Budget notebooks

Budget Travellers

It's never been easier to get a good-looking, reliable notebook at a price which won't make you shudder. We assembled the contenders and put them through their paces to find the Best Buys. Read on to discover how to look flash for less cash

The idea of portable computing is great in principle, and you've been able to buy PCs you can carry around and use on the train for ages. Up till now though, you've had a choice between paying silly money for a notebook with a decent screen that's powerful enough to run heavyweight applications on, or settling for something more affordable but also less capable. The situation now is very different. Just as with desktops, notebook PC prices have fallen dramatically, mostly driven by lower cost displays. When we requested machines for this budget notebook test most manufacturers shied away from the cheapest dual-scan screens, opting instead for high-class TFT or intermediate ADS models.

What's more, although we didn't set any minimum requirements, most notebooks came with lower voltage mobile processors – better for reliability – and only one had less than 32Mb of RAM. In notebooks this is doubly important as it not only improves performance but, by cutting the number of times your PC accesses its hard disk, boosts battery life as well. Performance from them all was more than acceptable and, as well as the usual crop of Pentium MMX machines – no PIIs at this price yet – we also saw a couple of notebooks using AMD's latest K6-2 chip.

The price for all this? Well, we told the 10 manufacturers here that the machines had to cost under £1,200. However, we discriminated between direct sellers and those who go through dealers because of the way the notebook market works. For direct sellers, the limit included VAT, for branded notebooks it didn't. This reflects three factors: street prices are generally around 20% lower than those quoted here, dealers may be prepared to negotiate their prices if you bargain, and brand names are very appealing to corporate buyers who can probably reclaim the tax anyway.

In short, here are 10 affordable notebooks. Read on to discover which models are worth a place in your briefcase.

Budget notebooks

ACi Excel II

First out of its box and on to the test benches in the VNU Labs was the ACi Excel II, a notebook with a P200MMX processor and a healthy 32Mb of RAM. As well as offering a decent specification, it's a nice-looking machine.

The speakers sit under curved grilles just below the screen, the sides of the case flare out slightly towards the back and the mouse buttons curve to match the front of the palmrest. What's more, the plastics used here have a greenish tinge which is rather more pleasant than the battleship grey of most notebooks.

Of course, the aesthetics of a notebook's design shouldn't skew your buying decision too much. Just as with a desktop PC, it's what's inside the box that counts. A P200MMX with 32Mb of RAM and a 2.1Gb hard disk looks a bit lightweight compared to most desktops at this price, but it's certainly adequate unless you have a burning need to play the latest games.

Unfortunately, the Excel's benchmark score was disappointing, putting it close to the slowest on test. Nonetheless, in use it felt rather faster than this would suggest, and we think its score can be blamed on the motherboard control chipset, which does not support the full speed of its hard disk. We wouldn't have a problem seeing our work appearing on its bright TFT screen. We would worry about losing the flaps which are meant to protect its ports, as these felt distinctly flimsy, but it should easily stand up to normal travel – just like the practically identical Dual notebook.

The ACi is a competent enough machine. For sure, it doesn't really excel, but its poor SYSMark 98 score doesn't hide the fact that it is fast enough for almost any business software. Quibbles about build quality aside, it's a reasonable choice.

- £1,173.83 (inc VAT)
- ACi: 0181 830 1958
  www.aciweb.co.uk

ACi Excel II					
Build quality	★	★	★	☆	☆
Features	★	★	★	☆	☆
Performance	★	★	☆	☆	☆
Value for money	★	★	★	☆	☆
Overall	★	★	★	☆	☆

Compaq Armada 1560

Compaq notebooks sell well, especially to corporate buyers, and the company is second only to Toshiba in the market. It's got a good reputation, particularly for its top-of-the-range models, and of course this helps it sell even more. But smaller users don't always want to pay more just to buy into a company's reputation – they want reasonable prices and good performance too. On the face of it, the Armada 1560 is an attractive offering. Compaq's suggested price for it is around £1,200, not bad for a branded PC with good build quality.

