

Note

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• Notebooks tested and reviewed by Riyad Emeran, Jason Jenkins and Will Head.

book

nirvana

If you're one of those people who spends half their **life on the go**, the chances are you'll have given serious thought to getting a notebook. And whether it's the power of desktop-replacement models or the portability of ultra-slim machines you're looking for, we've got something for you.

When you buy a desktop system, you're pretty certain what you're going to get. You can configure the system yourself, specify most of the components if you so wish – and if you find you've left something out six months down the line, then it's simply a matter of purchasing the part you want and plugging it in. Notebooks, however, are a completely different kettle of fish. In order to keep the size down and the battery life up, certain sacrifices have to be made. The main problem is that each manufacturer has a different view of what should be saved and what should be cut. The result is that the notebook market is awash with lots of different designs.

To make the job easier we split this group test into two sections: fully-featured and ultra-portable. In the fully-featured section we were looking for a mobile Pentium III processor, at least 64MB of RAM, minimum 13.3in screen and at least a 6GB hard drive. For the ultra-portable section only two things mattered, the machine had to be slim and it had to be sexy – performance was less of an issue. We invited 18 manufacturers to submit machines in either section; read on to find out what the best mobile solution is for you.

ratings

★★★★★	EXCELLENT
★★★★	VERY GOOD
★★★	AVERAGE
★★	BELOW AVERAGE
★	POOR

PHOTOGRAPHY: DAVID WHYTE

ACi Aspect

FULLY-FEATURED



THE ASPECT HAS A LOT in common with AJP's entrant. It is cheaper though, and has a more intelligent choice of processor – a mobile Pentium III 500MHz – as opposed to AJP's 550MHz Flip Chip. It has the same amount of memory, at 128MB. The fact that there is a mobile rather than a Flip Chip in it means that you get all the benefits of lower power consumption and lower heat levels. It also means that it can run

more quietly, as the fan does not need to run as fast or as often. A generous 12GB IBM Travelmate hard drive is supplied which should see most users through the demands of everyday use. A DVD is also present – and this should play movies with the supplied Cinemaster player, as well as read any DVD software you may buy. There's also a modem port for connecting to the Internet when you're on the move.

The screen is fairly average. We thought it was a bit dull when compared to some of the best TFTs here, but the focus is sharp. There are small dark patches in the corners, depending on which angle you tilt the screen. The native resolution is a healthy 1,024 x 768. It will be adequate for most people, but there are better examples here.

The keyboard is fairly good, but again, there are better examples in this section. The keys travel further than some of the other models, but we found them to be a bit too hard and inflexible to be comfortable for long periods. The touchpad is positioned slightly left of centre. This gives you

more room to rest your right hand when typing, which we found comfortable, but will affect different people in different ways depending on your typing style.

A floppy drive is in a bay to the left, ensuring that everything's at your fingertips all the time. Next to this is one Type III and two Type II PC Card slots. There are also two USB ports, and even a full-size FireWire port at the rear. Unusually, where there should have been an infrared port, the slot was covered with a piece of plastic.

The Aspect isn't a bad model for the price, but it doesn't win any awards against this level of competition.

DETAILS

PRICE £1,850.63 (£1,575 ex VAT)

CONTACT ACi 020 8830 1958

www.aciplc.com

PROS DVD included, mobile Pentium III, lower price than AJP's, FireWire port

CONS Display not the best here, no infrared

OVERALL Not the best, but for the money not a bad effort

BUILD QUALITY	★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

AJP 3300CDF

FULLY-FEATURED



THE AJP 3300CDF looks rather similar to the ACi Aspect above, although there are a couple of differences. Rather than opt for the more expensive mobile processor, AJP has decided to use a full-size Pentium III Flip Chip clocked to 550MHz. There's also 128MB of RAM as standard, helping it to achieve a score of 107 with SYSmark 2000.

The chassis is 32.2cm wide by 26cm deep with a height of 4.5cm. These

dimensions mean that a reasonable keyboard has been incorporated into the body, the only major problem being the position of the 'Fn' key where you would expect to find 'Ctrl', which can become infuriating after extended use. To guide the pointer around the screen, there is a touchpad situated below the spacebar.

On the left-hand side of the machine is space for one Type III or two Type II PC Cards, as well as the floppy drive and the heat outlet for the processor. On the opposite side is the DVD-ROM, headphone, mic and line in sockets, modem connector and a blanking plate where we assume the IrDA lens should be.

At the rear of the unit, you'll find two USB, one PS/2, a docking connector, one serial, one parallel, one D-SUB and an S-Video connector. The front of the machine is completely barren of ports and lights.

The 14.1in TFT screen can be pushed up to a maximum resolution of 1,024 x 768 and provides a reasonable image. Unfortunately, the lid seemed a little

fragile and adjusting the screen caused visible rippling due to the flexing of the TFT panel.

The use of the Flip Chip instead of a mobile processor meant that the 550MHz chip produced a fair amount of heat. Most of this was exhausted through the grate on the left-hand side of the machine, but the keyboard did become noticeably hot to the touch after only a short period of use. The fan was also quite noisy and noticeable even with office background noise. The use of the Flip Chip should have saved some money but it was hard to see where this saving has gone.

DETAILS

PRICE £1,895.28 (£1,613 ex VAT)

CONTACT AJP 020 8208 9777

www.ajp.co.uk

PROS DVD-ROM

CONS Non-mobile CPU, produced a fair amount of heat

OVERALL Using a standard CPU produces more heat and drains more power; there are better machines available in this test

BUILD QUALITY	★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Dell Inspiron 7500

FULLY-FEATURED



THE INSPIRON 7500 has taken the term desktop replacement very seriously. The unit is huge and we'd pity anyone who had to carry it with them for any length of time. That said, the screen is fantastic. At 15.4in this Dell has the largest display of all the notebooks on test. However, it's not just the physical size of the screen that's impressive, the resolution is also a cut above the rest. The highest resolution that any of the other notebooks offer is 1,024 x 768,

even the ones with 15in screens. But the Inspiron 7500 will happily display an image at 1,280 x 1,024, giving you far more desktop real estate. Unfortunately, when the machine arrived, Dell had set the resolution to 1,024 x 768, making the display look blurred and fuzzy because of the anti-aliasing employed when dropping the resolution. This is quite disappointing since many users may not even realise that the machine is running below par. Only the blurred text made us aware that the Inspiron was not running at its optimum resolution.

Beating at the heart of the Inspiron is a 500MHz Pentium III backed up by 128MB of RAM. The hard disk is a substantial 18GB, but the 7500 has another trick up its sleeve. The expansion bay at the front of the unit will accept EIDE devices when the notebook is connected to the mains, and a unit this size will almost always be running off AC power. This means you can put any capacity EIDE hard disk in the 7500.

Also situated at the front is a combined DVD and floppy drive. This

combination unit is easily accommodated by the thick chassis.

Although the quality of the screen is second to none, the other ergonomic qualities leave a little to be desired. The thick chassis puts your hands at an awkward angle when you're typing and the keyboard feels almost too large. Also, the keyboard is fairly insubstantial compared to some of the other units on test. Thankfully, the touchpad is very good and it's placed far enough away from the space bar to avoid inadvertent text selection.

The Inspiron 7500 comes close to being the ultimate desktop replacement, but ergonomic issues get in the way.

DETAILS

PRICE £2,231.32 (£1,899 ex VAT)

CONTACT Dell 0870 152 4850

www.dell.co.uk

PROS Huge, high-resolution screen, 3.5in drive bay

CONS It's massive and heavy, poor keyboard

OVERALL It's big and heavy, but if screen size is paramount it's worth considering

BUILD QUALITY	★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Evesham Micros Voyager 6000

FULLY-FEATURED



THIS IS THE FIRST of the notebooks to feature the new Intel SpeedStep processor, and it turns in a pretty-impressive performance. It achieved exactly the same SYSmark 2000 score as the Gateway Solo 9300LS, but has more memory at 128MB compared to the latter's 96MB. It has a 6.4GB hard drive, which is fairly standard in this company. It is the cheapest SpeedStep model here, and isn't bad for the money, but unfortunately it does have a few

serious failings. The screen, for one, is not the best. On the positive side, it has a native resolution of 1,024 x 768. However, it is fairly dim compared to some of its competitors, and this put a bit of a strain on our eyes after looking at it for a long period of time.

The keyboard is a good size and very similar in layout to a standard desktop QWERTY keyboard. The keys themselves are fairly responsive, but the supporting base moves every time one is pressed, giving a disconcerting impression of instability. The touchpad is as responsive as any of the others here, but the selector

buttons are a bit of a pain to use. They have to travel further than others before they make contact, meaning that you have to give each one quite a shove before it does anything, and this becomes quite tiring.

The rest of the notebook is better designed. A Toshiba DVD sits in a bay to the right, together with a li-ion battery that can be easily removed by undoing a catch. The battery has a set of four LEDs on it, which illuminate when a button is

pressed to give you a visual indication of how much charge is remaining. A floppy drive resides on the left together with one Type III and two Type II PC Card slots, a modem port and an S-Video out port. Graphics are supplied by an 8MB ATi Rage Mobility chip. A fold-away flap at the rear covers the D-SUB, parallel, serial and docking station ports. This also houses the PS/2, single USB and two audio ports.

