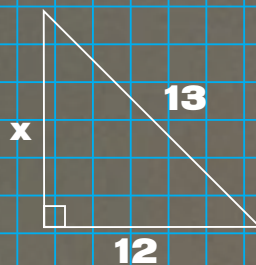


$$\begin{aligned} a^2 + b^2 &= h^2 \\ x^2 + 122 &= 132 \\ x^2 + 144 &= 169 \\ x^2 &= 169 - 144 \\ x &= \sqrt{25} \\ x &= 5 \end{aligned}$$



For those making the most of their university years, or last-minute crammers with exams at stake, your own PC can be a godsend. We asked 16 manufacturers to put together a system within a student budget of £999 and with a student's needs (academic, not alcoholic) in mind.

**A**s summer draws to a close, the school and university terms will soon be upon us once again. For some, this will mark a return to the freedom of living away from their parents, while for others it will be the first step towards the bigger life of university socialising, with its drinking, end of term starvation and a workload that few really understand until the night before their first-term exams. It is a traumatic, but strangely wonderful time.

For those of us who have travelled

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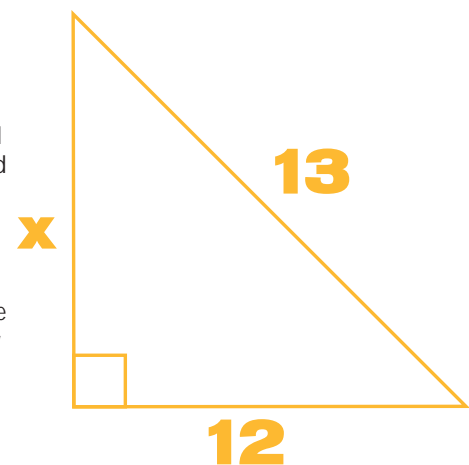
# Education systems

this path, there was one thing we envied others for – their own computer. The benefits of having one are many and varied. You no longer have to book yourself time on a university computer; you don't have to stop writing when the library closes; and perhaps most relevant, you can involve your flatmates in alarming minesweeper competitions, the enthusiasm for which can quickly grow out of control. The especially lucky students even have a printer, which allows them to print out their flatmates' names and stick them on their doors.

This month we asked 16

manufacturers to meet the challenge of putting together a competitive system that would suit school/university study. The guidelines we gave were: at least 128MB of RAM, a minimum 10GB hard drive, 17in monitor, modem, sound card and speakers, some form of removable storage, Windows 98 Second Edition, three-year warranty and software suitable for producing illustrated reports. The system should cost no more than £999 ex VAT, but including delivery and any credit card surcharges.

Read on to see what the manufacturers recommend you use in today's education system.



## Carrera Octan M750



**CARRERA HAS SUPPLIED** a machine that boasts the largest monitor – a 19in LG CS990DC. With a tube that isn't flat in any direction, this shadow-mask unit doesn't stand up to some of the vibrant and sharper aperture-grille models on test here. It may also be on the bulky side, if your desk is small. However, if image manipulation is a priority in your studies, you'll like the extra screen space.

Hooked up to the monitor is a 32MB TNT2 M64-based graphics card occupying the AGP slot of the Biostar

motherboard. This graphics solution is nothing to write home about, with the card under-performing in both of our 3DMark and Quake III tests.

At the Octan's heart, we find a 750MHz AMD Athlon processor, supported by a single module of 128MB PC100 SDRAM in one of three DIMM slots.

The innards are tidy with the cables neatly clamped to the side of the case. There's also an extra case fan to keep everything cool.

Storage is catered for by a 20.5GB Quantum Fireball hard drive which should provide more than enough room for most users, although media students capturing their video projects may find it fills up at an alarming rate. However, you can also burn data to CD using the Ricoh MP9060A CD-RW drive – winner of our Highly Commended award in June's group test – which doubles up as

a four-speed DVD-ROM drive. This has allowed Carrera to forego a separate DVD or CD drive, but at the expense of on-the-fly CD copying. A blank CD-R and a CD-RW disc are included. If you want to watch DVD movies, playback is reasonable but the audio suffers from background noise. A SoundBlaster PCI 128 sound card powers the budget Altec Lansing ACS22 speakers.

Lotus SmartSuite Millennium is included for producing illustrated reports, together with IBM ViaVoice, and a basic entertainment pack. On the whole, the Carrera offers little to make it really stand out. Performance is below par while other manufacturers have submitted more tailored bundles.

### DETAILS

**PRICE** £1,173.83 (€999 ex VAT)

**CONTACT** Carrera 020 8307 2800

[www.carrera.co.uk](http://www.carrera.co.uk)

**PROS** 19in monitor; combo drive

**CONS** No separate CD/DVD-ROM; poor sound on DVD playback

**OVERALL** A basic PC, without enough focus on the educational theme to make an impact

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★

★★★

★★★

★★★

## Dan Home Plus S



**ABSENT FROM OUR** group tests for seven issues, Dan Technology returns with a machine that features Intel's Flip Chip. This FC-PGA (Flip Chip Pin Grid Array) Pentium III is clocked at a respectable 700MHz, with 256KB of full-speed Level 2 cache squeezed on the die. With 128MB of PC100 memory leaving two DIMM slots free, the Dan is a mid-range performer sitting in the middle of the SYSmark 2000 results.

Lifting the lid off the large tower reveals an orderly layout that allows

easy access to the motherboard for upgrades. DVD playback is smooth, while sound is handled capably by a retail Creative SoundBlaster Live! 1024 connected to two large speakers. A DualHead 16MB Matrox Millennium G400 graphics card resides in the AGP slot. The card's reputation for great 2D performance should be welcomed

in an environment where writing illustrated reports is a priority. As for 3D performance, it failed the Quake III test, causing the machine to hang.

Showing off the Matrox graphics card is a Dan-badged 17in CTX VL700. This is a budget shadow-mask monitor producing a flicker-free vertical refresh rate of 75Hz at a resolution of 1,152 x 864 pixels. However, focus is far from perfect at the corners of the tube.

The backup device comes in the form of a Panasonic LS-120 that replaces the

standard floppy drive. Although handy as a storage medium, an LS120 disk is far more expensive than a CD-R, making this a costly solution for backing up files. We would have rather seen a Zip or CD-RW, as both have gained a wider acceptance in academic institutions.

Lotus SmartSuite Millennium is the office suite of choice, bundled with a selection of games. Unlike Carrera, Dan has also included a Lexmark Z32 printer, together with a cable to get you up and spooling straight away.

The Dan Home Plus S is a standard machine that makes use of Intel's latest chip technology. Problems with 3D applications and expensive backup media keep it from achieving an award.

### DETAILS

**PRICE** £1,168 (€994 ex VAT)

**CONTACT** Dan Technology 020 8830 1100

[www.dan.co.uk](http://www.dan.co.uk)

**PROS** Printer; good DVD playback and sound

**CONS** Below-par monitor; no CD-RW capability; 3D graphics problems

**OVERALL** A fair attempt at an educational PC, but backing up costs could mount up

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★

★★★

★★★

★★★

## Dell Dimension XPS T700r



ensuring long-term stability. The motherboard is a Dell/Intel effort featuring a Slot 1 Intel Pentium III clocked at 700MHz. Over this is a fan duct ensuring that it remains cool. The Maxtor hard drive isn't the biggest on test but you would be hard pushed to fill all 15GB. This is housed vertically at the front of the sturdy case.

**WITH THE DIMENSION XPS T700r**, Dell has opted for a well-rounded system and has provided us with a machine that includes an HP 610C printer and a Sony CRX 140E CD-RW with CD-R and CD-RW discs bundled. As for software, Dell has chosen Microsoft Works Suite 2000. This usefully includes Word 2000, a program that is common in many schools and universities. The rest of the setup is based on the tried and tested Intel 440BX chipset,

The 16MB ATI Rage Pro 128 may not be at the high end of the graphics card scale but, for the task, it doesn't have to be. It will still handle most 3D games comfortably. Connected to this is a 17in Samtron monitor from Samsung. Although this is a shadow-mask unit with a curved screen, the geometry and focus is commendable. It also benefits from a splendid OSD menu system that is both clear and intuitive. The same company also makes the 12-speed DVD-ROM drive that

performed admirably in last month's DVD-ROM drive bonanza. Working well with the Pro 128's ATI chipset, DVD playback was good and audio was clearly reproduced through the older SoundBlaster 64V. The separate drive also brings with it the option of CD-to-CD burning. The only thing that irritated us was the untidy cabling. Overall, Dell has hit the right blend of components, being the only manufacturer to bundle a printer, an economical CD-RW and an appropriate office suite, all topped off with decent DVD playback and audio. A worthy winner of the Editor's Choice accolade.

