

PIIs for under £1,000

Elonex PT 6300/I

KT Computers AGP HOME

Mesh Elite Ultima 266MMX

Mertec Cresta PII 266

Quantex QP6/266 M-2X

Synteq Affina D266R

Viglen Contender Value Plus 300

Watford Electronics Aries

Perfecta 98 Plus



GRAND PERFORMERS

It's incredible! You can now buy a complete Pentium II system for less than £1,000, including VAT. And you'll get at least a powerful 266MHz for your money. We tried out eight PIIs to see if it's as good as it sounds

The Pentium II is Intel's hot processor. It's also the most powerful yet, as those funky scientists in their shiny suits insist on telling us at every opportunity. But surely all that power has to come with a sky-high price tag, right?

Wrong. When we looked at low-cost Pentium II computers last December, we chose a cut-off price of £1,500 and more than half the machines we reviewed had 233MHz processors. This time, we set a price limit of £1,000 including VAT and half the PCs have 266MHz chips, the other half have PII 300s.

Despite the entry-level price, all of the PCs here are power-

ful enough to handle just about any application. Most of the 266MHz PCs are complete multimedia systems with a good graphics card, 56Kbits/s modem and plenty of RAM. Since the Pentium II 300 processor costs more, the systems that use it don't pack in so many features but they have plenty of room for upgrading at a later date.

Of the eight PCs on test, we wanted to find the one that offered the best overall deal for the money. Performance is obviously of prime concern but we also looked carefully at build quality, software bundles and any little extras that set one PC apart from another. Let's see how they did.

Elonex PT 6300/I



Elonex has years of experience in building PCs, and on the surface it looked as if it had put together an excellent budget PC for our test.

The PT 6300/I combines a 300MHz Pentium II processor with 32Mb of RAM. Its 3.2Gb hard disk is the smallest in the group test, but it's an Ultra DMA (Direct

Memory Access) model, providing fast data access for quick system and application startup.

Elonex has added some nice extras to the basic specification. The ATI All In Wonder AGP graphics card helped the PT 6300/I snatch the top spot in our Final Reality graphics test, and a TV tuner lets you hook up a TV aerial and watch up to four channels or

Teletext on the monitor. The machine also comes with a 56Kbits/s modem and a free ISP trial. Other

preinstalled software includes Microsoft Works 4.5 and Norton AntiVirus.

Despite the lack of a user guide, the PT 6300/I is simple to set up because the ports on the back of the case are all clearly labelled. We weren't as impressed with the 15in Elonex monitor, though. The picture quality was generally below

average, with a noticeable moiré pattern disrupting the image and poor focus in the corners of the screen.

The PT 6300/I comes in a mini-tower case and this doesn't leave much room to manoeuvre. Masses of bundled up cables restrict access to certain components and getting at the free DIMM slots to upgrade the memory is nigh on impossible. Elonex has also knocked out the only spare external 3.5in drive bay by filling it with the hard drive.

If you are happy to accept the PT 6300/I as it comes, you won't be disappointed.

Graphics performance is good, making it ideal for games enthusiasts, and the TV tuner is a nice touch. However, if you want to expand it in any way, the messy internals are a hindrance. Elonex clearly wants you to leave the inside of this PC alone.

● £999 (inc VAT)

● Elonex: 0181 452 4444

Elonex PT 6300/I

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

KT AGP Home



However, the ports on the back of the mini-tower were labelled with diagrams to help you work out which bits went where.

All of the parts in this system screamed budget - as soon as we unpacked the tower, its Pentium II badge fell off. It was also the only machine to come with a 14in monitor, the speakers sounded just like the flimsy plastic boxes they were and when you turned it on, you discovered

that the bundled Lotus SmartSuite software hadn't been installed.

