

Staying power

The worst thing about a PC is that as soon as you get it home it's out of date. To help you out, we've found some good all-round machines costing just £1,200, with a **better life expectancy**.

Some people are hard-core gamers and live for tweaking every last frame per second out of Quake. Others think game players haven't got enough work to do and PCs should only be used for serious office applications. In between these two extremes there is a big market of consumers looking for a good all-rounder that won't break the bank.

With this in mind, we set about seeing what the manufacturers could put together for us without topping £1,200 ex VAT. The machine had to be able to play a few games as well as handle office applications effectively. We invited 12 companies to the party with the following provisos: the machine must be equipped with a minimum 128MB of RAM, an 8GB hard drive and a 17in monitor. We wanted to see DVD capability and some form of removable storage with one piece of media included. Graphics cards had to be packed with at least 16MB of memory onboard and a sound card and speakers were also to be included in the box.

Since the PC industry moves so quickly, we were interested in the longevity of the machines. It's the nature of the IT industry that any PC you buy today will be out of date tomorrow, but whether you bought your machine today or 12 months ago, you would still expect it to be up to any of the tasks outlined above, and we kept this in mind as we tested the machines supplied for review.

To test the machines' office capabilities we used Bapco's SYSmark 2000, which runs a predefined series of operations in common applications, noting the length of time each takes to complete. To see what games we could throw at them, we used Mad Onion's 3DMark 2000 graphics benchmark at a resolution of 1,024 x 768 in 16bit colour to judge the Direct3D performance. On the OpenGL front we resorted to the newly released Quake III Arena running Demo 1 set to 1,024 x 768, again at 16bit colour, to give us an overall frame rate. If you're neither exclusively hard-core gamer nor office bore but have £1,200 to spend and want a bit of both, then read on to see what's best for you.

PHOTOGRAPHY DAVID WHITE

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• PCs reviewed by Will Head and Jason Jenkins.

• Tested by Will Head, Jason Jenkins and Lars-Goran Nilsson.

Carrera Octan M750



CARRERA SUBMITTED a well-rounded machine that fits the bill well. It has chosen to sacrifice 3D performance in favour of the extra functionality of a dual-head graphics card, but it's still a good system for the price.

The Octan has the fastest clocked processor in the group, an Athlon running at 750MHz. However, because there is not currently an Athlon motherboard supporting a front-side bus speed greater than 100MHz, this system can't

take full advantage of the processor. This is why it gets a slower SYSmark score than Elonex's Pentium III 733MHz offering. Carrera has opted for the same motherboard as Mesh, an Asus K7M. There's no onboard sound on this model, which helps cut down the confusion for novices who are unsure of where to connect the speaker cables. Carrera has also failed to take advantage of the extra USB connectors on the board.

The 32MB Matrox G400 dual-head graphics card isn't as fast as a GeForce, but will still run today's games, although this card under-performed in our 3DMark tests. Using the most recent drivers boosted its performance, but it was still slightly slower than the Mesh machine.

A 13.5GB Maxtor hard drive is provided – smaller than most but still adequate. Carrera has opted for an LG CD-RW for backup, better value than the smaller capacity Zip drives in other systems, while an OEM version of the

SoundBlaster Live! sits in a PCI slot. This version of the card doesn't have a CD SPDIF connector, which is a shame when you consider that the Matsushita DVD-ROM and the LG CD-RW have digital audio ports that could make use of one.

The Winmodem has a pass-through port to minimise the number of splitters you'll need for your wall socket, and the PC's general build quality is good, with an extra fan for cooling located toward the front, at the base of the case. The LG 19in monitor is unremarkable, but you do get a large, albeit average, display for your money. Overall, it's a good system – not the fastest games platform, but a good all-rounder.



DETAILS

PRICE £1,408.83 (£1,199 ex VAT)

CONTACT Carrera 020 8307 2800

www.carrera.co.uk

PROS Fast processor, CD-RW, dual-head card good for some users

CONS No CD SPDIF connector on sound card, monitor could be better

OVERALL A very well-rounded package that's also good value for money

BUILD QUALITY	★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Elonex Webrider Pro



ELONEX'S ENTRY is built around a 733MHz Pentium III sitting on a 133MHz front-side bus with 128MB of PC133 SDRAM, which should provide sufficient grunt for most current applications and games. This resulted in the highest SYSmark 2000 score of 150.

Unfortunately, the graphics subsystem does not do the processor justice, since a TNT2 M64-based card has been employed. We are seeing an increasing number of cards utilising nVidia's latest

chipset, the GeForce 256, and as a result the Guillemot Maxi Cougar can't keep up, even with a healthy 32MB of onboard RAM. Quake III results weren't very impressive, with the Elonex managing only 29fps. 3DMark 2000 results told a similar tale, with the Webrider's score of 2,062 only beating the SMC machine.

In terms of removable storage you'll find a Panasonic LS-120 drive that also doubles as a floppy. Sound comes from an onboard solution,

thanks to the VIA chipset that connects to a set of Creative CSW20 desktop speakers. There are only three PCI slots for upgrading, one occupied by the 3Com US Robotics modem and the other two available for expansion. One of the three available DIMM slots holds the 128MB RAM module. The case is the smallest on test, so if space is a premium then it may suit you. On the down side, there are only two 5.25in bays and three 3.5in bays, with only one of each free

for adding devices further down the line.

The 10-speed DVD-ROM is supplied by Acer and the 20GB hard drive comes courtesy of Fujitsu. One area where expense has not been spared is the monitor, a 17in Iiyama Vision Master Pro 410. A good monitor is very important and thankfully Elonex has made a wise choice.

There is a Microsoft wheel mouse and an Elonex-branded keyboard, which was a little unstable while typing, but this problem could be confined to the unit we received. Topping off the package is an Epson Stylus Color 460 printer.