**DETAILS**

**PRICE** £1,173.83 (€999 ex VAT)

**CONTACT** Dell Computers 0870 907 5664 [www.dell.co.uk](http://www.dell.co.uk)

**PROS** A printer together with a good office suite and robust case

**CONS** Untidy cable routing


**OVERALL** Dell has gathered together a range of components that work well together and best fit the criteria set for this group test

**FEATURES** ★★★★★

**PERFORMANCE** ★★★

**VALUE FOR MONEY** ★★★★★

**OVERALL RATING** ★★★★★



## evesham.com Athlon E-Special



Storage is taken care of with a roomy 20.5GB Maxtor hard disk and the Samsung SM-304B DVD/CD-RW combo drive, but no blank discs are provided. Although the inclusion of this drive leaves two 5.25in bays unoccupied, we would have favoured a separate ROM drive as well, so that you can copy CDs directly.

**EVEESHAM.COM'S** entry this month is built around the popular 700MHz Athlon processor, mounted on an MSI K7 Pro motherboard. The MSI board is based on AMD's own 750 chipset and backed up by 128MB of PC100 SDRAM in the form of a single DIMM module, with two DIMM slots free. A Diamond 56i Pro modem and SoundBlaster 128 sound card occupy two of the PCI slots, leaving two. Access to these is unhindered, as evesham.com's engineers have neatly routed all cabling.

In terms of performance, the TNT M64-based graphics card lets down the rest of the system. The E-Special scored badly in our 3D tests, only managing 28.8fps and a score of 2,113 in Quake III and 3DMark respectively. The graphics card is linked up to a Mitsubishi V70 monitor, a standard 17in shadow-mask model that suffered from a focusing problem, especially at the screen's centre and corners. This gave text an uncomfortably blurry appearance. Regarding input devices,

the keyboard felt a bit lifeless and the evesham.com-badged wheel-mouse just doesn't feel as good as Microsoft's. evesham.com has supplied the functional Lotus SmartSuite Millennium office suite, which means you can be productive from your first day. However, the Lotus package is not as popular as the Microsoft Works Suite 2000 software supplied with other machines. Although the E-Special is £50 cheaper than the best of this month's group, the money could have been spent on other areas – such as better graphics or a printer. Despite the three-year on-site warranty, the poor performance and lack of peripherals make the Athlon E-Special difficult to recommend.

**DETAILS**

**PRICE** £1,115.08 (€949 ex VAT)

**CONTACT** evesham.com 0800 038 0800 [www.evesham.com](http://www.evesham.com)

**PROS** 700MHz processor; decent-sized hard disk

**CONS** Poor graphics, short on features

**OVERALL** A rather uninspiring machine. Better value can be found elsewhere

**FEATURES** ★★★

**PERFORMANCE** ★★

**VALUE FOR MONEY** ★★★

**OVERALL RATING** ★★★

## Gateway Select 750



**AT £940 EX VAT**, the Gateway Select 750 is the cheapest system in this month's group test. Having said that, the specification is comparable with most of the other machines we tested, so you're not losing out on features.

The motherboard is one of Gateway's own brand Kodoka AMD 750 chipset-based boards. Beating at the heart of the motherboard is an Athlon running at 750MHz. Memory is covered by a single 128MB SDRAM module, leaving two slots free for upgrade.

Storage is taken care of by a 14.7GB Western Digital hard disk, giving adequate space for essays, projects and presentations. For removable storage, Gateway has opted for a Panasonic LS-120. The 120MB size of this removable storage makes it ideal for the student's needs. However, the media is expensive at over £10 per disk, and the performance is slower than a Zip drive.

Dealing with sound, the Gateway has a SoundBlaster PCI 128 and Cambridge Soundworks GCS 200 speakers. A 32MB nVidia TNT2-based card from Creative deals with graphics and, although it is not a cutting-edge graphics solution, it performs adequately. Completing the display set is a Gateway EV700 monitor, producing a quality image, with a rotary selector allowing easy navigation of the OSD.

The Select 750's SYSmark results

placed it in the lower half of the group, with an overall score of 118. Compared to the other 750MHz processors in the test, the Gateway's performance was somewhat disappointing. DVD playback was also troubled, with decompression artefacts visible on plain coloured backgrounds.

The software bundle supplied was Microsoft Works Suite 2000, which includes Word 2000.

Overall, the Select 750 is not the best system in this month's test, but it's the cheapest. The inclusion of Word 2000 is a good choice and the saving of £60 can be put towards a budget printer.

### DETAILS

**PRICE** £1,104.50 (£940 ex VAT)

**CONTACT** Gateway, 0800 55 2000

[www.gateway.com/uk](http://www.gateway.com/uk)

**PROS** Lower cost helps for printer purchase; good software

**CONS** There are better performing PCs out there

**OVERALL** The price makes this an attractive system, but this doesn't quite offset the disappointing performance

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★

★★★★

★★★

## Hi-Grade Ultis PV3733



**HI-GRADE'S SYSTEM** employs one of the first motherboards with the new 815E chipset: the Asus CUSL 2. Apart from system performance improvements, the most noticeable aspect of this motherboard is the multitude of USB sockets it can support. In the configuration Hi-Grade will ship, five USB connectors come as standard. However, the board can support a massive seven USB ports in total.

The board runs with a 133MHz FSB, which the Ultis PV3 uses to run its

733MHz Pentium III processor. Filling one of the memory slots is a 128MB of PC133 SDRAM, with two slots free.

Performance on the Hi-Grade was good in the SYSmark 2000 benchmarks, scoring 134. This shows the 815E chipset is capable of showing off the Pentium III to its full potential without the need for expensive RAMBUS

memory. It was in the SYSmark Internet content creation scores that it shone most, with a score of 155.

Storage on the Hi-Grade is covered by a spacious 13.5GB hard drive from Fujitsu. Removable storage comes in the form of a Mitsumi CD-RW, although no blank CD-RW media is bundled.

Dealing with the issue of graphics, a Hercules 3D Prophet is installed, based on nVidia's GeForce 256 chipset. The card has 32MB of SDR memory. However, as the results show, the

Hi-Grade's performance in both 2D and 3D is not to be sniffed at. The monitor is an excellent CTX PR705F aperture-grille model, while a SoundBlaster Live! 1024 with Diamond Promedia 2010 speakers cover sound. DVD playback on the Ultis fared no better than most, suffering from poor-quality sound.

As for software, Hi-Grade has gone with Lotus SmartSuite Millennium. This will provide for the student's word processing needs, as well as providing a spreadsheet package in 1-2-3 plus an organiser. Overall this is a good system with cutting-edge motherboard that can cater for the needs of today's student.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Hi-Grade 020 8532 6100

[www.higrade.com](http://www.higrade.com)

**PROS** Lots of USB sockets; strong system performance; good monitor

**CONS** Stronger software packages are available

**OVERALL** A very up-to-date machine that will deal with the student workload with no problems

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★★★

★★★★

★★★★

## Mesh Matrix Duron 700T



**MESH IS THE ONLY** manufacturer to opt for the newly released AMD Duron processor to power its offering. This processor has 64KB of on-die Level 2 cache running at full processor speed, which makes it a relatively fast machine coming in at fifth place in the overall SYSmark results.

The Duron is plugged into the Gigabyte GA7ZM motherboard, based on VIA's KT133 chipset. This means that the Duron not only has a 200MHz front-side bus to the chipset, but can

a quality 17in aperture-grille monitor and one of the best found here. It has excellent image sharpness and colours. The only gripe is the fiddly OSD and poor power regulation.

Under the hood, the build quality is solid, with all the cables carefully secured around the case. This allows easy access for future upgrades or additions. There is also a decent-sized 20.5GB Seagate Barracuda hard drive, occupying a 3.5in bay. This should provide plenty of data storage

also take PC133 SDRAM. Mesh has opted for 128MB of PC100 SDRAM.

Located in the 4X AGP slot is the Guillemot 3D Prophet GeForce with 32MB of SDRAM. nVidia's Graphics Processing Unit helps the Mesh yield impressive figures in both the 3DMark and Quake III tests. Attached to this is Mitsubishi's Diamond Pro 720 –

for several years of study. For backing up and transporting those important assignments, a Teac CD-RW is present, but no free CD-RW discs are bundled. Nevertheless, the Teac is complemented by a Pioneer 10-speed DVD-ROM. Thoughtfully, Mesh has also fitted an ATi TV tuner for added versatility.

In terms of software, the student is provided with a full copy of Works Suite 2000 offering all the programs they're likely to need.