Still, the KT AGP Home did have a Pentium II 300 processor, but this didn't translate into a particularly impressive benchmark result. The PC shared the lowest Bapco score with one of the 266MHz PCs, albeit one with 64Mb of RAM. It fared better in our graphics test

though, and its Diamond Viper 330 AGP card came in third.

Inside the case, KT has used an ingenious design. Once you have detached and untied the neatly bundled cables, you can slide out the whole motherboard from within its internal metal frame to give you easy access to everything.

There is plenty of scope for expansion with two free PCI slots, one free ISA and one shared PCI/ISA slot. These are all easy to get at, as are the three free DIMM slots, so expanding the KT AGP Home shouldn't be a problem.

The AGP Home was no cheaper than most of the machines in our test but it really was the budget option. The 14in monitor stood out like a sore thumb, performance was lacking and the software bundle sparse.

● £999 (inc VAT)

● KT Computers: 0181 961 8897

KT AGP HOME

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

KT Computers' machine was a bit of a disappointment from the start. When we unpacked it, we found that all the software and accessories had been sent out to us in an old sound card box. There was no setup or user guide to tell us how to put the system together, and the colour coding on the speakers didn't match up with the connections.

Mesh Elite Ultima 266MMX



Mesh has been around for some time now and its machines usually fare well in our group tests. The Elite Ultima 266MMX was no exception and while it may not be the fastest performer, it is a professionally put together PC that offers a good balance of hardware and software to get you started.

As soon as you open up the blue and white Mesh box, you're welcomed by a large 'Getting Started' sheet that tells you how to unpack and set up your computer. A plastic folder holds an easy-to-follow user guide, together with all the documentation and software. Even without all of the handy guides, this PC is simple to set up, as all the ports are clearly labelled.

To build a PC that met our price point, Mesh twinned a 266MHz processor with 64Mb of RAM. It added a generous 6.4Gb Ultra DMA hard disk drive and a fast 32x CD-ROM drive. The Ultima comes with a high-quality 15in Taxan multimedia monitor, a pair of additional speakers, and a standard Microsoft keyboard and mouse. The software bundle is functional - Lotus SmartSuite is preinstalled and a Pipex Dial ISP trial is included to help get you started using the 56Kbits/s modem.

Inside the case all wires are tied neatly out of the way and the CD-ROM cable has

been fed under the motherboard. The free power leads have also been positioned in exactly the right place to connect up to any new device you slot in.

The 3D ATI AGP graphics card is integrated into the motherboard and there's no separate AGP slot. Mesh tells us that this was done to prevent AGP cards popping out of their slot in transit, resulting in a machine that's dead on arrival. The complete removal of the AGP slot is a bit drastic, though, especially since it prevents you upgrading your AGP graphics card at a later date.

This PC reveals the attention Mesh pays to detail. It's not the fastest machine in this test, nor the most feature-packed, but what you do get is a good-quality product that provides all you would expect from a budget multimedia PC.

● £1,000 (inc VAT)

● Mesh: 0181 452 1111

Mesh Elite Ultima 266MMX					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Mertec Cresta PII 266



The machine combines a 266MHz Pentium II processor with 64Mb of RAM, which is a respectable specification for this price point, but it wasn't one of the top performers.

However, because all the performance test results were pretty close, this is not necessarily the best way to judge a PC.

The Cresta packs in all you need from a budget multimedia machine. Its 4Mb ATI Xpert@Work AGP graphics card is great for games and also included is a 56Kbits/s modem and a pair of cheap and cheerful Mertec speakers.

Mertec supplied a 15in ADI monitor, which gave good picture quality but the focus wasn't particularly sharp at the corners of the screen. The keyboard is sturdy and has a detachable palmrest.

The bundled software is the ever-popular Lotus SmartSuite, plus a free 15-hour AOL trial.

Inside, all the cables are tied neatly away and although untying them to fit new hardware is a pain, it does at least keep everything tidy.

