400MHz PCs

- Dell Dimension XPS R400
- Elonex PTX-6400/I
- Evesham Vale Platinum PII 400
- Gateway G6-400
- MESH Elite 400TV
- NEC Direction SM-400B
- Simply Computers Multimedia 3150
- Time 400-2sx

SPEED DEMONS

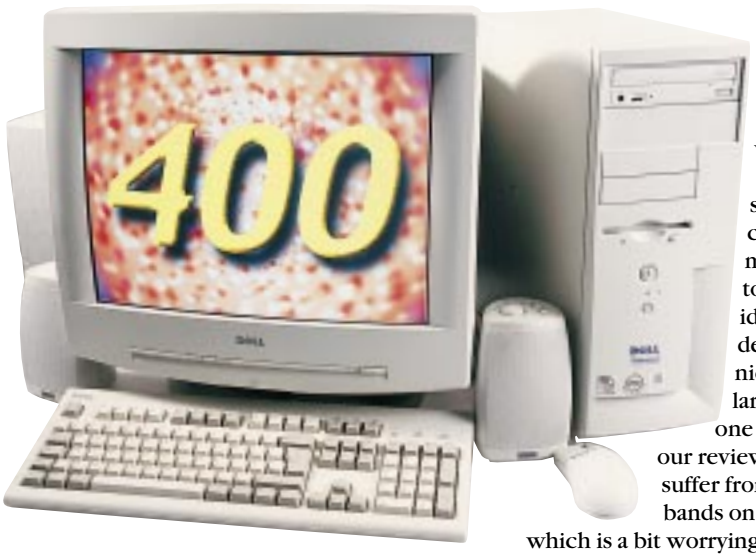
Ready to tackle the most demanding tasks, the first wave of super-fast 400MHz PCs have arrived. What's more, their prices start at just under £1,600, including VAT. We put eight of them to the test

Processors just keep on getting faster and faster. Six months ago we would have expected to see a speedy 300MHz Pentium II in a top-of-the-range PC. Before we knew it, 333MHz and 350MHz machines had arrived, and this month we've got our hands on the first wave of systems based on Intel's new 400MHz chip.

All of the PCs reviewed in this group test can speed through your applications and offer more than enough power for the latest games and multimedia titles. They're bursting with RAM and most come with a whopping 8.4Gb of hard disk space, enough for even the most demanding tasks. We are also pleased to see that half of the systems feature a DVD (Digital Versatile Disc) drive, which can read both CD-ROMs and the new, higher capacity DVD discs. Three of the PCs we tested even came with a prerelease copy of Windows 98 installed.

You might expect all this performance to come with an equally high price tag, but amazingly these PCs start at under £1,600, including VAT. Let's take a look at how these fastest ever PCs fared when put to the test.

Dell Dimension XPS R400



Dell is a well-established PC manufacturer and its experience shines through in the Dimension XPS R400. For a start, a lot of thought has gone into making setting up the PC as simple as possible. It comes with a large-scale setup guide and each connector is colour co-ordinated to match up to its port. There's also a clear user manual, bundled with all the other documentation, drivers and software that come with the PC.

This mini tower system is slim and compact, but a monster 19in monitor puts paid to any ideas of saving on desk space. It's a nice touch to offer a large display, but the one that came with our review system started to suffer from dark horizontal bands on white boxes, which is a bit worrying.

Inside, the machine is tidy and easy to gain access to, with neatly bundled cables. The sound card is built into the motherboard, leaving you an extra slot free. This brings the total to three free PCI slots and one shared slot, so there is plenty of room to upgrade.

The XPS R400 combines 64Mb of RAM with its powerful processor and 8.4Gb hard drive, which gave it a creditable score in our performance test. This spec, combined with its STB Velocity nVidia, also allowed it to outshine all the other PCs in our Final Reality graphics test.

However, when this PC arrived its graphics card had worked loose from its AGP slot, so the machine wouldn't work until we'd opened it up and pushed it back in. This is a common problem which manufacturers should be aware of (most use a plastic clip to hold the cards in place), so we were surprised by this omission.

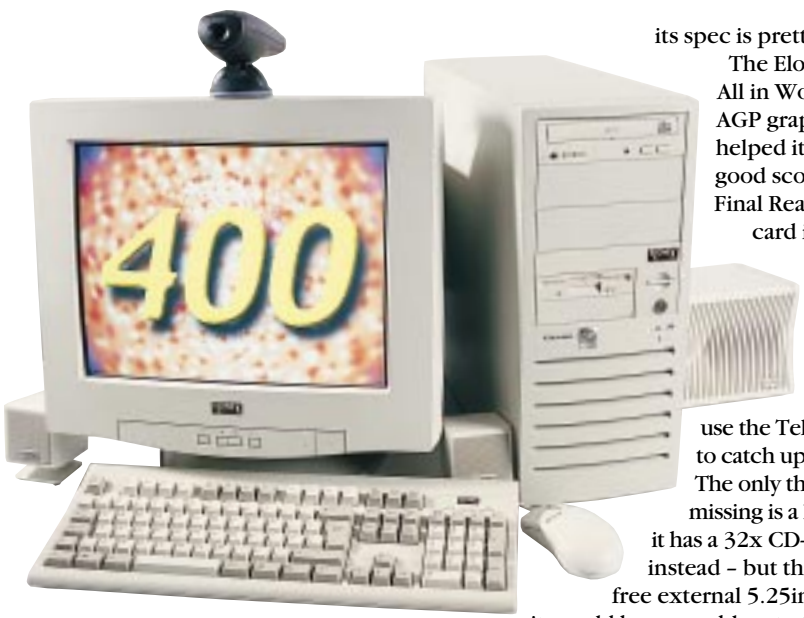
The Dimension XPS R400 came top in our graphics test and its overall performance was pretty good too. It's a shame we encountered such an elementary problem with the graphics card.

