

Nice little movers



This month we've taken a look at a selection of notebooks that fall roughly into the mid-range category as far as specifications and price are concerned. These are generally Pentium-based machines offering the sort of power, storage and memory that wouldn't look out of place in a standard desktop PC; and in most cases you also get built-in audio processing and a CD-ROM drive as well.

It's true that notebooks are more expensive than their desktop equivalents, but if you need a computer that goes where you go, or you simply want a compact and elegant home PC that can be stored upright on a bookshelf when not in use, then the extra is well worth paying.

If you want to compute on the move, you don't have to sacrifice power, memory and storage capacity for portability. Nor do you have to fork out a fortune. We cast an eye over seven well-specified notebook PCs costing between £2,000 and £3,000

Opti Calibre 753

There are several versions of this machine, based on increasingly powerful Pentium processors up to the 166MHz mark. But, in order to keep the price down, we elected to review the P100 model, which sells for £2,231.

The Calibre is fairly heavy, but the 7.8lb does include an integrated six-speed CD-ROM drive as well as an integrated

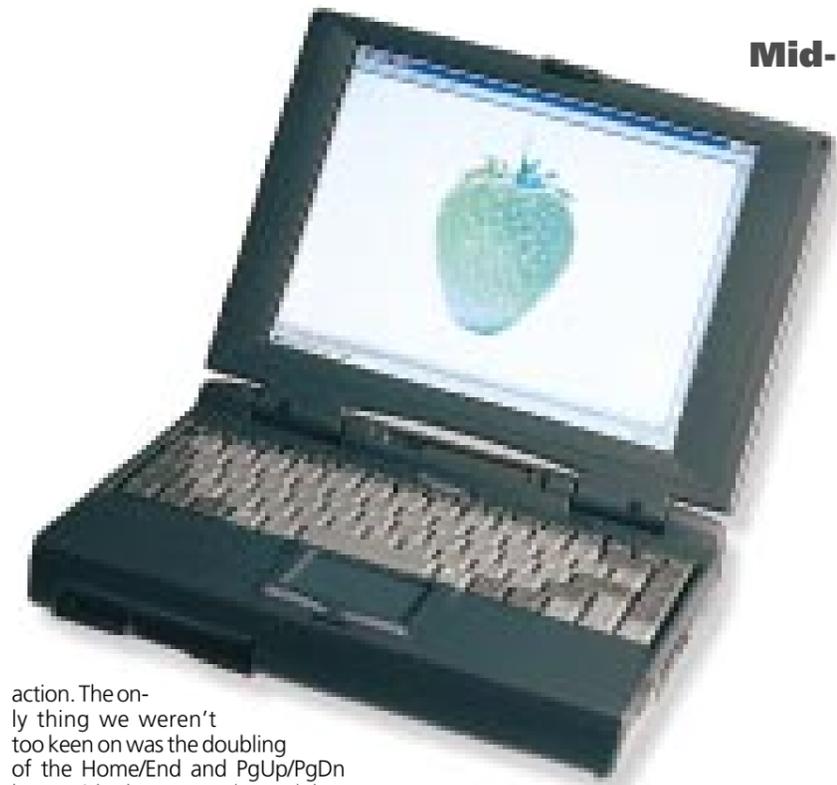
floppy drive – and an 11.3in screen. The casing is also quite tough, without too much give in the lid (which protects the screen during transport), and no undue flexing in the main body of the machine.

Typically, there are two ways of connecting a notebook to external peripherals like a mouse, keyboard, printer and possibly a monitor. Either you plug each device in to the appropriate socket, or you have a docking station to which everything is permanently hooked up and just the notebook plugs in by way of a special socket called an expansion bus. The Opti has the usual set of ports for accomplishing the former; it also has an expansion bus for quick connection to a docking station.

The Calibre is also fitted with an infra-red serial port but this is limited to the original, and rather slow IrDA (Infra-red Data Association) standard for data transfer. The machine is slightly unusual in that it also has a composite-type video port that allows you to send a video signal to a TV or video recorder.

Sensibly, the thickness of the case has been properly exploited by the design of the PC Card expansion slots. Instead of the usual Type III thickness slot which can house a pair of the thinner Type II cards, the upper slot has been widened so that the machine can accept a Type III hard disk card at the same time as a second Type II card like a modem or network adaptor.

The Calibre is quite comfortable to use, thanks to its broad palmrest, intuitive and fairly reliable mousepad, and reasonably firm keyboard



action. The only thing we weren't too keen on was the doubling of the Home/End and PgUp/PgDn keys with the cursor (arrow) key group. Separate keys are always easier and less fiddly to use than those with dual functions.

