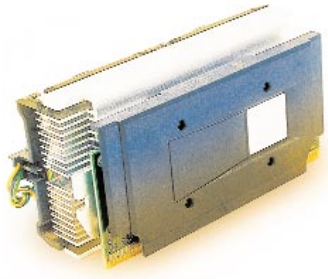

Zero 1
awards
The Mark of Excellence

2000

We've reached the end of another year and an eventful one at that. This year offered a lot in terms of technology and radical approaches to the way we do things with computers. There seems to be no limit to what we can look forward to or what the next year holds for us. Just when you think that all those researchers and computer scientists have done what they had to with inventions, new products and radically new technologies, another path-breaking and unique technology hits the market. Be it processors, hard disk drives, 3D graphics cards, office suites or Web browsers, the amount of technological innovations is simply amazing. This year the processor speeds finally broke the elusive 1 Gigahertz barrier. Moore's law is being finally disproved and supercomputer-class computing is being made available to the average computer user. Until some time ago, technologies such as speech recognition and real-time 3D authoring on your home computer seemed virtually unimaginable. These new and previously computer-killing applications are now part of people's day-to-day lives. What follows is a compilation of the products that have excelled in the use of technology and have blazed new trails in terms of sheer performance in their categories during this year. Along with the product description of the winner, we have also highlighted two commendable products in each category with mentions of the CHIP issues in which their reviews have appeared. Certain categories obviously couldn't be tested, either because there have been no significant launches or because there's not much real competition in the category. In such cases, we have awarded winners on the basis of reviews that were done during the previous year. In categories such as speech recognition and other emerging applications where these technologies are relatively new, you can look forward to more products in the coming months. Therefore, without further ado... ladies and gentlemen... the Zero1 Awards!

Laptops

Processors



Pointing Devices

MP3 Players

Operating Systems

Hardware

Monitors

There has been marked progress in both the existing technologies used in conventional CRT-based display systems as well as in the development of newer and alternative technologies such as Thin Film Transistor (TFT) and plasma displays. With the proliferation of the Internet and the increasing use of multimedia in the home and office, 17-inch monitors have become the accepted standard.

The trend shows that the fabrication process of display systems is becoming more streamlined and economical and therefore the prices are bound to fall. Also, TFTs should make headway into conventional PC applications in the year to come.

14- AND 15-INCH MONITORS

Sony CPD-E100

Based on the formidable Trinitron picture tube, the Sony CPD-E100 turned out to be one of the most feature-rich 15-inch monitors available, boasting of some of the features that are found only in displays that are greater than 17 inches. It can handle resolutions of up to 1280x1024 and supports advanced screen geometry and image controls such as raster rotation, pin balancing, parallelogram and trapezoidal correction with support for advanced colour control.

With an aperture grille tube, the clarity and the increased brightness in this monitor is immediately apparent. The display did well in the convergence tests and the monitor performed exceedingly well in all the screen geometry tests.

With very advanced screen controls, this monitor is a very good choice for professional users. However, its price puts it out of the reach of most home and even office users.

Tested CHIP, April 2000, Benchmark

▲ NOMINEES

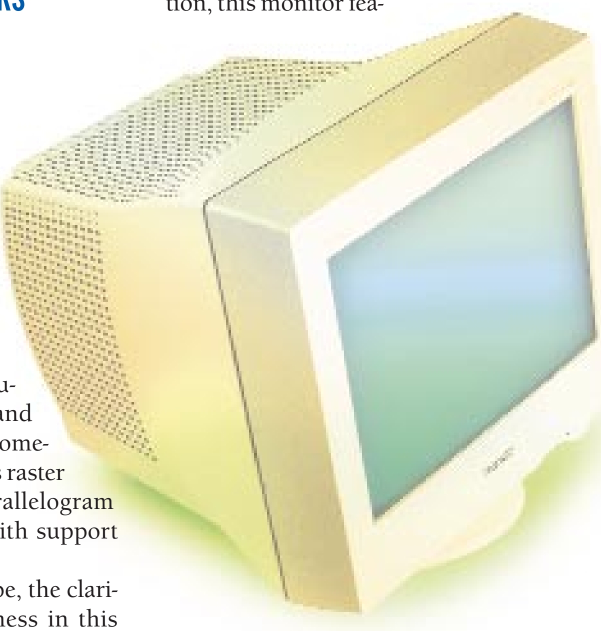
LG 57M
CHIP, April 2000, Benchmark
DTK MDD-1537
CHIP, April 2000, Benchmark.