Unfortunately, although it's solid, this Armada doesn't have a whole lot going for it. It's bulky and heavy, and though it follows the same family lines as the rest of Compaq's Armadas, we're not keen on its looks. Its speakers form part of the palmrest – this apparently leaves room for an integrated bass tube – but this is a distinctly eccentric arrangement. It's an all-in-one design, so both CD-ROM drive and floppy are included, but the only unique feature here is the integrated power supply which saves you carrying round a separate transformer.

Like the majority of the displays here, the Compaq's screen is a 12.1in model and though this is fine in terms of size, it is a disappointingly dark dual-scan model. The real problem, though, comes in the Armada's poor performance. With a P166MMX processor and just 16Mb of RAM, you'd expect it to be the slowest on test, and so it proved. In fact, our SYSMark 98 benchmark would not run due to lack of memory, and the SYSMark 95 result was unimpressive.

The Armada will cope with basic office software, but more RAM would have made it a much better machine. As it is, even its 3Gb hard disk can't redeem it.

- £1,408.83 (inc VAT)
- Compaq: 0845 2700 4000
  www.compaq.co.uk

Compaq Armada 1560					
Build quality	★	★	★	★	★
Features	★	★	☆	☆	☆
Performance	★	☆	☆	☆	☆
Value for money	★	★	☆	☆	☆
Overall	★	★	☆	☆	☆
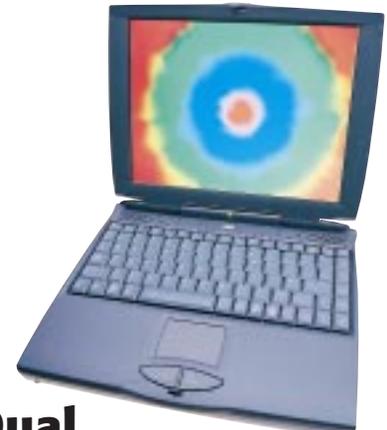
Dual Minerva MT6670

If you think that the picture of this Dual machine looks similar to that of the ACi, look again more closely. They are all but identical, with the only physical difference here being the omission of a tiny knobble of plastic under the screen. Intended to flick the suspend switch as you shut the Minerva, its absence means that if you close the Dual its screen will stay on – not good for its battery life.

Apart from that, there is little to choose between this Dual and its ACi equivalent and our comments apply to each. They are made by Dual Technology itself in the same Taiwanese factory, and the boxes sent to us had shipping numbers in the same series.

As with the ACi, it was nice to see that the Dual was fitted with a proper mobile processor, a Tillamook module, though we were disappointed that this extra touch wasn't reflected in its benchmark scores and its cooling fan is very noticeable. However, its 32Mb of RAM gives sufficient working space for most purposes and the screen is pleasant enough.

We were a little unsure about the keyboard, however. It seemed OK, but had very little feel to it. For sure, lifeless is better than too bouncy, but keyboard preferences are so personal that you'd be well advised to try this one for yourself.

The USB and infra-red ports are to one side of the case, where they're more accessible – though less convenient – than round the back. The TV Out socket was a nice touch, as are the flaps which protect the two PC Card slots. These fold inwards, so they're safe – those which cover the notebook's ports fold out and seem vulnerable, while there's some flex in the case itself.

Just like the ACi, the Dual is a fair choice for a decent but unexceptional portable PC.

- £1,116.25 (inc VAT)
- Dual: 01223 576622

Dual Minerva MT6670					
Build quality	★	★	★	☆	☆
Features	★	★	★	☆	☆
Performance	★	★	☆	☆	☆
Value for money	★	★	★	★	☆
Overall	★	★	★	☆	☆

Evesham Micros Voyager 2500

Just like ACi and Dual, Evesham Micros sources its Voyager range of notebooks from one of the big Taiwanese manufacturers with the clout to invest in notebook development. In this case, it's Asus – the company also makes motherboards and a range of peripherals – and sure enough, the Voyager 2500 looks remarkably similar to two other machines here.

Its floppy and CD-ROM drives are built into the case, so there's little else to carry round with you and, though it's hardly svelte, it isn't too bulky to the eye. A quick glance confirms that the Voyager comes with a 12.1in screen, which thankfully is of the TFT variety.