- £1,820.08 (inc VAT)
- Dell: 01344 720000

www.dell.co.uk

Dell Dimension XPS R400	
Build quality	★★★☆☆
Features	★★★★☆
Performance	★★★★☆
Value for money	★★★★☆
Overall	★★★★★

Elonex PTX-6400/I



All of the PCs we looked at here are fast, but the Elonex PTX-6400/I put them into the shade with its performance test result. Its hefty 128Mb of RAM helped to push it well ahead of the competition and, with an 8.4Gb hard drive, a 56Kbits/s modem and an LS-120 super floppy drive, the rest of its spec is pretty good too.

The Elonex's 8Mb All in Wonder Pro AGP graphics card helped it to achieve a good score in the Final Reality test. The card is also fitted with a TV tuner, so you can watch television while you work or use the Teletext service to catch up on the news. The only thing this PC is missing is a DVD drive – it has a 32x CD-ROM drive instead – but there are two free external 5.25in bays free, so it would be no problem to fit one.

The case is pretty big, and with its 17in monitor this PC takes up quite a lot of space. However, its satellite speakers are tiny, though they do use a sub woofer to beef up sound. You benefit from the spacious case once you open it up as there's lots of room to manoeuvre. All the cables are bundled away, and there are plenty of free power cables to serve any new devices you want to fit.

We were pleased to see that Elonex sent a USB (Universal Serial Bus) Kodak DVC 300 Digital Video camera with our PC. USB devices are designed to make plug and play a reality and it took us seconds to get our video camera up and running.

Elonex has also set up this PC to display a diagnostics screen at start up, which shows data about the state of the motherboard, including CPU and system temperature. Though for inexperienced users these figures won't mean much, they might help to alert techies to problems.

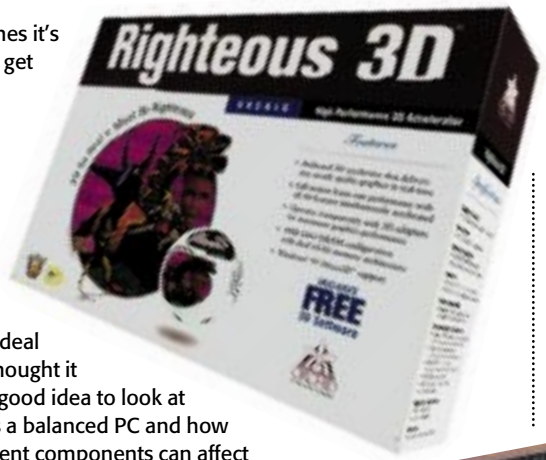
Elonex has put together a top-of-the-range PC, which is a clear winner in the applications performance stakes and no slouch when it comes to graphics.

- £1,995 (inc VAT)
- Elonex: 0181 452 4444

www.elonex.co.uk

Elonex PTX-6400/I	
Build quality	★★★★★
Features	★★★★★
Performance	★★★★★
Value for money	★★★★★
Overall	★★★★★

What makes a balanced PC?

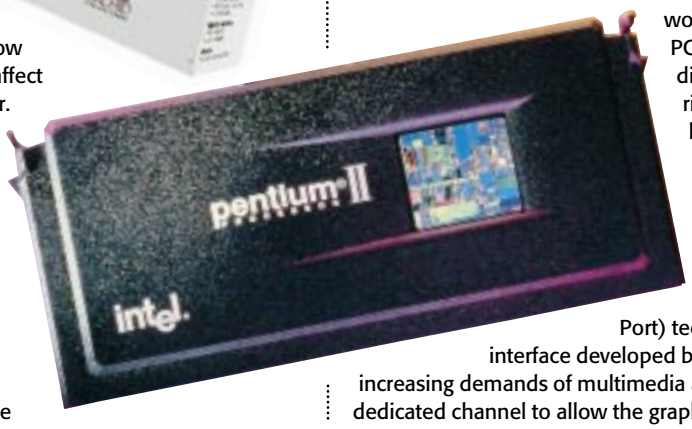


Sometimes it's easy to get carried away by the fastest new processor and forget that there are a lot more factors that go into the ideal PC. So we thought it would be a good idea to look at what makes a balanced PC and how all the different components can affect the performance of your computer.