17-INCH MONITORS

LG Flatron 795FT Plus

What sets this monitor apart from most others in its range is the billiard-table flat screen with no curvatures along the horizontal or the vertical axes. Capable of resolutions of up to 1280x1024, this monitor is ideally suited for graphically intensive applications that require plenty of configuration options from the monitor.

With support for high refresh rates at these resolutions, the LG Flatron 795FT Plus is a very good choice for high-end graphical and gaming applications. Apart from the standard settings of horizontal and vertical sizing and position, this monitor features a host of other parameters such as raster rotation, parallelogram, trapezoidal and upper and lower edge correction, which is effected through the on screen display (OSD).



The image quality was very sharp with clarity in the horizontal and vertical patterns over all the areas of the screen. The screen has a special anti-reflective coating that gives it a blue tinge . This helps in cutting down the reflection from external light sources and reduces eye strain if you are using the monitor for extended periods. With powerful features allowing the user to configure many parameters of the screen and the image quality, this monitor is ideally suited for high-end graphical applications where resolution, colour depth and matching are required.

Tested CHIP April 2000, Benchmark

▲ NOMINEES

ViewSonic GT775
CHIP, April 2000, Benchmark.
Philips 107S - April 2000
CHIP, April 2000, Benchmark.

19- AND 21-INCH MONITORS

Sony CPD-G500

The most feature-rich 21-inch monitor tested, the CPD-G500 boasts of very impressive specifications including a Full Flat Square Tube with a resolution support of up to a stunning 2048x1536. With a Trinitron tube, it sports a grille pitch of 0.24 mm and access to the OSD features is achieved through a rather intuitive button beneath the screen that is used to navigate through the screen menus.

Though slightly difficult to get used to, it provides a simple way to access the various image parameters. There are controls for virtually every type of parameter in addition to a range of advanced parameters. Also, an auto sizing feature centres the raster at whichever resolution is chosen.

The performance of the monitor was outstanding with the horizontal and vertical details on the convergence test clearly visible in all areas of the screen. Also, there was no visible pumping of the raster during the signal on/off switching test.

If money is not a criterion, this 21-inch flat screen monitor is certainly one of the best choices for very intensive graphical applications that need very sharp displays and extensive screen and image control capabilities.

Tested CHIP April 2000, Benchmark

▲ NOMINEES

Philips 201B
CHIP, April 2000, Benchmark
Samsung SyncMaster 900IFT
CHIP, April 2000, Benchmark

3D GRAPHICS CARDS

Creative 3D Blaster GeForce2 GTS

This is one computer peripheral that has shown massive improvements in both functionality and pure processing power. With the so-called Gigatexel breed of 3D graphic cards, realism and graphics effects in today's graphics applications have been truly breathtaking. Coupled with the latest in processors, 3D graphic cards have taken gaming to altogether new heights. Trends show increase in sheer processing power and the features that have been implemented in all the newer ranges of graphics cards which reduce the burden on the main processor and take over most of the processing at the graphics card level itself.

Just when you thought that graphics accelerators had reached a pinnacle with the GeForce256, nVidia unveiled the formidable GeForce2 GTS. With loads of power under the hood, this card has spawned a whole new generation of games that now feature real-life physical and atmospheric effects, lending a new meaning to realism. The GeForce2 GTS is a pure 3D accelerator without any of the additional ports for video in/out. It uses 32 MB of DDR SDRAM, because of which, even though the RAM is clocked at 166 MHz, the effective speed of operation is doubled to 333 MHz, resulting in a bandwidth of 5.3 GBps, giving ample room for moving those detailed and heavy texture maps seen in most of today's 3D-intensive games.

One of the most impressive aspects of this card was its ability to pump out up to 1.6 billion texels per second, making it about 3.3 times faster than the GeForce256. With a host of new features and very high processing power, the Creative GeForce2 GTS was the fastest graphics card we've tested. Its full potential, however, will be realised only when you run the newest breed of games and applications that are fully able to support its features.