The Voyager is the first notebook we've seen based on the AMD K6-2 processor. Evesham – and Asus – have worked fast to include it in a notebook – new processors normally take much longer before they appear in portable PCs. Even better, it's a 300MHz chip – Intel mobile processors at this speed won't be launched for another couple of weeks.

However, although it has a good turn of speed, we wouldn't be entirely happy with the Voyager. There's more detail in our review of the similar Hi-Grade and Portables Direct machines, but chips which, like the K6-2, use Socket 7 motherboards tend to run very hot. Heat is perhaps a notebook's worst enemy, making it unpleasant to use and, worse, affecting its reliability – the Voyager crashed several times while on test.

Second fastest on test, the Voyager certainly impressed us with its performance. However, we remain sceptical about the merits of the AMD K6-2.

- £1,200 (inc VAT)
- Evesham Micros: 0800 6345999
  www.evesham.com

Evesham Micros Voyager 2500					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Fujitsu Lifebook 270Dx

Everyone knows that a notebook's styling isn't nearly as important as its performance and build quality, but even so the Lifebook is one of the ugliest notebooks we have seen. Though black is meant to be slimming, it looks tremendously bulky too.

For all its size, the Lifebook is one of only two notebooks here to have a modular design, meaning that if you've installed the battery, you have to choose which of the CD-ROM and floppy drives you want to fit internally. Even so, to fit the floppy drive internally you'll first have to slot it into a bulky cradle – an inauspicious start.

On the other hand, using the floppy externally shows more thought in the design, as its cable attaches to a dedicated port and keeps the parallel port free. In use, we weren't impressed by the keyboard, which is clicky and has a harsh feel. Despite the decent-sized Return key, we wouldn't want to use it for any period of time.

The mouse too is difficult to get used to. Rather than the more usual touchpad, Fujitsu has chosen a small plastic joystick and sawn it off almost level with the palmrest. We found it over-sensitive at first, and the buttons are very small.

Worst of all is the screen, which was one of the worst dual-scan models we have seen. It was so dark, and the contrast so poor, that we weren't convinced it was a more sophisticated HPA model. We hope that this was simply a one-off – if not, it is a real disappointment.

The Lifebook 270Dx has staggeringly little to commend it. It's bulky and unpleasant to use, and its mediocre performance can't redeem it.

- £1,232.58 (inc VAT)
- Fujitsu: 0181 573 4444

Fujitsu Lifebook 270Dx					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Hi-Grade Notino Mi-3000

From the outside, the Hi-Grade Notino Mi-3000 looks exactly the same as the Evesham Voyager, and given that it's from the same factory as Portables Direct's offering, our general remarks apply to all three. Cosmetically they are indistinguishable apart from having different badges, but inside the case is a slightly different story.

While it's got the same 12.1in TFT screen as the others as well as the same complement of RAM, its processor is different. Rather than an AMD K6-2, with its integrated 3D graphics technology, the Notino uses an Intel P233MMX. To fit into the Socket 7 motherboard, this is necessarily a processor intended for desktops and as such it draws a lot of power and runs fairly hot.

Although it felt cooler than the K6-2 machines in use, and seemed less prone to crashing, we'd be a bit wary of using the Notino for extended periods. In common with all the notebooks here, it is likely to crash if you leave it switched on overnight or for a weekend.

Apart from this, we were fairly happy with the Hi-Grade. It's a solid design, and the incorporation of all the drives is useful although it does remove the flexibility of swapping in other devices. We were pleased that the Notino's rubber feet are larger at the back than at the front – this tilts the keyboard forwards for typing which is a definite plus.

We feel this take on the Asus chassis may be slightly more reliable than either of the others, simply because of its processor. Like them though, it is a fair choice for a solid and reasonably specified notebook.

- £1,126.83 (inc VAT)
- Hi-Grade: 0181 532 6111
  www.higrade.com

Hi-Grade Notino Mi-3000					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Accessories

Because they're so much smaller than desktop PCs, notebooks just aren't as expandable as their bigger brothers. It's not so much that you'll invalidate your warranty if you open the case, it's more that there's just no room inside for anything apart from more RAM. In most cases, adding memory is just a matter of undoing a screw then slotting in a suitable module, but that alone would be very limiting.