DETAILS

PRICE £1,363 (£1,160 ex VAT)

CONTACT Elonex 0800 037 4466

www.elonex.co.uk

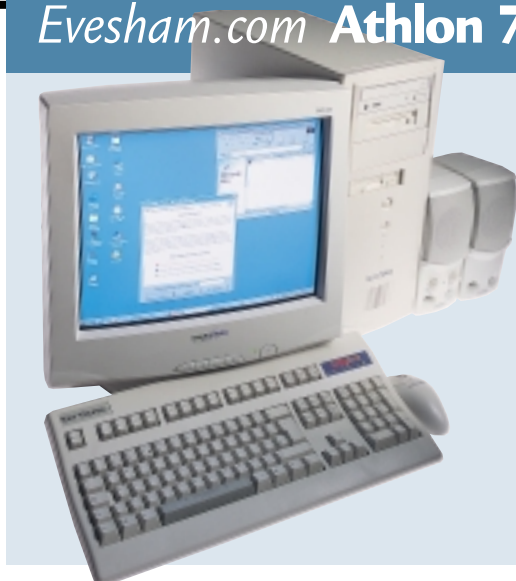
PROS Fast processor, good for office applications, quality monitor

CONS Let down badly by an inappropriate graphics card and poor games performance

OVERALL If you are interested in the office side of things and want a printer then the Webrider might be suitable, but there are more rounded machines in the group

BUILD QUALITY	★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★

Evesham.com Athlon 700



Guillemot 3D Prophet GeForce 256-based graphics card packed with 32MB of RAM is connected to a 17in Taxan 1710 TCO 99 ValueVision monitor. While the performance of the card is proven for high-quality gaming, the monitor provided only an adequate display.

The need for backup and transport of data is covered by a Zip drive, mounted in a 5.25in bay, due to the lack of free external 3.5in bays.

Unfortunately, Evesham chose only the 100MB

EVESHAM TOOK THE Athlon route for its group test contender, choosing a 700MHz chip for the heart of the system, backed up by 128MB of SDRAM. The SYSmark 2000 test saw the machine sitting just above the middle of the group, with a score of 137.

The machine's 3DMark 2000 performance placed it in a similar position, achieving a score of 3,578. It fared slightly better in our Quake III test, notching up 60.4fps. The ubiquitous

version, rather than the Zip 250 that is becoming more common. So backing up the 27GB Maxtor hard drive could be troublesome with only 100MB on a disk. Sound comes from the combination of a rather outdated SoundBlaster PCI 128 and a set of Cambridge Soundworks desktop speakers. Under the hood, Evesham's engineers have put even the tidiest of system makers to shame by wrapping all the internal cabling inside a protective sheathing that not only keeps

all the wires together, but also allows for easy upgrading in the future. The MSI motherboard is equipped with four PCI, one ISA and one shared slot, with the configuration leaving two free PCIs, one shared and one ISA. Of the three DIMM slots, one is in use and the case offers one free external 5.25in bay and one free internal 3.25in bay.

The 10-speed DVD-ROM drive comes courtesy of Pioneer and topping off the lot is a Diamond PCI 56K modem. Overall, the Evesham proved to be a competent machine, with performance placing it in the middle of the pack. We would rather have seen the larger Zip 250 drive, but on the whole the machine was well considered for the group test.

DETAILS

PRICE £1,408.83 (£1,199 ex VAT)

CONTACT Evesham.com 0800 038 0800

www.evesham.com

PROS Quality graphics card

CONS Only a 100MB Zip drive, average performance

OVERALL A good all-rounder only let down by a couple of omissions

BUILD QUALITY	★★★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Gateway Performance 600



As for performance, the Gateway did not fare as badly as you would expect, considering its distinguished heritage. SYSmark 2000 turned out a result of 135, which placed it just below the middle of the field. 3DMark 2000 also proved to be less of a challenge, with a score of 2,683 putting it in a similar position among the group. Finally, a Quake III result of 36.9fps also saw it bobbing near the middle. However, it is worth noting that the Voodoo3 range of cards does not support

GATEWAY OPTED FOR tried and tested technology for its entry, implementing the 440BX chipset instead of the newer VIA or 820 chipsets on show here. It's built around a 600MHz Pentium III processor running on a 100MHz front-side bus, combined with 128MB of PC100 SDRAM. Another flashback was the appearance of a 16MB 3dfx Voodoo3 graphics card, when we're used to seeing the likes of nVidia's GeForce 256 or Matrox's G400 chips.

32bit colour in 3D.

The need for removable storage has been satisfied by an LS-120 drive that also doubles as a floppy, mounted in the external 3.5in bay. If space is at a premium then the benefits of the LS-120 drive are clear. However, given the size of the case, there are more sensible options. The 120MB capacity of each disk could become an issue given the 20GB IBM hard drive. Gateway has opted for a Promise UDMA/66 interface card to

hook up the drive, as the motherboard does not offer support natively.

Inside the case, the UDMA cable connecting the hard drive to the interface card could have been routed more elegantly, as it just floated down to the card and was not restrained. The case offers three free 5.25in bays and four internal 3.5in bays, with a DVD-ROM in the top bay. On the motherboard you'll find two of the four PCI slots available and a 56K modem occupying the shared slot at the bottom.

Despite its heritage, the Gateway does keep up with the competition. It's not the most future-proof solution, but at £1,179.70 including VAT it does represent good value for money.

DETAILS

PRICE £1,179.70 (£1,004 ex VAT)

CONTACT Gateway 0800 552 000

www.gw2k.co.uk

PROS Good value for money

CONS Not the most up-to-date components

OVERALL If you're more interested in value for money than future-proofing then the Gateway is a good choice

BUILD QUALITY	★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Mesh Matrix 600GS



Mitsubishi Diamond Plus 91 has a crystal-clear display and a fairly easy to use OSD. It is a pleasure to look at and would suit office workers and gamers alike.

The Athlon processor has been housed in an Asus K7M motherboard that doesn't come with onboard sound. This offered Mesh an opportunity to choose a decent sound card, but it opted for a basic Creative SoundBlaster 128. This has been eclipsed by the same company's Live! 1024 card seen in other machines here.

MESH WAS ONE OF the few manufacturers to include an Athlon processor in its machine. It doesn't pick up any brownie points for speed, however, as other manufacturers have put in faster processors this time around. We weren't just looking for pure processor speed, though. Saving money by using the 600MHz processor has enabled Mesh to invest in other areas.

The most impressive component is the 19in Diamondtron NF screen. The

Mesh gets full marks for making use of the extra USB port on the K7M board, running a cable to a two-port USB adaptor that is screwed into the backplate. The 128MB of memory comes in the form of a single module, leaving two memory slots free for expansion. A 20.5GB IBM Deskstar hard drive sits in an internal 3.5in bay. Backup is left a little wanting. Only a 100MB Zip drive is included, in contrast to the CD-RW drives seen elsewhere in this test. A Pioneer DVD-ROM drive sits above this.

The 32MB Matrox G400 dual-head graphics card does not break the speed barrier like it used to, but it has the ability to output to separate monitors. It's not as impressive as a GeForce if you're into games, but the extra functionality it offers will interest some.

The case is roomy inside, allowing for a tidy system. One 5.25in bay and two 3.5in bays are free. There are two PCI and one shared slot free if you need to add more hardware. Overall, this is a well-thought out system, with a fantastic, large monitor that's easy on your eyes.

