Small wonders

Notebooks have made great strides forward over the past year – £2,000 will now buy you a fast, fully featured multimedia machine. We put eight to the test

Traditionally, notebook PCs have always been more expensive than desktop machines of equivalent power. Nothing has changed this year: notebooks are still sold in smaller numbers than desktop PCs, so the development of their miniaturised components makes them more costly.

When we looked at what was available in March last year, £2,000 bought you something like a Pentium 120 with 8Mb of RAM and an 800Mb hard disk. Screens were small, and it was rare for a CD-ROM drive to be included. This time, we chose the same price limit but asked manufacturers specifically for multimedia notebooks so they would all come with a CD-ROM drive and be capable of producing sound.
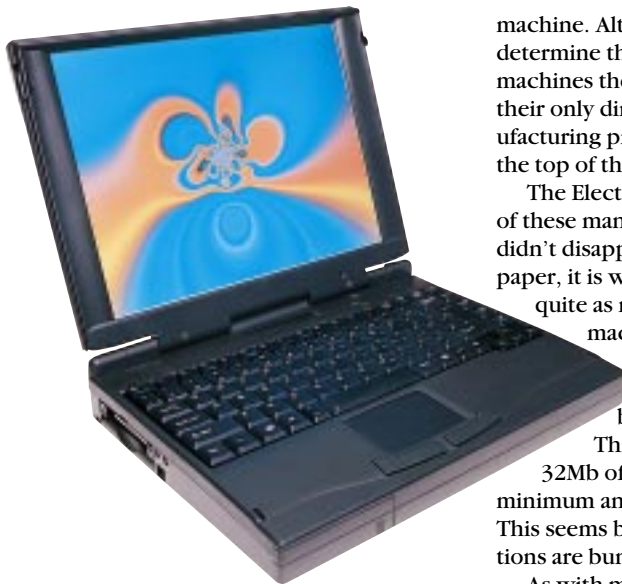
We demanded at least 32Mb of RAM, on the basis that this is an extremely cost-effective way of improving your machine's Windows 95 performance. It is cheaper to have it done at the time of purchase, and, unlike a faster processor, has little effect on battery life. The rest of the specification and the final price were up to the manufacturers.

The improvement since last year is phenomenal. Pentium 166 MMX processors were unheard of in notebooks 12 months ago but are now almost commonplace. Hard disks have doubled in size and screens have got bigger too. Even better, this time we saw far more high-quality TFT displays, which make a machine much more pleasant to use.

Any of these notebooks could replace a desktop PC, as long as you're prepared to accept the smaller screen and diminutive keyboard that are the price of portability. They've certainly got the power to run any office application – even games playing should be a cinch if that's what takes your fancy.

ANR Electron P150MMX

ANR – Advanced Notebook Research – is a newly established brand set up by mail-order supplier Tech Direct. Like many other suppliers of notebooks, it buys in machines from big Taiwanese manufacturers which have the clout to invest in the necessary research and development to produce a decent machine. Although companies like ANR determine the exact specifications of the machines they want to sell, in many cases their only direct contribution to the manufacturing process is gluing a badge on the top of the case.

The Electron comes from the biggest of these manufacturers, Compal, and it didn't disappoint us in the slightest. On paper, it is well specified, although not quite as much so as some of the other machines in this test.

Given the name, it wasn't surprising to find it powered by a P150 MMX processor. This is complemented by the 32Mb of RAM we'd specified as a minimum and an ample 2.1Gb hard disk. This seems bare initially as no applications are bundled with the machine.

As with many of the other machines here, the display is provided by a 12.1in Thin Film Transistor (TFT) screen. A year ago, screens of this size and quality were unheard of on notebooks at this price and its viewable diagonal is only about half an inch less than that of a conventional 14in monitor. While running at 800x600 pixels the ANR's graphics adaptor can cope with a colour depth of 16 bits per pixel – enough to assure realism in any game or multimedia package.

The most obvious attraction of the Electron, though, is the fact that the floppy and CD-ROM drives are combined into a single, weight-saving, ultra-slim unit. It fits internally, and you can use the floppy and the CD-ROM at the same time without having to fiddle with trailing cables from the floppy drive. There isn't even a significant performance penalty, as the CD-ROM drive is a 12x model.
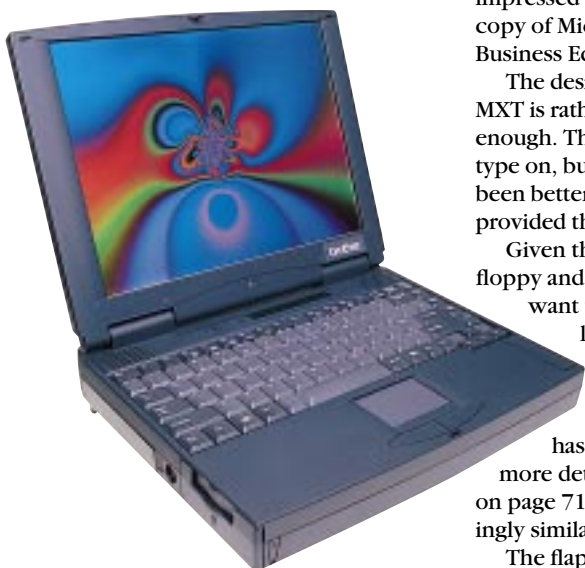
The ANR Electron is an impressive machine for a first entry to the *What PC?* Labs. Despite the lack of software it would make a good buy, especially as it comes with the protection of a 14-day money-back guarantee.