All of the machines we tested have a 400MHz Pentium II processor, the fastest Intel chip on the market at the time of writing. The new processors have to be fitted on a BX 440 motherboard, which has a 100MHz system bus to increase bandwidth and cut down performance bottlenecks.

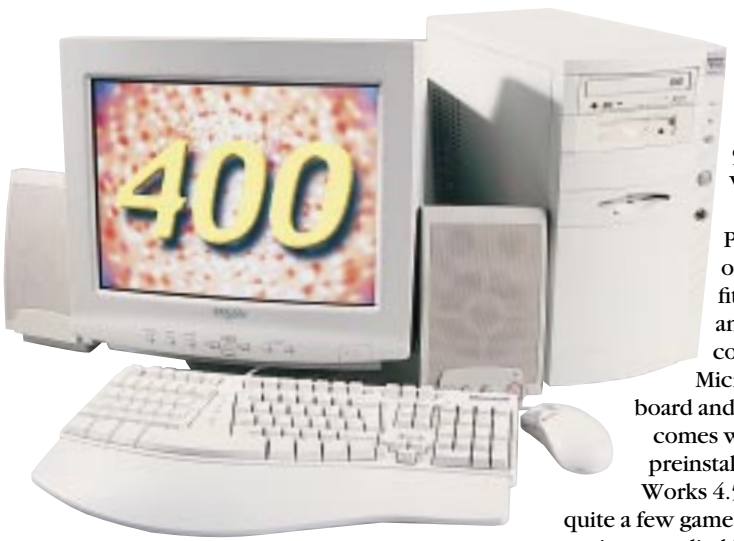
Once you move beyond the bare bones of the processor and motherboard, the next component to evaluate is the RAM (Random Access Memory). The more RAM you have in a machine the more applications you can run, and increasing RAM can also cut down on a program's need to access data from the hard disk, which slows down performance. A minimum of 64Mb is fast becoming standard, but we wouldn't be surprised to see that figure increasing in the near future and two machines in our test came with 128Mb.

The size of the hard disk is also important, as this is where your programs and documents are stored. Applications look set to get bigger and bigger, as programmers take advantage of multimedia technology, and the more space you have to store them the better. Currently we would expect to see a 400MHz PC packing at least a 6Gb hard disk drive; however, capacity is rising fast and 12Gb drives have already arrived on the market.



Another key component in a PC is the graphics card and modern systems, like those here, feature AGP (Accelerated Graphics Port) technology. AGP is a new interface developed by Intel to handle the increasing demands of multimedia and 3D graphics. It uses a dedicated channel to allow the graphics controller to

Evesham Vale Platinum PII 400



Evesham was one of three manufacturers who sent in a PC with a pre-release version of Microsoft's Windows 98, though the sticker on the front led us to believe Windows 95 had been installed.

Windows 98 should be freely available by the time you read this and most new PCs will ship with it. However, in order for us to get consistent benchmark results all the PCs needed to have the same operating system and so we removed Windows 98 and installed Windows 95.

The Vale Platinum PII 400 packs in a lot of useful features – it's fitted with both a DVD and a ZIP drive and comes with a Microsoft Natural Keyboard and a joystick. It also comes with lots of software preinstalled, including MS Works 4.5, Encarta 98 and quite a few games. The 17in Taxan monitor supplied is a good-quality display, and the ZY-FI 2Pro speakers have a sub woofer to improve sound quality.

When it came to the case we had a couple of niggles. When you push in a floppy disk, you have to get your fingers very deep into the slot, which is awkward if you haven't got slim digits. Also, if you remove the plastic cover to fit a new external 5.25in drive, you will be left with a space either side where the inner metal case is exposed.

To get inside the Evesham you have to remove the front and then unscrew the case. Once in there's plenty of scope to upgrade with four free PCI slots, with one shared slot free for ISA cards. There are also two internal 3.5in bays, one of which could have offered external access had the case design allowed.

With its 64Mb of RAM and 8.4Gb hard drive the Vale Platinum PII 400 is well specified but it wasn't amongst the fastest PCs reviewed here. However, its 8Mb ATI All in Wonder graphics card helped to give it a pretty good performance in the Final Reality test.

The Evesham Vale Platinum PII 400 is a feature-packed machine that gives you a lot of extras for your money, but the case design could be improved.

- £2,000 (inc VAT)
- Evesham: 01386 765500

www.evesham.co.uk

Evesham Vale Platinum PII 400	
Build quality	★★★☆☆
Features	★★★★★
Performance	★★★★☆
Value for money	★★★★☆
Overall	★★★★★

directly access the main memory and provides twice the bandwidth of PCI, which means it can turn in a faster performance. All of the machines in this test have an AGP graphics card to benefit from this performance hike.

There are some extras, which we would also look for from a £2,000 computer. A good display is a must for graphics-intensive applications like games or movie playback. The standard size of a monitor for a desktop machine is 15in, although most of the PCs in our test came in with 17in displays and one had the added bonus of a 19in screen.

Internet access is also of interest to most of us, and all of the machines in this test have a 56Kbits/s modem, which is the fastest around. You'll also need a sound card, and at this level we would expect a standard 16-bit model with wavetable capability to provide accurate, CD-quality sound.