DETAILS

PRICE £1,350.08 (£1,149 ex VAT)

CONTACT Mesh Computers

020 8208 4706 www.meshplc.co.uk

PROS Excellent monitor, dual-head card could be useful to some

CONS If you don't want the functionality of dual-head then there are faster graphics cards, no CD-RW, slower processor, out of date sound card

OVERALL A good buy if you value your monitor over everything else and want to output to two screens

BUILD QUALITY	★★★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

NEC Direct SP-733P



that the Intel CC820 board features two DIMM slots with the memory bus running at 100MHz, leaving the rest of the board galloping away at 133MHz. Although this board allows you to opt for an Intel-ratified solution instead of defecting to VIA's camp, it's not quite as elegant as the likes of the Supermicro PIIISCA that has DIMM and RIMM slots for maximum upgradability.

The NEC was near the top of the group for speed, scoring 142 in the SYSmark 2000 test. Quake III and

NEC'S SP-733P, along with the Viglen and Time, are based on Intel's 820 chipset rather than the VIA solutions we have seen so far for the EB chips. The core is a 733MHz Pentium III EB with 128MB of PC100 SDRAM. This may come as a surprise, as you might expect to see RAMBUS in an 820-based system.

Unfortunately, the exorbitant cost of RAMBUS has meant that a stop-gap solution has had to be found to allow the 820 out into the open. This means

3DMark 2000 performance saw a similar placing, resulting in 62fps and a score of 3,741 respectively. To achieve this performance a Guillemot 3D Prophet, built around nVidia's GeForce 256 chipset with 32MB of RAM, has been put to work. NEC has informed us that it will be using two suppliers for its graphics cards and this may result in a different card being used in a retail system. However, it will be a GeForce 256 card with 32MB of RAM of equal value.

A Zip 250 has been chosen to back up the 30GB Maxtor hard drive, neatly mounted in a 3.5in bay, leaving a 5.25in bay free. The monitor is a 17in NEC-branded model that was adequate but didn't excel. DVD facilities come from a 10-speed Pioneer drive and sound is produced by the basic Aureal Advantage, with the output being routed through a set of Labtec LCS2414 speakers. The motherboard offers three free PCI slots and the case has room for two more internal 3.5in devices and one 5.25in. One USB port has been moved to the front of the case, allowing you to quickly add and remove USB devices.

The NEC offers a good solution if you want an 820-based system, but the lack of RAMBUS support lets it down.

DETAILS

PRICE £1,408.83 (£1,199 ex VAT)

CONTACT NEC Direct 0870 333 6320

www.nec-online.co.uk

PROS Support for 733EB processor

CONS Can't upgrade to RAMBUS

OVERALL If you simply have to go the Intel way then the NEC may be suitable for you

BUILD QUALITY	★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

Panrix Fusion 600



THIS MACHINE FROM the Leeds-based system integrator is a bit disappointing considering the good value PCs we normally see from Panrix, but it's still a good system. Panrix has opted for an Intel solution, a Pentium III 600EB. It gets full marks for using the Tyan S1854 motherboard, which has an updated VIA Apollo Pro Chipset that supports both PC133 memory and AGP4X. The 128MB of PC133 memory is contained on a single stick.

The 0.18micron manufacturing processes, on-die cache and faster bus speed, helped to propel this system slightly above Mesh's Athlon in SYSmark terms. This combines with the blistering 3D Prophet card in the 3DMark 2000 and Quake III tests to produce a fast score. Although it's not bad in the speed stakes, it's lacking in some departments in which other machines deliver. The Creative Live! 1024 sound card is an OEM model with colour-coded connectors. This particular version doesn't come with a CD SPDIF connector, but you can still buy the Live! Bay at a later date if you want to convert it into a Platinum.

A large 27.3GB Maxtor hard drive has been mounted vertically against the side of the system case in Panrix tradition. Despite this, however, there are no 3.5in bays free for future expansion. Backup for this drive comes in the form of a 250MB Zip drive. We would have preferred Panrix to include a CD-RW as

others have done this month. A Toshiba DVD-ROM sits in a 5.25in bay at the top of the case. This differs from other DVDs in one annoying aspect – it doesn't have a headphone socket at the front.

The most disappointing aspect of the ensemble, though, is the 17in Iiyama monitor. It does not live up to the high standards of the Iiyama brand. The vertical edges of the screen are blurred, and the general focus is not as sharp as other models.

This is a machine that would cope admirably with everyday office tasks and most games. Ultimately, though, other manufacturers offering more for your money beat it to the finish line.

DETAILS

PRICE £1,350.08 (£1,149 ex VAT)

CONTACT Panrix 0113 244 4958

www.panrix.com

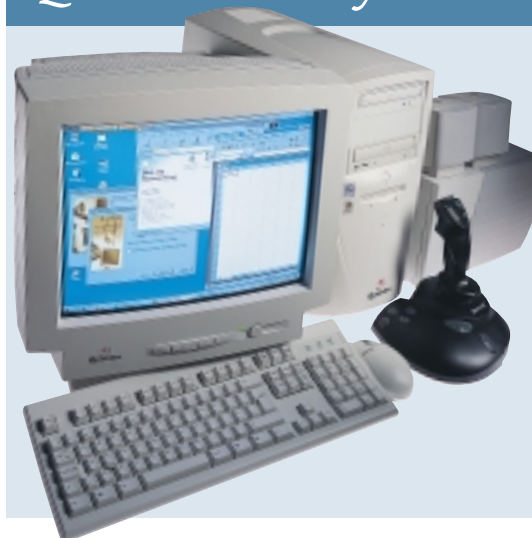
PROS Good processor, good build quality

CONS Comparatively poor monitor, slower processor, no CD-RW

OVERALL A well-built system, but it doesn't offer the same value for money as others here

BUILD QUALITY	★★★★★
PERFORMANCE	★★★★
VALUE FOR MONEY	★★★
OVERALL RATING	★★★

Quantex Microsystems Game 700XS



QUANTEX OPTED FOR a 700MHz Pentium IIIE, which runs on a 100MHz front-side bus, along with 128MB of PC133 SDRAM, as the basis of its Game 700XS. Although the board is running at 100MHz front-side bus, the MSI motherboard can run the memory bus at 133MHz thanks to the VIA chipset that has been used. This should result in an increase in performance, but not as great as running everything at 133MHz.

SYSmark 2000 scores for the Quantex

were disappointing with a result of 128, beating only the SMC machine. Some ground was made up in the 3DMark 2000 arena with a healthy score of 3,629 putting the machine in the top half, but unfortunately this was lost with a poor Quake score of 29.8fps, beating only the Elonex. The Creative GeForce 256-based Annihilator packed with 32MB of RAM went some way towards boosting the machine's scores, but it just wasn't enough.