But never fear. You can still expand your notebook's horizons, and it's usually easier than upgrading a desktop PC. That's what the PC Card slots are for – they'll take wallet-sized expansion cards which install practically automatically.

The most obvious addition is probably a modem, and here the Pace NB 56 Voice is a fine choice. It will let you download from the Internet at 56kbits/s, it's ready for a flash upgrade to the new V.90 standard, and it even supports Caller ID so you can see who's ringing you.

Less obviously, you can convert your notebook to a TV if you've got the right equipment. In this case, an external TV receiver is the solution. Buy the ACi MD-1000 Video Producer, and you get a small black box with a pair of rod aerials. On its own, this will do nothing. But connect it to the supplied PC Card, start up the software – this even includes an on-screen remote control – and you can watch the *TeleTubbies* on your notebook. Again.

You can record TV pictures to your hard disk, or connect the card to a video recorder and edit your films onscreen. Make sure you've got a high-spec notebook though – videos take up a lot of space and editing them needs a lot of power. We wouldn't recommend using a passive matrix-screen as it will refresh too slowly – a TFT one will give much better results.

SCSI cards like the Adaptec SlimSCSI 1480 let you connect Zip and Jaz drives, or any other external SCSI peripheral you could use with a desktop. Its advantage is that it supports CardBus, the newer PC Card standard which can transfer data 32 bits at a time.

If you fancy being able to exchange large files with desktop PCs but don't want to lug round a full-size Zip drive, take a look at the MiniZip. This is a slimline Zip drive in a robust plastic case, but it's permanently connected to a PC Card. It can even take power from the notebook so you don't need a special battery.

It's available from MarkTech, which also stocks a variety of other PC notebook accessories. You can buy an adaptor so you can power your notebook from your car's cigarette lighter, or a PC Card reader to let your desktop PC use PC Cards just like your notebook. And of course, you can buy network cards, sound cards, even an add-on joystick port to fit.

ACi: 0181 830 1958
Adaptec: 01276 854500
Marktech: 0181 968 2111
Pace: 0990 561001

Pico Direct Mobile Consul

The Consul is Pico's first submission to a *What PC?* group test and, like most of the other machines here, it comes from an anonymous Taiwanese factory. In this case though, it's a plant run by a company called Clevo.

A paper comparison of specifications certainly makes the Consul look impressive: it's got the biggest screen here at a whopping 13.3 inches, twice as much RAM as any other machine and a pretty fast processor. Granted, paper promises don't always translate to reality, but the Consul certainly seems to deliver.

It has a TFT screen, which means good contrast and almost the same visible area as a desktop 15in monitor. Speed is high: its P233MMX processor is a Tillamook mobile module, designed to cut power consumption and optimise performance.

With 64Mb of memory, the Consul turns in the highest SYSMark score here. Its decent keyboard and all-in-one design means that the only extra you need to carry is the compact power supply. Just watch the build quality – hold the case by one corner and it will flex, though not alarmingly.

However, the Consul's generous allocation of RAM isn't an unmixed blessing. It boosts performance, but the price for this is shorter battery life. SDRAM is power-hungry and that extra 32Mb is a permanent drain on the battery – a hard disk only draws power while it is actually spinning. In a notebook, so much memory is only worthwhile for really demanding users.

At this price, the Consul is a steal. It's well specified and fast too, with just one minor quibble about its rigidity.

- £1,199 (inc VAT)
- Pico Direct: 01483 402111
  www.picodirect.co.uk

Pico Direct Mobile Consul					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Portables Direct Millennium 1001

By the time we tested the Millennium 1001, we'd more or less worked out what it would be like. Its packaging gave us the clue that it might be pretty similar to the Evesham and Hi-Grade machines and, sure enough, inside the box was a third example of the same PC.

Like Evesham, though unlike Hi-Grade, Portables Direct chose to supply their machine with an AMD K6-2 processor. The 300MHz chip gives it good performance, but does produce a lot of heat.

In part, this is because of the design of the notebook itself. To keep the chip reasonably cool, there's a fan immediately below it. This sucks air through vents and then blows it over the chip and out through two more vents. Unfortunately, the inlet is in a bulge in the base, and it's nearly blocked if you put the notebook on a desk. It gets even worse if the machine is on a soft surface.