Tested CHIP August 2000, Radar

▲ **NOMINEES**

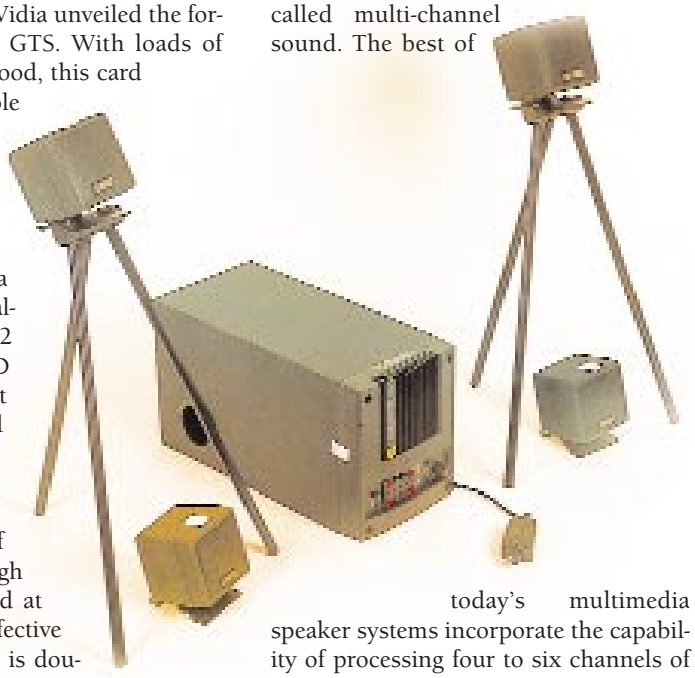
ASUS AGP-V6800 GeForce DDR
Tested CHIP, May 2000, Benchmark

ASUS AGP-V6600 GeForce Pro64
Tested CHIP, August 2000, Radar

SPEAKERS

Creative Desktop Theater 5.1 DTT2500D

From a time when all the computer had for producing sound was a tiny speaker inside the cabinet to full-blown Dolby Digital capable sound systems today, PC speakers have certainly come a long way. The most significant trends that are seen here are in the proliferation of so-called multi-channel sound. The best of today's multimedia speaker systems incorporate the capability of processing four to six channels of sound and boast of exotic features such as powered subwoofers and even THX certification.



The best of the speakers without any doubt is the Creative Desktop Theater DTT2500D, which is a set of four satellite speakers along with a subwoofer. The whole set of speakers comes packed with the tripod stands, SPDIF cables and much more. The subwoofer, which is made of wood, gives an excellent performance unmatched by the other speakers. It has a whole lot of features packed into it. The quality of the speakers is crystal clear. It has an in-built Dolby Digital Decoder amplifier and high quality 25 bit digital to analog converters. All these features and quality make it the unbeatable winner, though it's very steeply priced. But then, this speaker is only for the really serious sound freaks.

Tested CHIP November 2000, Benchmark

▲ **NOMINEES**

Creative Desktop Theatre 5.1 DTT1500
Tested CHIP, November 2000, Benchmark

Creative PC-Works CSW-100
Tested CHIP, November 2000, Benchmark

SOUNDCARDS

SoundBlaster Live! Platinum 5.1

Soundcards have graduated from simply providing CD-quality sound to enabling effects such as surround sound, real time reproduction of special effects and multi-channel audio. The happening audio technologies today are those that immerse the listener in a 'soundstage' where they are virtually thrown into the middle of all the action in the new breed of fast-paced reflex-challenging games.

The best of today's soundcards also provide truly professional support with digital audio support, MIDI and studio-quality sampling rates. And the best among the soundcards is the SoundBlaster Live! Platinum 5.1. It is the best card for high-end gamers, music creators and home entertainment freaks. The card has almost no CPU utilisation even while playing Directsound 16-bit audio at 44.1 KHz using 32 voices. It supports Dolby Digital 5.1 surround sound. It includes the MIDI in/out and also has an optical S/PDIF in and out with an infrared receiver on the Live Drive!, which is a panel on the front of your CPU. The Platinum 5.1 is thus the best performer and is one of the costliest soundcards available in the world.

Tested CHIP November 2000, Benchmark

▲ **NOMINEES**

SoundBlaster Live! Value
Tested CHIP, November 2000, Benchmark

Aureal Vortex2 Quad
Tested CHIP, November 2000, Benchmark

MOTHERBOARDS

ASUS A7V

This has probably been one of the fastest-moving categories as compared to last year. With the launch of the i815-based motherboards and a range of new technologies such as ATA/100 and AGP 4x that are integrated into the motherboard, users have a multitude of options to choose from. The next breed of motherboards is going to feature a whole new breed of technologies such as USB 2.0, faster bus speeds and support for the 1 GHz+ processors.

One of the newest offerings for housing the Socket A range of AMD processors, ASUS' A7V ATX board proved to be a very commendable performer with a host of amazing features. Though on the expensive side, this board, which is based on VIA's KT133 chipset, is capable of supporting AMD Socket

A processors with clock speeds ranging from 550 MHz to 1 GHz. With support for new technologies such as ATA/100 drives and AGP Pro, this board provides a very good infrastructure for the new range of ATA/100 hard disk drives and power hungry AGP cards.