A Sony CRX100E

CD-RW has been chosen to

provide the removable storage solution – a sensible choice given the 20GB of space available on the Western Digital hard drive. An eight-speed DVD-ROM from Toshiba sits in the top bay of the machine. On the audio side, Quantex has chosen an Aureal Vortex2 PCI, coupled with a set of Altec Lansing ACS 45.1 speakers. The Aureal card provides basic sound functionality but you won't find the bells and whistles such as digital in/out that are offered by the

SoundBlaster Live! family of cards, so if this is something you're interested in you may want to look elsewhere.

Providing the window on the machine is a 17in Quantex DP1727 monitor – not the best we've seen in the test but you could do worse.

Delving inside reveals four PCI, one ISA and a shared slot, of which two PCI and one ISA are vacant. Two 3.5in and one 5.25in bays are available for expansion, and the cabling, although not the neatest, was adequate. Access to the processor and memory is not possible without first removing the power supply. While replacing these items is not an everyday event, it's still worth considering.

DETAILS

PRICE £1,350.08 (£1,149 ex VAT)

CONTACT Quantex Microsystems 01438 224 444 www.qtx.co.uk

PROS CD-RW, good graphics card

CONS Poor overall performance

OVERALL While the Quantex made up a little ground in 3D performance, it wasn't enough to really pull it back into the race

BUILD QUALITY	★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★
OVERALL RATING	★★★

Simply Systemax Athlon 700 Pro



handy temperature-sensing features. Despite being a speedy processor, though, it finishes mid-table in our SYSmark round-up.

A few months ago, this would have been a pretty good machine for games, but unfortunately Simply has opted for a single-head Matrox G400 graphics card with 16MB of memory. While this is still a good card, it doesn't top the speed tests any longer. The GeForce cards seen in other systems race ahead of this, and one of these cards, or even a 32MB dual-head

Matrox G400, would have been a better bet for future-proofing the system.

There's an OEM version of the SoundBlaster Live! Value card in a PCI slot with colour-coded connectors. This version doesn't come with a CD SPDIF connector, which is a cheap omission. Simply has chosen a Ricoh DVD/CD-RW combo drive to provide backup. This will write at six-speed and also play DVDs comfortably, using the supplied Matrox Player. It comes with Nero Burning ROM

SIMPLY'S ENTRY IN this test is a well-built machine that is also fairly well balanced. It doesn't win any awards this time around, though, as it's just pipped to the post by manufacturers that have crammed slightly more into machines that don't break the £1,200 price limit.

A 700MHz Athlon processor sits at the heart of this machine, combined with the excellent Gigabyte GA-7IX motherboard that we found to be stable in our last group test. It also has some

– not as well known as other CD-writing software, but it does a good job. Should you wish to copy CDs on the fly you'll need more than one drive, however, and Simply has also provided Creative's new CD-ROM drive – a 52-speed version. The 20.5GB IBM Deskstar drive will be more than enough storage for most people, and seems to have become the new standard for this price range.

The monitor is a Mitsubishi Diamond Scan 70 – a fairly standard, 17in shadow-mask affair. It doesn't stand out in this company, but it does the job reasonably enough. We liked quite a lot of the components in this machine, but ultimately it could do with a better graphics card to put it on par with our winners.

DETAILS

PRICE £1,410 (£1,200 ex VAT)

CONTACT Simply 08707 297 366

www.simply.co.uk

PROS Both a DVD/CD-RW combo drive and a CD-ROM

CONS Graphics card could be better

OVERALL Nearly a winner, but not quite

BUILD QUALITY	★★★★
PERFORMANCE	★★★
VALUE FOR MONEY	★★★★
OVERALL RATING	★★★★

SMC Infinite Multimedia Pro



In common with a lot of manufacturers this month, SMC has gone down the CD-RW path. The Yamaha CRW8424E is an excellent example of such a drive. It writes at a blistering eight-speed, re-writes at four-speed and reads at 24-speed. A Pioneer DVD-ROM drive is installed above this. It doesn't have a tray, which appealed to us as it's quicker to insert and remove discs, but it's a matter of personal taste. A fair 20.4GB of hard drive space sits in the single 3.5in internal bay, leaving one

external 3.5in bay free after the floppy drive has been accounted for.

SMC has chosen a good motherboard – a TMC TI6VG4. This uses the VIA Apollo Pro 133A chipset and can support PC133 SDRAM for a 133 front-side bus if needed. Despite this functionality, SMC has chosen to fit it with a Pentium III 650E. Although it was built using the 0.18micron process and has 256Kb of on-die cache, it was not built to support a 133 front-side bus. This explains why

THIS WELL-BUILT MACHINE from SMC loses out on an award this month, but would still be appropriate for those who want dual-monitor output. It has a 32MB Matrox G400 dual-head graphics card in the AGP slot. Unfortunately, its speed doesn't match that of the cards based on the GeForce chipset, so it's not best for gamers, but it's a viable option for those with two monitors. A retail Creative Live! 1024 card sits in a PCI slot, together with a Diamond 56i modem.

the single stick of 128MB memory is PC100 rather than PC133.

The motherboard also has onboard sound, disabled in the BIOS, and this might confuse novices unsure of which connection to use. The 19in CTX monitor is good, but it's not up to the Mitsubishi monitor bundled with the Mesh. You do get a CD writer, though. One thing that irritated us was the lack of a wheel mouse – SMC has bundled a standard two-button PS/2 mouse.

Overall, it's a good machine that comes with a large monitor and can support up to two, but its slow performance results let it down.

DETAILS

PRICE £1,408.83 (£1,199 ex VAT)

CONTACT SMC 01753 550 333

www.smcdirect.com

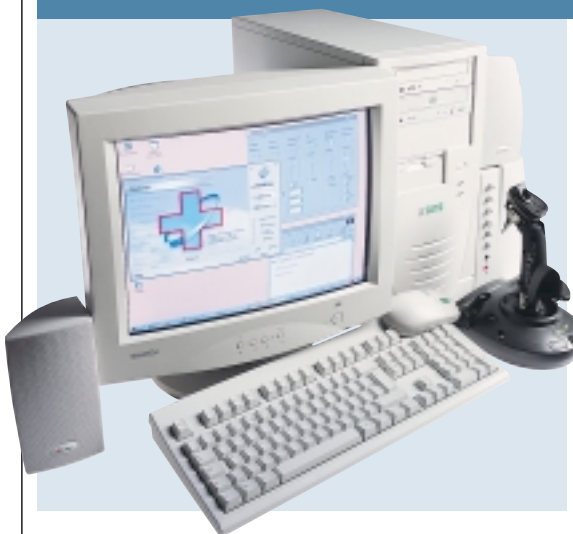
PROS CD-RW included, dual-head card useful for some users

CONS Slow performance compared to others here

OVERALL Choosing not to run a processor on a 133 front-side bus slows this machine down and robs it of an award

BUILD QUALITY	★★★★
PERFORMANCE	★★
VALUE FOR MONEY	★★★
OVERALL RATING	★★★

Time Machine 733-3 VQ Pro



faster, as it used VIA's Apollo Pro 133A chipset for PC133 memory.