This can cause problems if the processor overheats, and we found that both K6-2 notebooks crashed several times while on test. Although it is lower voltage than the Pentium MMX fitted to the Hi-Grade, the K6-2's higher clock speed causes it to use more or less the same power. Coupled with a reputation for high heat output, this means the K6-2 runs very hot, especially in the restricted space of a notebook. This can lead to system crashes and poor long-term reliability, but at the moment we can only wait and see if our fears are justified.

Discounting our concerns over its K6-2 processor and Socket 7 design the Millennium 1001 is, like its Evesham and Hi-Grade counterparts, a solid notebook and a reasonable choice.

- £1,115.07 (inc VAT)
- Portables Direct: 0181 968 1444

Portables Direct Millennium 1001					
Build quality	★	★	★	☆	☆
Features	★	★	★	☆	☆
Performance	★	★	★	★	☆
Value for money	★	★	★	★	☆
Overall	★	★	★	☆	☆

Siemens Nixdorf Scenic Mobile 501

Glance at the sleek lines of the Mobile 501, and you'd think that it was a substantial cut above every other machine here. That's not far off the mark either, for it uses exactly the same chassis – plastics mouldings – as the vastly more expensive Mobile 510.

There are differences of course. The Mobile 501 comes with an Intel P200MMX rather than the PII processors which are available in its more powerful sibling, and it's fitted with a 12.1in passive-matrix screen instead of a larger TFT model. However, the screen is an ADS type (also known as HPA), which boasts better contrast and faster updating than the DSTN models. The Scenic 501 was fitted with a particularly good example of it too – a contrast to that in the Fujitsu.

This aside, the Siemens offers good performance. Its SYSMark 98 result is middle of the road, but when we tried SYSMark 95 it gave a more impressive result. Each time we looked at it though, we kept returning to the design. It's the slimmest and lightest machine here, but also one of the most pleasant to use.

We liked its keyboard, especially the slope that lets the keys fall more easily to hand. The touchpad was light to use, and we quickly got used to its asymmetrical buttons although left-handers might find this a bit tricky.

The Scenic 501 is a vision of sleek loveliness. If you want to buy a reasonably-priced notebook just for its style, look no further – you won't find better. Fortunately, it's a practical choice as well, with good performance, slim lines and a genuinely ergonomic design.

- £1,469 (inc VAT)
- Siemens Nixdorf: 01344 850722
  www.sni.co.uk

Siemens Nixdorf Scenic Mobile 501					
Build quality	★	★	★	★	★
Features	★	★	★	☆	☆
Performance	★	★	★	★	☆
Value for money	★	★	★	★	☆
Overall	★	★	★	★	☆

Toshiba Satellite 320CDS

Looking at the Toshiba immediately after the Siemens machine, it was obvious that branded notebook manufacturers care about the image of their products. The Satellite 320CDS is boxy, but it's finished in a light grey that immediately reduces the impact of its bulk.

It's an all-in-one design which, though it adds to the bulk, we have come to like for its convenience in use. And it clearly has been designed, for there is a wealth of nice touches. The power switch is on the side of the machine, but you can lock it so the Satellite won't turn itself on in your bag.

We like the Mousepoint, a tiny pencil eraser in the middle of the keyboard that you wiggle rather than dragging your finger over a touchpad, and the keyboard itself has a well-balanced feel. Upgrading the RAM, should you need more than 32Mb, is a toolless operation as you simply need to snap the keyboard out – no need for jewellers' screwdrivers here – and the hard disk is a generous 4Gb.

Sadly, it's not an unalloyed pleasure using this Toshiba. Its performance, though acceptable, is disappointing for a P233MMX, and its screen wasn't up to scratch. It's a passive-matrix model for cost reasons, but given that Toshiba invented HPA technology, we'd have expected a better and brighter display than the one we saw.

Oozing with build quality, the Satellite is bound to be the corporate choice. Once, no-one ever got fired for buying IBM. Now, if you're sacked for buying a Toshiba Satellite, claim unfair dismissal immediately.