● £1,756.63 (inc VAT)
● Tech Direct: 0181 286 2222

ANR Electron P150MMX					
Build quality	★	★	★	★	☆
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Brother MXT P166MMX

This notebook is comfortably under our £2,000 price ceiling, yet bears both the Brother name and a beguiling list of components.

Chief among these is a P166 MMX processor, which is coupled with a 12.1in TFT screen, a 2.1Gb hard disk and the requisite 32Mb of RAM. We were also impressed to see that it comes with a copy of Microsoft Office 97 Small Business Edition.

The design seemed fair as well: the MXT is rather bulky, but seems sturdy enough. The keyboard is comfortable to type on, but a larger Enter key would have been better. The modular bays, though, provided the nicest touch in the design.

Given that you have two drives – a floppy and a CD-ROM – which you might want to use at home or while travelling, need a battery for mobile computing and need a power supply to recharge it, Brother's OEM manufacturer has hit on an elegant solution. For more details, read the Evesham review on page 71 – its notebook was astonishingly similar.

The flap covering the two PC Card slots is flimsy but the door in it enables you to use a card that requires a cable, such as a modem or a network card, without leaving the flap open and the consequent risk that it might break off.

There is a degree of flex in the lid of the machine; the fact that this is bowed outwards to start with gives more protection to the display. As with the ANR notebook, the MXT has a 12.1in TFT screen with good colour and contrast: it is also visible from a good range of angles. Better than this though, at its maximum resolution of 800x600 pixels (with an external monitor, you can go up to 1,024x768), it can display 24 bits of colour per pixel, which allows true photographic representation of colour.

After this praise, you might think that there is little to criticise about the Brother. Unfortunately, its performance just isn't up to scratch for a P166 MMX machine, primarily because it uses a standard MMX processor rather than one designed specifically for notebooks.

The MXT's disappointing performance combines with its bulk and weight to outweigh the nice touches that are incorporated in its design – a shame.
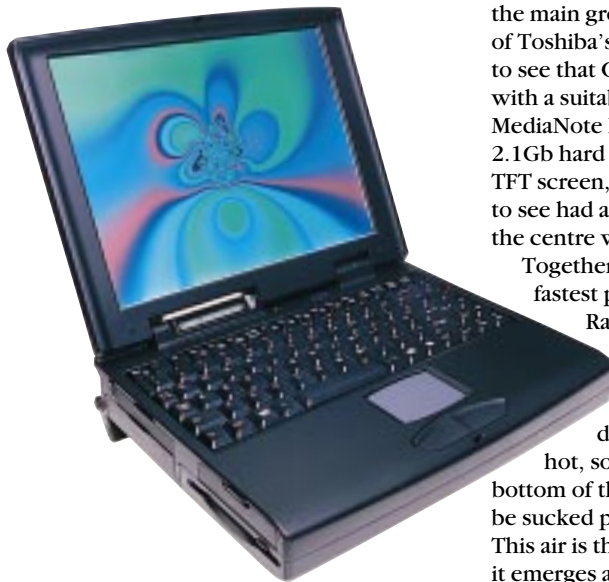
● £1,868.25 (inc VAT)
● Brother: 0800 919556

Brother MXT P166MMX					
Build quality	★	★	★	★	☆
Features	★	★	★	☆	☆
Performance	★	★	☆	☆	☆
Value for money	★	★	★	☆	☆
Overall	★	★	★	☆	☆

Cybernex MediaNote Pro

If you're in the Luton area, then the name Cybernex is more likely to be familiar to you than if you come from elsewhere. The company has been dealing in notebooks since May 1997, and its MediaNote Pro just slips in under our price limit.

As it's the most expensive machine in the main group test – with the exception of Toshiba's – it was something of a relief to see that Cybernex was justifying this with a suitably high specification. The MediaNote has the almost obligatory 2.1Gb hard disk, 32Mb of RAM and 12.1in TFT screen, which we were disappointed to see had a couple of dead pixels right in the centre where they're most annoying.

Together with this though was the fastest processor here, a P233 MMX. Rather than the new mobile Tillamook CPU however, Kapok (manufacturer of these machines) has fitted a desktop chip. This runs very hot, so there is a grille on the bottom of the case to allow enough air to be sucked past to stop it overheating. This air is then vented to the side, where it emerges as if from a fan heater.

Although it's the fastest machine here, you should note that the ANR and Power-com machines, both with notebook processors at much lower clock speeds, are hard on the MediaNote's heels.

The MediaNote has the bulkiest case of the notebooks tested. Both the CD-ROM and floppy drives, however, can be fitted internally. The CD drive is fixed but the floppy is installed in a bay which can also take a second battery: the convenience of having both drives fitted internally is worth a bit of extra weight.

As well as the usual ports, we were pleasantly surprised to see that it has three PC Card slots, giving plenty of scope for expansion.