Overall this is not a bad notebook by any means, but the quality of the screen, keyboard and selector buttons detract from what would otherwise be an excellent purchase.

DETAILS

PRICE £1,996.33 (£1,699 ex VAT)

CONTACT Evesham Micros 0800 038 0800

www.evesham.com

PROS Fast processor, loads of memory, DVD included

CONS Keyboard, selector buttons and display could be better

OVERALL A good price to pay for the latest processor, but not the best built unit here

BUILD QUALITY	★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Fujitsu Siemens Lifebook E-6530

FULLY-FEATURED



managed to fit both floppy and CD-ROM into the thin case, but you can swap them about and use the floppy simultaneously via the supplied cable. A cover is provided for the floppy, so it doesn't have to sit there in all its naked glory. One slightly irritating point is that you can't attach the CD-ROM using the same cable if the floppy is in the drive bay.

The Lifebook's most important differentiating feature is its security. The machine came with a shortcut on the desktop to set up the system security. You choose a five-figure number

from a combination of numbers from one to four. Once this is set up, you can't turn on your system without entering the correct code into the keypad at the front: it won't even get to the BIOS screen. If you forget your number, though, you have to send it back for repair. The hard drive is not encrypted, however, which means that someone could potentially remove your hard drive and access your data without knowing the code.

The standard array of ports is present, including two Type II PC Card

THE MOBILE PENTIUM III 500MHz processor inside this notebook, combined with 64MB of RAM, produced the slowest SYSmark score of the fully-featured machines tested. This aside, however, the Lifebook is a well-built unit with some unusual features. The 14in display is a bright, clear TFT model, with no dead pixels evident in our review model. The touchpad is comfortable and responsive to use, with rounded buttons that are easy to reach and press. Fujitsu Siemens hasn't

slots and a docking station port. The audio ports are handily located at the front together with a volume slider that allows you to adjust the internal speaker volume without entering Windows. The bundled software is Microsoft Word 2000 and Intel's LAN Desk Manager for the optional docking station. Home users may prefer a fully-featured office suite, but the corporate clients that this unit is aimed at are likely to want to install their own software.

Overall, this is a very good notebook that is designed well for its target corporate market, but there are slightly better deals here.

DETAILS

PRICE £2,579.13 (£2,195 ex VAT)

CONTACT Fujitsu Siemens

01344 475 555 www.fjcomp.com

PROS Good extra security feature, good screen

CONS Hard drive not encrypted, only 64MB of RAM makes it slower than others

OVERALL A good desktop replacement with more security than most, but a bit pricey for the basic hardware spec

BUILD QUALITY	★★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★★

Gateway Solo 9300 LS

FULLY-FEATURED



notebook, but given the sort of features it boasts, you'll need this and more.

The Solo is certainly packed with an excellent array of features that make it a desirable product. Starting with the basics, the 15in screen is very good – bright, clear, with no dead pixels and an adequate plastic bezel. The fact that the bezel is comparatively thin makes the display look slightly larger than others in this test.

The keyboard is well laid out and is close to full size. You can type on it fairly quickly and accurately, but some of the keys were not as responsive as we

would have liked and felt a little loose. The touchpad is easy to use and the selector buttons are responsive. Gateway has dotted several shortcut buttons around the unit. Volume up and down and mute buttons sit on one side of a row of indicator lights. There are also shortcuts to your email program, help files and your web browser, all of which can be configured.

At the front there are four controls for DVD or audio CD-ROM. The

THIS ENTRY FROM GATEWAY is fantastic value and would make an excellent buy for those who are looking for power, but are on a budget. It has a couple of faults, but for the price it really can't be criticised.

The Solo is the second notebook in this test to have the new Intel SpeedStep processor, and this one runs at the same speed as Evesham's: 600MHz. It has less memory, though, at 96MB. A 12GB hard disk is a fairly large drive for a

DVD-ROM drive and floppy are mounted next to each other on the left-hand side of the unit.

The real bonus in this system is the fact that you can do basic video-editing, using the supplied ATI Mobility graphics chip with 8MB of memory. There are composite video in and out ports, but if you've got a DV camcorder you can use the FireWire port. There's even an optical digital out port for digital sound mastering. There's a modem port and two USB connectors on the right-hand side. If you can live with the 3.5kg weight, this is a great machine.



DETAILS

PRICE £2,407.58 (£2,049.58 ex VAT)

CONTACT Gateway 0800 55 2000

www.gateway.com/uk

PROS Fast processor, large hard drive and good screen

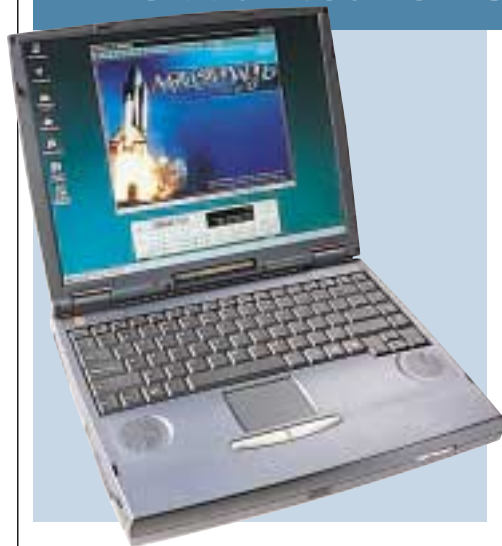
CONS Keyboard could be slightly better, quite heavy

OVERALL An excellent desktop replacement that's brilliant value for money

BUILD QUALITY	★★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★★

Hi-Grade Notino AS7400-500

FULLY-FEATURED



so that the brightness was even across the whole display. The screen was darker at the top and lighter at the bottom. The keyboard provides most keys directly with only a few needing the 'Fn' modifier and the layout is sensible. To move the pointer around the screen, a touchpad is provided below the keyboard. Unfortunately, the pad is a little too close to the spacebar, resulting in occasional cursor relocation.

As the AS7400 was entered into the fully-featured category it was not the most petite on trial, at 2in high. The flip-down back panel has a useful sliding cover over the docking connector, so the whole panel doesn't have to be opened when docking. The rear IrDA lens is also visible without having to remove the back panel. Under the cover you'll find a joystick port, D-SUB video out, one USB, one network connector, one serial, one parallel, one PS/2 and an S-Video connector. One the right-hand side of the machine you'll find the DVD-ROM drive and battery bay, while on the left there is one Type III or two Type II PC Card slots, standard audio connectors,

THE NOTINO AS7400 is based on a mobile Pentium III running at 500MHz, with 128MB of RAM. In terms of performance, the Hi-Grade was near the top of the group – beaten only by the SpeedStep machines.

The 14.1in screen can stretch to a maximum resolution of 1,024 x 768, with the graphics processing provided by ATI's Rage Pro chipset. The screen itself was not the best in the group test and it wasn't possible to position it

a volume control, floppy drive and the internal hard-drive bay. Somewhat alarmingly it was possible to remove the drive easily while the computer was running. Closer examination revealed that the mechanism to secure the drive was not present on the review unit we were supplied. The internal battery is somewhat harder to remove, however, featuring a locking mechanism inside the compartment that must be released. At the front of the unit you'll find a second IrDA port, which is thoughtful, and the on/off switch.

The AS7400-500 is generally a good machine, but the lack of hard-disk lock on our model was a serious oversight.

DETAILS

PRICE £2,066.82 (£1,759 ex VAT)

CONTACT Hi-Grade 020 8532 6100

www.higrade.com

PROS Good performance, good keyboard

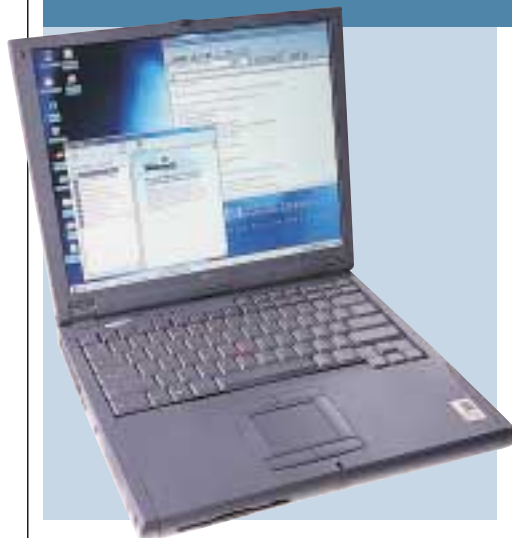
CONS Uneven brightness on screen, no lock on internal hard drive on review unit

OVERALL The Notino AS7400-500 is a decent machine, but a lack of attention to detail has let it down

BUILD QUALITY	★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

HP Omnibook 4150B

FULLY-FEATURED



feature on or off, and will also warn you when the performance is about to be changed. There's 128MB of memory fitted as standard on this high-end model. There's also a massive 17GB hard disk drive that helps to make this machine viable as a genuine desktop replacement.

Build quality is excellent. HP has built both a trackpoint and a touchpad into the unit, and two sets of selector buttons are positioned above and below the touchpad. This means that there's quite a lot of empty space underneath the keyboard, but it also provides a handy rest for your hands. The keyboard is generally well laid out, with our only small

complaint being that the Return key is smaller than the Shift key below it, meaning that it's a bit too easy to press Shift instead of Enter.