There's plenty of scope to upgrade the system inside the spacious case, with three free PCI slots and one shared ISA/PCI slot. There are also three free DIMM slots to add more RAM and room for more drives in two pairs of 5.25in and 3.5in drive bays.

Mertec's Cresta PII 266 is a fine choice for a budget multimedia PC. It has all you need to get started and plenty of space to upgrade in the future. What it lacks are extras and it wasn't the fastest contender either.

● £999 (inc VAT)

● Mertec Computers: 0181 667 0990

Mertec Cresta PII 266					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

The Cresta PII 266 doesn't really stand out from the crowd. That's not to say there's anything wrong with it, it's simply that the PC lacks any particularly distinguishing features.

What's so special about the Pentium II?

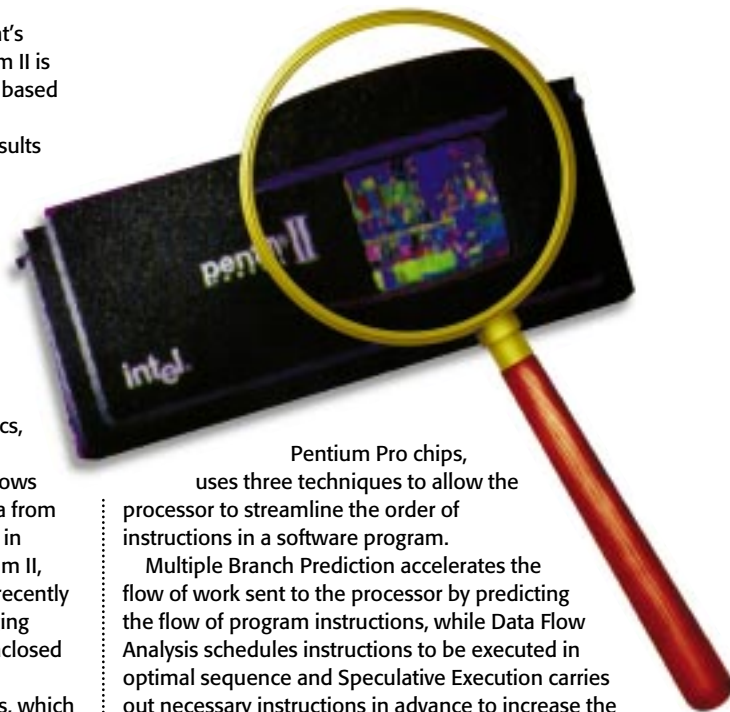
You've seen the ads but now you want to know what's behind the Pentium II hype. Essentially, the Pentium II is the Pentium processor's big brother – a faster chip based on the same architecture.

The Pentium II has been enhanced to provide better results from demanding multimedia and communications applications, and it includes the MMX Media Enhancement Technology first seen in the Pentium MMX. It also has performance-boosting Dual Independent Bus Architecture, Dynamic Execution technology and 512Kb of on-chip Level 2 cache.

MMX technology provides 57 new processor instructions designed to handle video, audio and graphical elements more efficiently. It was developed to get the best performance from today's demanding graphics, video and sound-intensive applications.

The Pentium II's Dual Independent Bus Architecture allows it to process information faster, because it can access data from its Level 2 cache bus or the system bus simultaneously or in parallel. The Level 2 cache is an integral part of the Pentium II, cutting down memory access time and letting you get to recently used instructions and data faster. The Pentium II's packaging allows the core of the chip and the Level 2 cache to be enclosed together in a metal and plastic case. This attaches to the motherboard via an edge connector, unlike previous chips, which were plugged into a socket – which means you can't upgrade to a Pentium II without ditching your motherboard.

Dynamic Execution technology, which was first featured in



Pentium Pro chips, uses three techniques to allow the processor to streamline the order of instructions in a software program.

Multiple Branch Prediction accelerates the flow of work sent to the processor by predicting the flow of program instructions, while Data Flow Analysis schedules instructions to be executed in optimal sequence and Speculative Execution carries out necessary instructions in advance to increase the rate of execution. These three techniques allow the processor to efficiently manipulate, as opposed to simply churn through, instructions.