The 11.3in dual-scan screen is a little on the dark side, but it was quite readable in its high-resolution 800x600 SVGA mode, thanks to its large diagonal. The accompanying audio provided by the integrated stereo speakers was no more tinny and insubstantial than is usual for a notebook.

Like a number of portables, the Calibre requires that you interrupt the boot process in order to make changes to its power management settings, which cannot be accessed in any other way. This is both fiddly and inconvenient and a Windows-based utility for doing this job would be a great improvement. The standard Nickel Metal Hydride (NiMH) battery yields about two hours' running time under normal levels of usage, so long as the CD-ROM drive and audio aren't operated overmuch.

A large but fully-featured multimedia notebook with the benefits of fast EDO RAM and 256Kb of secondary cache. The price is fair for what you get, although a larger hard disk would have been nice, as would a more streamlined power management setup.

£2,231 (incl VAT)

Opti International:
0181 507 1818

Opti Calibre 753

Performance	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

more comfortable to use, as does the reasonably responsive action, although the keytops themselves could do with tightening up slightly. The mousepad functioned reasonably well.

The 10.3in active-matrix screen was even and sharp, and offered a slightly wider range of viewing angles than its dual-scan counterparts, but it was a little dark.

The EzBook scored a few points by having a power management setup screen that could be called up from within Windows and allowed changes to take effect immediately, without the need to restart the system first.

More memory than the Opti, plus a larger hard disk and an active screen, though no CD-ROM drive. We liked the accessible power management setup and the relatively comfortable keyboard, but thought the CTX would benefit from being slightly more robustly constructed.

£2,330 (incl VAT)

CTX: 01923 818461

CTX EzBook Gold

Performance	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

CTX EzBook Gold

The EzBook is powered by a Cyrix processor, rather than an Intel Pentium. Effectively this is a 486 with go-faster stripes that lift the performance of a 100MHz processor like the one in the EzBook to something approaching Pentium 66 levels. The chip is relatively inexpensive and has the twin advantages of offering built-in power management and low power consumption.

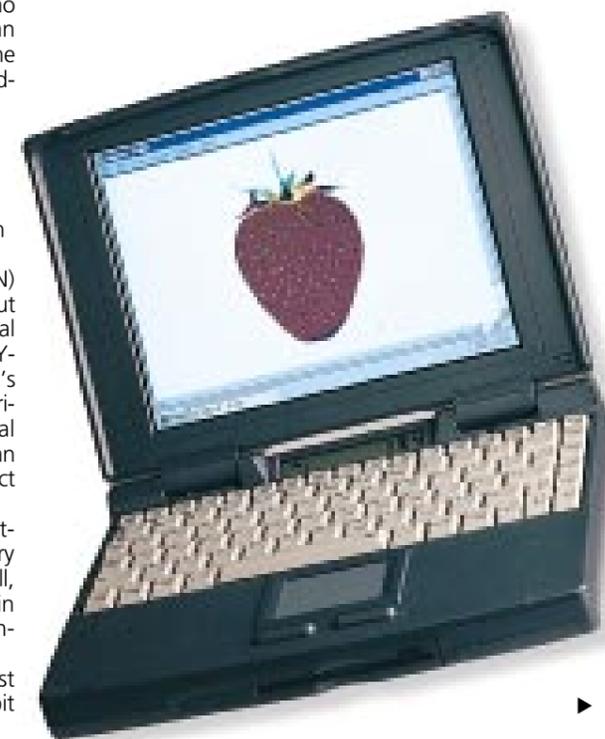
The version of the EzBook reviewed here costs £2,330; admittedly for this you do get 16Mb of RAM and an 810Mb hard disk, but it lacks secondary cache and has no built-in CD-ROM drive. It has an active-matrix screen, rather than the dual-scan type more usual in mid-range machines.