The 14.1in TFT screen is excellent. At its native resolution of 1,024 x 768 it is bright and clear, and no dead pixels were evident. If you put the resolution any lower, it displays the image in a smaller window on the screen that ensures that all of the images and text stay in proportion. There are two bays located

THIS IS ONE OF THE FIRST notebooks to feature Intel's new SpeedStep system, and it's a fantastic application of an excellent technology. This allows the 650MHz processor to run at two different clock speeds, depending on whether the unit is plugged into the mains or not. You can set how you want the processor to behave in the BIOS, and there's also a handy SpeedStep tab under power management that allows you to turn the

at the front of the notebook – one for the li-ion battery and one drive bay. Our unit came with a DVD drive that did not combine well with the supplied MPEG2 decoder software, producing a poor performance when watching movies. If you want to use the DVD and floppy at the same time, you'll need to buy a separate cable at a cost of £10. Around the chassis you'll find one Type III or two Type II PC Card slots, a PS/2 port, USB, infrared, serial, parallel, D-SUB and a docking station port.

Unfortunately, the biggest drawback is its high cost. If you can afford it though, you'll be buying a cutting-edge mobile machine.

DETAILS

PRICE £3,536.75 (£3,010 ex VAT)

CONTACT Hewlett-Packard
0990 47 47 47 www.hp.co.uk

PROS The fastest machine here, good screen and keyboard

CONS Price, you have to buy a cable for simultaneous floppy and DVD

OVERALL An excellent desktop replacement if you can afford it

BUILD QUALITY	★★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Samsung GT7000XV

FULLY-FEATURED



large Caps Lock key, that meant it was easy to slip into capitals accidentally. The pointing device takes the form of a touchpad that was accurate and easy to use, with taps and double taps being accurately interpreted. The position of the touchpad was far enough from the keyboard and suitable recessed, so that any unintentional use while typing was unlikely.

The 15in TFT screen supports a native resolution of 1,024 x 768 which is fairly standard for a display of this size. Unfortunately, we were unable to position the screen so that the brightness was even across the whole display. As a result the screen tended to be darker at the top and brighter at the bottom.

The internal hard drive provides 9GB of storage and there is a standard non-removable floppy drive on the left of the chassis. The front houses a bay that was occupied by a CD-ROM in our review machine (although the system will ship with a DVD-ROM). An LS-120, ZIP or second hard drive are all available as options. Two Type II PC Cards or one Type III can be accommodated at any

THE SAMSUNG GT7000 is built around Intel's mobile Pentium III processor running at 500MHz, with 128MB of SDRAM sitting in one of the two available SODIMM sockets. This specification helped the Samsung achieve a reasonable score of 108 in our SYSmark 2000 tests.

In terms of usability, the keyboard layout was good, with the most commonly used keys in sensible places. The only major problem was the rather

one time, while at the rear of the machine you'll find one PS/2 port, an S-Video-out connector and power in. Under a drop-down flap there is one D-SUB video, one serial, one parallel and a docking bay connector. There is also a discreet slide cover for the docking connector, so it can be accessed without having to open the whole flap. The left side of the machine plays host to the modem connector, two USB ports, mic, headphones and line in as well as an IrDA port.

The Samsung is a decent enough fully-featured notebook, but the slightly disappointing screen and comparatively slow processor make it look a little under-specified in its present company.

DETAILS

PRICE £2,936 (£2,499 ex VAT)

CONTACT Samsung

020 8391 0168

www.samsungelectronics.co.uk

PROS Multi-function bay, 128MB RAM

CONS Uneven brightness on screen

OVERALL A good contender, but there are better machines in the test

BUILD QUALITY ★★★

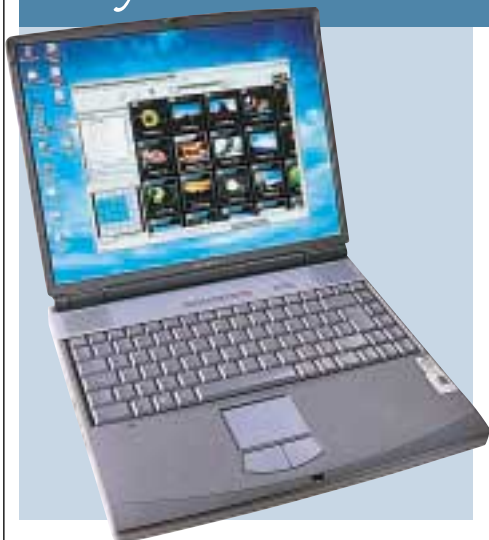
PERFORMANCE ★★★★★

VALUE FOR MONEY ★★★

OVERALL RATING ★★★

Sony Vaio PCG-F309

FULLY-FEATURED



using the F309 as your primary machine for extended periods of time. Driving this superb screen is a 2.5MB NeoMagic graphics chipset, that will give you a maximum resolution of 1,280 x 1,024 on an external monitor, albeit with 256 colours.

The rest of the specification is also high-end, with a 500MHz Pentium III CPU backed up by 128MB of SDRAM. With a spec like this the F309 can do anything that a desktop machine can, although to be honest it has one up on most desktops – digital video-editing facilities. From launch, Sony has included a FireWire or IEEE1394 port on its

SONY'S ENTRY INTO THE fully-featured category may not be as sexy as its ultra-portable 505SN, but it's still a very desirable product. This really is a fully-featured notebook in every sense of the word. The first thing that strikes you about the F309 is the massive 15in TFT screen. This is one of the best notebook displays we have ever seen, with incredibly even lighting across its surface and bright and vibrant colour. With a display like this you'd have no problem

notebooks. This means that digital video can be transferred to the notebook still in its digital format for editing – and then shipped back to DV tape with no loss of quality. Although mobile digital video-editing is a niche market, it's good to have the option and Sony has installed a 12GB hard disk to make the idea seem even more viable.

The keyboard is exceptional, the keys are full size and the feel is very solid and responsive. Likewise the touchpad is

very high quality making any type of input a breeze.

Both the floppy drive and the DVD-ROM drive are internally mounted in the chassis so there's no need to swap between peripherals. There's a full array of ports around the casing including IR, audio, FireWire, two USB, PS/2 and one Type III or two Type II PC Card slots.

Inside the box you'll also find a 56K PC Card modem and a video-output cable, in case you want to watch DVDs on your TV.

On the whole the PCG-F309 is a great fully-featured notebook, it may not be as fast as the 650MHz HP, but it's beautifully built and can be used for digital video-editing.

DETAILS

PRICE £3,300.57 (£2,809 ex VAT)

CONTACT Sony 0990 424 424

www.sony.co.uk

PROS Great build quality, feature-packed

CONS Relatively expensive

OVERALL A very impressive fully-featured notebook, but the Gateway offers better value for money

BUILD QUALITY ★★★★★

PERFORMANCE ★★★★★

VALUE FOR MONEY ★★★★★

OVERALL RATING ★★★★★

Acer TravelMate 342T

ULTRA-PORTABLE



The display itself is adequate, but compared to others here it is slightly dull with poorer focus. The keyboard is very well laid out. Acer has made the most of the space with most of the keys placed in similar positions to a standard keyboard to help you find your way around it. The touchpad is large enough to use comfortably and is responsive to the touch, while the selector buttons are easy to reach. Between the left and right buttons, Acer has squeezed a small rocker that, when each end is pressed, enables you to scroll through the open window as if using a wheelmouse.

THIS NIFTY LITTLE MODEL from Acer is a good compromise between portability and power. It's the only ultra-portable to have a mobile Pentium III processor in it, and the 500MHz of power ensures that it comes top of the SYSmark 2000 table. It has 64MB of RAM and a 9GB hard disk – enough for a model in this section.

The 12.1in screen only manages 800 x 600 before going to a virtual desktop, but for most users this will be sufficient.

The ports are well laid out, with the majority located at the rear of the unit. The standard D-SUB, serial, and parallel ports are grouped together with the PS/2, infrared and USB next to them. Acer has managed to squeeze in both a Lucent Winmodem and an Intel network adaptor, with ports next to each other at the rear. This will be a welcome feature for many users, especially as there are no drives inside. Drives are catered for by a large, heavy box – that you connect

using the supplied captive cable to a port on the left-hand side of the notebook. The floppy is at the top of the unit, with the CD-ROM underneath. We found this a bit tricky to connect, but once you've arrived wherever you're going, it's good to only have one box cluttering up your desk rather than two. The weight of the drives may put you off carrying them around, however. This model also comes with a USB video camera that clips on to the side of the screen for video-conferencing.

Considering the processor speed, the price represents good value for money, making this well-designed notebook an attractive option.



DETAILS

PRICE £2,172.58 (£1,849 ex VAT)

CONTACT Acer 01753 487 000

www.acer.co.uk

PROS Fast processor, large hard drive, good layout and build quality

CONS Combined floppy and CD-ROM is bulky and heavy

OVERALL It's not quite as small as some others here, but it's still an excellent buy

BUILD QUALITY	★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★★

ACi Concept

ULTRA-PORTABLE



drive attaching via a cable at the rear. Around the back of the unit there's also a PS/2 port to connect an external mouse or keyboard.