However, Time is the only manufacturer to submit the latest in graphics card technology – an Asus V6800. This uses nVidia's GeForce chip, like other cards, but it also has 32MB of DDR memory. This gives a significant Direct 3D and OpenGL performance kick, making it a great gamers' system.

Build quality is also good. The inside of the case is tidy, with the 128MB of RAM supplied as

TIME SUBMITTED A well-balanced machine that has been built with careful attention to the specification we supplied. However, although the Pentium III 733MHz processor could make use of PC133 memory, the Supermicro PIIIISCD motherboard that Time has mounted it on cannot. It uses Intel's new 820 chipset that does not support PC133 SDRAM. This stunts its performance slightly in SYSmark terms. Elonex's 733MHz was a full 10 points

a single module, leaving a solitary slot free to improve on this in the future. There's room for expansion – two 3.5in bays and one 5.25in bay, and it's easy to gain access to all of the components as the case is well designed.

A Winmodem sits in a PCI slot, leaving four others free, but there are no ISA or shared slots for legacy devices. The onboard sound is basic, using a standard AC97-compliant sound chip. This does a fair job, but a dedicated card such as one

of the Creative Live! cards seen in other systems in this test would be better.

There's a whopping 28.5GB of hard drive, courtesy of Seagate's Barracuda in a 3.5in bay. Backup comes in the form of an LG CD-RW mounted below a Matsushita DVD-ROM drive. Power DVD is included to play movies. The 17in Samtron 75E shadow-mask monitor doesn't inspire, although it does a fair job. It has an even and clear display, but its focus is not the best here.

This machine has its faults, but for 2D performance and 3D speed, it's hard to beat. If you're after an office machine, though, you may want to opt for a system with a better monitor.



DETAILS

PRICE £1,408.83 (£1,199 ex VAT)

CONTACT Time Computers
01282 777 555

www.timecomputers.com

PROS Fast processor and graphics card, CD-RW

CONS Monitor is not the best, only one memory slot free, onboard sound

OVERALL A machine for speed fanatics

BUILD QUALITY	★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★★

Viglen HomePro PIII 733MW



the Elonex running a VIA chipset. The Viglen took second place in 3DMark 2000 and Quake III scoring 3,953 and 66.6fps respectively, but was pipped at the post by Time.

Backup is taken care of by a Sony CRX140E CD-RW drive, with ample capacity for the 20GB Western Digital hard drive. The multimedia platform is built from a Pioneer 10-speed DVD-ROM and an onboard sound solution hooked up to a set of Altec Lansing ACS33 speakers. Graphics come from a

ALSO TAKING THE INTEL route is the Viglen HomePro, boasting a 733MHz EB Pentium III sitting in an 820-based motherboard. Like the NEC machine, Viglen used the Intel CC820 board that supports PC100 SDRAM instead of RAMBUS, which is a much cheaper option given RAMBUS prices.

With 128MB of RAM installed in one of the two available slots, its SYSmark performance was impressive, resulting in an overall score of 143, beaten only by

32MB GeForce 256-based Guillemot 3D Prophet, with a Viglen-branded monitor for the display. This 17in monitor did the job, but there is better quality available elsewhere in the group.

Delving inside revealed a neat and well-put-together system. The motherboard offers five PCI slots, of which one is occupied by the 3Com US Robotics 56K modem. The case has space for one internal and one external 3.5in device with all the 5.25in bays

being occupied. In terms of peripherals, Viglen has not skimped and you'll find a Microsoft Intellipoint Explorer mouse (the optical one that glows red at the back) and a Microsoft Internet keyboard.

If you're after an Intel-approved motherboard solution for the current crop of Pentium III EB processors, then the Viglen may be for you. However, since the board offers no RAMBUS slots, then upgrading once prices have started to fall, as they inevitably will, is going to involve ditching the board. The CD-RW is a welcome addition and the graphics card can certainly keep up with the processor. Onboard sound is not the best for those who want quality, but it frees up a PCI slot for future expansion.

DETAILS

PRICE £1,410 (£1,200 ex VAT)