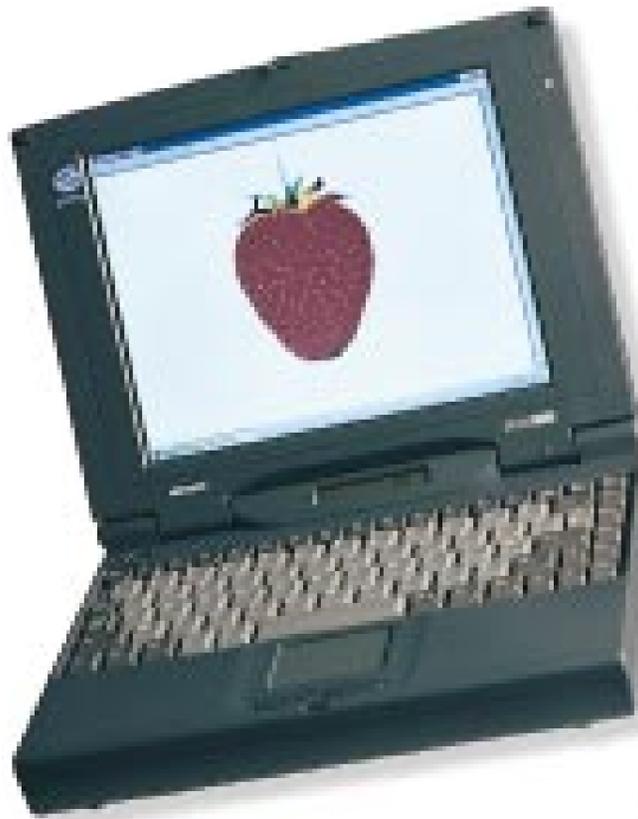
It tips the scales at only 6.25lb, but we noticed that there was a bit too much give in the lid surface and palmrest, which suggests that the major mouldings could do with being made slightly thicker.

There's a PS/2-type (mini-DIN) socket for an external keyboard, but you can also connect an external monitor here using the supplied Y-split adaptor as a sort of poor man's port replicator. A further 9-pin serial port takes care of an external mouse, or alternatively there is an expansion bus that you can connect to an optional docking station.

Both types of PC Card can be fitted at the same time. This can be very useful if you do want to use a small, removable secondary hard disk in addition to the main drive, but without losing, say, your modem.

The EzBook's angled palmrest helps make the keyboard that bit





Olivetti Echos P100E

For £2,114, you get a Pentium 100 machine with an 8Mb memory, 256Kb of secondary cache, a 1.2Gb hard disk and an active-matrix screen capable of operating in high-resolution SVGA mode. The Echos also features a removable floppy drive which can be replaced with a quad-speed CD-ROM module, and integrated 16-bit audio with built-in stereo speakers.

This little lot is packed quite neatly into a fairly compact case weighing 6.7lb, but nevertheless constructed from mouldings both thick and rigid enough to prevent excessive sag either in the lid or palmrest.

The usual ports are present, along with an expansion bus, a standard (IrDA-1) slow infra-red serial port, and a mini-DIN socket for an external keyboard. Although the machine also has PC Card expansion like the others seen here, the slot is narrower, and will only take either one Type III or two Type II cards, but not one of each sort.

Swapping the drives over is easy enough, thanks to the modular design: whichever drive is installed can be released on a single catch, pulled out and replaced. (The machine must be switched off to do this.)

A mousepad controls the pointer, which tends to confirm our suspicions that these devices are set to replace other mechanisms such as trackballs in the near future. The keyboard was responsive enough, but with rather loose keytops.

We liked the SVGA screen, which combined the advantages of active technology (clarity, evenness, brightness) with the greater workspace afforded by increasing the resolution from 640x480 to 800x600. Although the CTX also had a TFT panel, we preferred this one.

One slightly irritating feature of this notebook was that it didn't have Windows-based power management setup, forcing you to interrupt the boot to make changes just as we had to do with the Opti.

Quite good value for a big-name portable considering the general specifications, in particular the SVGA active screen. Apart from the lack of Windows-based power management, it's a reasonably well-thought-out machine.

- £2,114 (incl VAT)
- Olivetti: 0181 785 6666

Olivetti Echos P100E

Performance	★★★★★
Build quality	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★

NEC Versa 4000C

At first glance the Versa 4000C looks a bit expensive in comparison to the other machines on test, but according to the company the ex-VAT RRP is expected to have fallen noticeably by the time this is printed, and the typical, VAT-inclusive buying price should be rather more in line with the rest by now.

It will be interesting to see

whether NEC also elects to replace the Pentium 75 processor currently in use with a P100, as seems to be the current trend. Although the Versa is based on a P75, it does have 256Kb of secondary cache to help speed things up, in addition to the usual 8Mb of base RAM, and an average-sized 540Mb hard disk.

It also offers full multimedia in the form of a stereo pair of speakers set into the screen surround, and a modular quad-speed CD-ROM that can be fitted in place of the floppy drive unit. We quite liked the keyboard, which had a fairly crisp feel to it and seemed slightly more spacious than usual. It also had endearing features like a full-sized Enter key and large Ctrl, Alt and Shift keys. Our only grumble concerned the function-doubling of the cursor and editing (PgUp/Dn etc) keys.