A flap on the left flips down to reveal a D-SUB video out, serial and parallel port. On the right-hand side of the machine there is the DVD-ROM, IrDA lens, recessed 'paper clip' reset switch and volume control.

On the opposite side of the machine is one USB port, modem connector and a single Type II PC Card slot. On the front of the chassis are headphone and mic sockets for easy access.

ACI'S SECOND OFFERING falls into the ultra-portable section of the group test. The Concept features a mobile Pentium II processor running at 366MHz and 128MB of RAM. These factors helped it achieve a SYSmark 2000 score of 69, putting it behind only the Hi-Grade and Acer.

The machine weighs in at 2.12kg and its physical dimensions are 27.4 x 23 x 4cm. Housed in the main unit you'll find a four-speed DVD-ROM, with the floppy

To navigate your way around Windows, there is a touchpad situated below the keyboard, although it was slightly off-centre and closer to the left-hand side. The keyboard itself was fair, given the overall size of the machine. Unfortunately, ACi has chosen to place the 'Fn' key where you would expect to find 'Ctrl', which is used far more than the 'Fn' key. Consequently, if you use a lot of keyboard shortcuts, you'll have to retrain to use this machine. The space

bar was also a little small and it was all too easy to strike the keys next to it by mistake.

The 12.1in TFT screen will display a resolution up to 800 x 600 pixels and brightness was consistent and even across its display. Feeding the screen is a Trident Cyber 9525 chipset with 2.5MB of RAM.

On the whole, the ACi scored well on performance, mainly due to its 128MB of RAM. The keyboard could be improved upon and the screen resolution could be higher. Also, at £1,682 ex VAT, it's more expensive than smaller and lighter machines from Sony and Toshiba.

DETAILS

PRICE £1,977.37 (£1,682.87 ex VAT)

CONTACT ACi 020 8830 1958

www.aciplc.com

PROS DVD-ROM, 128MB of RAM

CONS Keyboard layout awkward in places.

OVERALL A reasonable machine, but more expensive than the superior competition.

BUILD QUALITY	★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Compaq Armada M300

ULTRA-PORTABLE



may seem a little under-powered by today's standards, notching up only 56 points on our SYSmark 2000 test, but the focus of this machine is portability not power and it is well suited to this. In order to keep the size down, only the necessary components are housed in the case, with other peripherals relegated to the supplied docking station that neatly attaches to the bottom of the machine.

On the main unit itself you'll find an 11.3in TFT screen – capable of displaying a maximum resolution of 800 x 600, powered by an ATi Rage LT Pro chipset with 4MB of memory. The back

THE ARMADA M300 is targeted firmly at the business market and as a result comes with Windows NT pre-installed. Power management is controlled by Compaq's own Control panel applet, so you shouldn't come across any problems on that front, although Windows 98 is probably the more sensible solution for the home user.

The Armada M300 uses Intel's Mobile Pentium II processor running at 333MHz with 64MB of SDRAM. This

of the chassis is shielded by a circular battery that folds down to act as a support and reveals the rear ports. On the back you'll find one D-SUB video, one serial, one parallel, one USB and an IrDA port. On the right-hand side you'll find a modem port and one Type II PC Card slot, with the docking slot located on the base. When the unit is docked you'll find two PS/2 ports, one D-SUB, one serial, one parallel, one USB and a further docking station connector. The

docking station also houses the floppy and CD-ROM, both of which can be attached to the main unit via a supplied lead if you need them when you're on the move.

Despite the small size, the keyboard is very easy to use. The keys have been arranged in such a way that few keys have been moved to irregular positions. The touchpad below the keyboard was accurate and suitably recessed, so as to avoid accidental use while typing.

When detached from the docking station, the unit was light and should prove no problem to carry around. On the whole the Compaq is a decent ultra-portable and worth a look if you don't mind the slow performance.

DETAILS

PRICE £2,107.95 (£1,794 ex VAT)

CONTACT Compaq 0845 270 4000

www.compaq.co.uk

PROS Small in size, detachable floppy and CD-ROM docking station

CONS Not the fastest in the test

OVERALL A good machine that should satisfy the mobile user

BUILD QUALITY	★★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Elonex Piranha

ULTRA-PORTABLE



for light use, but isn't the best we've seen in the test – and may start to grate after prolonged use. It manages an impressive 1,024 x 768 resolution, but doesn't have a very uniform luminescence. The bezel is slightly larger on the right-hand side than the left, which makes the display look strange at first – but once we had got over the initial surprise we didn't notice it much.

Moving the screen also

IN MANY RESPECTS, compared to some of the other models here, the Elonex doesn't cut the mustard. When you take into consideration the fact that it is the cheapest model in the test, however, it doesn't seem all that bad. Elonex has built a notebook based on a 466MHz mobile Celeron and 64MB of memory. This gives it a large performance boost, coming fourth in the SYSmark 2000 league table. The 4.8GB hard disk is on the small side compared to others here, but considering the price this isn't a tragedy. The 11.5in TFT screen will be adequate

causes a few ripples, which can be a bit disconcerting. One patch at the bottom left of the display on our review model continued to ripple for 15 seconds on average after movement, which was a little worrying.

The keyboard is firm and responsive. We found it easy to type on, with most of the keys placed in sensible places. The touchpad and selector buttons are similarly easy to use. The left selector button is shaped to be slightly larger than the right, making it easier to press with the thumb when typing.

All the standard ports are here

including a useful internal modem at the rear. A hinged cover protects the serial, D-SUB and parallel ports from the wear and tear of the outside world. To its left is an infrared and PS/2 port.

There's also one Type II PC Card slot for attaching external devices. The separate floppy and CD-ROM drives are plugged into two specially-designed ports behind a cover on the right-hand side. This allows you to use the floppy and CD-ROM simultaneously.

Overall, the Piranha is not the best here, but if you can't afford to go for one of the more expensive models, you could do a lot worse.

DETAILS

PRICE £1,233.75 (£1,050 ex VAT)

CONTACT Elonex 0800 037 4466

www.elonex.co.uk

PROS Low cost, relatively high performance

CONS Display could be better

OVERALL Excellent value for money, but we'd recommend spending a bit more cash

BUILD QUALITY	★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★

Fujitsu Siemens Lifebook B-2130

ULTRA-PORTABLE



is situated in the normal position on the keyboard. Although the touch-sensitive layer does increase the reflectivity of the screen compared to a normal TFT, the advantages that it offers far outweigh this, and the reflectivity should only become a problem if a light source is positioned directly behind you.

The ability to 'point' directly at what you want using the touch screen is far easier than guiding a pointer. There were a couple of problems associated with it – the accuracy can be a little off, even after calibration, and it

THE LIFEBOOK USES a 400MHz mobile Celeron processor coupled with 64MB of RAM. The SYSmark score of 61 is reasonable, but not as fast as the 400MHz Pentium II machine.

The 10.5in screen can manage a resolution of 800 x 600, powered by a NeoMagic MagicGraph 128 display controller. Situated on the left of the screen is a small stylus, which is used to operate the touch screen. This can be used in addition to the trackpoint, that

doesn't appear to work with a virtual desktop. Setting the resolution to 1,024 x 768 and scrolling the screen confuses the pointer, even after recalibration. That said, it's unlikely that the display panel will be used on this setting for an extended period of time.

The keyboard is soft, with a very short travel and this could become an issue with extended use. The 'Fn' key has also been placed where you expect to find 'Ctrl' which is annoying.

All the sockets around the edge are protected by rubber bungs when not in use, although not all of the bungs are attached to the main body and could get lost. The rear of the machine offers an expansion port that connects to the supplied port replicator, offering two PS/2, one serial, one parallel and the floppy drive connector. On the right you'll find two USB, one D-SUB, mic, headphones and a volume control. Finally, on the left there's a modem, network port, custom serial port, one Type II PC Card slot and an IrDA lens.

Overall, this is good product, sporting some great features. If you can live with the keyboard, it's worth a look.

DETAILS

PRICE £1,821.25 (£1,550 ex VAT)

CONTACT Fujitsu Siemens 01344 475 555

www.fujitsu-siemens.co.uk

PROS Touch screen, small in size

CONS Not the best keyboard layout or construction

OVERALL A well-designed ultra-portable that should satisfy the occasional mobile user

BUILD QUALITY	★★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Hi-Grade UltiNote AS8300-400

ULTRA-PORTABLE



HI-GRADE'S ENTRY into the ultra-portable category is a debatable one. Although it is smaller than all the fully-featured notebooks on test, it's not particularly slim when compared to some of its svelte competition. The AS8300 is considerably larger than the Sony 505SN and is over twice as heavy, weighing in at 2.48kg. That said, the AS8300 does have an internal CD-ROM drive, that adds to its weight and dimensions. The question you have to

ask yourself is whether you need an internal CD-ROM drive while you're on the move.

Powering the AS8300 is a mobile Pentium II running at 400MHz. Hi-Grade has backed up the processor with 96MB of RAM, making the base specification fairly impressive for a slimline machine. Storage shouldn't be a problem, with a 12GB hard disk to keep all your data on.

Build quality is fairly solid, although the keyboard is a little light and springy. Also, the Return key is smaller than it should be, making typing a little difficult at first.