The three DIMM slots allow a maximum of 1.5 GB of PC133, PC100 or Virtual Channel SDRAM. This motherboard fully supports an FSB of 200 MHz and all settings for the FSB can be controlled via a jumperless interface through the BIOS. While most other motherboards have just two USB ports, this one features seven. Apart from this, there is also support for features such as temperature and voltage monitoring, fan speed monitoring and chassis intrusion detection. Configuring and installing this board was very simple and it exhibited both high stability and performance throughout the tests. Definitely a good choice for all users.

Tested CHIP September 2000, Radar

▲ NOMINEES

ASUS CUV4X
Tested CHIP, August 2000, Radar

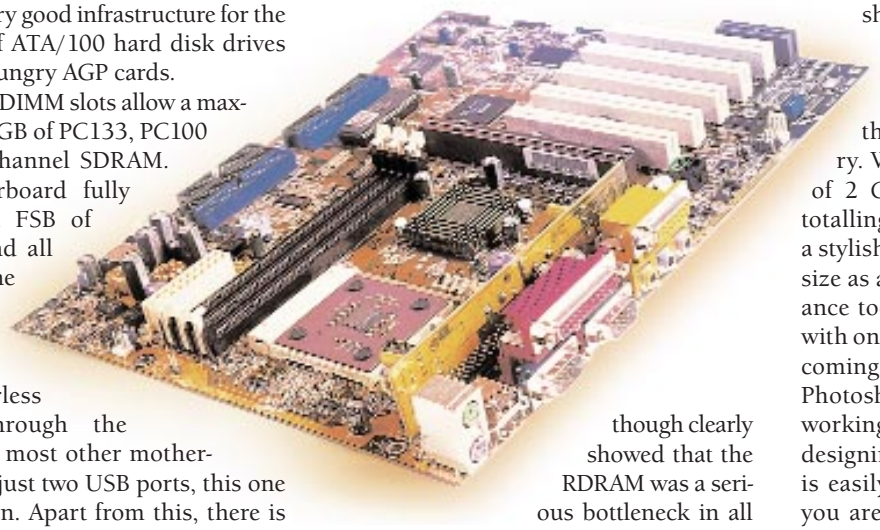
ASUS CUBX
Tested CHIP, July 2000, Radar

PROCESSORS

Pentium III 1 GHz

The race is still on between the big players, Intel and AMD, and things have really been hotting up. The neck to neck race between these transistor touting Titans has resulted in processors that are well in excess of 1.3 GHz and there looks to be no signs of stopping. With the advent of Intel's Pentium 4 and AMD's Spitfire processor, the next year holds promise for all you power-hungry users out there.

The Intel 1 GHz was launched with much fanfare recently in India. Though this processor was available for quite some time, Intel never managed to get this processor in decent quantities out in the market. With Intel recalling its 1.13 GHz processor, the 1 GHz remains Intel's premier product. We received this processor as a part of a kit, which included the 1 GHz processor, the Intel VC820 motherboard and 128 MB of RDRAM. The benchmarks



though clearly showed that the RDRAM was a serious bottleneck in all memory intensive tests, especially in the *Quake III* test. Remove this processor from its officially supported platform, which is the VC820 and plug it in any i440BX class motherboard that supports a minimum of 1.7v and you would get scorching scores. It is very important to note that the L2 cache on this processor is running at a full core speed as against the Athlon subsystem wherein the cache runs at a much slower speed of the core. Also, the Intel 1 GHz processor is multiprocessor compatible as against the Athlon which is yet to feature this.

Tested CHIP, November 2000, Radar

▲ NOMINEES

AMD Duron 600
Tested CHIP, September 2000, Radar

Intel Coppermine 733EB
Tested CHIP, October 2000, Hardware Workshop

EXTERNAL STORAGE DEVICES

Iomega 2 GB Jaz

Many options have been offered to the consumer in the field of external storage. The choice of the correct device for your needs depends upon a variety of factors, the most important among them being the target application, amount of storage space required and of course cost. ZIP drives have been quite popular due to their very wide install base. For faster solutions, the Jaz and Orb drives have provided good solutions for the power-hungry user. At the other end of the scale, DAT storage devices have been the peripherals of choice for the medium and large-scale enterprises with their sheer storage capacities and small sizes.