Quantex QP6/266 M-2X



test machine arrived in a scruffy cardboard box that looked as if it was second-hand.

However, first impressions can be misleading, and once we opened the box we found a good setup guide showing where to plug in each cable.

Once the machine was up and running, the screen showed lots of icons for the installed bundled software. This looked good but closer inspection revealed such programs as the American Heritage Dictionary and Key MasterMap of the

US. Not a great deal of use in the UK and so more or less a waste of hard disk space.

The installed copy of Corel WordPerfect 8 and an index of FAQs (Frequently Asked Questions) to solve common queries were far more useful.

Quantex has fitted the QP6/266 M-2X with a fast 32x CD-ROM drive, a 56Kbits/s modem, a sound card and a 3D Diamond AGP graphics card, so you've got everything you need out of the box.

The 15in CTX monitor gave cause for concern, though – after a few reboots of the PC, text started coming up yellow, then reverting to white.

The mini-tower unit is big and took some muscle to get up on to the test bench, but this does mean that there is plenty of room to poke around inside. All of the cables are neatly tucked away and there are plenty of free slots and bays to house new devices.

With its 266MHz processor and 64Mb of RAM, the Quantex QP6/266 M-2X is good value for money. Some of the software is a waste of hard disk space but it's easy enough to remove.

● £938.83 (inc VAT)

● Quantex: 01438 224444

Quantex QP6/266 M-2X					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Quantex sent in the least expensive machine in the test, although it was only £58.75 less than its nearest competitor. Sadly, it didn't get off to a particularly good start and its low price was matched by cheap presentation – our

Synteq Affina D266R



can't resist tinkering with a standard machine, there's plenty of hard disk space free to beef the Affina up with new software.

The PC was easy to set up straight out of the box and all the mini-tower's ports were clearly labelled.

Lotus SmartSuite was supplied preinstalled, though we had to finish the Windows 95 installation process on our machine as soon as we switched it on.

The 4.3Gb Ultra DMA hard disk had been split into three separate partitions. This is unnecessarily confusing, although Synteq does say that you can choose how you want your hard disk partitioned.

The Synteq 15in monitor was fine and the Altec Lansing speakers were the same

tinny models as supplied with the Elonex and Quantex machines. Synteq originally fitted a 33.6Kbits/s modem on our review machine, which compared badly with the 56Kbits/s models on the other PCs. However, the Affina has since been upgraded to include a faster modem for the same price as our review model.

The sturdy metal case is spacious and well-ordered inside, with all of the cables neatly bundled together. Having said this, some were very taut - the CD-ROM cable was stretched across the modem card and the hard disk cables were straining to reach their destination.

Synteq's Affina D266R is a fast performer. It provides all you need from a budget multimedia PC out of the box, but leaves plenty of room for you to upgrade in the future.

● £999 (inc VAT)

● Synteq: 0181 537 0037

Synteq Affina D266R					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

The Synteq Affina D266R was a pretty impressive machine. It was the best performer among the 266MHz systems, and its ATI Xpert@Work AGP graphics card gave it a creditable result in our Final Reality graphics test. But if you

Viglen Contender Value Plus 300



with excellent, comprehensive documentation, ranging from a large setup guide to a binder containing a user guide, a motherboard manual and diagnostic software.

To back up this favourable first impression, the PC turned in a good performance in our tests. It was the best performer of the 300MHz machines with 32Mb of RAM, and it benefited from ATI's

Xpert@Work AGP graphics card in the Final Reality test.

The system came with some nice extras, including an Intellimouse and Easy Tutor for Windows 95 software, which is a real bonus for first-time users. It also comes with Microsoft Works and an AOL ISP trial. There's no modem, though, so if you want to access the

Internet from this PC, you'll have to shell out a bit more money.