- £1,404.13 (inc VAT)
- Toshiba: 01932 828828
  www.toshiba.co.uk

Toshiba Satellite 320CDS					
Build quality	★	★	★	★	★
Features	★	★	★	★	☆
Performance	★	★	★	★	★
Value for money	★	★	★	★	★

Alternatives

If a full-sized notebook is too heavy on the pocket, you've got to decide if you really need Windows and its applications. If you do, think about a sub-notebook. Others are available, but the most desirable we've seen recently is Toshiba's sleek little Libretto. Boot it up, and it reveals a fully working copy of Windows 95. Once you've mastered the mouse, a thumb knobble beside the screen, you can start up Word or Excel just like on your desktop. There are two PC Card slots and a P166MMX processor with 32Mb of RAM. It's no sluggard, but the titchy keyboard may be a problem if you've got clumsy fingers. Compatibility with your main PC needn't drive you towards the Libretto though. You don't actually need Windows just to use a word processor or a spreadsheet, and a simpler package can work just as well on the road. We've always liked Psion's offerings – see Close-ups for its latest 3mX – and the Series 5 is a miracle of ingenuity. Its keyboard is the best available in such a pocketable package, while Word and Sheet are both well featured. Connection to a PC is easy as well, but the screen can be tricky to read in the wrong light.
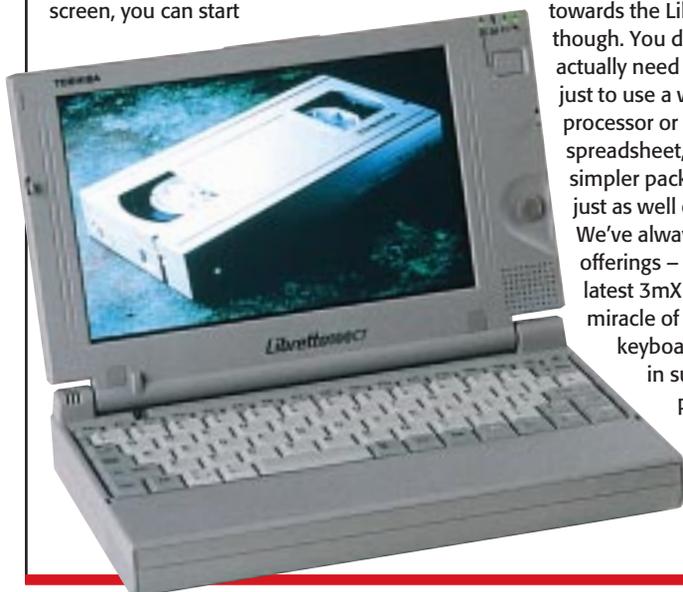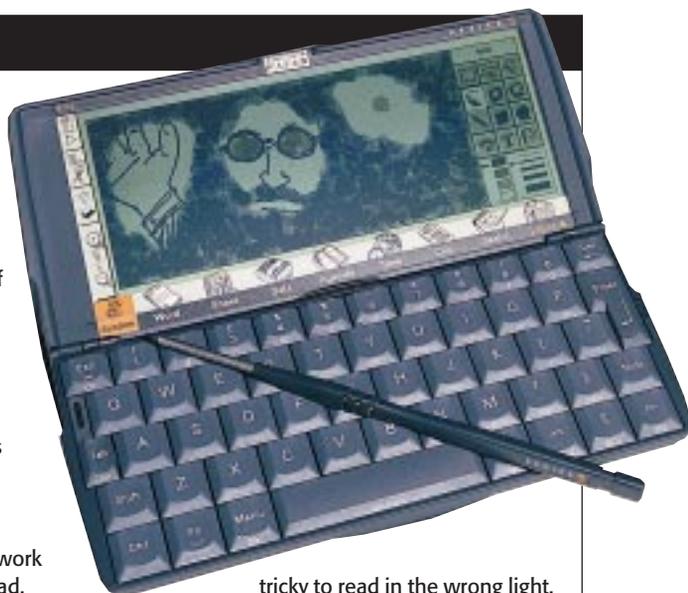
The Hewlett-Packard 620LX is another possibility. It runs Windows CE, which looks like Windows 95 although it's actually quite different. Pocket Word and Excel aren't as capable as their desktop – or even Psion – equivalents, and the HP's keyboard isn't great. Nonetheless, it's bliss to have that colour display and a paper-white background.