The Iomega Jaz drive is without doubt the big brother in the external storage device category. With a specified storage capacity of 2 GB, you can easily store MP3s totalling 36 hours of listening time. It is a stylish looking drive and is of the same size as a regular Zip drive. The performance too was nothing less than stylish, with one of the lowest drive access times, coming in at only 9 ms, and it opened a Photoshop file in 2 seconds. If you are working heavily with graphics and Web designing then this is ideal for you. This is easily your budget backup option if you are looking for a high performing storage device with a decent storage capacity. Cost of the cartridges though are a little high, a single cartridge could easily set you back Rs 5,500, but then you get 2 GB worth of storage space. Also, the fact that the drive is SCSI instead of the usual parallel or USB interface makes it is very fast.

Tested CHIP, September 2000, Benchmark

▲ NOMINEES

HP SureStore Optical 5200ex
Tested CHIP, September 2000, Benchmark

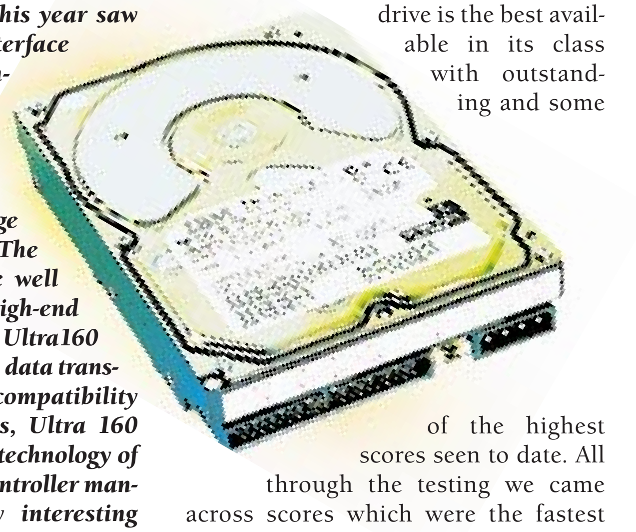
Sony RMO 5.2 GB
Tested CHIP, September 2000, Benchmark

These vast storehouses of bits and bytes have, as expected, swollen into mammoth devices that are capable of storing up to 75 GB of information in something the size of a tiffin box! This year saw advances in the very interface used in hard disks–technologies such as ATA/100 and Ultra160 SCSI have enabled steroidal data transfer rates, making quick time out of those large video files and movies. The technology that has done well this year, at least in the high-end hard disk market has been Ultra160 SCSI. Boasting of very high data transfer rates and backward compatibility with the older hard disks, Ultra 160 SCSI has proven to be the technology of choice for hard disk and controller manufacturers. Another very interesting technology that is on the horizon is Serial ATA. Boasting of ridding the insides of your computer of that clutter of IDE cables, Serial ATA will use just a narrow cable to carry information to and from your hard disk at data rates approaching 150 Mbps!

IDE DRIVES

IBM Deskstar 72GXP DTLA-307075

In the domain of hard disk drives, size is everything and one of the largest capacity hard-drives available in the market today is the IBM Deskstar 72GXP. It can store a gargantuan 76.8 GB of data! The drive is an ATA-66 compatible IDE device with a specified spindle speed of 7200 RPM and a data buffer of 2 MB. The benchmarks clearly showed that this drive is the best available in its class with outstanding and some



of the highest scores seen to date. All through the testing we came across scores which were the fastest among the hard disks.

In SiSoft Sandra it achieved a whopping score of 22334 as the drive index. In Winmark too it consistently displayed average transfer rates of 30 Mbps and scored an overall 95.5 per cent, once again the highest ever achieved to date in this particular benchmark. There is no doubt that the 72 GXP is a top-notch performer. With such high-speed data recovery rates it is very appropriate as a server class drive or can be used as a backup device for small or medium level organisations.

Tested CHIP September 2000, Radar

▲ NOMINEES

Seagate Barracuda ATA ST320430A
Tested CHIP, June 2000, Benchmark
Seagate Barracuda ATA II ST310210A
Tested CHIP, June 2000, Benchmark

SCSI DRIVES

SEAGATE CHEETAH 18XL ST318404LW

The Cheetah 18XL ST31840LW is Seagate's fourth generation of Cheetah drives. The Cheetah is without doubt the flagship product in the high-end disk drives segment. These drives are specifically marketed for the mainstream servers and workstation categories. This family of 10,000 RPM drives supports capacities from 9.2 GB to 73.4 GB in a 3.5-inch form-factor. The drive we received had a capacity of 18.4 GB and was using the Ultra160 SCSI interface. Seagate also claims to have increased the Cheetah performance

by 45 per cent over the previous generation of drives.