Sadly, the MediaNote's build quality is merely adequate, and the keyboard is bouncy, noisy and generally unpleasant: when it arrived, one half o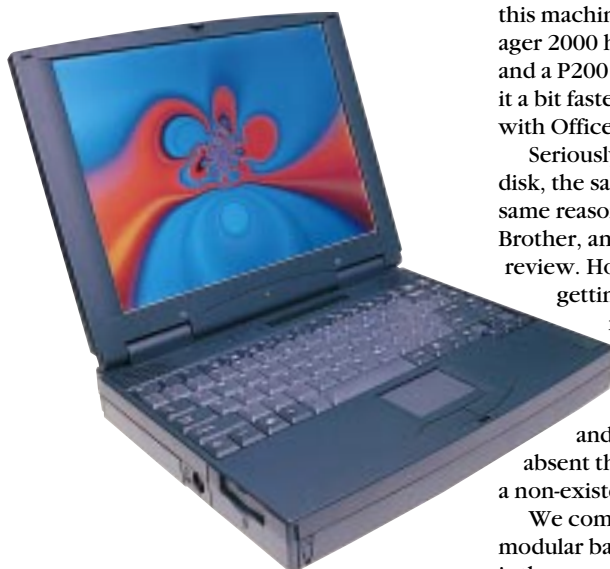f the space bar had come loose and wouldn't work. **For out-and-out performance, the MediaNote Pro can't be beaten by any machine here. Unfortunately, it could also function as an impromptu space heater should the need arise.**

- £1,972.83 (inc VAT)
- Cybernex: 01582 841858

Cybernex MediaNote Pro					
Build quality	★	★	★	☆	★
Features	★	★	★	★	☆
Performance	★	★	★	★	★
Value for money	★	★	★	☆	☆
Overall	★	★	★	★	★

Evesham Voyager 2000

Despite being a much smaller company than Brother, Evesham buys its notebooks from exactly the same place as the electronics giant. We'll refer you back to the review of the Brother MXT (page 69) on certain points, and go into more detail here on certain matters that apply equally to the MXT.

First though, the differences between this machine and the Brother. The Voyager 2000 has a different badge on the lid, and a P200 MMX processor, which makes it a bit faster. Oh, and it doesn't come with Office 97.

Seriously, that's it. It has the same hard disk, the same quality screen and the same reasonable build quality as the Brother, and more detail is given in that review. However, we had some trouble getting a picture on an external monitor and bizarrely, the Voyager thinks it comes with a 5.25in disk drive. Install the 3.5in floppy drive in a bay and all is well, but while it is absent the shortcut tries to take you to a non-existent 5.25in drive.

We commented on the design of the modular bays in the Brother, and here it is the same. Both bays are the same, so any of the four devices – floppy drive, CD-ROM drive, battery or even power supply – can fit in either bay. This is extremely flexible: you can choose power supply and battery for travel, or both drives for desktop use. It also helps to keep down the weight and bulk of what is a substantial notebook.

As with the Brother, however, we found the Voyager's performance disappointing. It has a P200 MMX processor, so shouldn't lag behind the P150 MMX-equipped ANR. But it does, because it uses a desktop CPU.

Intel has a range of processors designed for notebooks which use less power than their desktop equivalents. This keeps them cooler, which gives better performance, as well as saving on battery life. Unfortunately, they are more expensive and difficult to get hold of, but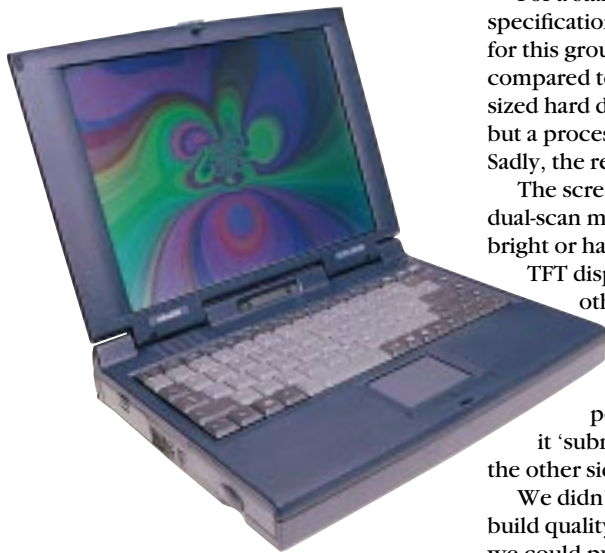 using desktop processors is an inadequate substitute. **Purely because it uses a desktop processor, we can't recommend the Voyager. This cuts its performance and battery life, as well as leaving it liable to overheating.**

- £1,782.48 (inc VAT)
- Evesham Micros: 0800 6345999

Evesham Voyager 2000					
Build quality	★	★	★	★	☆
Features	★	★	★	☆	☆
Performance	★	★	★	☆	☆
Value for money	★	★	★	☆	☆
Overall	★	★	★	★	☆

Olivetti Echos 150DM

Olivetti seems to have been around for years. In fact, it was started in 1908 as Italy's first typewriter manufacturer, and has since grown into electronics and computers.

Unfortunately, the review machine supplied by the company did not meet the standards one might expect.

For a start, it has one of the poorest specifications of any machine submitted for this group test. Arguably, it could be compared to the Toshiba – it has a similar sized hard disk at 1.4Gb, a worse screen but a processor that on paper is better. Sadly, the reality is quite different.

The screen is poor. Admittedly, it is a dual-scan model and will never be as bright or have such good contrast as the TFT displays fitted to most of the other machines here, so perhaps it suffers by comparison. However, it is slow to update and the mouse pointer is all too easy to lose as it 'submarines', only to pop up on the other side of the screen.

We didn't get a good feeling about the build quality in general. There was little we could put our finger on, but although the lid was rigid enough to protect the screen the machine itself had a certain amount of flex and the battery appeared to be a slightly poor fit.