Hewlett-Packard: 0990 474747
Psion: 0990 143050
Toshiba: 01932 828828

BAPCo results for Notebook PCs

Manufacturer	Score
ACi	~53
Compaq	**Failed to run tests**
Dual	~54
Evesham	~70
Fujitsu	~57
Hi-Grade	~70
Pico Direct	~75
Portables Direct	~68
Siemens Nixdorf	~65
Toshiba	~60
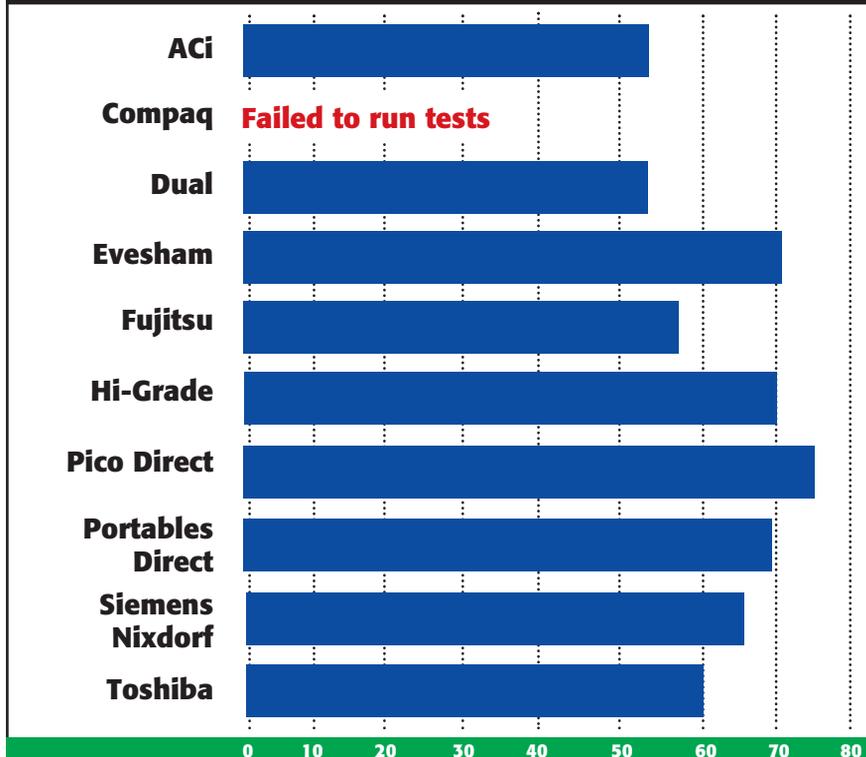
All results SYSMark 98. The Compaq would not complete this benchmark but scored 111 under SYSMark 95.

All PCs reviewed in *What PC?* group tests are benchmarked by VNU European Labs. To give a balanced result and produce a single figure showing overall system performance, we run SYSMark, a test suite developed by BAPCo. This performs a series of complex operations using mainstream business applications, times this, checks each run for internal consistency, and automatically generates a performance figure.

This group test is the first in which we have used SYSMark 98, which has been developed to run under both Windows 95 and 98. Unfortunately, its results are not directly comparable with the Windows 95-only SYSMark 95. SYSMark 98 results are compared to a baseline Pentium II-233 desktop, with 64Mb of RAM and a Matrox Millenium II graphics card, which scores 100. As a guide, we would expect this configuration to score around 240 under SYSMark 95.