There is a lock on the back of the Contender's slim case, which is useful if you want to protect your PC but it does make getting the cover off a bit awkward. Once inside, you can see that the Contender's beauty is not just skin-deep. All the cables are neatly tied away and there's plenty of potential to upgrade with two free PCI slots, one free ISA and one shared slot. The sound card is built onto the motherboard, which leaves an extra slot free.

It is a shame Viglen didn't supply a PC with a modem, because this is the only thing we could find to fault. However, if you want to invest that little bit extra and buy a modem, then this is a fast performer and a well-built machine.

● £999 (inc VAT)

● Viglen: 0990 944944

Viglen Contender Value Plus 300					
Build quality	★	★	★	★	★
Features	★	★	★	★	★
Performance	★	★	★	★	★
Value for money	★	★	★	★	★
Overall	★	★	★	★	★

Viglen is a well-established PC manufacturer and the whole presentation of its Contender Value Plus 300 reflects this. The machine arrived

Watford Electronics Aries Perfecta 98 Plus



If you want the best performance for your money, look no further than the Watford Electronics Aries Perfecta 98 Plus. With its Pentium II 300 processor, 64Mb of RAM and a 6.4Gb Ultra DMA hard disk drive it, not surprisingly, turned

in the best performance in our benchmark tests.

Alas, the Perfecta didn't do so well in the Final Reality graphics test.

The Matrox Productiva 8Mb AGP graphics card caused it to come bottom, so if you want good 3D games on this PC, you'll need an additional 3D accelerator card. The Aries falls short in another area too because, like the Viglen, it comes without a modem. Again, if you want to go online, you'll need to spend more money.

Lotus SmartSuite was preinstalled on the machine and there was also a bundle of five of Compton's multimedia CD-ROMs: Encyclopaedia 98; World Atlas; Genius of Edison; Interactive Cookbook and Reference Collection 98. The Compton's software wasn't preinstalled, so you could choose whether to use the these discs or not.

The Perfecta's case was large and sturdy, with an attractive oval green

power-on button. The keyboard was robust too, with a useful detachable palm-rest. The Perfecta uses the same CTX monitor as the Quantex machine, though we didn't encounter any problems with this model.

There's plenty of potential to upgrade in the future and adding new components inside this large case shouldn't be too fiddly. It's easy to access the free slots and bays because all the cables have been neatly tied away.

The Aries Perfecta 98 Plus is fine if you are looking for pure power and you're happy to upgrade it to meet your needs. But if you're looking for a complete multimedia system for under £1,000, don't be tempted by its high spec – you will need to spend a bit more if you want the full games and Internet experience.

● £997.58 (inc VAT)

● Watford Electronics: 01582 745555

Watford Electronics Aries Perfecta 98 Plus

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

Pentium promises for the future

This year looks set to be a big year for Intel's flagship Pentium chip, and processors are going to get faster than ever.

Intel has already launched 350MHz and 400MHz Pentium II processors. However, these are not the fastest processors it has shown – a 450MHz model is expected by the end of the year and it has already given a technology demonstration of a processor running at 700MHz.

The new processors can be twinned with Intel's latest motherboard chipset, the 440BX, which increases system bus frequency from 66MHz to 100MHz to offer improved data bandwidth and avoid performance bottlenecks.