CONTACT Viglen 020 8758 7000
www.viglen.co.uk

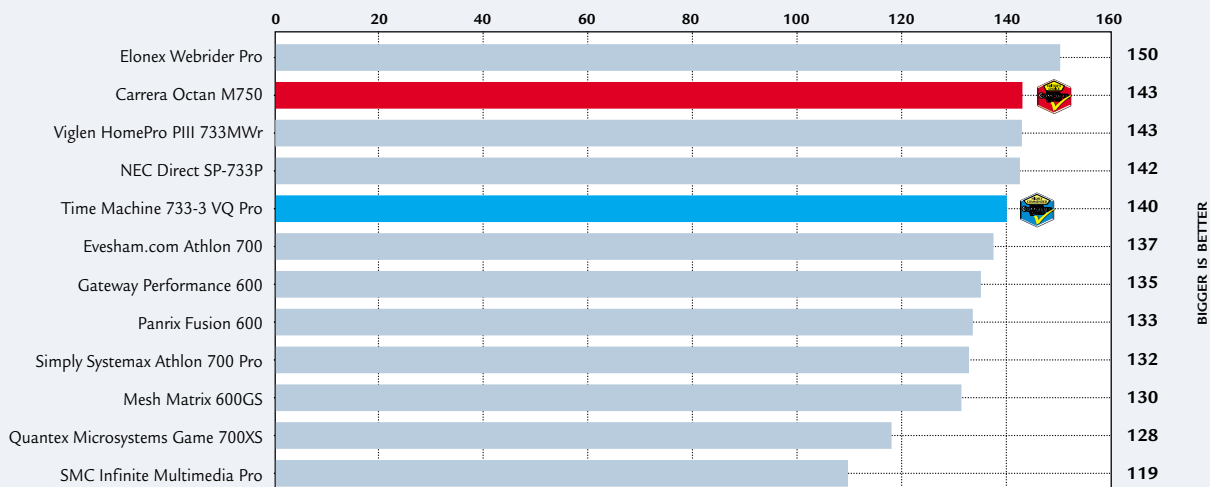
PROS CD-RW, good graphics card

CONS Onboard sound

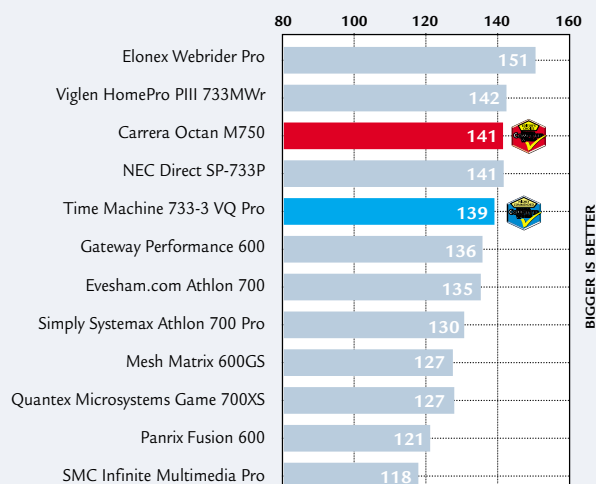
OVERALL A well-built and well-considered machine, but the lack of upgradability to RAMBUS may be an issue

BUILD QUALITY	★★★★
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL RATING	★★★★

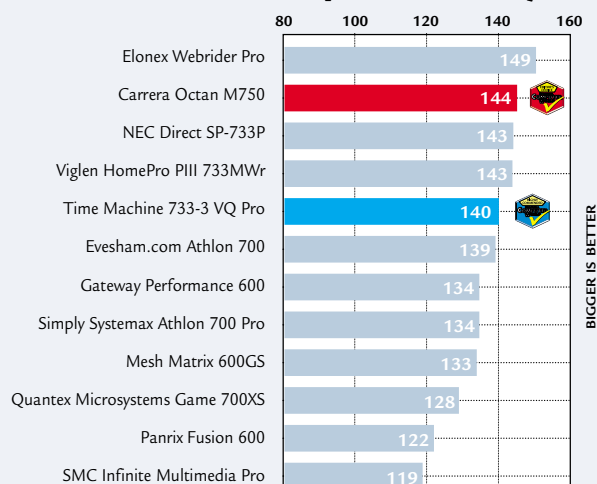
SYSmark 2000 overall



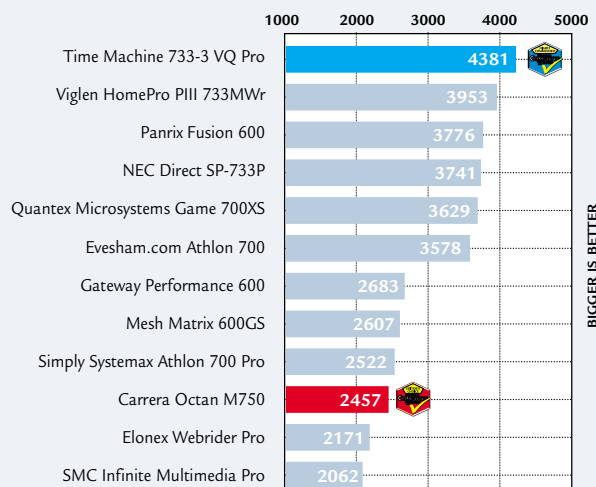
SYSmark: web content creation



SYSmark: office productivity



3DMark 2000



Quake III (fps)