Overall, the Mesh is a quality machine that fulfils most of the criteria we set for the group test. Only the lack of a printer lets the package down.

### DETAILS

**PRICE** £1,173.83  
(£999 ex VAT)

**CONTACT** Mesh Computers 020 8208 4706  
[www.meshcomputers.com](http://www.meshcomputers.com)

**PROS** Good monitor; TV option; powerful graphics

**CONS** No printer

**OVERALL** A good performer with a solid set of components

#### FEATURES

**PERFORMANCE** ★★★★★  
**VALUE FOR MONEY** ★★★★★  
**OVERALL RATING** ★★★★★



## Multivision Vision Education A700



**THE VISION EDUCATION A700** is the first machine we've seen from Multivision and, as the name suggests, its Athlon processor is running at 700MHz. The motherboard is a K7 Pro from MSI. The modem and the SoundBlaster PCI 128 fill two of the five available PCI slots on the board (with the sound being pumped out to Labtec speakers), which leaves three free PCI slots for upgrading. Memory comes in the form of a single 128MB PC133 memory module, fitted into one of the

three available slots. A 20GB Seagate hard disk deals with storage, providing plenty of room for saving your work and storing applications. Addressing removable storage is a Samsung SM-304B CD-RW/DVD combo drive. This is a good solution providing versatility to the package.

The performance of the Multivision wasn't spectacular, coming fourth from last in the overall SYSmark scores with 116. That said, the average student probably wouldn't notice this in real-world use. As for DVD playback performance, the A700 had sound quality that at best would make DVD viewing a little irritating.

A 3D Prophet from Guillemot tackles the graphics, although it's the 16MB version with SDR memory instead of DDR. That said, the 3D performance results show this card still performs well.

The LG 775FT Flatron monitor supplied with the Multivision was one of the best in the test, giving a sharp image on the flat screen.

As for software, the Multivision comes with Lotus SmartSuite Millennium, which includes Word Pro for word processing, 1-2-3 for spreadsheet work and Lotus organiser. The bundle also includes an Epson 670 and printer cable.

Overall, the Multivision is a well-balanced machine for study, meeting all the software and hardware requirements the student will require. The performance wasn't the best in the group, but would be adequate for most students.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Multivision 0121 550 8000  
[www.multivision.co.uk](http://www.multivision.co.uk)

**PROS** Package includes a printer; good monitor

**CONS** Poor sound quality in DVD playback

**OVERALL** A good all-round package for production of student work

#### FEATURES

**PERFORMANCE** ★★★★★  
**VALUE FOR MONEY** ★★★★★  
**OVERALL RATING** ★★★★★

## NEC Direction SM-667VP



**NEC'S MACHINE COVERS** all the software requirements that the student needs, including Microsoft Word 2000. Corel Draw 7 is also included for artistic users. Parents will also be glad to see Money 2000 included.

Performance-wise, the Direction hovers around the middle to bottom of the SYSmark 2000 tables although it still copes with most applications. Handling the graphics on the NEC is a 32MB card based on the nVidia GeForce 256 chipset. Unfortunately, the memory is

SDR rather than DDR, although the results in both the graphics-intensive benchmarks show this doesn't have much effect on the overall performance. It scored 68.2fps in Quake III and a 3DMark of 4,009.

As a means of watching movies, the Direction didn't perform as well as some of the other entrants. When playing DVD movies,

the picture was fine but the sound quality wasn't wonderful, with a lot of background noise. Watching DVDs could quickly become tiresome; so bear this in mind if it is important to you.

The motherboard is an MSI 6309 based on the VIA 694X chipset and the processor, although having one of the lowest clock frequencies in the test at 667MHz, is a Pentium III with the full-speed on-die cache. This lets it compete with, and beat in many operations, faster processors. The system also

includes 128MB of PC133 SDRAM. The sound card is an Aureal advantage connected to Labtec speakers.

NEC's own 17in monitor, was adequate, although the image quality was a little fuzzy and couldn't maintain an adequate refresh rate at 1,280 x 1,024. The 20.5GB Maxtor hard drive will more than suffice for fixed storage, and a CED-8080B CD-RW from LG covers the issue of removable storage.

NEC has got the balance right, making sure the correct software for studying is included, while still making the machine capable of gaming.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** NEC 0870 010 6322

[www.nec-online.co.uk](http://www.nec-online.co.uk)

**PROS** Good software package; good graphics performance

**CONS** Background noise in DVD playback; disappointing monitor

**OVERALL** A good all-round PC, only let down by the sound in DVD playback and the quality of the monitor

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★★★

★★★★

★★★★

## PC World Advent 3047 BTO



**AT THE HEART** of the Advent system from retailer PC World beats a Pentium III 650MHz mounted on a Gigabyte GA6 BX7 motherboard. The system also comes with a single 128MB PC100 SDRAM module residing in one of the three available DIMM slots.

The hard disk is a 10.2GB model from Seagate, which will be able to handle all the information a student is likely to produce. Dealing with removable storage, the Advent has an internal Iomega 100MB Zip drive. First

impressions are that this is not as good as a CD-RW.

However, the size of the disks and the Zip drive's ease of use make it an ideal storage device for a student PC.

A Creative SoundBlaster PCI 128 deals with the sound, with SBS20 speakers from Creative to pump it out. As for the display, an nVidia TNT2 Model 64-

based card drives a Proview PK-770 17in monitor. The image quality on the monitor was poor, with streaking occurring across the screen. This was especially noticeable in any application displaying text where the streak lines were most pronounced – which is unfortunate in a student PC, where text display will be paramount.

A Toshiba SD-M1402 DVD-ROM drive is included, so a bit of after-hours movie watching is an option.

In terms of performance, the Advent

produced a SYSmark 2000 score of 118, which was just below average. As for 3DMark and Quake III, the results show that the Advent is not a gaming machine, due to the graphics card.

The peripherals bundled with the machine include a Mustek 1200UB scanner and a Canon BJC-2100 colour printer. The software productivity pack includes Microsoft Works 2000, Excel 2000, Money 2000 and Home Publisher 2000.

The Advent is a well-rounded student computer, with all the peripherals needed to produce and print a student's work. It's a pity the monitor is so poor.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** PC World 08705 464 464

[www.pcworld.co.uk](http://www.pcworld.co.uk)

**PROS** Printer and scanner included; good DVD playback

**CONS** Poor-quality monitor and graphics card

**OVERALL** Great peripherals allow the student to do everything. However, the monitor quality has been sacrificed to achieve this end

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★★

★★★★

★★★★

★★★★

## Polar Technology Phoenix



**THE PROCESSOR DRIVING** Polar Technology's entry for this group test is a 700MHz Athlon. This, along with 128MB of PC100 SDRAM and the MSI K7 Pro motherboard, saw the machine lodge itself in the performance tables as an all-round good performer, with the Phoenix placing third or fourth in nearly all of the categories.

The software bundled with the system is Microsoft's Works Suite 2000, which includes Word 2000, as well as Money 2000 to help tackle the inevitable

student financial problems, and a copy of the Encarta Encyclopaedia.

The graphics duties are dealt with by a Creative 3D Blaster Annihilator Pro. This nVidia GeForce 256-based card has 32MB of DDR memory and its performance is highlighted by the Phoenix's position in the top five in both the Quake III test where it

achieved 64.9fps, and the 3DMark test where it scored a respectable 3,728, sitting fifth on the table. The sound card is a Creative PCI128, which feeds Labtec speakers.

The Mitsubishi Diamond Pro 720 monitor performed well, achieving a maximum resolution of 1,600 x 1,200 at 75Hz, with a crisp, clear image. DVD playback performance was similar to many of the machines, with a clear and smooth picture, but unfortunately with background hiss affecting the sound.

To meet storage requirements, a 25GB IBM hard drive is installed giving plenty of space; and to address the requirement for removable storage, there's a Creative CD-RW.

One point to note is that Polar is one of the only machines on test to ship with a blank CD-RW disc to go with the drive. It's a small point, but inclusion of the disc means you are ready to go as soon as you plug it in, rather than having to run to the shops to get some media.