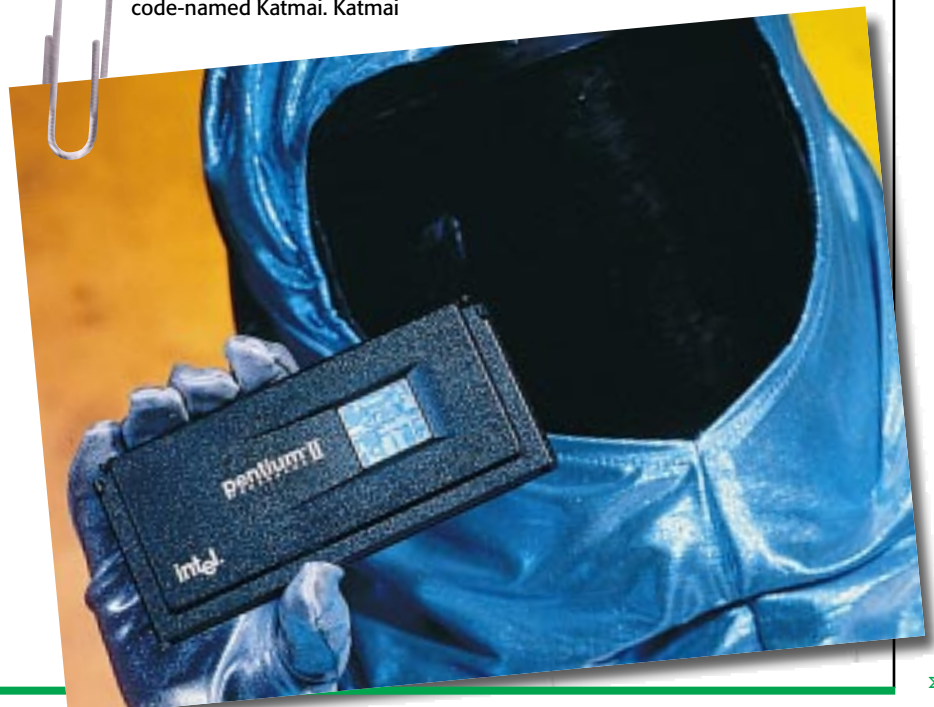
Intel has also launched a chip for what it terms the 'basic PC' market. 'Celeron' is based on the same architecture as the Pentium II processor but it lacks Level II cache, which will affect the performance of games and multimedia applications.

The first member of the Celeron family is a 266MHz model with a 66MHz system bus, which fits into same slot on the motherboard as a Pentium II. Celeron chips with 256Kb Level 2 cache resident

on the processor are due in the second half of this year.

Intel is also working on the next step up from its MMX Media Enhancement technology – code-named Katmai. Katmai

instructions are designed to enhance and accelerate graphics and video performance still further, and these are due to make an appearance in Pentium chips in the first half of next year.



Alternatives

Roldec Predator 266MMX MMX

On paper, Roldec's Predator 266MMX looks very similar to our Best Buy from Mesh, although because we haven't tested the Roldec we can't directly compare the two. It combines a 266MHz Pentium II processor with 64Mb of RAM and a large 6.5Gb hard disk, a 32x CD-ROM drive and an STB Velocity 128 AGP graphics card. It just scrapes into our price range at £999.93.

Roldec: 01902 456464

Evesham Prestige PII-266

Evesham's Prestige PII-266 isn't such a bargain because with only 32Mb of RAM it has less than any of the 266MHz PCs we tested. It only manages to come in at £999 if you remove the 56Kbits/s modem, which costs an extra £49.

Evesham Micros: 01386 765500

Mesh Professional PII 350BXA

If you want to spend a bit more, Mesh offers a 350MHz Pentium II Professional PII 350BXA for £1,175. It packs 64Mb of RAM and a big 6.4Gb hard disk but is let down by its Matrox Productiva graphics card.