Budget notebooks

Manufacturer	Aci	Compaq	Dual	Evesham Micros	Fujitsu	Hi-Grade	Pico Direct	Portables Direct	Siemens Nixdorf	Toshiba
Product										
Model name	Excel II	Armada 1560	Minerva MT6670	Voyager 2500	Lifebook 270Dx	Notino Mi3000	Mobile Consul	Millennium 1001	Scenic Mobile 501	Satellite 320CDS
Contact	0181 830 1958	0845 2700 4000	01223 576622	0800 6345999	0181 573 4444	0181 532 6111	01483 402111	0181 968 1444	01344 850722	01932 828828
Price	£1,173.83	£1,408.83	£1,116.25	£1,200.00	£1,232.58	£1,126.83	£1,199.00	1115.075	£1,469	£1,404.13
Features										
Processor	P200 MMX	P166 MMX	P200 MMX	AMD K6-2 300MHz	P200 MMX	P233 MMX	P233 MMX	AMD K6-2 300MHz	P200 MMX	P233 MMX
Processor type	Mobile	Mobile	Mobile	Desktop	Mobile	Desktop	Mobile	Desktop	Mobile	Mobile
RAM	32Mb	16Mb	32Mb	32Mb	32Mb	32Mb	64Mb	32Mb	32Mb	32Mb
Hard disk size	2.1Gb	3.2Gb	2.1Gb	2Gb	2Gb	3Gb	3Gb	2.1Gb	2.1Gb	4.1Gb
Screen size	12.1in	12.1in	12.1in	12.1in	12.1in	12.1in	13.3in	12.1in	12.1in	12.1in
Screen type	TFT	DSTN	TFT	TFT	ADS/HPA	TFT	TFT	TFT	ADS/HPA	DSTN
Dimensions hxwxd	47x297x239	54x311x245	47x297x239	46x239x297	58x245x298	46x239x297	52x324x258	46x239x297	34/44x297x236	53x302x239
Weight	3kg	3.45kg	3kg	3.2kg	3.5Kg	3.2kg	3.2kg	3.2kg	2.6kg	3kg
CD-ROM	20x	20x	20x	24x	20x	24x	24x	24x	20x	20x
Battery life (claimed)	2.5hrs	2.5hrs	2.5hrs	2hrs	2.5hrs	2.5hrs	2.5hrs	2.5hrs	3hrs	2.5hrs
Battery type	NiMH	LiIon	NiMH	LiIon	LiIon	LiIon	LiIon	LiIon	LiIon	LiIon
BAPCo score	53	N/A (111)	53	71	57	70	75	69	65	60
Star rating	★★★	★★	★★★	★★★	★★	★★★	★★★★★	★★★	★★★★	★★★★

Sometimes it's obvious which machine is going to receive our seal of approval. More RAM and a bigger screen than any other are a good start, and when this is coupled with excellent performance and reasonable build quality we couldn't choose anything else. With the pending introduction of a chrome version adding to its attractions, the Pico Mobile Consul is our Best Buy.

If the Consul doesn't appeal – and after all, it's not a slimline machine – then what better choice than the Siemens Nixdorf Scenic Mobile 501? Its sleek design betrays its costly origins, and it's a notebook you could be proud to show off anywhere. On a practical level, it's the lightest machine here, so the easiest to carry around, and it's a pleasure to use on a day- to-day basis. We happily Recommend it to you.

John Sabine

Mobile processors - why?

If you look at the table above, you'll see that some machines come with 'mobile' processors, while others come with desktop-type chips. Though you'd expect the mobile chips to be better, they don't seem to offer any apparent benefits, so does it actually matter which you choose?

It's certainly not critical that you pick a notebook with a mobile chip, but we would strongly recommend it. Although the core of a mobile processor is little different to that of a normal chip and processes data in exactly the same way, there are some important differences. Chief among these is power consumption.

Mobile processors are designed to use a lower voltage than desktop ones. Coupled with internal features that can shut down parts of the chip that aren't needed, or run it slower when full speed is unnecessary, this means it uses less power. Of course, this saves on battery life, but it also keeps it cooler – just like an electric fire, the more power a chip uses the hotter it gets.

As a processor heats up, the PC should slow it down to try and keep it cooler – heat affects performance. It also makes chips unreliable and leaves your PC prone to crashing. The Socket 7-based machines, particularly the hotter-running AMD K6-2 models, crashed several times during our testing with no apparent cause other than over-heating

You'd expect the notebooks with mobile processors to be faster too, and previous Labs tests have shown that this is generally the case. However, note that components like motherboard play a part here too. As an example, both the ACi and Dual machines here were let down by their motherboard control chipset. This does not support UDMA hard disk access, slowing the whole PC down.