Furthermore, when the Echos arrived we couldn't get it to work properly. Although it would boot up satisfactorily with the floppy drive installed, when this was swapped for the CD-ROM drive the BIOS claimed there was no hard disk and refused to go any further. A new drive cured the trouble, but there was no indication of what had been wrong with the old one and we don't like problems without an identifiable cause.

Finally, the Echos uses a desktop CPU. If you still believe that the advantages of the processors intended for notebooks are nothing more than marketing hype, look at the performance figures. The Echos has a P150 MMX, yet it scores 17.5 percent less than the P133 MMX-equipped Toshiba and 25 percent less than the ANR notebook which has a P150 MMX processor.

Buy this only if you must have an Olivetti.

● £1,641.48 (inc VAT)
● Olivetti: 0800 447799

Olivetti Echos 150DM					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

What to look for when you're buying a notebook

When you're buying a desktop PC, it's relatively easy to work out exactly what you need. Industry magazines are full of advice, and your only problem is working out how much weight to give to out-and-out speed. With a notebook, the equation is different.

You're less likely to use it for playing games – many notebooks are bought primarily for business use and anyway they are less suitable for games than their desktop equivalents. As games are among the most demanding applications you can buy, and word processing will hardly strain even the most modest of machines, raw power isn't critical.

Instead, your primary concern should be usability – how easy will your choice be to live and work with every day? Part of this will be down to your own preferences, so it's important to try out any notebook you're considering. There can be considerable differences between different examples of the same model, so if possible you should play with the one you'll be buying. High street stores have an obvious advantage here, but some mail-order suppliers do offer a money-back guarantee if you're not happy with your machine.

The two most important factors for most users are the screen and the keyboard. Our preference is for a reasonably firm keystroke, with a good feel rather than the lifeless sponginess that used to be so common. The current trend is for notebook keyboards to be mounted on a metal backing plate and this can help them to feel pleasantly solid.

Screen test

The screen should be bright with good contrast, and be visible from a good range of angles. Passive-matrix (dual-scan or DSTN) screens are controlled by rows of transistors at the edges of the screen. Each sends electrical pulses along a row or a column: where they intersect, they activate a pixel. This makes the pixels slow to change colour: if you move the mouse quickly, there's a good chance that the pointer will disappear (submarine) and pop up half-way across the screen. Furthermore, you can only see the display clearly if you're almost directly in front of it.
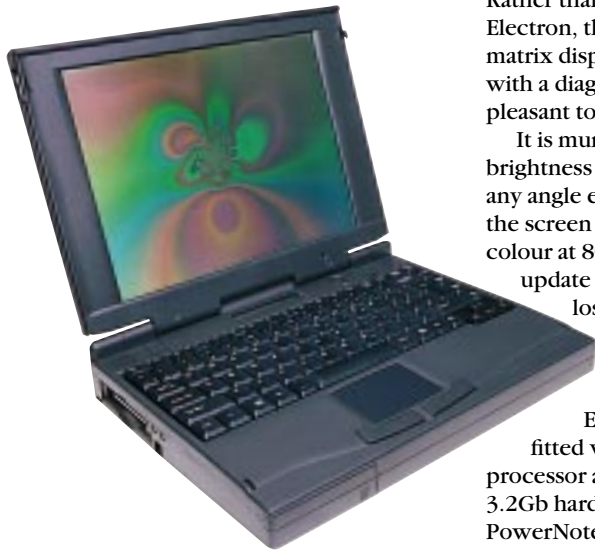
Thin Film Transistor (TFT) screens, on the other hand, use a separate transistor for each of the colours that make up every pixel. The pixels turn on and off more quickly, so submarining isn't a problem and multimedia sequences flow better. Colours are more vivid and TFT screens have better contrast and a wider viewing angle, but they are more expensive.

Toshiba is pioneering a new type of dual-scan screen which is claimed to combine the manufacturing costs of DSTN with near-TFT quality: in essence though, you pays your money and you takes your choice. Note also that any screen you get may have 'dead' – non-working – pixels which will show up as white when the rest of the screen is dark (*see picture opposite*). It would be uneconomic to throw away every screen suffering from a single dead pixel, so manufacturers set a quality threshold which may be as high as 20 or 30 pixels per screen. At the moment, they are an unavoidable annoyance.

Weight, size and battery life are most important if you plan to travel regularly. Most are about the size and thickness of three A4 pads stacked together, although not the same weight. Around three and a half kilos is reasonable for a notebook, including floppy and CD-ROM drives and a mains power adaptor, but if it's more, your arms will regret every extra gram.

Powercom PowerNote

Powercom was founded some 18 months ago, and since then the brand has grown.

Like the ANR Electron, the PowerNote is manufactured by Compal and is in fact fundamentally the same machine. There are some important differences however, most significant of which is the screen.

Rather than the TFT model fitted to the Electron, the PowerNote has a passive-matrix display. As well as being smaller, with a diagonal of only 11.3in, this is less pleasant to use.

It is murky unless you turn up the brightness and is difficult to read from any angle except straight on. Although the screen is capable of displaying 16-bit colour at 800x600 pixels, it is slow to update itself, which means it's easy to lose track of the mouse pointer.

Coupled with this, though, is a higher overall specification than the Electron. The PowerNote is fitted with a mobile P166 MMX processor and 40Mb of RAM, as well as a 3.2Gb hard disk. This is reflected in the PowerNote's performance: it is the second fastest machine here, barely beaten by the Cybernex MediaNote which has a desktop P233 MMX chip.