The Polar Phoenix is a fine all-round machine that admirably handles office tasks needed for study, yet still offers reasonable gaming performance. As with many of the machines, though, DVD playback wasn't up to scratch.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Polar Technology 0161 482 7000

[www.polartechnology.com](http://www.polartechnology.com)

**PROS** CD-RW included; good-quality monitor

**CONS** Background noise in DVD playback

**OVERALL** A versatile machine for work and play, but let down by poor DVD performance

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

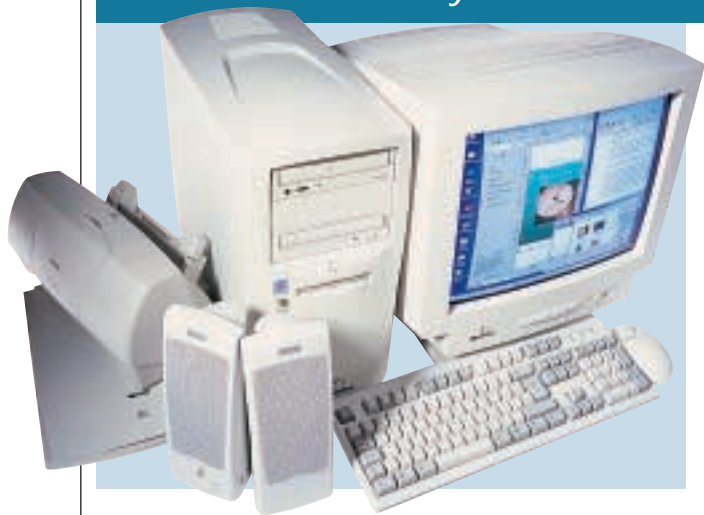
★★★★

★★★★

★★★★

★★★★

## Quantex Microsystems M677SX



**THE QUANTEX M677SX** comes with more software on it than any other system in this month's group test, but you only get the most important original software discs with it: namely Windows 98SE, Corel WordPerfect Office 2000 and the Grolier Encyclopaedia (on DVD). Quantex has opted for a solution where the bulk of the software installed on the system is stored on a drive image on a D:\ partition on the hard drive. If your system becomes unstable you restore the stable system from the image

to return your PC to its former glory.

Included with the Quantex is a Canon FB630P scanner along with a Canon BJC-2100 colour Bubble Jet printer, complete with cable. This and the addition of the scanner makes the Quantex an attractive system.

The performance of the Quantex wasn't as good as machines of similar

specifications, languishing in last place in the SYSmark table and placed in the middle in the Quake III and 3DMark 2000 tests. The processor, complemented by the Biostar motherboard, is a 667MHz Pentium III, supported by 128MB of PC133 SDRAM. The graphics card is a 3dfx Voodoo 3 3000 with TV out, which is long in the tooth and doesn't support 32bit colour in 3D. A Creative PCI 128 and Altec Lansing ACS22 speakers cover sound.

Optical storage is well catered for

with a Toshiba 12-speed DVD-ROM drive and a Sony CD-RW drive. There are also 10 blank CD-R discs supplied to get you started.

Considering the performance issues, the Quantex's DVD playback exhibited surprisingly good audio and video quality. The 17in Quantex-badged monitor was not up to the level of some of the competition, however.

Ultimately, the Quantex fits a niche. It has all the peripherals the student will need and, although the overall performance isn't earth shattering, its DVD playback is one of the best.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Quantex Microsystems

01438 224 444 [www.qtx.co.uk](http://www.qtx.co.uk)

**PROS** Printer and scanner included; good DVD playback; CD-RW with 10 discs

**CONS** General performance wasn't wonderful; some software discs aren't included

**OVERALL** This system has everything the student will need to prepare and print all of their work and the impressive DVD playback is a bonus

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★★

★★★★

★★★★





## Simply Systemax A750 RV Pro



**SIMPLY'S ENTRY** easily topped both the Quake III and 3DMark tables. Bearing in mind that the system employs the same Creative 3D Blaster Annihilator Pro with 32MB of DDR memory as some of the other machines, the results cannot be ascribed purely to the graphics card. Although in combination with the Athlon 750MHz, the AOpen AK72 motherboard and the 128MB of PC133 SDRAM, the system performs extremely well. For the student with a gaming interest, Simply has also

ideal when you're living in one room. High scoring in the SYSmark tests shows the Systemax to be an all-round good performer. Only in the Internet content creation, where it came fifth, did it slip outside its position as one of the top two scorers. In contrast to its generally outstanding performance, the DVD playback was the poorest of all this month's systems, with the picture occasionally jerky and the sound quality unacceptably low. Included with the system is an Epson

bundled its standard games pack, which includes Driver and Unreal Tournament.

Taking care of optical storage is a Ricoh DVD/CD-RW combo drive. The hard disk is a Maxtor 20GB unit and the system employs a Creative V128 sound card in combination with SBS52 speakers. Included is an ATi TV tuner card, turning the PC into a television,

Stylus 460 inkjet colour printer for printing essays and diagrams. The CTX monitor performs adequately, exhibiting sharp image quality.

As for application software, Corel WordPerfect Suite 8 is included, catering for the word processing and spreadsheet needs of the student. For the younger students there is also an educational software pack, which deals with various subjects to GCSE level.

The Simply Systemax will be more suited to the gamer than the serious scholar. Inclusion of games will appeal to some, but for others, bundling of Word 2000 may have appealed more.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Simply Computers 08707 297 366  
[www.simply.co.uk](http://www.simply.co.uk)

**PROS** Comes with a printer; exceptional gaming performance

**CONS** Software could be better; awful DVD playback

**OVERALL** A system more in tune with the gamer than the scholar, although the printer is a good addition

#### FEATURES

PERFORMANCE ★★★★★

VALUE FOR MONEY ★★★★★

OVERALL RATING ★★★★★

## Time Machine 750-7 QV Pro



**TIME'S ENTRY** boasts a 750MHz Athlon processor. Although other manufacturers employed a similar processor, it was the Time system that bludgeoned its way to the top of the SYSmark 2000 overall table. For the student who is looking for a powerful work machine, the Time may well be worth a look. Although the raw power may not make such a difference in real-world application use, it does make the machine more versatile and the extra power increases the longevity.

be adequate for saving essays and dissertations, while still leaving enough room for any other applications that may be required.

The system comes complete with an Epson 460 colour printer to print essays, along with a microphone, gamepad and joystick. The inclusion of the latter peripherals gives gamers their necessary hardware – although, as the 3DMark and Quake III results show, the Time Machine isn't the best gamer's choice.

A Samsung DVD/CD-RW combo

Built around an MSI K7 Pro motherboard, the Time Machine sports a SoundBlaster Live! 1024 that is piped to Screenbeat Pro 50 speakers. A 16MB Voodoo 3 3000 that also supports TV in/out feeds a Samtron monitor, which is not wonderfully sharp. A 20GB Fujitsu hard disk deals with storage and should

drive caters for both removable storage (through the combo's CD-RW capabilities) and reading of CD-ROM and DVD media. As for DVD playback, the Time Machine suffered, as so many of the systems did, with poor sound quality that curtails the use of this machine for enjoyable DVD viewing.

Software includes Microsoft Works and Time's standard software pack, which includes Lotus Millennium. Through both of these packages all the software needs of the student are adequately met.

The Time system would suit the serious student, although inclusion of gaming peripherals gives versatility.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Time Computers 01282 777 555  
[www.timecomputers.com](http://www.timecomputers.com)

**PROS** Printer included; excellent performance with office applications

**CONS** Bundled software could have been better; DVD sound was poor

**OVERALL** A good system for the serious scholar, complete with a printer

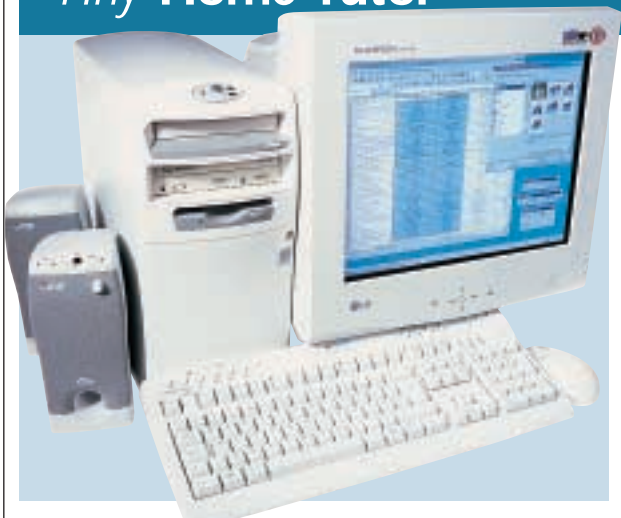
#### FEATURES

PERFORMANCE ★★★★★

VALUE FOR MONEY ★★★★★

OVERALL RATING ★★★★★

## Tiny Home Tutor



**THE TINY HOME** Tutor gears itself more to school level than university. It ships with an educational software bundle of various study aids for students at GCSE level. For students in higher education, Tiny has opted for Microsoft Office Professional 2000 with a student licence. This is therefore one of the best software bundles in this month's test, as it is directly aimed at our target audience and gives them access to one of the best office packages.