The touchpad is high quality and pointer manipulation is a breeze. Unfortunately it's a little bit too close to the space bar, resulting in inadvertent cursor relocation while typing. This problem is compounded by the fact that the utility to disable the touchpad's tapping feature was not loaded on our review machine.

The 13.3in screen is quite large for an ultra-portable and it can comfortably manage a resolution of 1,024 x 768. The quality of the display is good with even lighting across the surface.

There's a dual external bay supplied

with the unit. This can hold two devices, such as a floppy and a CD-ROM. The unit also has CD player controls on the top, along with an LCD display, basically turning it into a CD audio player. The bay also contains VGA, serial and parallel ports, which would be useful if these connectors weren't already present on the notebook itself. One major string to its bow is the inclusion of a modem and a network adaptor. A single connector underneath the infrared port accepts the supplied splitter with modem and network connections.

Ultimately, the AS8300 has some good features, but it's not really an ultra-portable in the true sense of the word.

DETAILS

PRICE £1,726 (£1,469 ex VAT)

CONTACT Hi-Grade 020 8532 6100

www.higrade.com

PROS Large screen, quite fast

CONS Large, poor keyboard, touchpad utility not loaded

OVERALL A fair machine that's not quite small and light enough to suit the true mobile user

BUILD QUALITY	★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Panasonic Toughbook CF-37VB-62AH

ULTRA-PORTABLE



and is bright and clear enough to read for long periods without getting tired eyes. Unusually, the screen is a touch screen, which makes using the Toughbook much easier if you don't like using a touchpad all the time. A stylus that doubles as a biro is supplied to use the screen. This capability makes it slightly more reflective than others in this test, but we felt this was an acceptable compromise for this feature. The keyboard is fairly compact and takes a bit of getting used to, but after a bit of practice it's easy to use – with the keys being responsive enough to type at fast speeds. The touchpad is large

ALTHOUGH IT DOESN'T quite match the great heights of the Sony, Panasonic's entry in the ultra-portable section is still an excellent machine. At only 2.5cm thick, it's amazing that the company has managed to squeeze a CD-ROM drive into the case. However, there's also a 120MB Superdisk thrown into the bargain.

The 12.25in screen unfortunately only goes up to an 800 x 600 resolution, but this is still adequate for everyday use. The display is very easy to look at,

enough to be comfortable and the mouse keys are placed in sensible positions to maximise ease of use. Panasonic has also included a handy screen-flipping utility. This, combined with the fact that the screen folds flat, makes the Toughbook a good proposition for those who need to perform one-to-one presentations regularly. The machine arrived with Windows 95 installed, a factor that might appeal to corporate users who want to minimise the mix of operating

systems they have in the company.

This might not be so appealing, however, for consumers.

One interesting power-saving feature is the fact that the Toughbook automatically dims the screen when the mains cable is unplugged. Unfortunately, despite the fact that this is a relatively new product, its basic hardware specs are not so impressive. A mobile Celeron 366 and 64MB of memory are adequate enough, but if you're after a bit more power, there are plenty of better options here. That said, it's a very impressive piece of kit, especially if you need to use an internal CD-ROM.

DETAILS

PRICE £2,592.62 (£2,199 ex VAT)

CONTACT Panasonic 0344 853 948

www.panasonic.co.uk

PROS Touch screen, internal CD-ROM

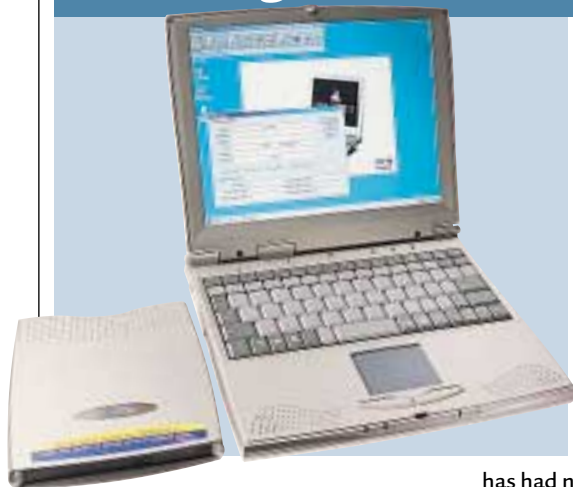
CONS Windows 95 might be a turn-off for some users, mobile Celeron outclassed by mobile Pentium II

OVERALL A good piece of kit, but a little outclassed by other models

BUILD QUALITY	★★★★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★★
OVERALL RATING	★★★★★

Rock Pegasus

ULTRA-PORTABLE



left-hand side of the display began to flicker. The screen does not tilt as far back as some other models, which also annoyed us.

Apart from the screen, the power button next to the standby button turns the system off with one touch – it does not put it through any kind of shutdown procedure. This makes it a little too easy to lose some important work by accident.

The fact that the unit is so small means that Rock

ALTHOUGH IT DOES HAVE a few points in its favour, this ultra-portable is unfortunately not among the best here. One of those good points is that it is small – at only 27cm wide and 3cm high. It also has a dedicated button for putting the unit into standby, to make this function easy to perform. The screen achieves a good resolution for its size, managing 1,024 x 768.

The bad points outweigh the good, however. Pressing the plastic surround causes the screen to flex alarmingly. After being turned on for some time, the

has had no choice but to make the keyboard more compact than others. There is nothing wrong with this in itself, but this keyboard doesn't make for a pleasant typing experience. You have to hit the keys fairly hard to make them work, and we found the spacebar to be too small for extended fast typing. The touchpad is fine, though.

A mobile Celeron running at 400MHz forms the backbone of this system, which produces below-average performance. As far as memory is concerned, 96MB of RAM is included –

an unusual figure, but it is better than some of the other 64MB offerings here. A 6.4GB hard drive is fairly standard for slimline notebooks. There are no drive bays – to use a floppy or CD-ROM you have to use the supplied cables, again par for the course.

On the back of the notebook there are single D-SUB, parallel and serial ports. The right-hand side has the bonus of a modem port, a single PS/2, a USB and audio ports. There is one Type II PC Card slot to the left.

Even taking the Rock's comparatively low price point into account, it's still outclassed by the better specified competition.

DETAILS

PRICE £1,350.08 (£1,149 ex VAT)

CONTACT Rock 0870 720 2000

www.rock-computers.co.uk

PROS Easy-to-use standby button, fairly compact

CONS Keyboard, screen

OVERALL Simply outclassed in this company

BUILD QUALITY	★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★
OVERALL RATING	★★

Sharp PCA280

ULTRA-PORTABLE



supplied as standard, so connecting up to external drives can be a bit cumbersome. To provide a full keyboard, a number of keys have had to be relocated, and as a result typing is far from intuitive. The function keys along the top row are half height, which is acceptable since they are not used that frequently. Not so acceptable is the

THE SHARP PCA280 is built around a Pentium II Mobile processor clocked to 366MHz, coupled with 64MB of RAM. It managed a SYSmark 2000 score of 65, and given that the main focus of the machine is portability and not power, this is reasonable.

In terms of size, the Sharp gives the Sony and Compaq machines a run for their money, although the Sony 505SN is thinner. On the downside, you won't find any drive bays in the machine body itself. The CD-ROM and floppy drives are supplied as separate units, and these attach via a PC Card and a right-hand expansion port, respectively. Unfortunately, no docking station is

positioning of the cursor keys, arranged in a rotated 'L' configuration, resulting in 'Left' being pressed when you intend to press 'Down'. 'Home', 'End', Page Up' and 'Page Down' have also been relegated to secondary positions which require the 'Function' modifier to utilise them. On the whole, the keyboard seemed cramped and mistypes may become annoying after extended use. A small touchpad is provided to guide the pointer around the screen, and this is situated below the keyboard.

The 11.5in screen supports a native resolution of 800 x 600 pixels, which is adequate for a machine of this size. Brightness was even across the display,

with colours presented accurately. The 8GB hard disk is more than acceptable for a unit of this size.

All ports are suitably protected by rubber bungs, which are thoughtfully secured to the main body. At the rear is a standard D-SUB connector as well as a network port and docking station connector. The right side of machine plays host to a modem port, external drive connector, mic, headphones, USB port and IrDA. On the opposite side you'll find a second USB port, power connector and one Type II PC Card slot.

Sharp has produced a good machine, but it's eclipsed by the cheaper and more powerful Sony.

DETAILS

PRICE £1,991.63 (£1,695 ex VAT)

CONTACT Sharp 0800 262 958

www.sharp.co.uk

PROS Small and light with good screen

CONS Extended use of keyboard could be infuriating

OVERALL A good little machine, but the keyboard let it down

BUILD QUALITY	★★★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Sony Vaio PCG-505SN

ULTRA-PORTABLE



previous models. The CPU is backed up with 64MB of RAM, which is adequate, but falls short of the 96 or 128MB of RAM seen in other models on test. However, as Intel's SpeedStep Pentium III CPUs go to show, most users aren't bothered about raw power while they're on the move, so the target audience for the 505 will be more than happy

IT COULD BE SAID that Sony invented the ultra-portable market when it first introduced the Vaio 505G back in 1997. Ever since that launch, the 505 range of portable computers have been the object of desire for almost anyone who has to work on the move.