The ideal spec

- 400MHz PII processor
- BX 440 motherboard
- At least 64Mb of RAM
- 6-8Gb HDD
- 15-17in screen
- 24x CD-ROM drive/DVD drive
- AGP graphics card
- 16-bit wavetable sound card
- 56Kbits/s modem

Gateway G6-400

Opening up the distinctive cow spotted box we were rather confused by Gateway's decision to package up the large-scale setup guide in a plastic wrap with the manual and troubleshooting guide. Surely it would make more sense to lay it out on top of the machine, rather than leave you hunting for it.

Thankfully, once you've located the guide, the G6-400 is easy to set up as each of the connector cables is colour-coded to match up with its port.

Gateway supplies a 17in EV700 monitor with this PC, which features an interesting settings control switch hidden beneath a small flap. You press this to bring the control menu up on screen and rotating it allows you to move around the menu to adjust the settings. Unfortunately, the screen wasn't the best-quality one we saw and suffered from blurring, particularly in the corners.

It's easy to get inside this PC, but a bar running across the top of the case can make gaining access to some parts of the machine a bit awkward. There isn't a great deal of scope to upgrade by fitting new cards as there are only two free PCI slots and one shared slot. However, there are two external 5.25in bays and one external 3.5in bay available.

While it didn't come top in either of our tests the Gateway nevertheless turned in pretty good results for both. It has a well-balanced spec combining 64Mb of RAM with a 8.4Gb hard drive and a 4Mb STB Velocity Riva 128 AGP graphics card.

It's also fitted with a DVD drive and came with a prerelease version of Windows 98 preinstalled, though it was tested running Windows 95.

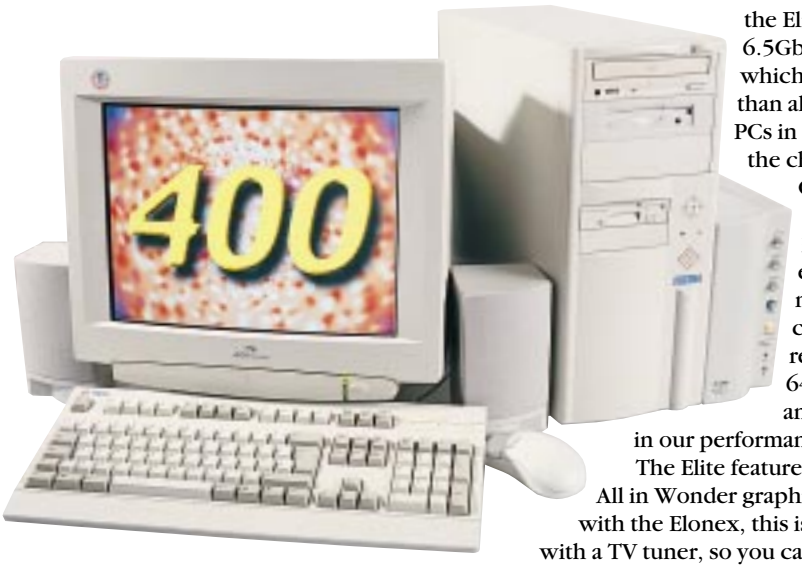
The G6-400 is a well-balanced system and we were glad to see that Gateway is keeping up with advances in technology by fitting a DVD drive and installing Windows 98.

- £1,761.32 (inc VAT)
- Gateway: 0800 202000

www.gateway.com

Gateway G6-400	
Build quality	★ ★ ★ ★ ☆
Features	★ ★ ★ ★ ★
Performance	★ ★ ★ ★ ☆
Value for money	★ ★ ★ ★ ☆
Overall	★ ★ ★ ★ ★

MESH Elite 400TV



We are always impressed by the professional presentation of MESH PCs. The easy-to-follow setup guide and plastic folder holding all the software and documentation mean that setting up these computers is an easy task.

However, we weren't so pleased by the Elite 400TV's 6.5Gb hard drive, which was smaller than all of the other PCs in the test except the cheaper Simply Computers Multimedia 3150. However the machine does come with a respectable 64Mb of RAM, and scored well in our performance tests.

The Elite features an 8Mb ATI All in Wonder graphics card and, as with the Elonex, this is also fitted with a TV tuner, so you can watch TV or Teletext on your PC. The supplied 17in Sony Trinitron monitor also ensures that you get a good-quality picture whatever you're doing.

MESH is good at keeping up with the latest technology in its computers, and the Elite 400TV came with a prerelease copy of Windows 98 preinstalled which was replaced by Windows 95 in our tests. It hasn't got a DVD drive, but it does come with both ZIP and 32x CD-ROM drives. There is a free external 5.25in bay so you can fit a DVD drive in the future if you want to.

Inside the machine MESH has shown attention to detail, by neatly bundling cables and leaving power cables hanging free next to available drive bays. If you are looking to upgrade your PC with lots of new gizmos then you will be pleased to see four free PCI slots and one shared slot, plus two 3.5in bays, one external and one internal.