Driven by a 733MHz Pentium III

processor, the Tiny has an MSI 6154 motherboard, supplied with one of the three RAM slots filled by a 128MB PC133 SDRAM module. The hard disk is a Western Digital 20GB unit, giving adequate storage space, and for removable storage a CD-RW drive is included. A single CD-R is bundled with the system, although a

CD-RW would have been more useful.

An onboard Creative PCI 128 deals with sound requirements, with the sound piped to CPR50 speakers. For graphics and display, a TNT2 Model 64 card is included and a 17in LG Flatron monitor completes the ensemble. The screen image is sharp, with the monitor achieving an astounding maximum resolution of 1,600 x 1,200 at 75Hz. A Matshita SR 8585 deals with DVD.

The Home Tutor is near the bottom of all of the tables, highlighting the poor

performance of this machine.

Considering the power of the processor, we expected higher scores, but the Home Tutor fails to deliver. DVD playback was no worse than the others, with good visuals, but poor sound.

One problem overshadows the Tiny system, and that is the case. All the drives are recessed into the machine, which, for the DVD means the tray catches on part of the casing, stopping the tray ejecting. Inserting a floppy is also made difficult by the case design.

The Tiny performs poorly and, at least on the system we received, suffers from a questionable design. That said, the software bundle is excellent.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Tiny 01293 821 555

[www.tiny.com](http://www.tiny.com)

**PROS** Microsoft Office Professional (student licence) included; good monitor

**CONS** CD ejection jams on case; poor performance overall

**OVERALL** The system case is poorly designed. Other systems are better value

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★

★★

★★

## Viglen Homepro P3 800 SWR



**FITTED ONTO AN** MSI MS6119 motherboard is the most powerful processor in this month's group test: an 800MHz Pentium III. Using this raw power, the Viglen sits comfortably at the number one spot in the SYSmark Internet content creation table. The Homepro's weakest area was 3D, where it slipped towards the bottom end of the tables. But even taking this into account, its overall performance can only be considered to be impressive.

The Viglen was one of the few

systems that excelled in DVD playback. The image coming from the Pioneer DVD-ROM was smooth, with no decompression artefacts, and the sound was hiss-free. The 32MB ATI graphics card (with video in/out) may go some way to explaining this, due to its superior motion compensation, showing that Viglen

has got the combination just right. In the same vein, the system also includes cables to allow you to connect the PC to a television. S-Video, composite and SCART cables are all supplied. The bottom line: if DVD is important to you, this machine is well worth a look.

As for software, the Viglen system comes with Microsoft Works Suite 2000, which covers most student needs. The suite includes Word 2000, Money 2000, and the Encarta encyclopaedia.

The supplied 17in ADI E55 monitor

produces a decent image, although it's not as sharp as some seen elsewhere in the group. The hard disk is a 13.5GB Western Digital model, which should be more than ample for internal storage. As for removable storage, Viglen has opted for a 100MB Zip drive (an internal or external option is available). However, the cost of Zip disks should be considered (£5-£6 each).

Overall, the Viglen is a first-rate system that both performs well for work and has good DVD playback for movie watching. The software bundle covers all the bases and there's a Saitek Cyborg joystick! Shame there isn't a printer.

### DETAILS

**PRICE** £1,173.83 (£999 ex VAT)

**CONTACT** Viglen 020 8758 7000

[www.viglen.co.uk](http://www.viglen.co.uk)

**PROS** Generally good performance; excellent DVD playback; TV cabling included

**CONS** No printer; uninspiring monitor

**OVERALL** This is a good machine, powerful enough to cope with most applications, and with watchable DVD playback. Inclusion of a printer would have made it the overall winner

#### FEATURES

PERFORMANCE

VALUE FOR MONEY

OVERALL RATING

★★★★

★★★★

★★★★

★★★★





## How we did the tests

### SYSmark 2000

This comprises 12 application workloads and a management program. The workloads are divided into two categories: office productivity and Internet content creation. We run the benchmark at a resolution of 1,024 x 768 in 16bit colour. It loops three times, rebooting between each workload.

It then assigns the system a performance rating for each application, based on a comparison of workload runtimes between the system being tested and a fixed calibration platform. A rating of 100 indicates the test system has performance equal to that of the calibration platform, 200 indicates twice the performance and so on. The calibration platform is based on a Pentium III 450MHz processor, an Intel 440BX chipset motherboard, 128MB of SDRAM, a 32MB Diamond Viper V770 Ultra graphics card, an IBM DJNA 371800 and Windows 98 SE.

Each category rating is a geometric mean of the workload ratings in that category. The overall rating is a weighted geometric mean of the category ratings.

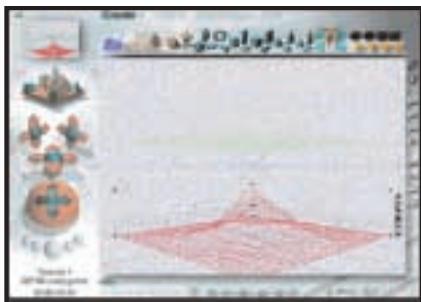
### Office productivity

#### Corel CorelDraw 9.0

This script first takes an abstract design, applies an Art Stroke to it and runs various filter effects. It creates and manipulates a scene composed of vector graphics. Next, it takes a raster image and applies effects. It creates several 3D objects and performs 3D manipulations.

#### Corel Paradox 9.0

This performs SQL-style queries on a database table and runs a 'find duplicates' query. It imports other text files, formatting and exporting each to HTML. Then it opens up query forms, enters



*Bryce 4 script manipulates a wire frame scene and renders it*

charts, applying graphics and sound effects, and adding movie files.

additional data and produces reports based on queries.

#### Microsoft Word 2000

This workload invokes word processing functions, including editing, spell checking, search and replace, font change, copy and paste, print preview, mail merge fields, insert hyperlinks, background and table formatting plus opening and viewing HTML pages.

#### Microsoft Excel 2000

Operations include closing and opening spreadsheets, HTML pages and data in text files, spell checks, formula calculation, plotting data, formatting charts and cells, analysing data in pivot tables, naming a cell and inserting hyperlinks.

#### Microsoft PowerPoint 2000

Operations include spell checks, editing, formatting and moving pictures, applying templates, formatting tables in slides, inserting hyperlinks, applying header and footer data formatting

*3DMark 2000 tests each system's DirectX performance (above) and OpenGL performance is tested via Quake III: Arena (below)*

#### Dragon NaturallySpeaking Preferred 4.0

The script plays a pre-recorded WAV file into NaturallySpeaking, which then converts the WAV file to text.

#### Netscape

##### Communicator 4.61

This opens a website of plays by Shakespeare and selects and loads the texts several times. Then it loads a page consisting of large tables, thumbnails and images and cycles through viewing the images.

### Internet content creation

#### Adobe Premiere 5.1

This creates an animation of about 16 BMP files and other AVI clips and puts transitions between them. It superimposes two audio tracks and runs the audio through filters.

#### Adobe Photoshop 5.5

The script loads, resizes, zooms out of images, applies filters to the images, changes mode and colour settings, adjusts image brightness and contrast and saves the image to a JPEG file.

#### Avid Elastic Reality 3.1

The workload sets up and renders a morph between two MPEG2-sized images (720 x 480 pixels, roughly 750KB).

#### MetaCreations Bryce 4

This script opens an assembled wire frame scene and renders it to the final image. Then a new image is opened and saved in Metastream format. Another image is opened and saved in an HTML-compatible format.

#### Microsoft Windows Media Encoder 4.0

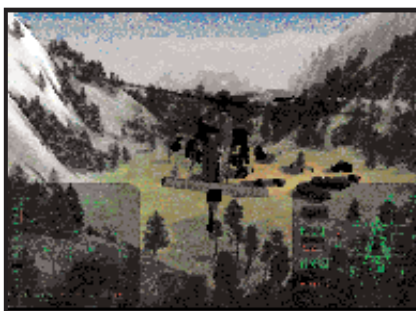
The input file is an AVI clip that is encoded using the MPEG-4 Video Codec.