We found this combination a bit bizarre and for many purposes you'd be better to accept a slightly lower specification but choose a TFT screen. However, like all notebooks, it can be connected to a standard monitor. If you have monitors at home and at work, and intend to make only occasional use of the PowerNote on the move, it would be an eminently suitable choice, especially given its price.

Although the PowerNote uses the older Nickel Metal Hydride batteries which don't last as long as ones using Lithium Ion technology, Powercom supplies two. As long as they're both charged, you should be well set for a long journey if you can cope with the screen. Build quality is good, but the lid isn't as rigid as we would have liked – this applies equally to the ANR and Systems 2001 models.

The PowerNote is an odd mixture: a fast machine with a mediocre screen. If you want to use it chiefly with an external monitor though, it is great value.
- £1,643.83 (inc VAT)
- Powercom Direct: 01753 680777

Powercom PowerNote					
Build quality	★	★	★	★	☆
Features	★	★	★	☆	☆
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	☆

As for battery life, it makes a mockery of portability if this is less than two hours between charges. Heavy use of the CD-ROM drive or many hard disk accesses will cut this, but when these are used with caution we think it's reasonable to expect to get from London to Birmingham by train before the power runs out. The option of fitting a second battery is valuable, as it doubles your independence, and we point out which machines allow this in our table at the end of this group test.

Speed is important, but with a notebook it's an issue mainly because it affects usability. Even a P120 will run Word very happily indeed – just how fast *can* you type? – so anything more than this is a bit of a luxury. What's more, the faster the processor, the more it drains your battery. Intel has developed a range of special low power-consumption chips, but even with these, upgrading your RAM is likely to bring more speed and cause less damage to your wallet and battery life.
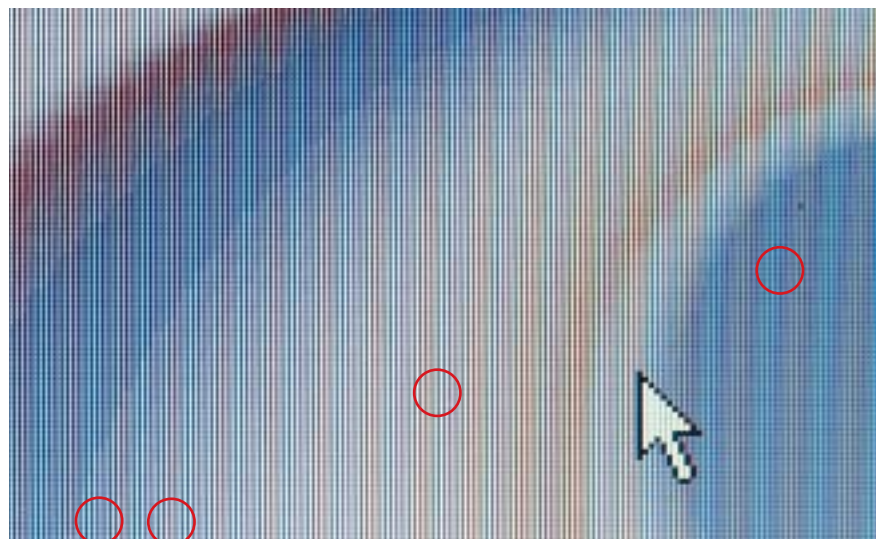
That's why we specified at least 32Mb of RAM for this test – it's one of the best upgrades you can ask for. If you're thinking of going one better and demanding the faster SDRAM though, beware. It does bring performance benefits, but tests by at least one manufacturer claim that this seemingly innocuous change can cut battery life by 10 to 15 percent.

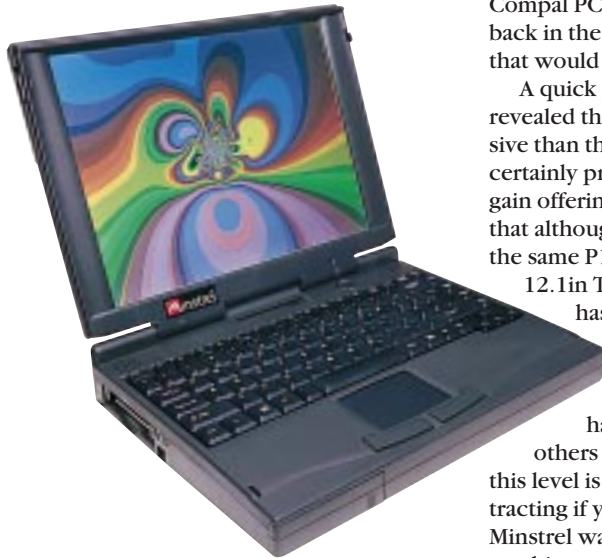Overall then, look for a low weight, battery life of at least two and a half hours (it's usually less than the manufacturers claim) and 32Mb of RAM. A TFT screen is nice, and although the processor isn't critical you should expect at least a P133 MMX at this price. Above all, try it before you buy it.

White spots on your screen are known as 'dead' pixels, and your notebook's screen may have between 20 and 30 of these.

Systems 2001 Minstrel XP695CD

Systems 2001 made its first appearance in a *What PC?* group test in our December 1997 issue, when it submitted a Pentium II system.

As soon as we opened the box, we had a familiar feeling about the Minstrel. It looked like the machines from ANR and Powercom. Sure enough, it was the same Compal PC. It was tempting to put it back in the box and write 'see ANR', but that would have been too easy.