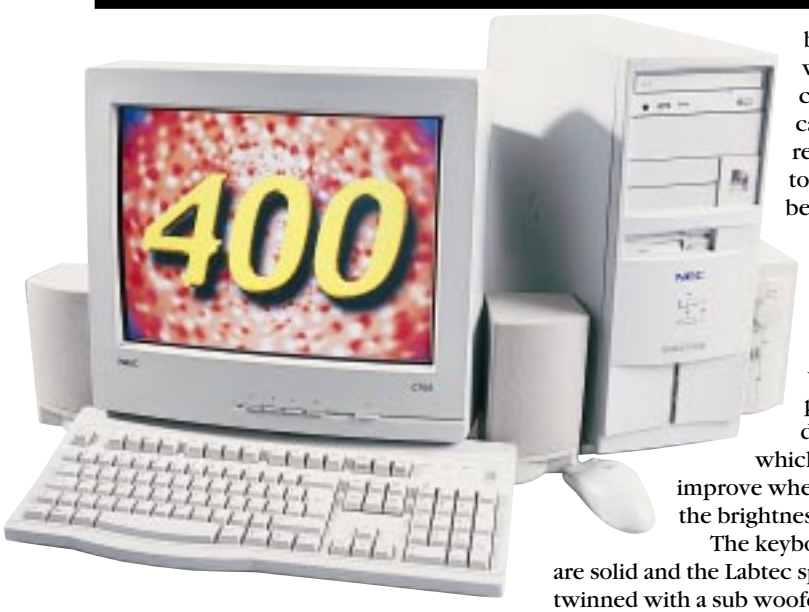
The MESH Elite 400TV is not the best bargain in this test and its small hard drive makes the spec less impressive than cheaper machines. But it's well built and has lots of room to upgrade.

- £1,996.33(inc VAT)
- MESH: 0181 452 1111

www.meshplc.co.uk

MESH Elite 400TV	
Build quality	★★★★★
Features	★★★★☆
Performance	★★★★☆
Value for money	★★★☆☆
Overall	★★★★★

NEC Direction SM-400B



NEC Direct provided a slimline mini tower NEC Direction SM-400B for our test. It comes with a simple setup guide but, as with many others, all the ports on the back of the case are clearly labelled so it's easy enough to put together anyway.

Having said this, when we came to plug in the 17in monitor we found it had been supplied with an American power cable, so a replacement had to be found before we could use the display.

Once we'd managed to plug in the monitor we were disappointed by its dull screen, which failed to improve when we turned up the brightness and contrast.

The keyboard and mouse are solid and the Labtec speakers are twinned with a sub woofer to beef up sound quality.

Getting inside the PC is as easy as the setup procedure. All you have to do is undo one large screw and slide off the whole case. Once you've got the case off, the machine is well laid out. All the components are easy to access and the cables are tied away neatly.

There are three PCI slots, plus one 5.25in and two 3.5in externally accessible free bays, so there's plenty of scope to upgrade. If you want to hike up the RAM there is just one DIMM slot available. The AGP slot is filled by an ATI Expert@Play graphics card, which turned in a decent score in our Final Reality performance test.

Bearing in mind this is not a budget machine and one that packs a 400MHz Pentium II processor, 64Mb of RAM and an 8.4Gb hard drive, the SM400B didn't gain a particularly impressive score in our performance test. However, on the plus side we were pleased to see it had been fitted with a DVD drive.

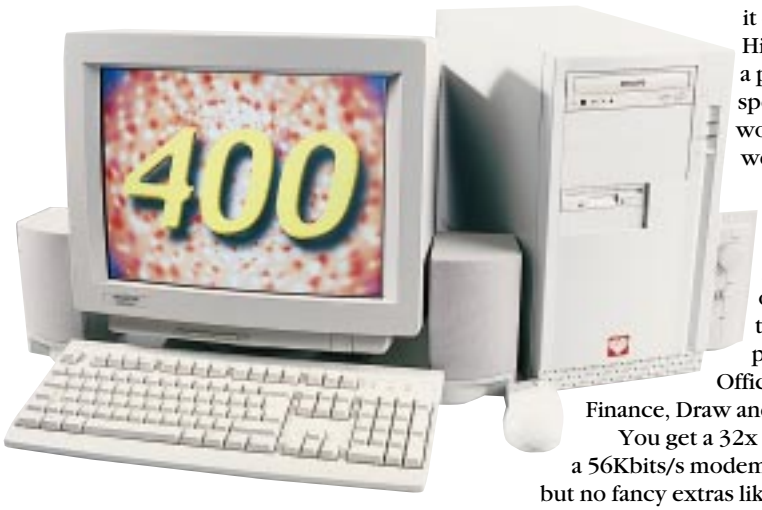
The NEC Direction SM-400B performance test result let it down and we were disappointed by the lapse in quality control that left us with a US power cable.