### 3DMark 2000

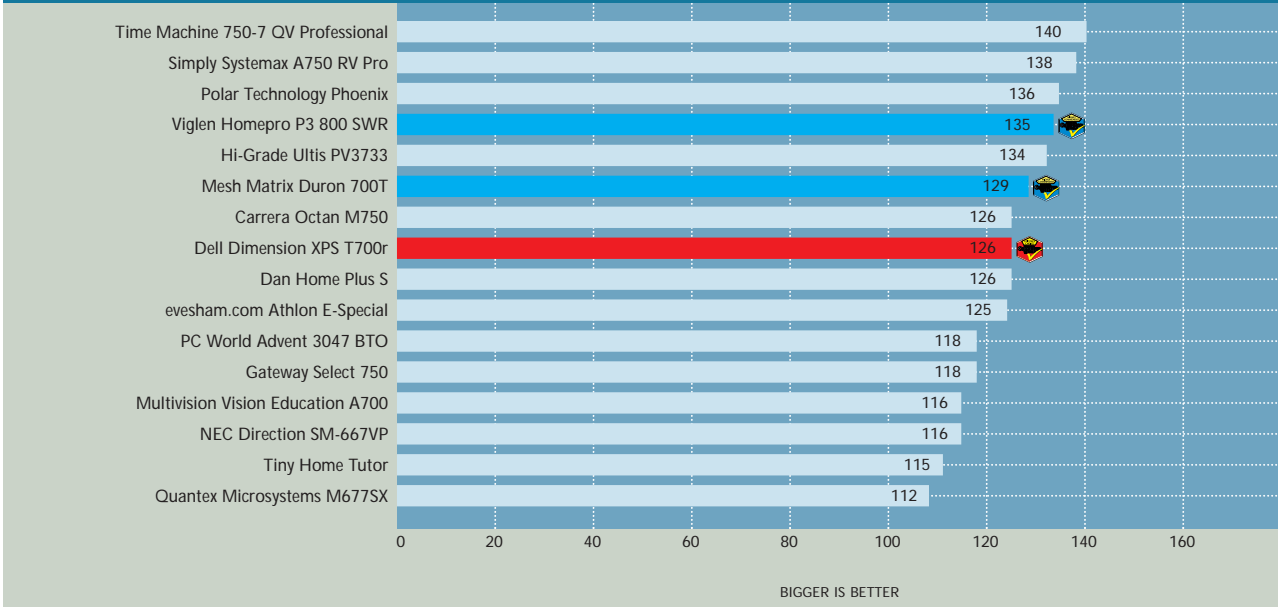
Remedy Entertainment's MAX-FX is used to test the DirectX performance of a system. It runs two specially coded games at low, medium and high resolutions. We ran the benchmark at 1,024 x 768 in 16bit colour, with each game set to loop three times. The 3DMark is calculated by adding the frames per second for each game together and multiplying the result by 12.

### Quake III

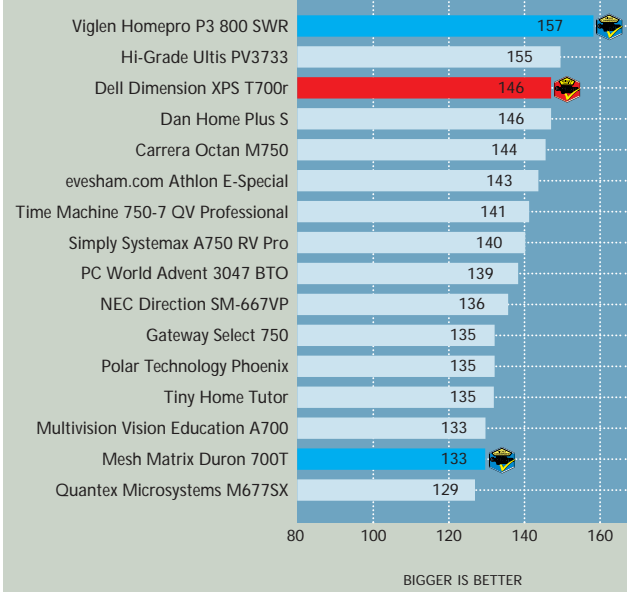
We tested each system's OpenGL performance with Quake III: Arena (1.11). The settings were: video mode - 1,024 x 768, colour depth - 16bit, full screen, highest texture detail, texture quality - 16bit, texture filter - bilinear, lighting and lightmap. At command prompt we typed: `timedemo 1`  
`demo demo001`  
This runs demo 1 and records the frames per second.



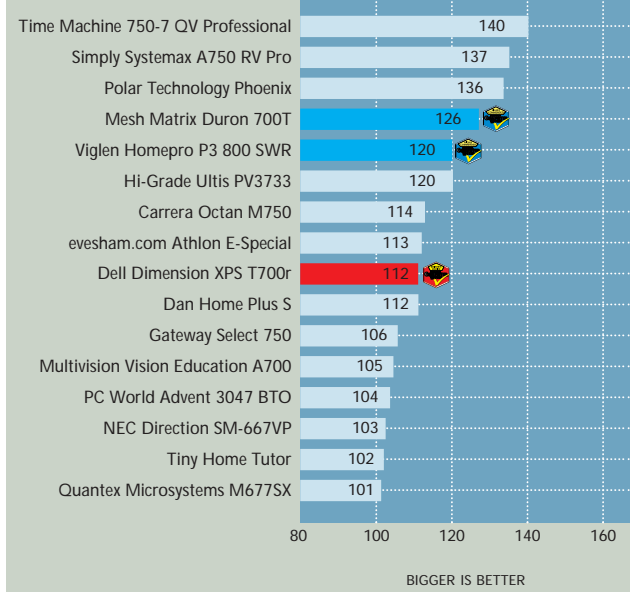
## SYSmark 2000 overall



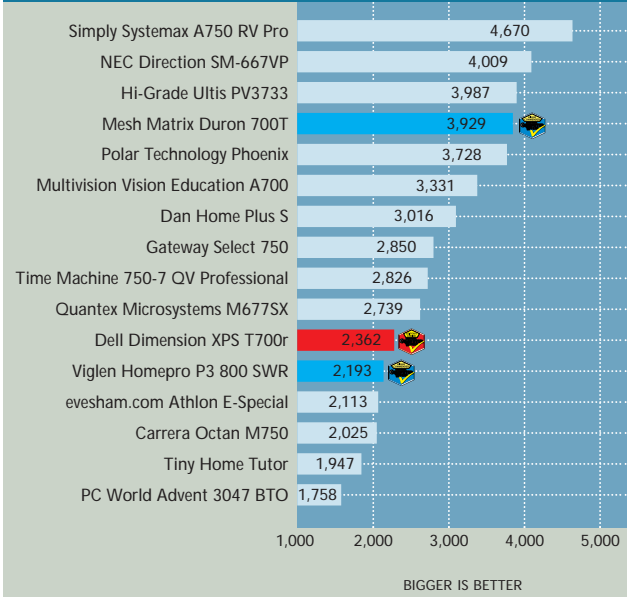
## SYSmark 2000 Internet content creation