A quick glance at the spec sheet revealed the differences. It's more expensive than the ANR Electron for a start, and certainly pricier than Powercom's bargain offering. This is explained by the fact that although the Minstrel comes with the same P150 MMX processor and 12.1in TFT screen as the Electron, it has 40Mb of RAM and a copy of Microsoft Works 4.0.

Sadly, this is one Minstrel that doesn't sing. The screen has far more dead pixels than others in this group test and while this level is still acceptable, they are distracting if you have a dark image. The Minstrel was also slower than the ANR machine, even after a second run of our tests. We feel that the Minstrel offers conclusive proof that it's vital to take the whole specification of the machine into account.

It has a slightly different graphics card from the one fitted to the ANR – a lower performance model that, at the maximum resolution of 800x600 pixels, can offer only 256 colours (8 bits per pixel) rather than the ANR's 16-bit colour depth. The graphics drivers are slightly different, and the identification number of the BIOS is also different.

Although it's not a slow machine, beating several others here and certainly suitable for extended use, it is outclassed by the cheaper ANR. Given that Systems 2001 has supplied separate floppy and CD-ROM drives which can't be installed in the machine together, it offers no real advan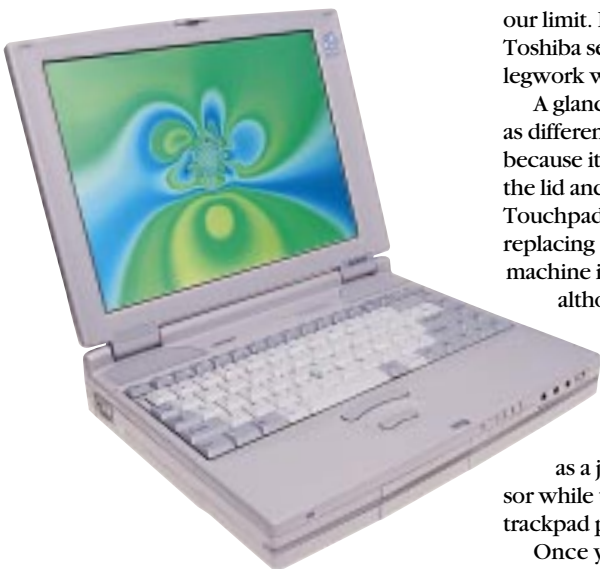tage to justify its price premium. **If you want to buy a variant of this Compal machine you are spoilt for choice in this group test. Unfortunately, this counts against the Systems 2001 notebook: rather than this being a bad machine, there are better choices.**

- £1,899 (inc VAT)
- Systems 2001: 0181 830 1300

Systems 2001 Minstrel XP695CD					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Toshiba Satellite Pro 440 CDT

Toshiba has a superb reputation as a maker of notebooks: in fact, it's just sold its 10 millionth. But while Toshiba notebooks may be topnotch, you'll have to pay top dollar for one. You would be forgiven for thinking it had no place here.

It's true that the RRP of this machine, one of Toshiba's latest models, is way over our limit. It only sneaks in here because Toshiba sells through dealers and a bit of legwork will find it for around £2,000.

A glance at the Satellite Pro marks it out as different from the others here, if only because its colour is so much lighter. Open the lid and there's another difference. Touchpads are common on notebooks, replacing the mouse on every other machine in this group test. Nonetheless, although they're cheap and have no moving parts to go wrong, they can be difficult to get used to. Toshiba, though, prefers to fit a little green nipple between the G, H and B keys: you use this as a joystick to move the mouse cursor while the buttons are in the normal trackpad position.

Once you're used to its sensitivity this isn't hard to use. Beyond this, there is little to criticise about the Satellite Pro. Like all Toshiba's products the notebook is superbly built and gave us a reassuring feeling of solidity.

It has superb performance given that it has only a P133 MMX – a notebook processor, naturally. Couple this to an excellent 12.1in TFTscreen and 32Mb of RAM, and the only thing to look remotely cramped is the hard disk – scarcely bigger than the Olivetti's at 1.4Gb.

Meanwhile, Toshiba's own BIOS can't be accessed during the boot sequence. You alter it and the power saving settings through a utility on your Start menu: this is great for its convenience. And finally, the Satellite Pro is the only notebook in our main test to come with a Universal Serial Bus (USB) port. Although few USB peripherals are available yet, this is useful future-proofing. **You'll have to shop around to find the best price, but the Satellite Pro is an excellent machine. Solidly built and backed by the Toshiba name – what more could you ask?**

- RRP £2,432.25 (inc VAT)
  £1,870 (inc VAT) (expected street price)
- Toshiba: 01932 828828
- Action Computers: 0800 746638

Toshiba Satellite Pro 440 CDT					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

High-end notebooks

All the machines in our main group test are more than adequate for everyday use, but if you've got a little more money to spend there are other features it's nice to have. The three notebooks below offer a lot more than the average machine and, while none of their extras are essentials, acquiring any of them is sure to make you the envy of your colleagues and friends.

Apple Powerbook 3400 c/200

If you use a Macintosh, chances are you won't want to learn a new operating system simply to make mobile computing possible. Fortunately, Apple's Powerbook range provides some stylish alternatives to the generally boxy PC notebooks.