- £1,937.58(inc VAT)
- NEC Direct: 01706 362811

www.necdirect-europe.com

NEC Direction SM-400B	
Build quality	★★★☆☆
Features	★★★★☆
Performance	★★☆☆☆
Value for money	★★★☆☆
Overall	★★★★★

Simply Computers Multimedia 3150



Simply Computers submitted a budget option for this test and the specification reflected its low price tag. It came with 64Mb of RAM but this was twinned with a 4.3Gb hard drive – the smallest here. Despite this, its performance test result matched that of the NEC Direction SM-400B, which has a larger 8.4Gb drive.

This PC really isn't bad for the price – it comes with a 17in Hitachi monitor and a pair of Labtec speakers with a sub woofer that stand up well against the others in this test. It's also bundled with several games and a series of productivity titles from Europress, including Office Works, Home Finance, Draw and Publish.

You get a 32x CD-ROM drive and a 56Kbits/s modem for your money, but no fancy extras like a DVD or ZIP drive. There is space to fit two 5.25in drives and one 3.5in device so you could always upgrade in the future. However, to hook up new drives to the available power cables you would have to undo all the neat bundles of wires.

The case isn't the most attractive we have ever seen but at least there is plenty of space inside. If you undo all the cables you can slide the motherboard out from its internal case, so that everything is easy to get at, although this is a bit of a fiddly procedure. If you are inclined to upgrade there are three PCI slots and one shared slot free, so beefing up the spec shouldn't be a problem.

While it stood up well up against the more expensive NEC in the performance test, when it came to the Final Reality graphics test the Multimedia 3150 didn't do so well. Its lower spec combined with a 4Mb ASUS Riva graphics card meant it achieved the poorest score.

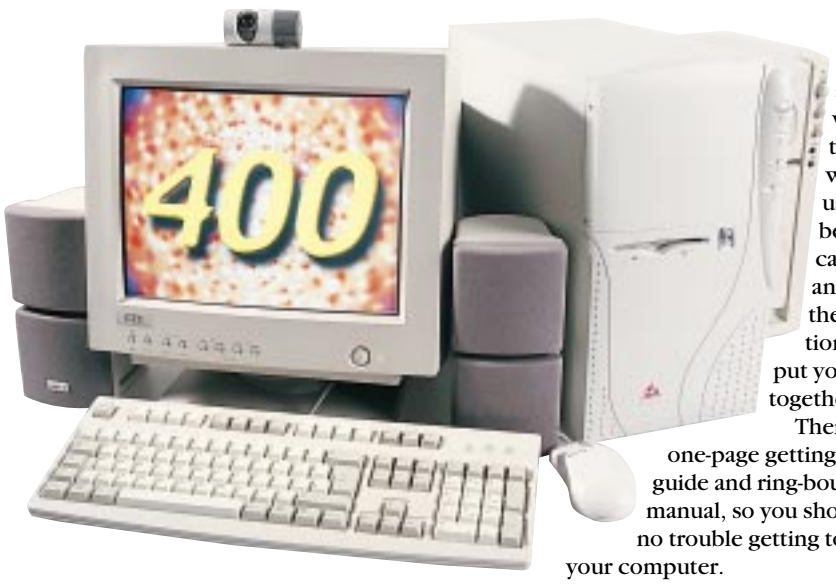
As with most things in life you get what you pay for and Simply Computers Multimedia 3150 is clearly the budget option in this test. That said, it is a decent no-frills 400MHz PC.

- £1,585.08 (inc VAT)
- Simply Computers: 0181 523 4020

www.simply.co.uk

Simply Computers Multimedia 3150	
Build quality	★★★★☆
Features	★★★☆☆
Performance	★★★☆☆
Value for money	★★★★★
Overall	★★★★★

Time 400-2sx



Time Computers put together a feature-rich PC for this test. Its ATI All in Wonder Pro graphics card is fitted with a TV tuner and it comes with a DVD drive, a Sky Hawk joystick, a digital video camera, speakers with a sub woofer and a range of games and multimedia software. Sadly, it is rather let down by its 15in CTX monitor, the smallest screen in the test.

When you open up the box one of the first things you come across is a video guide to your PC, which is useful because you can watch it and follow the instructions as you put your system together.

There's also a one-page getting started guide and ring-bound user manual, so you should have no trouble getting to grips with your computer.

The tower is short and fat with a bulbous outcrop of buttons on the side. You have to slide up a panel on the front to access the DVD drive, which had us foxed for a bit as there is no label to tell you where to look.

Getting inside the machine is a bit of a struggle; you have to undo six screws and then pull pretty hard on the case to get it off. Once you've got in you discover that many of the components aren't particularly easy to get at.

The processor and free DIMM slot are obstructed by the power supply. But, the three free PCI and single shared slot are accessible and there are four free bays, two external 5.25in and two internal 3.5in, so upgrading these devices is no problem.

Although it was one of only two machines that combined 128Mb of RAM with an 8.4Gb hard drive, this excellent spec failed to give the 400-2sx a matching result in the performance test. It did fare better in the Final Reality test using its 8Mb graphics card to come out amongst the top performers.

Time Computers has put together a really good spec. It's a shame this didn't translate into top-of-the range performance. But you won't go far wrong with this extensive bundle.