## SYSmark 2000 office productivity



## 3DMark 2000



## Quake III (fps)

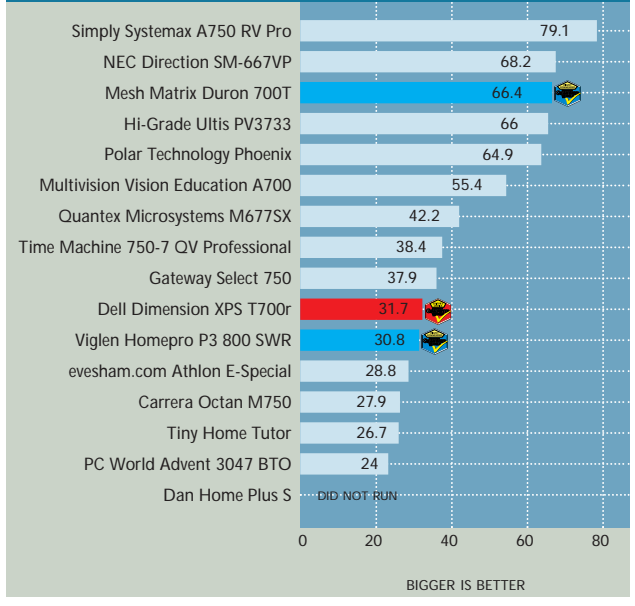












Table of features					
MANUFACTURER	CARRERA	DAN TECHNOLOGY	DELL COMPUTERS	EVESHAM.COM	GATEWAY
MODEL NAME	OCTAN M750	HOME PLUS S	DIMENSION XPS T700R	ATHLON E-SPECIAL	SELECT 750
Price inc VAT (ex VAT)	£1,173.83 (E999)	£1,168 (E994)	£1,173.83 (E999)	£1,115.08 (E949)	£1,104.50 (E940)
Telephone	020 8307 2800	020 8830 1100	0870 907 5664	0800 038 0800	0800 55 2000
HARDWARE SPECS					
Processor	Athlon 750MHz	Pentium III 700MHz	Pentium III 700MHz	Athlon 700MHz	AMD 750MHz
RAM/type	128MB/PC100	128MB/PC100	128MB/PC100	128MB/PC100	128MB/PC100
Occupied/spare RAM slots	1/2	1/2	1/3	1/2	1/2
Max memory in this configuration	640MB	1.1GB	640MB	640MB	640MB
Maximum memory	768MB	1.5GB	768MB	768MB	768MB
Hard disk (manufacturer + model)	Quantum Fireball Plus LM	Maxtor 52049U4	Maxtor 51536U3	Maxtor 52049U4	Western Digital
HD size/interface	20.5GB/EIDE	20.5GB/EIDE	15GB/EIDE	20.5GB/EIDE	14.7GB/EIDE
Storage drive model and maker	Ricoh MP9060A	Panasonic LS120	Sony CRX 140E	Samsung SM-304B	Panasonic LS120
Size of storage drive media	650MB (1 CD-R and 1 CD-RW inc)	120MB (1 disk inc)	650MB (1 CD-R and 1 CD-RW inc)	650MB	120MB
Storage drive interface	EIDE	EIDE	EIDE	EIDE	EIDE
MOTHERBOARD COMPONENTS					
Motherboard manufacturer	Biostar	Gigabyte	Dell/Intel	MSI 6195	Gateway
Model/chipset	M7MKA/AMD 750	VIA GA-6VX7/694X	Northstar/440BX	K7 Pro/AMD 750	Kodoka/AMD 750
EXPANSION AND I/O					
No of 3.5/5.25in bays	3/4	4/3	5/2	2/3	5/3
No of free 3.5/5.25in bays	1/3	2/2	3/0	0/2	3/2
No of PCI/ISA/shared slots	4/1/1	4/0/1	4/0/1	5/0/1	5/0/0
No of free PCI/ISA/shared slots	2/1/1	2/0/1	2/0/1	3/0/1	3/0/0
No of USB/serial/parallel/PS2	2/2/1/2	2/2/1/2	2/1/1/2	2/2/1/2	3/2/1/2
MULTIMEDIA					
DVD manufacturer/model	Ricoh MP9060A	Panasonic SR8585B	Samsung SD-612	Samsung SM-304B	Toshiba SD-M1402
DVD speed/interface	4x/EIDE	8x/EIDE	12x/EIDE	4x/EIDE	12x/EIDE
Sound card manufacturer	Creative	Creative	Creative	Creative	Creative
Sound card model	SB PCI 128	SB Live! 1024	SB PCI 64V	SB PCI 128	SB PCI 128
Speakers (manufacturer + model)	Altec Lansing ACS22	Dan Hi-Fi Speakers	Harmon Kardon HK195	Cambridge Soundworks SBS52	Cambridge Soundworks GCS200
Graphics card maker and model	Generic TNT2 M64	Matrox Millennium G400 DualHead	ATI Rage Pro 128	Generic TNT2 M64	Creative TNT2
Chipset	nVidia TNT2 M64	Matrox G400	ATI Rage Pro 128	nVidia TNT2 M64	nVidia TNT2
RAM and type	32MB SDRAM	16MB SGRAM	16MB SGRAM	32MB SDRAM	32MB SDRAM
Graphics card interface	AGP	AGP	AGP	AGP	AGP
Monitor manufacturer/model	LG CS990DC	CTX VL700	Samtron 75E	Mitsubishi V70	Gateway EV700
Monitor size/ max viewable diagonal	19in/18in	17in/16in	17in/16in	17in/16in	17in/15.9in
Maximum resolution at 75Hz	1,600 x 1,200	1,152 x 864	1,152 x 864	1,280 x 720	1,024 x 768
OTHER INFORMATION					
Modem manufacturer and model	PCI internal 56K	PCI internal 56K	Aztech MDP 3900 V.90	Diamond SupraSST 56i Pro DFV	PCI internal 56K
Misc hardware		Lexmark Z32 printer	HP 610C printer		
Bundled software	Lotus SmartSuite Millennium, IBM ViaVoice, Entertainment bundle	Lotus SmartSuite Millennium, 3D games bundle	MS Works Suite 2000, Dell Home Advantage Software	Lotus SmartSuite Millennium	MS Works Suite 2000



					
HI-GRADE	MESH COMPUTERS	MULTIVISION COMPUTERS	NEC	PC WORLD	POLAR TECHNOLOGY
ULTIS PV3733	MATRIX DURON 700T	VISION EDUCATION A700	DIRECTION SM-667VP	ADVENT 3047 BTO	PHOENIX
£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)
020 8532 6100	020 8208 4706	0121 550 8000	0870 010 6322	08705 464 464	0161 482 7000
Pentium III 733MHz	AMD Duron 700MHz	Athlon 700MHz	Pentium III 667MHz	Pentium III 650MHz	Athlon 700MHz
128MB/PC133	128MB/PC100	128MB/PC133	128MB/PC133	128MB/PC100	128MB/PC100
1/2	1/2	1/2	1/2	1/2	1/2
512MB	1.1GB	640MB	1.1GB	640MB	640MB
512MB	1.5GB	768MB	1.5GB	768MB	768MB
Fujitsu 3136AH	Seagate Barracuda	Seagate Barracuda	Maxtor	Seagate U10	IBM
13.5GB/EIDE	20.5GB/EIDE	20.5GB/EIDE	20.5GB/EIDE	10.2GB/EIDE	25GB/EIDE
Mitsumi CR-4804JE	Teac CD-W 54E	Samsung SM-304B	LG CED8080B	Iomega Internal Zip 100	Creative CD-RW
650MB	650MB	650MB	650MB	100MB	650MB (1 CD-RW inc)
EIDE	EIDE	EIDE	EIDE	EIDE	EIDE
Asus	Gigabyte	MSI 6195	MSI	Gigabyte	MSI
CUSL 2/Intel 815E	GA7ZM/VIA KT133	K7 Pro/AMD 750	6309/VIA 694X (133A)	GA6 BX7/Intel 440 BX	K7 Pro/AMD 750
4/3	3/3	4/3	5/2	4/3	5/2
2/1	1/1	2/2	3/0	1/2	3/0
6/0/0	3/0/0/1	5/0/1	5/0/0	4/1/1	5/0/1
4/0/0	0/0/0	3/0/1	3/0/0	2/1/1	3/0/1
5/1/1/2	2/2/1/2	2/2/1/2	3/2/1/2	2/2/1/2	2/2/1/2
Asus E608	Pioneer DVD-114	Samsung SM-304B	Pioneer 115	Toshiba SD-M1402	Pioneer DVD 104
8x/EIDE	10x/EIDE	4x/EIDE	16x/EIDE	12x/EIDE	10x/EIDE
Creative	Creative	Creative	Aureal	Creative	Creative
SB Live! 1024	SB Live! 1024	SB PCI 128	Advantage	SB PCI 128	SB PCI 128
Diamond Promedia 2010	Labtec 1070	Labtec LCS-2514	Labtec LCS 2414	Creative SB S20	Labtec LCS-2414
Guillemot 3D Prophet	Guillemot 3D Prophet GeForce SE	Guillemot 3D Prophet GeForce SE	nVidia GeForce	nVidia Riva TNT2 Model 64	Creative 3D Blaster Annihilator Pro
nVidia GeForce 256	nVidia GeForce 256	nVidia GeForce 256	nVidia GeForce 256	nVidia TNT2	nVidia GeForce 256
32MB SDRAM	32MB SDRAM	16MB SDRAM	32MB SDRAM	32MB SDRAM	32MB DDR
AGP	AGP	AGP	AGP	AGP	AGP
CTX PR705F	Mitsubishi Diamond Pro 720	LG Flatron 775FT	NEC VR17	Proview PK-770	Mitsubishi Diamond Pro 720
17in/16in	17in/16in	17in/16in	17in/16in	17in/15.7in	17in/16in
1,600 x 900	1,600 x 1,200	1,152 x 864	1,152 x 864	1,024 x 768	1,600 x 1,200
Diamond Supra SST 56i Pro DF	Diamond SupraSST 56i Pro DFV	PcTel HSP micromodem 56	3Com 56K V.90 PCI Win Modem	US Robotics PCI Win Modem 56K V.90	Diamond Supra SST 56i ProDF
	ATI TV Wonder	Epson 670		Mustek 1200UB scanner, Canon BJC-2100 printer	
Lotus SmartSuite 9.5	MS Works Suite 2000	Lotus SmartSuite Millennium IBM ViaVoice	MS Word 2000, Works 2000, Money 2000, Corel Draw 7, IBM ViaVoice, Encarta, Route Express	MS Works 2000, Excel 2000, Money 2000 Standard, Home Publisher 2000, MapPoint 2000 UK	Microsoft Works Suite 2000