The Powerbook 3400's curves make it look bulky and, at 2.5in thick, it is the fattest machine here by a fair margin. It is a rather attractive design, though, and when you open it up it doesn't disappoint. As you'd expect at this price, there's a TFT screen which, at 12.1in, is perhaps a little small but still respectable.
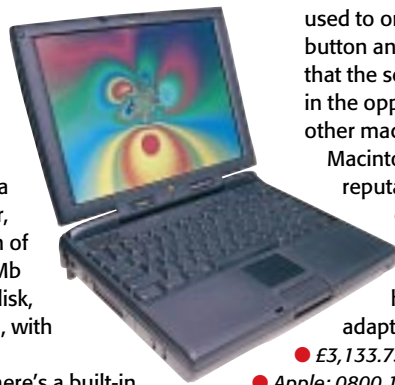
It has an intermediate powersaving mode. Rather than switch the screen off after only a minute or two of inactivity, it reduces its brightness, and therefore the power consumption of the backlight.

Powered by a Motorola PowerPC 603e processor, the 3400 has a good turn of speed. It comes with 32Mb of RAM and a 2Gb hard disk, and the keyboard is solid, with large keys.

Expansion is easy as there's a built-in SCSI adaptor, two PCMCIA card slots and an infra-red interface.

As Windows 95 users, we couldn't get used to only having one mouse button and it was no surprise that the screen catch is operated in the opposite direction to any other machine here.

Macintoshes have a reputation for doing everything backwards, so we're sure that their aficionados will have no problem in adapting.

- £3,133.73 (inc VAT)
- Apple: 0800 127753

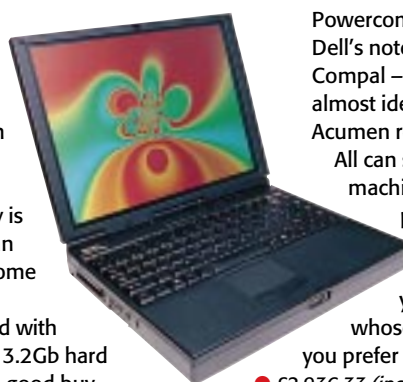| Apple Powerbook 3400 c/200	
Overall	★ ★ ★ ★ ☆

Dell Inspiron 3000

At the beginning of November last year, Dell revamped its notebook range and launched the Inspiron 3000. It combines the latest technology with what is, for Dell, an extremely competitive price.

It uses the newest processor from Intel, Tillamook. This is a variation on the Pentium MMX chip designed for notebooks. It uses less power and produces less heat than a desktop chip, so it leads to longer battery life and should be more reliable in the long term. What's more, the processor, cache and support chipset are built onto a module which can be removed for upgrading, say to a Pentium II, more cheaply than buying a new notebook.

The Inspiron is a fast PC – it scores 185 in our tests – with a P233 MMX processor, 32Mb of RAM and a fine 13.3in screen. This practically fills the case, so it looks even bigger than it really is and is barely smaller than the visible diagonal of some 15in monitors.

When this is combined with solid build quality and a 3.2Gb hard disk the Inspiron looks a good buy. However, even though Dell is the third biggest notebook supplier in the UK, this still isn't enough volume to make it economic to build its own. As with ANR, Powercom and Systems 2001, Dell's notebooks are made by Compal – and the Inspiron is almost identical to the ACi Acumen reviewed in December. All can supply a similar machine at a comparable price, so the only real factor is which badge you want to have on your notebook and whose after sales support you prefer to trust it to.

- £2,936.33 (inc VAT)
- Dell: 0870 1524601

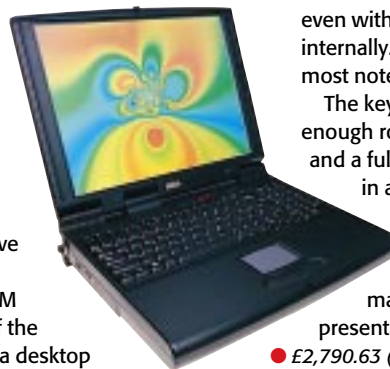| Dell Inspiron 3000	
Overall	★ ★ ★ ★ ★

MBC Pronote 15.1in

The first thing you'll notice about the Pronote is its size. It's closer to an attaché case than a pad of A4 paper, and makes a mockery of the term 'notebook computer'. Still, there's a good reason for this.

Lift the lid and there, not quite filling it out to the edges, is the biggest screen we've ever seen on a portable computer. From corner to corner it's a whole 15.1 inches, considerably bigger than a desktop 15in monitor and perhaps an inch smaller than the viewable area on a 17in model. It's a TFT screen that's visible from a good range of angles, so is ideal for presentations, while the video card has 4Mb of RAM and can handle 24-bit colour comfortably at all resolutions.

With a P233 MMX processor and 64Mb of RAM, the Pronote scored 206 in our tests. While high for a notebook, this is a bit less than we'd expect from a machine of this specification.

It's little more than we've seen from P200 MMX desktops with half the RAM and is probably a result of the Pronote being fitted with a desktop processor rather than one that is, like the Tillamook, intended for mobile computing.

The rest of the Pronote's spec is up to scratch, with a 2.1Gb hard disk and a 20x CD-ROM drive that can be used even with the floppy fitted internally. It has two USB slots: most notebooks have only one.

The keyboard too is big, with enough room for decent keys and a full numeric keypad. All in all, this is a PC for those who want either a semi-portable desktop machine, or a mobile presentation tool.