- £1,996.33 (inc VAT)
- Time Computers: 0800 771107

www.timecomputers.co.uk

Time 400-2sx	
Build quality	★★★☆☆
Features	★★★★★
Performance	★★★☆☆
Value for money	★★★★☆
Overall	★★★★★

Alternatives

Viglen HomePro Pentium 2/400

If you are looking for a low-cost option, Viglen's HomePro Pentium 2/400 comes in at £1,598 (inc VAT) – just a little more than the cheapest machine in our test. The HomePro has a pretty good spec too with 64Mb of RAM, an 8.4Gb hard drive, 4Mb ATI Xpert@Work graphics card, 17in ADI monitor, 32x CD-ROM drive and a 56Kbits/s modem.

Viglen: 0990 944944

PowerMac G3 Mini Tower

If you want to stray off the PC path and go for Apple's fastest processor, the G3, then you will have to lower your spec to come close to our price range. A 266MHz G3 system with 32Mb of RAM, a 6Gb hard drive, 24x CD-ROM drive, ZIP drive and ATI 3D Rage II graphics controller will set you back £2,068 (inc VAT), excluding the monitor.

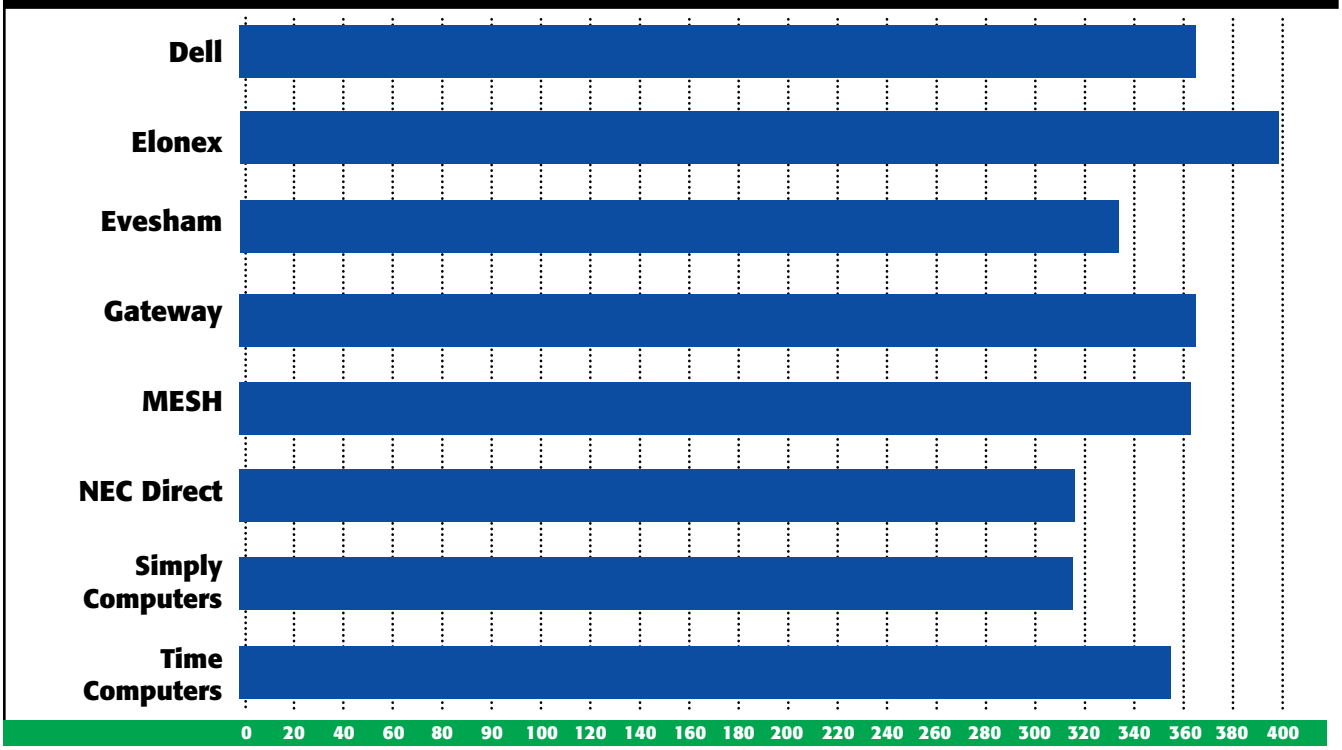
Apple: 0870 600 6010

Carrera Power Pro II

For the more business-oriented user, Carrera's 400MHz Power Pro II comes with an Intel Pro 10/100 network adaptor, but no modem. It costs £1,995 (inc VAT) with 64Mb of RAM and a 6.4Gb hard drive. If you need to use graphics-intensive applications its 8Mb Matrox Productiva graphics card may not be the best option for 3D rendering. The PC lacks a DVD drive, but it does twin a 32x CD-ROM and a ZIP drive. It comes bundled with Office 97 Small Business Edition, which reflects its target users.

Carrera: 0171 830 0486

BAPCo test results for 400MHz PCs



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.

Performance is affected by a number of factors, including processor, memory, graphics hardware and hard disk, but, as a yardstick, a PC fitted with a Pentium 166MHz MMX and 32Mb of memory comes in at around 165, while a top-of-the-range 400MHz Pentium II machine with 64Mb of memory would score over 300.