The benchmarks clearly showed what Seagate was aiming at. It had top-notch performance in all the benchmarks especially in SiSoft Sandra, where it scored the highest we've seen. It also features SAMS (Seagate's Advanced Multi Drive System), which optimises performance in server and RAID applications. Cheetah also has G-Force protection, which incorporates various drive design enhancements that protect the devices data from external shock. Also the Cheetah 18XL's low platter count results in benefits when it comes to heat and noise generated while working. All-in- all a great storage solution for the server level, but at a relatively high cost per megabyte, it does turn out to be a little expensive.

Tested CHIP, June 2000, Benchmark

▲ NOMINEES

IBM Ultrastar 36LP (DPSS-336950)
Tested, CHIP, June 2000, Benchmark
IBM Ultrastar 18LZX DMVS-18
Tested, CHIP, June 2000, Benchmark

COOL PRODUCTS

Thumb Drive

How tiny can a hard disk really get? Cigarette-pack-sized? Matchbox-sized? Well... think thumb sized. A company called Trek has launched a thumb-sized hard disk called the ThumbDrive. This is not a hard disk drive in its true sense (there are no drive platters or spindles); instead it is based upon solid-state memory. Hence, the drive is very resilient to shock and rough handling. This drive plugs directly into your USB port and is available in capacities ranging from 8 MB to 512 MB. The drive draws its power directly from the host computer itself and simply needs to be plugged into the USB port. This makes it an extremely portable and versatile storage solution and makes transporting information from one computer to another a snap!

CD-ROM DRIVES

ASUS CD-S500

In spite of the progress in optical storage technology and the encroachment of DVDs, CD drives have held their own in the market, mainly because the prices of DVD drives are still slightly high for the average user. However, with DVD drives fully backward-compatible with all CD drives, it looks like it is only a matter of time before DVD drives overtake the trusty CD drive in popularity and affordability.

Known for its high performance products, ASUS does not disappoint with its 50x CD-ROM drive. Capable of Ultra DMA/33 data transfers, this drive posted very impressive transfer rates and sped through all the tests thrown at it. Using this drive is very simple and all the necessary controls such as play/forward and stop/eject buttons are present on the front panel with a drive activity indicator LED, a volume control knob and a 3.5 mm headphone socket.

With very impressive scores in all the tests, the ASUS CD-S500 drive is a very logical choice for power applications that strain the CD-ROM drive and demand high performance such as gaming and running multimedia-intensive titles.

Tested CHIP, March 2000, Hardware Comparison Test

▲ NOMINEES

Samsung 48x
Tested CHIP, March 2000, Hardware Comparison Test

Mercury KOB 52x
Tested CHIP, March 2000, Hardware Comparison Test

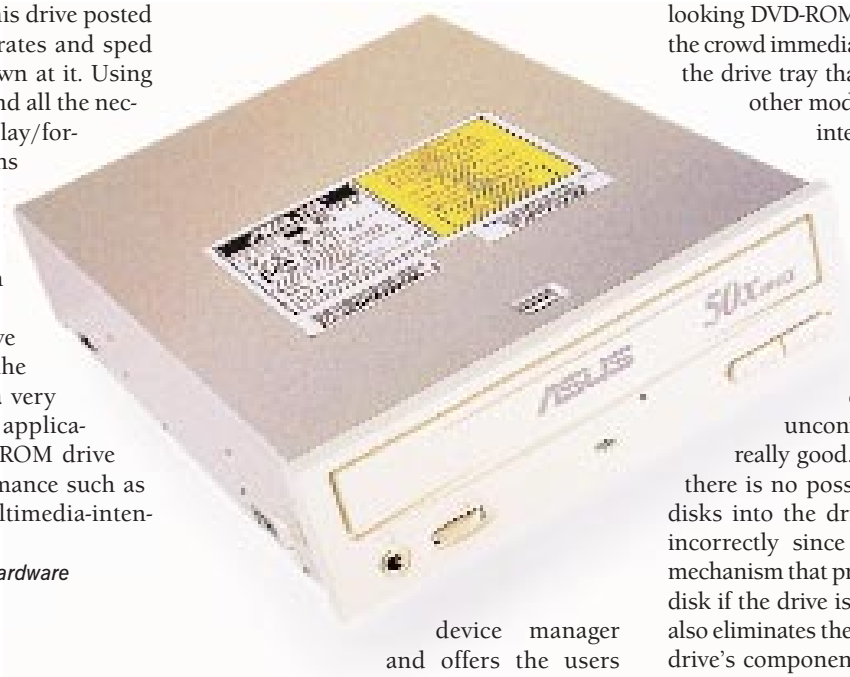
CD-RW DRIVES

Plextor PX W8432i

Since more and more users are working on space-hogging applications such as personal Web sites and multimedia-rich applications, there is an ever-increasing need to store and archive all that information on to a media that is portable, robust and widely compatible. The most accepted media that fulfills these needs well is the CD-RW. Capable of holding 650 MB of data, CD-RW has grown to be the preferred choice for transporting and archiving data.