Mesh: 0181 452 1111

Carrera Power Pro II

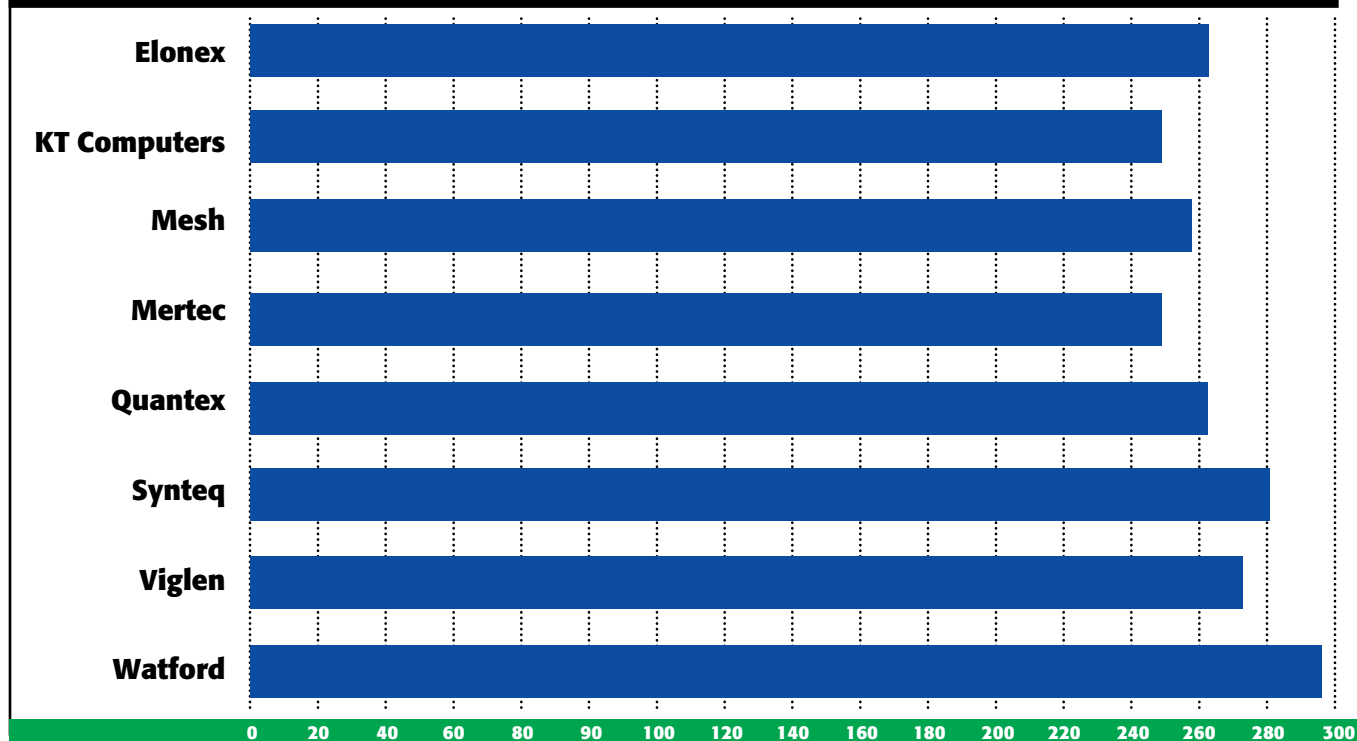
Carrera's Power Pro II is a slightly cheaper option at £883.01, but it only has a 233MHz Pentium II

processor. However, it is fitted with 64Mb of RAM, a 4.5Gb hard disk drive, a 56Kbits/s modem and a Matrox Millennium II AGP graphics card for £883.01.

Carrera: 0171 830 0486



Pentium II PCs BAPCo test



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.

