is available at an amazing £1,528 ex VAT providing great performance and impressive value for money.



Two docking bays gave Elonex the prize



Dell's Inspiron is a true desktop replacement



Versatile Omnibook 500 takes the crown



Acer's 351TEV is extremely secure



Hi-Grade's S8200: fastest ultra-portable