The PX W8432i is a world class IDE CD-RW drive with specified speeds of 8x write, 4x re-write, and 32x read speed.

An interesting feature is a cooling fan at the back of the drive, normally seen only in external SCSI drives. At an average, it took nine to 10 minutes to burn a 650 MB CD-R. But more importantly, it recorded the lowest CPU utilisation (2.9 per cent) when tested under CD Winbench 2000. The bundled software, Plextor Manager 2000, adds two more tabs, Details and Settings, to the CD-ROM properties in the device manager and offers the users much better control. It also has an option of showing audio tracks as WAV files and eliminates the need of using the analog audio cable. Another software bundled with this drive is the MVP 2000, which allows you to play and record music and video clips. Audio Capture 2000, another bundled software, lets you copy audio tracks from the CD to the hard disk directly as WAV files. Considering the features and the excellent software bundle it offers, this is a good option for SoHo and corporate users.



Tested CHIP, July 2000, Radar

▲ NOMINEES

Kodak 4804
Tested CHIP, March 2000, Hardware Test

Compro CDRW 12432S
Tested CHIP, September 2000, Radar

DVD DRIVES

Pioneer DVD-104SZ

With features such as cinema quality video playback, multi-channel sound support and oodles of more space to hold information, DVD drives look all set to be the standard in the coming year. Like CD drives, the speed of DVD drives has been increasing by leaps and bounds. Since all DVD drives support multi-channel audio and high-storage capacities, the only factor that can really further the popularity of these drives is the price getting lowered. According to trends from the last year, this looks very probable.

The Pioneer DVD-104SZ, a very good looking DVD-ROM drive, stands out from the crowd immediately with the absence of the drive tray that is prevalent in all the other models. Featuring a 'Slot-in' interface, the drive accepts disks through a slit in the front panel that is protected by a foam lining. The CD is inserted partially into the drive and the internal mechanism sucks the disk inside—rather unconventional but it looks really good. With this mechanism, there is no possibility of inserting two disks into the drive or inserting a disk incorrectly since there is a protection mechanism that prevents the insertion of a disk if the drive is already occupied. This also eliminates the possibility of any of the drive's components breaking, as seen in drives with a tray mechanism. One downside, however, is the absence of the emergency drive eject feature.

The performance of the drive in the data transfer test was very remarkable, making it a very commendable choice for the power user. This drive is a good choice for users who need smooth DVD playback, good CD data transfer performance, sleek looks and sturdy construction.

Tested CHIP March 2000, Hardware Comparison Test

▲ NOMINEES

ACER DVP1040A
Tested CHIP March 2000, Hardware Comparison Test

ASUS DVD-E608
Tested CHIP March 2000, Hardware Comparison Test

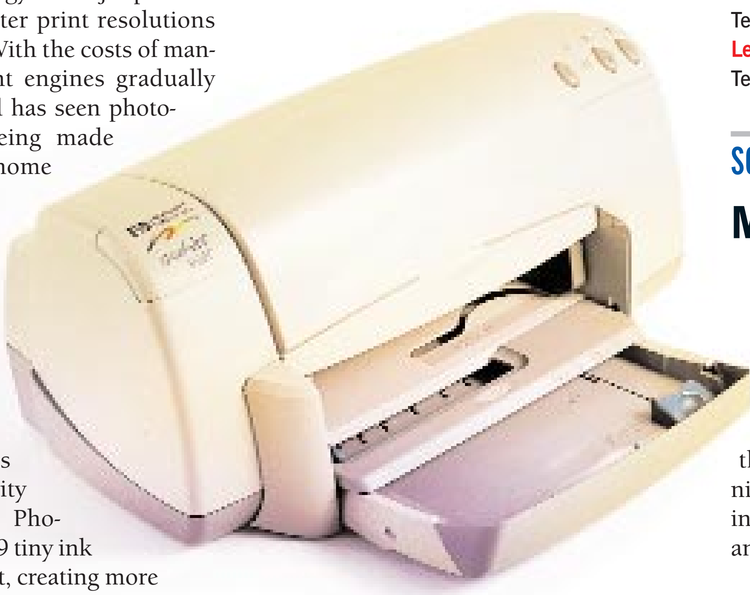
INKJET PRINTERS

HP Deskjet 930C

Boasting of photo-quality images, reasonably low running costs and easy availability of consumables, inkjet printers have become a veritable necessity for the home computer. This year has seen marked advancements in the image processing technology in inkjet printers in the form of greater print resolutions and faster speeds. With the costs of manufacturing the print engines gradually falling, the year-end has seen photo-quality printers being made available to the home user within the sub-Rs 8,000 price range.