PIIs for under £1,000

PIIs for under £1,000 compared

Product	Manufacturer	Elonex	KT Computers	Mesh	Mertec	Quantex	Synteq	Viglen	Watford Electronics
	Model name	PT 6300/I	AGP Home	Elite Ultima 266MMX	Cresta PII 266	QP6/266 M-2X	Affina D266R	Contender Value Plus 300	Aries Perfecta 98 Plus
	Price (inc VAT)	£999	£999	£1,000	£999	£938.83	£999	£999	£997.58
	Contact	0181 452 4444	0181 961 8897	0181 452 1111	0181 667 0990	01438 224444	0181 537 0037	0990 944944	01582 745555
Features	PR/processor speed	300	300	266	233	266	266	300	300
	Memory	32Mb SDRAM	32Mb SDRAM	64Mb SDRAM	32Mb SDRAM	64Mb SDRAM	64Mb SDRAM	32Mb SDRAM	64Mb SDRAM
	Hard disk	3.2Gb	4.3Gb	6.4Gb	3.2Gb	4.3Gb	4.3Gb	4.3Gb	6.4Gb
	CD-ROM	24x	24x	32x	24x	32x	24x	32x	24x
	Sound card	Videologic Sonic Storm Terasound	Aztech AWE 64	AWE64	Creative SoundBlaster 16 PnP	Ensonique	Yamaha 32 Voice	Yamaha on-board	AWE64
	Speakers	Altec Lansing ACS 90	unbranded	Contec	Mertec	Altec Lansing ACS 90	Altec Lansing ACS 90	built-in	unbranded
	Graphics card	ATI All In Wonder Pro	Diamond Viper 330	3D ATI on board	ATI XPERT@ Work	Diamond 330	ATI Xpert@ Work	ATI Xpert@ Work	Matrox Productiva
	Graphics type	AGP	AGP	AGP	AGP	AGP	AGP	AGP	AGP
	VRAM	4Mb	4Mb	4Mb	4Mb	4Mb	4Mb	4Mb	8Mb
	USB	●	●	●	●	●	●	●	●
	Monitor	Elonex MN024 15in	CTX 14in	Taxan FST Ergo 550 15in	ADi 15in	CTX 15in	Synteq 1554 15in	Viglen 15in	Aries Energy Pro 15in
	Modem	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	56Kbits/s	33.6Kbits/s	○	○
	Mouse	MS I/Mouse	Fujitsu	MS Mouse	Mertec Mouse	MS Mouse	Mitsumi	MS I/Mouse	Excel MK3 3B Serial PC Mouse
	Software	MS Works 4.5, Suprvice, Norton AntiVirus	SS97	SS97	SS97	Corel WordPerfect 8, Dr Solomon's Find Virus, BodyWorks 6.0, Compton's Interactive Encyclopedia, Key MasterMap, American Heritage Dictionary	SS97	MS Works	SS97, Compton's Mega CD Bundle
	Other	Headphones	○	○	○	○	○	○	○
	Warranty	1yr RTB	5yrs RTB	1yr RTB	5yrs RTB	1yr RTB	3yrs RTB	1yr C&R	1yr OS, next 5yrs RTB
Ratings	Star rating	★★★★	★★★	★★★★★	★★★	★★★★	★★★★	★★★★	★★★★
	Fmark	3.29	3.18	3.14	2.79	2.85	3.09	3.24	2.7
	BAPCo	264	247	257	247	263	281	273	295

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

Notes: SS97 = Lotus SmartSuite 97 MS Works = Microsoft Works MS Office Pro = Microsoft Office Professional MS Mouse = Microsoft Mouse MS I/Mouse = Microsoft IntelliMouse C&R = collect and return RTB = return to base OS = onsite Fmark = Final Reality rating



Although many of the PCs in this group test had individual features that stood out, the package that Mesh put together was the most impressive. The Elite Ultima 266MMX has everything you need straight out of the box and is well presented both inside and out. It benefits from a good multimedia monitor and, while it may not be the fastest performer, it combines good-quality components to create the best overall budget PC.



It was a close-run thing between the two top machines for our Best Buy, because the Synteq Affina D266R was a good machine. It outperformed the Elite Ultima in our tests but was

let down by its smaller hard drive and lower quality monitor. As Synteq has decided to supply all future Affina D266Rs with 56Kbits/s modems, it's a good choice for a low-cost multimedia machine. With its ATI Xpert@Work AGP graphics card and Lotus SmartSuite software, it's a model that offers everything you need at a reasonable price. We have no hesitation in recommending the Synteq Affina D266R.
Ursula Tolaini