The Versa offers PC Card expansion but the overall size of the aperture is such that it will not accept a Type III card as well as a Type II card. There's an expansion bus for the NEC docking station option, and infra-red serial interfaces front and back, although again these run at the slow IrDA-1 standard.

This is another machine with an active-matrix screen, although this time the panel operates in the standard 640x480 VGA mode, not SVGA like the Olivetti's. All the same, the image is nice and bright and relatively untinted by the screen backlight, and the 10.3in diagonal makes for a highly readable display.

The Versa scores points in the implementation of its power management setup. For once this has been done properly, with a floating button bar that provides access to all the settings from within Windows. This doesn't just look nice,



it's a lot more convenient – if you are trying to finish a piece of work, glance at the battery gauge and realise that you are running short of charge, you can move up to maximum savings there and then without having to stop, shut everything down, and execute a disk-intensive, power-draining reboot.

The Versa has one of the newer Lithium Ion (LiION) batteries, as opposed to the Nickel Metal Hydride type, so you can top up the charge without causing the battery to become less and less efficient over time.

A nice machine overall, with the benefit of properly implemented power management setup, but it's still a little expensive at present.

- £2,700 (incl VAT)
- NEC: 0181 993 8111

NEC Versa 4000C

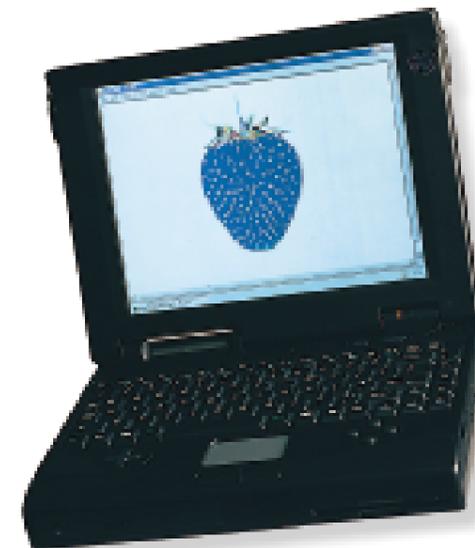
Performance	★★★★★
Build quality	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★

Pico Mobile Professional

The Pico is a sizable affair. To be fair, the machine has both an integrated six-speed CD-ROM and a floppy drive and it's reassuringly robustly built, but even so, we wouldn't fancy carrying it any great distance.

It has an expansion bus so it can be used with a docking station, but it is also supplied with a simple Y-split adaptor that lets you connect up an external mouse and keyboard in one go through the system's mini-DIN port. There's an infra-red serial port too, but as usual the speed is limited to the original IrDA-1 specification.

Despite being the thickest machine on test here, the Pico's PC Card expansion slots were cut to the minimum size so that you cannot fit a Type III card alongside a Type II. However, you do actually get something to put in one of the slots, namely an Apex Data fax/modem



card capable of fast 28.8Kbps data and 14.4Kbps fax communications.

The Pico has a proprietary connector for use with a joystick, and it also has a built-in console-style Maltese cross-shaped controller with a set of four function buttons, so it can double up as a games machine.

Conventional cursor control is by way of a reasonably responsive and consistent mousepad, although the keyboard does have the additional Windows 95 Start and object menu keys, so you can shortcut past some mouse actions if you wish. The keys are fairly well-sprung and the action has a distinct enough break to it, but the layout of the keypad is a little frustrating because the \ (root) key is in a non-standard place up at the top right, and the cursor and editing groups are function-doubled.

The model we reviewed had an 11.3in dual-scan SVGA (800x600) resolution screen, which was a little on the dark side.

This is another machine that forces you to pounce on the keyboard at precisely the right moment during the boot in order to open up the system configuration utility and make changes to the power management settings.

Big, heavy and in need of a proper setup utility for its power management, but it's sturdy and not especially expensive considering its spec and the free modem.