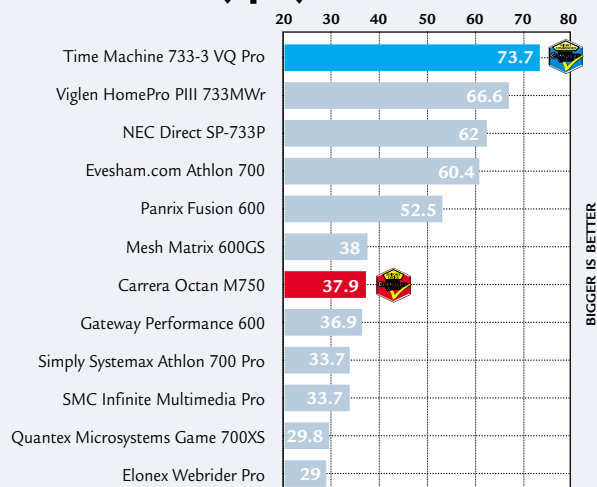














Table of features					
MANUFACTURER	CARRERA	ELONEX	EVESHAM.COM	GATEWAY	MESH
MODEL	OCTAN M750	WEBRIDER PRO	ATHLON 700	PERFORMANCE 600	MATRIX 600GS
Price (ex VAT)	£1,199	£1,160	£1,199	£1,004	£1,149
Price (inc VAT)	£1,408.83	£1,363	£1,408.83	£1,179.70	£1,350.08
Telephone	020 8307 2800	0800 037 4466	0800 038 0800	0800 552 000	020 8208 4706
Fax	020 8307 2857	020 8452 7444	08707 299 765	00 353 1848 2022	020 8450 4882
URL	www.carrera.co.uk	www.elonex.co.uk	www.evesham.com	www.gw2k.co.uk	www.meshplc.co.uk
HARDWARE SPECS					
Processor	Athlon 750	Pentium III 733EB	Athlon 700	Pentium III 600E	Athlon 600
RAM/type	128MB/PC100	128MB/PC133	128MB/PC100	128MB/PC100	128MB/PC100
Occupied RAM slots/spare RAM slots	1/2	1/2	1/2	1/2	1/2
Maximum memory in this configuration	640MB	640MB	640MB	640MB	640MB
Maximum memory supported by motherboard	768MB	768MB	768MB	768MB	768MB
Hard disk (manufacturer and model)	Maxtor 91366U4	Fujitsu MPE3204AH-E	Maxtor DiamondMax	IBM Deskstar	IBM Deskstar
HD size/interface	13.5GB/EIDE	20.4GB/EIDE	27GB/EIDE	20GB/EIDE	20.5GB/EIDE
Storage drive model and manufacturer	LG CD-RW CED-8083B	LS-120	Zip	LS-120	Zip
Size of storage drive media	640MB	120MB	100MB	120MB	100MB
Storage drive interface	EIDE	EIDE	EIDE	EIDE	EIDE
MOTHERBOARD COMPONENTS					
Motherboard manufacturer	Asus	FIC	Microstar	Intel	Asus
Model/chipset	K7M/AMD 751+ VIA VT82C686A	KA-31/Apollo Pro	MSI6195/ AMD751 & 756	440BX	K7M/AMD 751+ VIA VT82C686A
EXPANSION AND I/O					
No of 3.5/5.25in bays	3/4	3/2	4/3	6/4	4/3
No of free 3.5/5.25in bays	1/2	1/1	1/1	4/3	2/1
No of PCI/ISA/shared slots	4/0/1	3/0/0	4/1/1	4/0/1	4/0/1
No of free PCI/ISA/shared slots	2/0/1	2/0/0	2/1/1	2/0/0	2/0/1
No of USB/serial/parallel/PS2	2/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2	4/2/1/2
MULTIMEDIA					
DVD manufacturer and model	Matsushita DVD SR-8585	Acer DVD	Pioneer DVD114	Hitachi GD 500	Pioneer DVD 114
DVD speed/interface	8x/EIDE	10x/EIDE	10x/EIDE	8x/EIDE	10x/ EIDE
Sound card manufacturer	Creative	Onboard	Creative	Creative	Creative
Sound card model	SB Live! 1024 OEM *	VIA 686	SB PCI 128	SB PCI 128	SB PCI 128
Speakers (manufacturer and model)	Altec Lansing ACS43	Creative CSW20	Cambridge Soundworks	Creative SBS52	Labtec 1030
Graphics card (manufacturer and model)	Matrox G400 Dual Head	Guillemot Maxi Cougar	Guillemot 3D Prophet	3dfx Voodoo3	Matrox G400 Dual Head
Chipset	G400	nVidia TNT2 M64	GeForce 256	Voodoo3	G400
RAM/max RAM and type	32MB/32MB SGRAM	32MB/32MB SDRAM	32MB/32MB SDRAM	16MB/16MB SDRAM	32MB/32MB SDRAM
Graphics card interface	AGP	AGP	AGP	AGP	AGP
Monitor manufacturer and model	LG Studioworks 910SC	Iiyama Vision Master Pro 410	Taxan 1710 TCO 99 ValueVision	Gateway EV700	Mitsubishi Diamond Plus 91
Monitor size/max viewable diagonal	19in/18in	17in/16in	17in/16in	17in/16in	19in/18 in
Maximum resolution and refresh	2,048 x 1,536/60Hz	1,600 x 1,200/75Hz	1,280 x 1,024/60Hz	1,280 x 1,024/60Hz	1,600 x 1,200/75Hz
OTHER INFORMATION					
Modem manufacturer and model	Winmodem	3COM/US Robotics Avenger DF 56K	Diamond SST Supra 56K	GW 56K Winmodem	Diamond SupraExpress 56i Pro
Misc hardware	None	Epson Stylus Color 460 printer	None	Promise UDMA interface card	None
Bundled software	Lotus SmartSuite Millennium	MS Works Suite 2000	Lotus SmartSuite +	Microsoft Works Suite 2000	Corel WordPerfect Office 2000 OEM
Standard warranty	2 years onsite	1 year onsite	2 years onsite	3 years (1 yr onsite + 1 yr RTB)	3 years UK only (1 yr onsite + 2 yrs RTB)

KEY: * = no internal CD SPDIF in; RTB = return to base; C&R = collect and return

						
NEC DIRECT	PANRIX	QUANTEX	SIMPLY COMPUTERS	SMC DIRECT	TIME COMPUTERS	VIGLEN
SP-733P	FUSION 600	GAME 700XS	SYSTEMAX PRO	INFINITE	TIME MACHINE	HOMEPRO PIII
			ATHLON 700	MULTIMEDIA PRO	733-3 VQ PRO	733MWR
£1,199	£1,149	£1,149	£1,200	£1,199	£1,199	£1,200
£1,408.83	£1,350.08	£1,350.08	£1,410	£1,408.83	£1,408.83	£1,410
0870 333 6320	0113 244 4958	01438 224 444	08707 297 366	01753 550 333	01282 777 555	020 8758 7000
01506 402 520	0113 244 4862	01438 223 224	08707 274 002	01753 524 443	01282 770 844	020 8758 7080
www.nec-online.co.uk	www.panrix.com	www.qtx.co.uk	www.simply.co.uk	www.smcdirect.com	www.timecomputers.com	www.viglen.co.uk
Pentium III 733EB	Pentium III 600EB	Pentium III 700E	Athlon 700	Pentium III 650E	Pentium III 733EB	Pentium III 733EB
128MB/PC100	128MB/PC133	128MB/PC133	128MB/PC100	128MB/PC100	128MB/PC100	128MB/PC100
1/1	1/2	1/2	1/2	1/2	1/1	1/1
384MB	640MB	640MB	640MB	640MB	384MB	384MB
512MB	768MB	768MB	768MB	768MB	512MB	512MB
Maxtor DiamondMax	Maxtor 92732UB	Western Digital 205BA	IBM Deskstar	Seagate Barracuda	Seagate Barracuda	Western Digital WD205BA
30GB/EIDE	27.3GB/EIDE	20GB/EIDE	20.5GB/EIDE	20.4GB/EIDE	28.5GB/EIDE	20GB/EIDE
Zip	Zip	Sony CD-RW CRX100E	Ricoh DVD/CD-RW MP9060	Yamaha CRW8424E	LG CD-RW CED-80428	Sony CD-RW CRX140E
250MB	250MB	640MB	640MB	640MB	640MB	640MB
EIDE	EIDE	EIDE	EIDE	EIDE	EIDE	EIDE
Intel	Tyan	MSI	Gigabyte	TMC	Supermicro	Intel
CC820/820	S185A/VIA Apollo Pro 133A	MS6199VA/VIA Apollo Pro 133A	GA-7IX/AMD 750	T16VG4/VIA Apollo Pro 133A	PIIISCD/820	CC820/820
5/2	3/2	4/3	3/4	3/3	4/3	3/2
2/1	0/1	2/1	1/2	1/1	2/1	2/0
5/0/0	5/0/1	4/1/1	4/1/1	4/0/1	5/0/0	5/0/0
3/0/0	3/0/1	2/1/0	2/1/1	2/0/1	4/0/0	4/0/0
2/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2
Pioneer DVD 114	Toshiba SD-M1302	Toshiba DVD SD-M1302	Ricoh DVD/CD-RW MP9060	Pioneer DVD-104S	Matsushita SR-8584A	Pioneer DVD-ROM-114
10x/EIDE	8x/EIDE	8x/EIDE	4x/EIDE	10x/EIDE	6x/EIDE	10x/EIDE
Aureal	Creative	Aureal	Creative	Creative	Onboard	Onboard
Advantage	SB Live! 1024 OEM *	Vortex2	SB Live! 1024 OEM *	SB Live! 1024	Crystal	SB PCI 128
Labtec LCS2414	Labtec LCS-1030	Altec Lansing ACS 45.1	Creative/FPS1000	Philips MMS10	Labtec 2632	Altec Lansing ACS33
Guillemot 3D Prophet	Guillemot 3D Prophet	Creative Annihilator	Matrox G400	Matrox G400 Dual Head	Asus V6800 DDR	Guillemot 3D Prophet
GeForce 256	GeForce 256	GeForce 256	G400	G400	GeForce 256	GeForce 256
32MB/32MB SDRAM	32MB/32MB SDRAM	32MB/32MB SDRAM	16MB/16MB SGRAM	32MB/32MB SDRAM	32MB/32MB SGRAM DDR	32MB/32MB SDRAM
AGP	AGP	AGP	AGP	AGP	AGP	AGP
NEC VR17	Iiyama S700 JT1	Quantex DP1727	Mitsubishi CRT Diamond Scan 70	CTX VL950T	Samtron 75E	Viglen OEM Envy 17AL
17in/16in	17in/16in	17in/16in	17in/16in	19in/18in	17in/16in	17in/16in
1,280 x 1,024/60Hz	1,280 x 1,024/60Hz	1,280 x 1,024/60Hz	1,280 x 1,024/60Hz	1,600 x 1,200/75Hz	1,280 x 1,024/60Hz	1,280 x 1,024/60Hz
Winmodem	Diamond SupraExpress	Rockwell Chipset	Winmodem	Diamond Supra Softmodem	Etech 56K	3Com/USR - 56K PCI
None	None	MS Sidewinder	Creative 52x CD-ROM MS Sidewinder GamePad	None	None	MS Sidewinder Precision joystick MS Intellipoint Explorer Mouse
MS Word 2000, MS Works 4.5	Lotus SmartSuite	Corel WordPerfect Office 2000	Microsoft Works 2000	Lotus SmartSuite Millennium	Lotus SmartSuite Millennium	MS Works Suite 2000
1 year onsite	3 years UK only (1 yr onsite + 2 yrs RTB)	1 year onsite	3 years RTB	1 year onsite	1 year C&R	1 year onsite