400MHz PCs compared

	Manufacturer	Dell	Elonex	Evesham Micros	Gateway	MESH	NEC Direct	Simply Computers	Time Comput
Product	Model name	Dimension XPS R400	PTX-6400/I	Vale Platinum PII 400	G6-400	Elite 400TV	Direction SM-400B	Multimedia 3150	400-2sx
	Price (inc VAT)	£1,820.08	£1,995	£2,000	£1,761.32	£1,996.33	£1,937.58	£1,585.08	£1,996.33
	Contact	01344 720000	0181 452 4444	01386 765500	0800 202000	0181 452 1111	01706 362811	0181 523 4020	0800 771107
Features	PR/Processor speed	400	400	400	400	400	400	400	400
	Memory	64Mb SDRAM	128Mb SDRAM	64Mb SDRAM	64Mb SDRAM	64Mb SDRAM	64Mb SDRAM	64Mb SDRAM	128Mb SDRAM
	Hard disk	8.4Gb	8.4Gb	8.4Gb	8.4GB	6.5Gb	8.4Gb	4.3Gb	8.4Gb
	CD-ROM/DVD	32x	32x	DVD	DVD	32x	DVD	32x	DVD
	Sound card	on board	Videologic Sonic Storm Tera Sound	AWE64	Ensonique AC'97	AWE64	AWE64	AWE64	3D PCI 64 Crystal
	Speakers	Altec Lansing ACS295	CSW 100	ZYFI 2PRO	Boston Acoustics	Labtec	Labtec	Labtec	unbranded
	Graphics card	STB Velocity nVidia	ATI All in Wonder Pro	ATI All in Wonder	STB Velocity Riva 128	ATI All in Wonder	ATI Xpert @Work	Asus 3D exPlorer 3000	ATI All in Wonder Pro
	Graphics type	AGP	AGP	AGP	AGP	AGP	AGP	AGP	AGP
	VRAM	4Mb	8Mb	8Mb	4Mb	8Mb	4Mb	4Mb	8Mb
	USB	●	●	●	●	●	●	●	●
	Monitor	Dell 19in	Elonex 17in	Taxan 750 17in	EV700 17in	ADI 17in	NEC C700 17in	Hitachi 17in	15in
	Modem	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s
	Mouse	MS I/Mouse	MS I/Mouse	MS I/Mouse	MS I/Mouse	MS Mouse	Logitech	MS Mouse	unbranded
	Software	MS Office 97 SBE, McAfee Anti Virus	MS Office 97 SBE	MS Works + 8 titles	MS Home Essentials	SS97 + 2 titles	MS Works 4.0 + 4 titles	9 titles	SS97, Simply Speaking + 16 titles
	Other		Digital video camera	Iomega ZIP drive, joystick		Iomega ZIP drive			Joystick, digital video camera
	Warranty	1yr C&R	1yr RTB	2yrs OS	1yr RTB	1yr RTB	1yr OS	1yr C&R	1yr RTB
Ratings	Star rating	★★★★	★★★★★	★★★★	★★★★	★★★★	★★★	★★★★	★★★★
	Frmark	4.14	3.98	3.98	3.63	3.87	3.89	3.51	3.95
	BAPCo	366	395	334	366	363	313	313	355

Notes: SS97 = Lotus SmartSuite 97. MS Office SBE = Microsoft Office Small Business Edition. MS Works = Microsoft Works. MS Mouse = Microsoft Mouse. MS I/Mouse = Microsoft IntelliMouse. RTB = Return to base. OS = On-site. Frmark= Final Reality rating.

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

Choosing the top PC in this group test wasn't too tough as the Elonex PTX-6400/I flew in our performance test. It also featured a very impressive specification. It was one of just two machines to come with a hefty 128Mb of RAM, and its 8.4Gb hard drive should be more than sufficient for most needs.

The Elonex machine's 8Mb ATI All in Wonder Pro graphics card also gave it a good result in the Final Reality test, and it has the added bonus of a TV tuner. The 17in monitor was of good quality and we were pleased to see Elonex providing a USB digital video camera.

Overall, the PTX-6400/I is a fast performer which should speed through most tasks. It is well built and comes with a good-quality set of peripherals. We have no hesitation in highly recommending this PC.

Picking out a runner-up is not an easy job as most of the systems we tested were pretty good. But in the end two other PCs stood out – the Dell Dimension XPS R400 and Time Computers' 400-2sx.

The Dimension XPS R400 is a well-specified system with a generous 19in monitor. It is a fast performer and its 4Mb STB Velocity nVidia graphics card blew the competition away in the Final Reality graphics test. It's a shame it was let down by an elementary problem with the AGP card and issues with the monitor.

The Time 400-2sx was the second PC in the test to come with 128Mb of RAM. It also shares the same 8Mb ATI All in Wonder Pro graphics card as the Elonex, so you can watch TV on this PC too. It's also fitted with a DVD drive and comes with a digital video camera and a large software bundle.

Ursula Tolaini