- £2,173 (incl VAT)
- Pico Direct: 01483 202022

Pico Mobile Professional

Performance	★★★★★
Build quality	★★★★★
Features	★★★★★
Value for money	★★★★★
Overall	★★★★★

Notebooks compared				Notebooks compared (cont)			
Machine	Opti Calibre 753	CTX EzBook Gold	Olivetti Echos P100E	NEC Versa 4000C	Pico Mobile Professional	Rock Virtuoso	Ergo Triathlon
Price inc VAT	£2,231	£2,330	£2,114	£2,700	£2,173	£2,349	£2,902
Processor	Pentium 100	Cyrix 5x86 100	Pentium 100	Pentium 75	Pentium 100	Pentium 100	Pentium 133
Memory supplied	8Mb EDO	16Mb	8Mb	8Mb	16Mb EDO	16Mb	16Mb EDO
Secondary cache	256Kb	N/A	256Kb	N/A	256Kb synchronous	256Kb	256Kb synchronous
Hard disk size	540Mb	810Mb	1.2Gb	540Mb	810Mb	1Gb	810Mb
Max weight (lb)	7.8	6.25	6.7	6.9	8	7.5	7
Dimensions wxdxh (in)	11.8 x 9 x 2.2	11.2 x 8.6 x 1.8	11.2 x 9 x 2	11.7 x 9.4 x 2.1	11.9 x 9 x 2.4	11.75 x 8.9 x 2.25	11.75 x 8.9 x 2.1
Software included	MS-DOS 6.22, Xing MPEG player, Transit infra-red aware file transfer utility	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95
PC Card slots	Type III x 1 and Type II x 1	Type III x 1 and Type II x 1	Type III x 1 or Type II x 2	Type III x 1 or Type II x 2	Type III x 1 or Type II x 2	Type III x 1 and Type II x 1	Type III x 1 or Type II x 2
Pointing device	Mousepad	Mousepad	Mousepad	Mousepad	Mousepad	Mousepad	Mousepad
Screen diagonal (in)	11.3	10.3	10.3	10.3	11.3	10.3	11.3
Screen type	DSTN SVGA	TFT VGA	TFT SVGA	TFT VGA	DSTN SVGA	TFT SVGA	TFT SVGA
Battery type	NiMH	NiMH	NiMH	LiION	NiMH	NiMH	LiION
Extra features	16-bit audio, hex-speed CD-ROM, 2Mb of video memory, infra-red serial port	16-bit audio	16-bit audio, quad-speed CD-ROM, infra-red serial port	16-bit audio, quad-speed CD-ROM, infra-red serial port	28.8Kbps PC Card modem, 16-bit audio, hex-speed CD-ROM, 2Mb of video memory, infra-red serial port	16-bit audio, hex-speed CD-ROM, infra-red serial port	16-bit audio, hex-speed CD-ROM, 2Mb of video memory, infra-red serial port

Rock Virtuoso

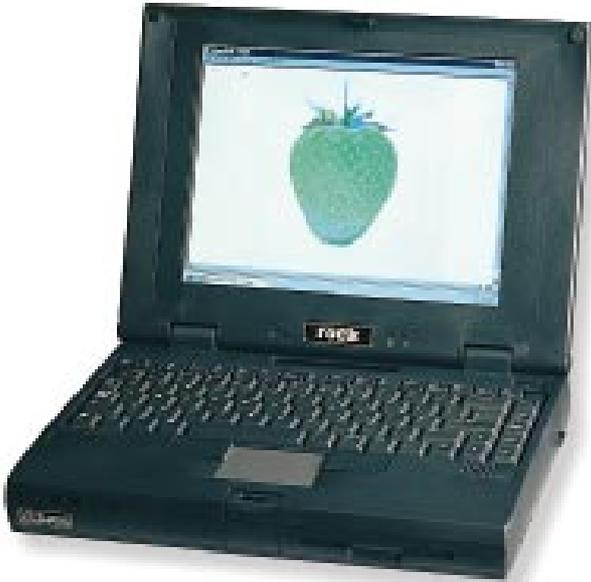
This is a Pentium 100-based machine with 256Kb of secondary cache, 16Mb of main memory and a 1Gb hard disk, which is fairly good going for a price of £2,349. Especially good when you consider that the system also comes with an active-matrix colour screen.

In terms of build, the Rock is middle of the road. There's a bit too much give in the lid, and the case creaks and complains under pressure, but doesn't actually flex too much. It weighs 7.5lb, which is edging towards the heavy side.

It has twin PC Card slots, one for a Type III disk and a completely separate slot for a second Type II device so both can be used together. The main hard disk is also removable and is encased to protect its electronics from damage during handling.

There are two bays at the front, one for the system's NiMH battery ▶

Mid-range colour notebooks



pack and the other for either a floppy drive or a six-speed CD-ROM module. These are both reasonably securely held in place by sliding spring-loaded catches, as is the hard disk, but if you want to anchor everything really firmly there are holes next to each catch for locking screws.