This latest addition to the 505 series marks a considerable step forward. Initially Sony thought that it wouldn't be possible to fit a Pentium II CPU into the slim form factor, but the Japanese giant seems to have overcome this problem. The 505SN sports a 400MHz mobile Pentium II, complete with 256KB of full-speed Level 2 cache. This gives it a considerable performance boost over

with the performance.

The physical appearance of the unit is much like the previous 505X model, including the stunning 10.4in TFT screen that sports an impressive 1,024 x 768 resolution. The screen is driven by a 128bit NeoMagic graphics chipset with 2.5MB of video memory.

Despite its svelte dimensions, the 505SN has a very usable keyboard. The keys are a fair size and well spaced, while the travel and break allow for a solid typing experience. The large touchpad is equally impressive, with a very responsive action that makes pointer manipulation simple.

In the box you'll find a PC Card

CD-ROM that exhibits Sony's usual superb design – when not in use the cable wraps around the side of the unit and the PC Card clips into a recess in the base of the drive.

There's also an external USB floppy drive, with similarly well-designed cable storage. Finally, there's a port replicator with parallel, serial, VGA, USB and FireWire ports. The lack of PS/2 indicates that Sony expects you to use a USB keyboard and mouse.

The notebook itself sports PC Card, infrared, FireWire, USB, power and audio connectors.

Not only is the 505SN a fabulous machine, the price of £1,449 ex VAT makes it excellent value as well.



DETAILS

PRICE £1,702.57 (£1,449 ex VAT)

CONTACT Sony 0990 424 424

www.sony.co.uk

PROS Small and light, great build quality

CONS None

OVERALL The original and still the best ultra-portable money can buy

BUILD QUALITY	★★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★★

Toshiba Portégé 3110CT

ULTRA-PORTABLE



64MB of RAM and a 6.4GB hard disk. Although this spec is far from power packed, it's still good enough for most mobile-computing tasks. For the true mobile user size and weight are more important than raw power.

The only area where the Portégé really falls down is the screen. Although the screen size is the same as the Sony 505, it can only manage a resolution of 800 x 600 as opposed to 1,024 x 768. Even

TOSHIBA HAS BEEN making high-quality notebooks for some time now and it's quite fair to say that along with Sharp, it's one of the only companies that's giving Sony a true run for its money in the design stakes.

The Portégé is a beautifully-designed product, resplendent in its silver magnesium casing, much like a Sony Vaio 505SN. It's slim and desirable and weighs in at a lithe 1.42kg. That said it's still larger than the Sony and heavier by just over 200g.

Beneath the Portégé's sleek exterior is an Intel Pentium II, running at 300MHz. The CPU is backed up by

though 800 x 600 should be fine for most of the applications that are used on a machine like this, it's still a bit of a shame that it can't display XGA. Screen graphics are driven by a Trident chipset that is equipped with 2.5MB of video memory.

The keyboard feels a little flat, more like a good PDA than a notebook, although it's easy to type on once you get used to it. Pointer manipulation is handled by a trackpoint that performs admirably, while the two selection buttons are easy to activate with your thumb.

Bundled with the Portégé are an

external floppy drive and a 24-speed CD-ROM drive – the latter of which connects via the single Type II PC Card slot. There's also a built-in V.90 modem to keep you in touch while you're on the move.

Around the chassis there are ports for infrared, USB, audio and the port replicator. The latter adds VGA, parallel, serial, PS/2 and an RJ45 network port, making this machine fairly well-connected for its size.

The Portégé 3110CT is a great ultra-portable notebook, let down slightly by its screen and dated processor. That said, it's slim and sexy and costs around the same as the Sony.

DETAILS

PRICE £1,756.62 (£1,495 ex VAT)

CONTACT Toshiba 01932 828828

www.toshiba.co.uk

PROS Small, light and well built

CONS Slow processor and low-resolution screen

OVERALL A beautiful ultra-portable notebook, although the Sony has more to offer

BUILD QUALITY	★★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Twinhead PowerSlim 600

ULTRA-PORTABLE



respectable SYSmark score of 64.

The 12.1in TFT screen is well focused and features even lighting across the whole surface. What is a little disappointing, though, is the resolution. Given that the screen is larger than that of the Sony 505SN, a resolution of 1,024 x 768 would have been preferable to the achieved 800 x 600. The Trident graphics chipset will allow the resolution to be pushed up to 1,024 x 768, but only in a virtual desktop environment.

The 6.4GB hard disk is fairly standard for an ultra-portable model, although considering that the Twinhead is not as slim as some, we'd have liked to have seen

a larger disk included.

The keyboard is fairly easy to type on and has a decent amount of springback. Twinhead has also managed to keep the cursor keys in their correct configuration, which is a small, but important, point. The touchpad is quite close to the space bar, but we didn't experience any accidental activation. Even so, it's still a shame that the utility to disable touchpad tapping had not been loaded. The touchpad itself was

EVER SINCE SONY and Siemens started producing notebooks in magnesium cases, every other notebook manufacturer has decided that silver is the best colour for its machine. Following suit, Twinhead has opted for a matt silver finish on the PowerSlim 600.

Beating at the heart of the Twinhead notebook is a 366MHz mobile Pentium II, backed up by 64MB of memory. This is a fairly conservative specification, although the PowerSlim still managed a

very responsive and it is easy to move the cursor to the desired location.

On the right of the chassis is a bay that can accommodate either the supplied CD-ROM or floppy drive. You can also install a second battery into the bay for extended mobile use.

There's also an external case for the floppy drive, so it can be used while the CD-ROM is installed.

On the left of the case is a single Type II PC Card slot, a USB port and the connector for the internal 56K modem. While at the rear are PS/2, parallel, serial and VGA ports.

The Twinhead is a reasonable unit, but considering that it's larger, heavier and more expensive than the Sony 505SN, it's hard to recommend it.

DETAILS

PRICE £2,100.90 (£1,788 ex VAT)