Editor's Choice

Once all the machines are in and tested, we are left with the difficult task of judging them – and unfortunately, like most things in life, there are always winners and losers. Since the price point was quite low and the specification we were looking for was quite high, we knew that cuts would have to be made somewhere. It was how the manufacturers implemented these cuts that particularly interested us.

Kitting a machine out with a fast processor is all very well, but if the supporting components don't back it up then you won't see the benefit. Likewise, having a gigantic hard drive is great, but if you've got to back it up onto 100MB Zip disks you may be a little peeved. We wanted to see systems where all the components had been chosen to work well together.

With these factors in mind, this month's **Editor's Choice** award goes to the Carrera Octan M750. As well as packing in a fast processor, it included a CD-RW for backup and storage, the terrific SoundBlaster Live! 1024 (OEM) sound card and a 19in monitor.

Although the nVidia GeForce 256-based cards are showing their heels to

the Matrox G400 in games performance, for the intended use of the machine the Matrox card will keep you going for a fair time yet. Zip and LS-120 drives have their place in the market, but CD-RW offers many advantages over these, and adds little more to the price. Despite the fact that the 19in LG monitor was not the best we saw in this test, it was more than adequate for its intended purpose.

If you're having trouble deciding if your computer should be all work or all play then the Carrera is the sensible choice, offering something to satisfy both camps.

Running close behind the Carrera was the Time Machine that, despite the awful pun, takes the **Highly Commended** award. Inside was a 733MHz Pentium III and it had the only DDR-loaded graphics card on test, with games results to match, but to make this possible cuts had been made elsewhere. The sound came from an onboard chipset, which is never as desirable as a dedicated sound card and the monitor was an uninspiring 17in model.

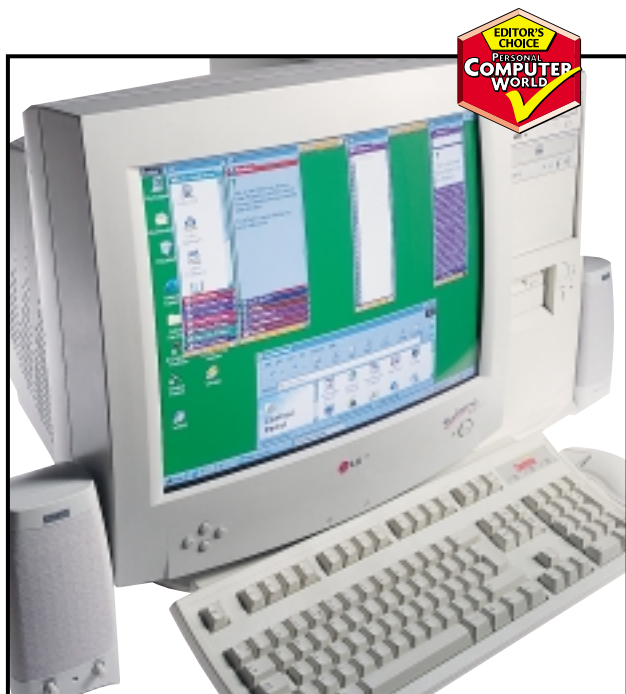
We were again impressed by the inclusion of a CD-RW and Time's new range of cases are certainly a lot better

when it comes to upgrading and maintenance. On the whole, a worthy adversary to the Carrera.

Given the huge variety of PCs in the test and the difficulty we had judging between them, we've decided to break with tradition and mention a couple of other machines that caught our eye.

First up is the Mesh Matrix 600GS, built around a 600MHz Athlon. Although the machine was sadly let down by the 100MB Zip drive, in terms of performance the Matrix fared well at both games and office tasks. However, if a good monitor is important to you, then there really was nothing better than the 19in Mitsubishi Diamond Plus 9I, utilising a crystal-clear flat Diamondtron tube. This, coupled with the quality of display produced by the Matrox G400, made the Mesh stand out.

A final mention has to go to the Gateway machine, utilising a 440BX chipset and a 16MB Voodoo3 card. Although not the fastest on test, it could certainly keep up, and the fact that it came in at nearly £200 (ex VAT) below the price point goes to show that you can buy a good system without having to blow lots of money.



The Carrera Octan M750 stole the show with its good all-round specification and the inclusion of CD-RW for backup



Awful puns aside, the Time Machine 733-3 VQ Pro boasted a DDR-loaded graphics solution, but lacked a dedicated sound card