The mousepad worked reasonably well, with only the occasional blind spot when it came to recognising a tap as a mouse click. The keyboard was quite densely packed and might have benefited from a slightly firmer action.

The active-matrix screen had a 10.3in diagonal and operated at 800x600 SVGA resolution. It was a little dark and, on our review model at least, somewhat afflicted with a rolling horizontal interference whose source we could not trace. We'd suggest you check the screen yourself if you are considering buying one of these machines.

This turned out to be yet another machine with its power management setup accessible only by halting the boot process at just the right moment so, once again, making changes will be awkward.

Competitive in terms of price/specification, but we weren't especially keen on the keyboard. The screen raised a question or two and, again, the power man-

agement setup was crude.
 ○ £2,349 (incl VAT)
 ○ Rock Computers: 01753 567899

Rock Virtuoso

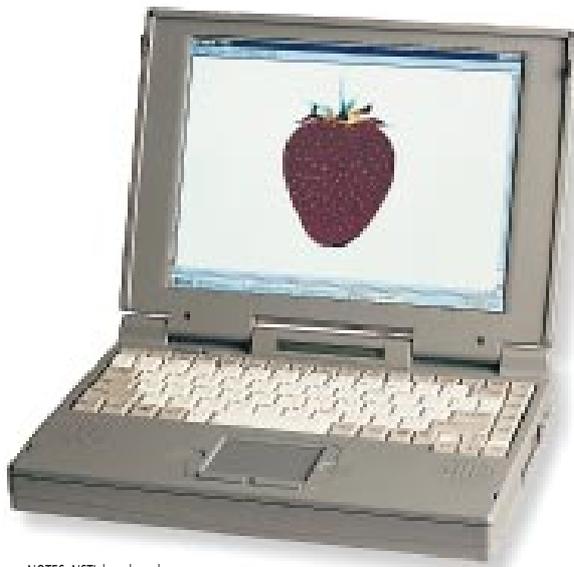
Performance	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

Ergo Triathlon

Last-minute changes of plan at Ergo resulted in us getting a pre-production sample of what will be, by the time this review is published, the company's new notebook. This also meant that the price was higher than we were originally anticipating, but it's always interesting to see what you get for a few dollars more.

The increased cost is partly reflected in the choice of processor; with its 133MHz Pentium, the Ergo is the most powerful machine reviewed here. It comes as standard with an 810Mb hard disk and 16Mb of EDO RAM and 256Kb of synchronous secondary cache.

It's a reasonably portable 7lb.



NOTES: NSTL benchmarks from which this chart was generated were performed in the What PC? VNU labs. Performance is measured against a Compaq 486DX4/100. In all tests, a longer bar indicates better system performance.

special port on the back panel, and Ergo will probably offer the machine with a choice.

The mousepad worked properly. The keyboard could have done with a bit less bounce in its baseplate. The action was on the light side but responsive enough to pass muster, and there were no irritating non-standard function-doubled keys.

The Ergo is graced with a nice, bright 11.3in active screen that provides a reasonably roomy SVGA resolution view. Production machines will have 2Mb of video memory which will enable you to operate an external monitor at 1,024x768 resolution in 65,536 colours.

The one thing the Ergo doesn't get right is power management setup. It lacks a Windows-based control applet and leaves you with no option but to exit Windows, reboot and pause the boot process in order to make changes.

By and large the Ergo justifies its price. It's fast, fairly light and generally well designed and, except in the area of power management setup, it stands up well to the competition.

○ £2,902 (incl VAT)
 ○ Ergo Computing: 0115 9749494

Ergo Triathlon

Performance	★ ★ ★ ★ ★
Build quality	★ ★ ★ ★ ★
Features	★ ★ ★ ★ ★
Value for money	★ ★ ★ ★ ★
Overall	★ ★ ★ ★ ★

WHAT PC? BEST BUY
Although it was a bit more expensive than the typical machine in this group, we would single out the Ergo Triathlon for special mention. It was fast, portable and, just as important, fairly comfortable to use in terms of both its mouse and keyboard setup and its screen. We would like to have seen a proper Windows-based power management utility like the one supplied with the NEC model but, that aside, the Ergo still earned itself a Best Buy.

WHAT PC? RECOMMENDED
Alternatively, the Olivetti Echos is well worth a look, combining as it does a reasonable spec with good overall performance, fair ergonomics and a relatively low price, especially for a big-name manufacturer.

Dominic Bucknall