### Table of features



MANUFACTURER	QUANTEX	SIMPLY	TIME	TINY	VIGLEN
MODEL NAME	M677SX	SYSTEMAX A750 RV Pro	TIME MACHINE 750-7 QV Pro	HOME TUTOR	HOMEPRO P3 800 SWR
Price inc VAT (ex VAT)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)	£1,173.83 (€999)
Telephone	01438 224 444	08707 297 366	01282 777 555	01293 821 555	020 8758 7000
<b>HARDWARE SPECS</b>					
Processor	Pentium III 667MHz	Athlon 750MHz	Athlon 750MHz	Pentium III 733MHz	Pentium III 800MHz
RAM/type	128MB/PC133	128MB/PC133	128MB/PC100	128MB/PC133	128MB/PC100
Occupied/spare RAM slots	1/2	1/2	1/2	1/2	1/2
Max memory in this configuration	1.1GB	1.1GB	640MB	1.1GB	640MB
Maximum memory	1.5GB	1.5GB	768MB	1.5GB	768MB
Hard disk (manufacturer + model)	Seagate ST328040A	Maxtor VL20	Fujitsu MDF3204AH	Western Digital	Western Digital
HD size/interface	28.5GB/EIDE	20GB/EIDE	20GB/EIDE	20GB/EIDE	20GB/EIDE
Storage drive model and maker	Sony CD-R 140E	Ricoh combo MP9060A	Samsung SM-304 combo	4 x 4 x 32 CD-writer	Iomega Zip 100 (int or ext)
Size of storage drive media	650MB (10 CD-Rs inc)	650MB	650MB	650MB (1 CD-R inc)	100MB (1 Zip disk inc)
Storage drive interface	EIDE	EIDE	EIDE	EIDE	Parallel
<b>MOTHERBOARD COMPONENTS</b>					
Motherboard manufacturer	Biostar	AOpen	MSI	MSI	MSI
Model/chipset	M6VCG/VIA 694	AK72/KX133	K7 Pro/AMD 750	MS 6154/VIA 693A	MS6119/Intel 440 BX
<b>EXPANSION AND I/O</b>					
No of 3.5/5.25in bays	4/3	3/3	4/3	3/2	4/2
No of free 3.5/5.25in bays	2/1	1/1	2/2	1/0	2/1
No of PCI/ISA/shared slots	4/0/1	4/0/1	5/0/1	2/0/1	3/2/1
No of free PCI/ISA/shared slots	2/0/1	1/0/1	3/0/1	2/0/0	1/2/1
No of USB/serial/parallel/PS2	2/2/1/2	4/2/1/2	2/2/1/2	2/2/1/2	2/2/1/2
<b>MULTIMEDIA</b>					
DVD manufacturer/model	Toshiba DVD SD-M1402	Ricoh combo MP9060A	Samsung SM-304 combo	Matshita DVD-ROM SR 8585	Pioneer DVD-ROM DVD-115
DVD speed/interface	12x/EIDE	4x/EIDE	4x/EIDE	8x/EIDE	16x/EIDE
Sound card manufacturer	Creative	Creative	Creative	Creative	Creative
Sound card model	SB PCI 64V	SB V128	SB Live! 1024	SB PCI 128 (onboard)	SB PCI 128
Speakers (manufacturer + model)	Altec Lansing ACS 22	Creative SBS52	Screenbeat Pro 50	CPR50	Altec Lansing ACS33
Graphics card manufacturer and model	3dfx Voodoo 3 3000 TV out	Creative 3D Blaster Annihilator Pro	3dfx Voodoo 3 3000 TV out	nVidia Riva TNT2 Model 64	ATI Rage Fury Pro ViVo
Chipset	3dfx Voodoo 3	nVidia GeForce 256	3dfx Voodoo 3	nVidia TNT2	Rage 128 Pro
RAM and type	16MB SDRAM	32MB DDR	16MB SDRAM	32MB SDRAM	32MB SDRAM
Graphics card interface	AGP	AGP	AGP	AGP	AGP
Monitor manufacturer/model	Quantex XP1727DP	CTX PL7	Samtron 75e Plus	LG Flatron 795FT Plus	ADI E55
Monitor size/ max viewable diagonal	17in/16in	17in/16in	17in/16in	17in/16in	17in/16in
Maximum resolution at 75Hz	1,152 x 864	1,152 x 864	1,152 x 864	1,600 x 1,200	1,024 x 768
<b>OTHER INFORMATION</b>					
Modem manufacturer and model	Accord I56LVP	Systemax 56K V.90	Etech PCI 56K PVP+	HSP56 Micromodem	Diamond SupraSST 56K (software)
Misc hardware	Canon FB630P scanner and BJC-2100 printer	Epson Stylus 460, ATI TV tuner, MS Sidewinder GamePad	Gamepad, joystick, microphone, Epson 460 printer		Saitek Cyborg 2000 joystick
Bundled software	Corel WordPerfect Office 2000, Grolier Multimedia Encyclopedia, Email Voicelink, Drive Image SE, RingCentral, Cybersnoop 3.0 SE, Webferret, Enfish, Tracker Pro	MS Works 2000, Systemax games & education bundle, ACID Music Software (limited) WordPerfect Suite 8 (limited)	MS Works, Time standard software pack inc Lotus SmartSuite Millennium	MS Office Pro 2000 student licence, education software pack	Microsoft Works Suite 2000

# Editor's Choice

It's not easy to build a PC for a student and the manufacturers' varied approaches to the problem show how open to interpretation the possibilities can be. We considered that there are really three issues that a good student PC should be able to encompass: first, and most important, the PC must have the correct software and specification for doing work. It was therefore a necessity that the package should include a good word processor. We consider the preferred option to be Word 2000, although WordPerfect and Word Pro are products that are also up to the task.

The second criterion is that the machine should be versatile for entertainment purposes. Our thoughts on this were that a system with a DVD-ROM drive in one of its bays should be good enough to be able to watch DVD movies on – giving the student the option of watching films in their room. The performance of DVD playback was therefore a factor. Also falling into this category was the presence of a TV card to allow terrestrial TV to be tuned into the PC.

The final and least important aspect was the PC's ability to deal with games. So a system specification that was capable of handling games was noted, as were relevant peripherals.

One other aspect was considered to be of great value, and that was the inclusion of a printer, or money left out of the budget to buy one. The quality of the printer was not specified, although all the printers included were colour,

despite being entry-level products. The versatility of a printer saves untold amounts of time for a student. Trips to the university's printing facilities can become tedious, whereas with a printer tucked in the corner of a student's room, the odd page can be printed out as needed. That said, the lack of a printer didn't hold back two of our winners.

In general, the overall quality and performance of all the machines was impressively high, with few of them failing to be relevant at least at some level.

## The winners

Considering all of the above, the **Editor's Choice** this month goes to the Dell Dimension XPS T700r. With its 700MHz Pentium III processor and 128MB of PC100 RAM, this machine is more than adequate for all the office applications that a student will need to produce essays and projects. The Maxtor hard drive, although not the largest in the test, is a decent-sized 15GB unit and considering the size of the average word processor document file size, it will still take the student some time to fill. Also included is a Sony CD-RW, which with the inclusion of both CD-R and CD-RW media, promotes good backup habits from day one.

On the entertainment front, the quality of the DVD sound and video playback means the Dimension will allow the student to watch movies on their PC when they are not working. As for software, the inclusion of Word 2000 in

the Works Suite 2000 package is ideal for producing essays and reports. This, along with the inclusion of the HP printer (complete with cable), makes this an ideal work machine.

The competition was fierce, though, and the Viglen Homepro P3 800 SWR receives our first **Highly Commended** award, only failing to beat the Dell because the package didn't include a printer. The speed of the processor on the Viglen was not a factor in this decision, as the performance gained from it was not really significant. Instead the Viglen is commended because it has the right software in Works Suite 2000 (including Word 2000); it had the best DVD playback of all of the systems tested; and it included a Saitek Cyborg joystick for anyone interested in gaming. The balance was good all round and the cables for connecting the DVD to a TV make this a versatile entertainment PC as well as a good work system.

The final **Highly Commended** award goes to the Mesh Matrix Duron 700T. This machine may not have come with a bundled printer, but it offered a superb mix of components. Based on AMD's latest chip, the performance of this machine was impressive. The display setup was first rate, with a nVidia GeForce-based graphics card coupled with a Mitsubishi NF aperture-grille screen. Both a DVD-ROM drive and CD-RW drive are bundled so disc-to-disc copying can be performed. Rounding things off is a TV tuner card, to give students a bit of extra entertainment during their down time.



*Dell's system will be a positive boon to the student, with its printer and backup drive*



*The HomePro offers great performance, plus some decent entertainment options*



*Mesh's machine uses the latest chip from AMD and a good display set*