CONTACT Twinhead 0161 877 6787

www.twinhead.co.uk

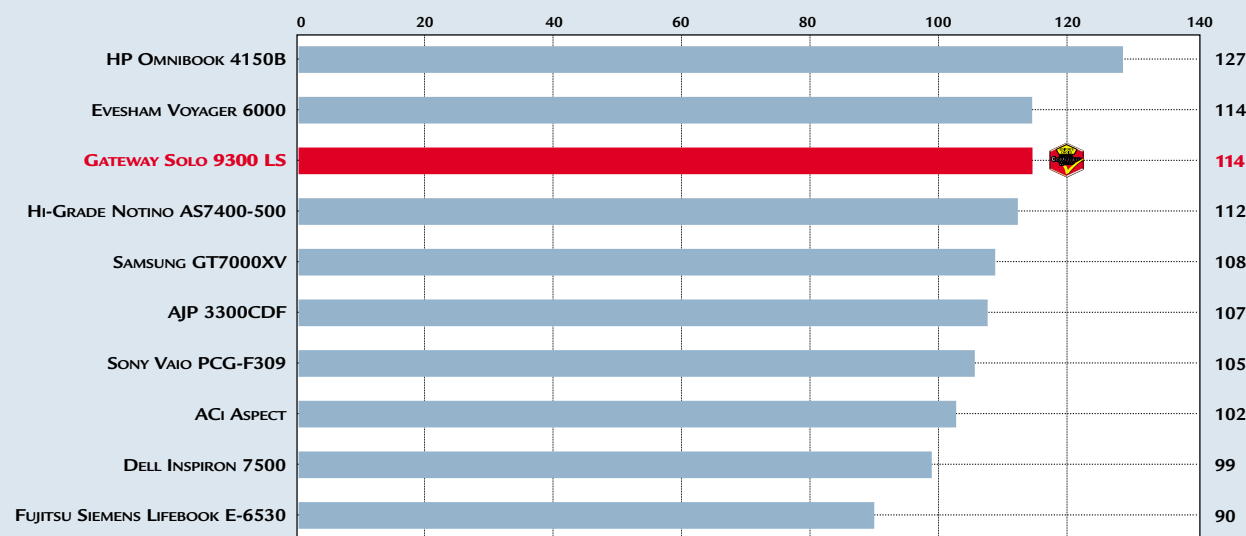
PROS Internal CD-ROM/floppy bay

CONS Expensive, low screen resolution

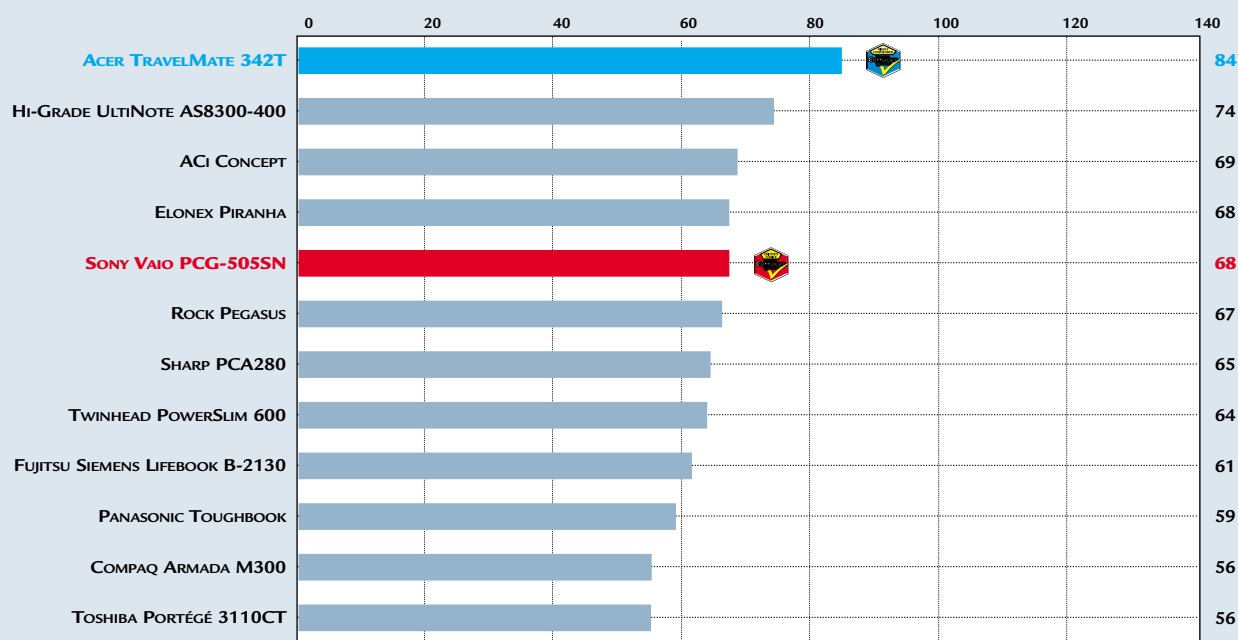
OVERALL A reasonable notebook with an unrealistic price

BUILD QUALITY	★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★
OVERALL RATING	★★★

SYSmark 2000 fully-featured notebooks



SYSmark 2000 ultra-portable notebooks



How we did the tests



■ **SYSmark 2000** contains 12 application workloads and a workload-manager application that is responsible for setting up the workloads, timing their execution, and reporting performance results. Each SYSmark 2000 workload consists of a real application (Adobe Photoshop, for example) and a test script that sends commands to the application.

Workloads

The applications include Microsoft Excel 2000,

CorelDRAW 9, Dragon Systems NaturallySpeaking Preferred 4.0, Netscape Communicator 4.61, Corel Paradox 9, Microsoft PowerPoint 2000, Microsoft Word 2000, MetaCreations Bryce 4, Avid Elastic Reality 3.1, Adobe Photoshop 5.5, Adobe Premiere 5.1 and Microsoft Windows Media Encoder 4.0.

After SYSmark 2000 is run on a system at a resolution of 1,024 x 768 in 16bit colour, it assigns an overall performance rating. This is based on a comparison of

workload run-times, between the system being tested and a fixed calibration platform. A rating of 100 indicates the test system has performance equal to that of the calibration platform, 200 indicates twice the performance, and so on. The calibration platform is based on a Pentium III 450MHz processor, an Intel 440BX chipset motherboard, 128MB of SDRAM, a 32MB Diamond Viper V770 Ultra, an IBM DJNA 37 1800 hard drive and Windows 98 SE.



Table of features	FULLY FEATURED									
	ACI	AJP	DELL	EVEHAM MICROS	FUJITSU SIEMENS	GATEWAY	HI-GRADE	HEWLETT-PACKARD	SAMSUNG	SONY
MODEL	ASPECT	AJP 3300CDF	INSPIRON 7500	VOYAGER 6000	LIFEBOOK E-6530	SOLO 9300 LS	NOTINO AS7400-500	OMNIBOOK 4150B	GT7000XV	VAIO PCG-F309
Price ex VAT	£1,575	£1,613	£1,899	£1,699	£2,195	£2,049	£ 1,759	£3,010	£2,499	£2,809
Telephone 0161 877 6787	020 8830 1958	020 8208 9777	0870 152 4850	0800 038 0800	01344 475555	0800 55 2000	020 8532 6100	0990 47 47 47	020 8391 0168	0990 424 424
Dimensions (cm) (wxdxh)	31.6x25.6x5	32.2x26x4.5	33x28.5x6	310x258x39.5	308x260x37	32.2x26.4x4.1	33.2x25.7x5.3	32x25.5x4	32.4x25.7x4.2	32.25x26.5x4.5
Weight with battery (kg)	3.22	3	4.4	3.2	2.7	3.52	3.6	3.08	3.19	3.38
Standard warranty	None	1yr RTB	1yr C&R	2yrs + ADI	3yrs	1yr RTB	1yr RTB	1yr RTB	1 yr RTB	1yr C&R
International warranty	Optional	✓	Optional	RTB	✓	✓	✗	✗	Europe only	✗
HARDWARE										
Processor Mobile P II 366	Mobile PIII 500	PIII 550 (FPGA)	Mobile PIII 500MHz	Mobile PIII 600 SpeedStep	Mobile PIII 500	Mobile PIII 600 SpeedStep	Mobile PIII 500	Mobile PIII 650 SpeedStep	Mobile PIII 500	Mobile PIII 500
Memory fitted (MB)/type	128/SDRAM	128/SDRAM	128/SDRAM	128/SDRAM	64/SDRAM	96/SDRAM	128/SDRAM	128/SDRAM	128/SDRAM	128/SDRAM
Max memory	256MB	256MB	512MB	576MB	256MB	288 MB	320MB	256MB	256MB	256MB
Hard disk manufacturer and model	IBM Travelmate	Toshiba MK1214GAP	IBM DARA 218000	Fujitsu MHH2054AT	Fujitsu	IBM EIDE 9.5m N-7863	IBM Travelstar	IBM Travelstar	IBM Travelstar	IBM Travelstar
Capacity	12GB	12GB	18GB	6.4GB	10GB	12GB	18GB	17.2GB	9GB	12GB
CD/DVD manufacturer and model	Torisan DVD DRDU625	Torisan DVD DRD-U624	Toshiba DVD SD-C2302	Toshiba DVD	Fujitsu CDS-1 CD/Internal	Torisan DVD	Toshiba DVD SD-C2202	Toshiba DVD	Toshiba DVD	Toshiba DVD SD-C2202
Internal or external Interface	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
Internal or external floppy	Int	Int	Int	Int	Int	Int	Int	Ext if DVD in use	Int	Int
Simultaneous floppy and CD?	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
No of PC Card slots/type	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III	2 Type II/ 1 Type III
Modem type	PC Card	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	PC Card
Battery technology	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Trackpoint/touchpad	Touch	Touch	Touch	Touch	Touch	Touch	Touch	Both	Touch	Touch
DISPLAY										
Type/ Size (in)	TFT/14.1	TFT/14.1	TFT/15.5	TFT/14.1	TFT/14.1	TFT/15	TFT/14.25	TFT/14.1	TFT/15	TFT/15
Max internal resolution	1,024x768	1,024x768	1,280x1,024	1,024x768	1,024x768	1,024x768	1,024x768	1,024x768	1,024x768	1,024x768
Graphics chipset	ATi Rage LT Pro	ATi Rage LT Pro	ATi Rage Mobility	ATi Rage LT Pro	ATi Rage Mobility	ATi Mobility Pro	ATi Rage LT Pro	ATi Rage Mobility	ATi Rage LT Pro	NeoMagic Magicmedia
Video memory	8MB	8MB	8MB	8MB	4MB	8MB	8MB	8MB	8MB	2.5MB
PORTS										
No VGA/PS2/infrared	1/1/0	1/1/0	1/1/1	1/1/01	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1
USB/IEEE 1394	✓/✓	✓/✗	✓/✗	✓/✗	✓/✗	✓/✓	✓/✗	✓/✗	✓/✗	✓/✓
Serial/parallel/docking station	1/1/0	1/1/0	1/1/1	1/1/01	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1
Other	None	S-Video	None	S-Video	Network	Composite	None	None	S-Video	None
SOUND										
Sound chipset	ESS Maestro 2E	ESS Maestro	ESS Maestro 2	Crystal PNP	ESS Maestro	ESS Maestro	ESS Maestro	ESS Maestro	ESS Maestro	Yamaha DS-Xg
Internal speakers/mic	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
External speaker/mic sockets	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
POWER MANAGEMENT										
ACPI/APM compliant	✓/✓	✓/✓	✓/✓	✓/✓	✗/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
Suspend to RAM/disk	✓/✓	✓/✓	✗/✓	✓/✓	✓/✗	✗/✗	✓/✓	✓/✗	✓/✓	✓/✓
Auto suspend/hibernate	✗	✓	✓	✓	✓	✗	✓	LCD Suspend	LCD Suspend	✗
SOFTWARE										
Operating system	Win98 SE	Win98 SE	Win98 SE	Win98SE	Win98 SE	Win98 SE	Win98	Win8 SE	Win98 SE	Win98 SE
Bundled software	None	None	MS WS99 McAfee VS	Lotus SS Power DVD 2.5	Word 2000 LAN Desk Mgr	MS WS99	Lotus SS IBM VIA Voice	None	Norton AV Adobe Acrobat	Video capture Picture Gear

KEY: RTB = return to base; C&R = collect and return; ADI = accidental damage insurance; ✓ = yes; ✗ = no; MS WS99 = Microsoft Works Suite 99; MS WS2000 = Microsoft Works Suite 2000; Lotus SS = Lotus Smart-Suite; McAfee VS = McAfee VirusScan; NS = Not supplied at the time of going to press