- £2,790.63 (inc VAT)
- MBC: 0181 208 2333

MBC Pronote 15in	
Overall	★ ★ ★ ★ ☆

Multimedia notebooks compared

Product	ANR Electron P150MMX	Brother MXT P166MMX	Cybernex MediaNote Pro	Evesham Voyager 2000	Olivetti Echos 150DM	Powercom PowerNote	Systems 2001 Minstrel XP695CD	Toshiba Satellite Pro 440 CDT
Contact	0181 286 2222	0800 919556	01582 841858	0800 6345999	0800 447799	01753 680777	0181 830 1300	01932 828828
Price (RRP)	£1,756.63	£1,868.25	£1,972.83	£1,782.48	£1,641.48	£1,643.83	£1,899	£2,432.25
Processor	P150 MMX	P166 MMX	P233 MMX	P200 MMX	P150 MMX	P166 MMX	P150 MMX	P133 MMX
Processor type	Notebook	Desktop	Desktop	Desktop	Desktop	Notebook	Notebook	Notebook
RAM	32Mb	32Mb	32Mb	32Mb	32Mb	40Mb	40Mb	32Mb
Hard disk size	2.1Gb	2.1Gb	2.1Gb	2.1Gb	1.4Gb	3.2Gb	2.1Gb	1.4Gb
Screen size	12.1in	12.1in	12.1in	12.1in	12.1in	11.3in	12.1in	12.1in
Screen type	TFT	TFT	TFT	TFT	DSTN	DSTN	TFT	TFT
Dimensions (wxdxh)	297x228x51	292x234x56	302x235x58	292x234x56	305x232x49	297x228x51	297x228x51	302x242x54
Weight – total (kg) (1)	3.42	4.34	4.08	4.31	4.09	4.53 (inc 2 batteries)	3.91	4.07
Weight – 'travel' (kg) (2)	3.09 (inc CD)	3.44	3.47 (inc CD)	3.51	3.16	3.11	3.02	3.1
CD-ROM	12x	20x	20x	10x	10x	10x	6x	10
CD + floppy simultaneously with battery (3)	●	○	●	○	●*	●*	●*	●*
Battery life (claimed)	3-3.5hrs	3hrs	2-2.5hrs	2-2.5hrs	up to 2hrs	1.5 hrs	3-3.5hrs	2.5
Battery type	Li-Ion	Li-Ion	Li-Ion	Li-Ion	NiMH	NiMH	Li-Ion	Li-Ion
Second battery option	●	●	●	●	○	●	●	●
USB	○	○	○	○	○	○	○	●
PC Card slots	2	2	3	2	2	2	2	2
Bundled software	○	MS Office SBE	○	○	○	○	MS Works	○
Warranty	1yr worldwide c&r	1yr rtb	1yr c&r + 2yrs rtb	2yrs rtb + accidental damage cover	1yr c&r	1yr c&r + 2yrs rtb	3yrs rtb	3yrs rtd
Star rating	★★★★★	★★★	★★★★	★★★	★★	★★★★	★★★	★★★★

Notes:

1. Total weight includes notebook, battery, all drives, power supply and mains lead, and floppy drive cable where necessary.

2. 'Travel' weight includes notebook, battery and floppy disk drive (ANR and Cybernex figure includes CD-ROM drive).
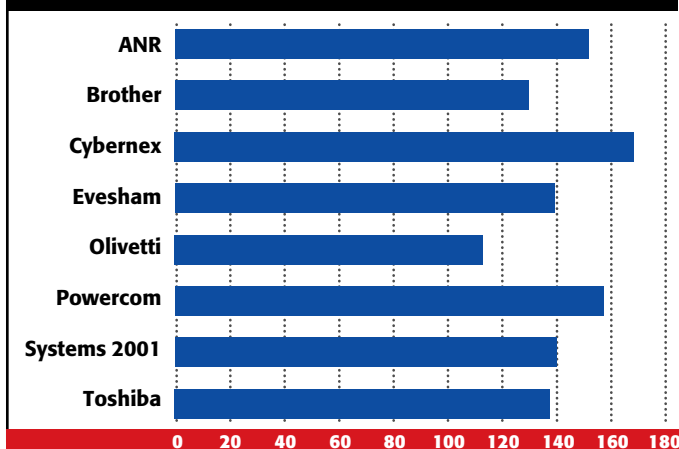
3. For CD & floppy simultaneously, ●* indicates that a cable (supplied) is required.

c&r = collect and return; **rtb** = return to base; **rtd** = return to deale; **RRP** = recommended retail price

○ No ● Yes   ★ = Poor ★★ = Below average ★★★ = Average ★★★★ = Good ★★★★★ = Excellent

Performance results

	0	20	40	60	80	100	120	140	160	180
ANR										
Brother										
Cybernex										
Evesham										
Olivetti										
Powercom										
Systems 2001										
Toshiba										

NOTES: BAPCo benchmarks from which this chart was generated were performed in the *What PC?* VNU Labs. In all tests, a longer bar indicates a better system performance.

Our Best Buy award has to go to the ANR Electron. It's one of the smallest and lightest notebooks on test, yet manages to fit both floppy and CD-ROM drives into its diminutive case. Its convenience is unrivalled here, and when this is coupled with good performance and a competitive price it's a worthy winner.

If you'd prefer the reassurance of brand name, then Toshiba's Satellite Pro 440 CDT is a fine machine. It's probably the best-built notebook in this test, with a good screen and keyboard and a pointing device that's unique here. Just make sure you shop around to find the best price.

If cost is the key, then it is difficult to beat the Powercom PowerNote – power by name and powerful by nature, it offers great performance at a price just a whisker away from being the lowest in this group test. It is let down by the screen, but if you have no need for a great display, it's a good buy.

Although the Powercom and the Toshiba are very different, we recommend them both.

John Sabine