ULTRA PORTABLE



GROUP TEST

NOTEBOOKS >>

ACER	ACI	COMPAQ	ELONEX	FUJITSU SIEMENS	HI-GRADE	PANASONIC	ROCK COMPUTERS	SHARP	SONY	TOSHIBA	TWINHEAD
TRAVELMATE 342T	CONCEPT	ARMADA M300	PIRANHA	LIFEBOOK B-2130	ULTI NOTE AS8300 -400	TOUGHBOOK CF-37VB 62AH	PEGASUS	PCA280	VAIO PCG- 505SN	PORTÉGÉ 3110CT	POWERSLIM 600
£1,849	£1,682.87	£1,794	£1,050	£1,550	£1,469	£2,199	£1,149	£1,695	£1,449	£1,495	£1,788
01753 487000	020 8830 1958	0845 270 4000	0800 037 4466	01344 475 555	020 8532 6100	01344 853 948	0870 720 2000	0800 262 958	0990 424 424	01932 828 828	
29x22x2.5	27.4x23x4	26.5x22.9x2.3	27.8x21.9x2.78	24.7x19.6x2.5	28.5x23.6x3.1	30.2x24x3.5	27x22x3	26.3x21.1x2.3	26x21x2	26x22.7x3	27x22x2.5
1.9	2.12	1.5	1.6	1.42	2.3	2.12	1.82	1.41	1.2	1.42	1.67
1yr C&R	1yr RTB	1yr	1yr RTB	3yrs	1yr RTB	3yrs RTB; yr1 ADI	1yr C&R	3yrs	1yr C&R	1yr RTB	1yr RTB
✓	Optional	✓	Specified areas	✓	✗	✓	✗	✓	✗	✓	✓
Mobile PIII 500	Mobile PII 366	Mobile PII 333	Mobile Celeron 366	Mobile Celeron 400	Mobile PII 400	Mobile Celeron 366	Mobile Celeron 400	Mobile PII 366	Mobile PII 400	Mobile PII 300	
64/SDRAM	128/SDRAM	64/SDRAM	64/SDRAM	64/SDRAM	96/SDRAM	64/SDRAM	96/SDRAM	64/SDRAM	64/SDRAM	64/SDRAM	64/SDRAM
256MB	192MB	128MB	96MB	192MB	160MB	192MB	64MB	128MB	128MB	128 MB	192MB
IBM Travelstar	Toshiba	IBM	Fujitsu MHE2048AT	Fujitsu MHH2064AT	Fujitsu MHK2120AT	Toshiba MK6411	NS	Toshiba MK8113MAT	Toshiba MK601	Toshiba	Hitachi DK239A-65
9GB	6.4GB	6.4GB	4.8 GB	6GB	12GB	6.4GB	6.4GB	8.1GB	6.4GB	6GB	6.4GB
Teac CD	Toshiba DVD SD-C2202	Compaq CD	Fujitsu	Optional CD	Teac CD 224E	Panasonic CD UJDA140	Rock CD	Sharp CD CE- CD01 (£170)	Sony DVD PCEA-CD51	Toshiba CD	Toshiba CD
Ext/CD port	Int	Ext/PC Card	Ext/CD port	Ext/PC Card	Int	Int	Ext/ D port	Ext/PC Card	Ext/PC Card	Ext PC Card	Int or Ext
Ext	Ext	Ext	Ext	Ext	Ext	Int LS-120	Ext	Ext	Ext USB	Ext	Int or ext
✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II	1 Type II
Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal	PC Card	Internal	Internal
Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Touch	Touch	Touch	Touch	Track	Touch	Touch	Touch	Touch	Touch	Track	Touch
TFT/12.1	TFT/12.1	TFT/11.3	TFT/11.3	TFT/10.5	TFT/13.3	TFT/12.25	TFT/11.3	TFT/11.5	TFT/10.5	TFT/10.25	TFT/12.1
800x600	800x600	800x600	1,024x768	800x600	1,024x768	800x600	1,024x768	800x600	1,024x768	800x600	800x600
Cyber 9525DVD	Trident Cyber 9525 DVD	ATI RAGE LT Pro	Silicon Motion SM710	NeoMagic MagicGraph	Silicon Motion Lynx EM	Silicon Motion Lynx EM4	SMI 710	Trident Cyber9525	NeoMagic MagicMedia	Trident Cyber9525	Trident
2.5MB	2.5MB	4MB	2MB	2MB	4MB	4MB	4MB	2.5MB	2MB	2.5MB	2.5MB
1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1
✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✓	✓/✗	✓/✗
1/1/0	1/1/0	1/1/1	1/1/0	1/1/1	1/1/1	1/1/0	1/1/0	1/1/0	1/1/1	1/1/1	1/1/1
Network	None	None	None	Network	None	None	None	Network	None	Network	None
ESS Solo 1	ESS Maestro 2E	ESS Maestro	ESS Maestro	Intel 82440MX	Soundmax integrated audio	Crystal Audio CS4299	ESS Maestro	ESS Maestro	Yamaha DS-XG	ESS Maestro	ESS Maestro
✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✗/✓	✓/✓	✗/✓	✓/✓	✓/✓	✓/✓
✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓	✓/✓
✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓
Win98 SE	Win98 SE	WinNT4	Win98 SE	Win98 SE	Win98	Win95 OSR 2	Win98 SE	Win98 SE	Win98 SE	Win98 SE	Win98 SE
PC Doctor, LAN Desk Mgr	None	Compaq note- book utilities	MS WS2000	Word 2000 LAN Desk Mgr	Lotus SS/ IBM VIvoice	None	None	Laplink Pro	Video capture Picture Gear	None	None



Editor's Choice

We've looked at a lot of notebooks this month, from both large and small manufacturers, and it's been interesting to see the variation in specification and prices between them. Some of the machines we looked at were identical in terms of their basic specifications, but were wildly different when it came to price. There was often a tangible difference in build quality, however, and it was this factor more than any other that influenced our view of each product. Performance came into the equation more in the fully-featured section, as it determines whether or not a unit is appropriate as a desktop replacement. It was still a factor in both, however, as was the ever-present value for money.

➤ We saw a lot of quality products in the fully-featured section, but the Gateway Solo 9300 LS blew the competition away and is the deserved winner of our only award in this section, the **Editor's Choice**. It uses Intel's new 600MHz mobile processor, the Pentium III with SpeedStep technology. This gives it blistering performance while plugged into the mains and makes it an ideal candidate to be a desktop replacement. Running on battery power, the processor runs at 500MHz with a consequent performance dip. This is a small price to pay for increased battery life, however, and you can opt to have the processor run at the full 600MHz if you wish. The basic model comes with 64MB of RAM,

but we would advise opting for the 96MB version we reviewed.

The Solo's screen and keyboard are excellent, and both a DVD and floppy have been fitted into its shell. It's also possible to do some basic video-editing on it, using the composite in and out ports on the ATI Mobility video chipset – or for digital video there's a FireWire port. The only drawback is that it is comparatively heavy, but we didn't feel that this was enough to outweigh the good points. The real bonus, though, is its low price at only £2,049 ex VAT – great performance at a truly low price.

HP also submitted a good machine – its Omnibook 4150B, using a Pentium III 650MHz with SpeedStep technology. The fact that it gave the best performance makes it worthy of a mention, but its high price (£3,010 ex VAT) and the fact that the DVD and floppy drive can't both be installed in the case lost it a Highly Commended award.

Sony's Vaio PCG-F309 also had some great features comparable to the Gateway Solo 9300LS, but its slower processor and higher price (£2,809 ex VAT) also cost it an award.

➤ Turning to the ultra-portables, there was only ever really one contender for the **Editor's Choice** and that was the Sony Vaio PCG-505SN. The latest in the popular 505 range looks to be as much of a smash hit as the previous incarnations. Using a Pentium II 400MHz processor and 64MB of RAM,

it managed a comfortable performance result. This makes it appropriate for those who want a good compromise between speed and portability. The TFT screen is simply stunning, with an amazing 1,024 x 768 resolution. Despite its tiny size, the keyboard is still extremely comfortable to use, and the large touchpad is similarly good. There's a PC Card CD-ROM and a USB floppy drive in the box, together with a port replicator. This has parallel, serial, USB and FireWire ports. Overall it combines style and an excellent layout with good performance and a great screen. It's a deserved winner, especially at its low price of £1,449 ex VAT.

➤ If you're after a faster processor, an internal modem and network connection, however, then there's also the Acer TravelMate 342T, which wins a **Highly Commended** award. It was the only ultra-portable to have a Pentium III; running at 500MHz. It has a solid 64MB of memory and a large 9GB hard drive. One drawback is that the screen only has a native resolution of 800 x 600, but for most users this will not be a huge issue. A separate unit is supplied that contains the floppy and CD-ROM, but you'll probably want to leave this on your desk.

Overall, it is a very well-designed notebook with a comfortable keyboard and touchpad. You pay a small premium for the extra performance, but it's still an excellent buy at £1,899 ex VAT.



The Gateway Solo 9300 LS took the fully-featured crown for its speed and low price



Sony's Vaio PCG-N505SN has inherited the good looks of its ultra-slim predecessors



The Acer TravelMate 342T was the only ultra-portable to include a mobile PIII chip