HP Deskjet 930C, a compact and trendy looking printer, features HP's PhotoREt technology, which delivers outstanding quality and performance. PhotoREt places up to 29 tiny ink drops in a single dot, creating more colours per dot and providing for finer colour control and stunning photo quality. It also boasts of a high print resolution of 2400 dpi. Moreover, you can attach an optional two-sided printing module to the device, which enables it to print on both sides of the paper without any user intervention. Though the text print speed was relatively slow when compared to the graphics printing speed, the print quality was the best for both. Pure quality and graphics printing speed makes it the best choice in its category.

Tested CHIP, August 2000, Benchmark



▲ NOMINEES

HP Deskjet 950C

Tested CHIP, August 2000, Benchmark

Epson Stylus Color 900

Tested CHIP, August, 2000, Benchmark

LASER PRINTERS

Samsung ML-5200A

The major advancements in laser printers have been in the paper handling capabilities and the print speeds of the devices. There have been no significant improvements in the actual print technologies in this field as compared to what's taken place in the inkjet market. Since the overall cost of manufacturing these devices has fallen considerably over the last year, there are models available that offer laser printing solutions to the home users as well.

Imagine a printer that processes, stores huge data and then prints them at an even faster rate. Welcome to the Samsung ML-5200A, which actually features an onboard 60 MHz processor and 4 MB of RAM, which is upgradeable to a whopping 68 MB. The device offers a decent printing resolution of 600 dpi and is USB compatible too. But the ML-5200A core competency lies in its features and raw speed. It allows extensive control over the print settings: you can choose resolutions between 600 and 300 dpi, vector or raster graphic mode, half toning, and fine, coarse or line art. As far as performance is concerned, the ML-5200A proved to be the absolute winner in the laser printer category with the highest overall score in its category. In pure speed it was the fastest tested in terms of text print speed. Imagine printing a five-page document in 43 seconds flat! It was average though in terms of graphics speed and quality, and is not very suitable for heavy graphics printing.

Tested CHIP, August 2000, Benchmark

▲ NOMINEES

Xerox Docuprint P8e

Tested CHIP, August 2000, Benchmark

Lexmark Optra E310

Tested CHIP, August 2000, Benchmark

SCANNERS

Microtek ScanMaker 4

Scanning technology has significantly grown over the last year, making it affordable for the home and budget-conscious user. You have scanners available today for as low as Rs 6,000. On the other end of the scale, you can get professional scanning solutions that are capable of procuring multiple sheets, very high resolutions and high bit-depths.

Microtek's top-of-the-line ScanMaker 4 is definitely targeted at the corporate and graphic designers who want very high quality scans, because this is one of the most expensive scanners. It is a 36-bit colour scanner with dual scanning capability–you scan photos on its upper bay and film and slides in its lower transparency bay. This makes it a great choice for people who would like to convert prints or slide-presentation images into digital documents. The scanned images are reasonably sharp, except for some loss of focus in certain areas of images. But where it really shines is in its excellent scanning time and a robust driver implementation. People using heavy graphics will definitely appreciate the advanced settings.

Tested CHIP, July 2000, Benchmark

▲ NOMINEES

Umax Astra 2400S

Tested CHIP, July 2000, Benchmark

Epson Perfection 610U

Tested CHIP, July 2000, Benchmark

PERSONAL COMPUTERS

The Best ASUS Coppermine 700E

With so much power available to the general user in terms of 1 GHz processors, fast graphics accelerators and hard disks, there seems to be no stopping the limits of the trusty PC. This year, we've seen that greater stress has been laid on the design and the overall aesthetics. This has given rise to a bevy of good-looking machines such as the Apple PowerMac G4, the Compaq iPAQ and the ACER Veriton FP2.

Talk about gaming machines! This computer is packed to the gills with a rich set of multimedia components, making it highly suitable for gamers and graphic artists. Based upon an ASUS CUBX motherboard and a 700 MHz processor, with 128 MB of RAM and the ASUS Riva TNT2 Ultra, there is sufficient processing power here for most demanding applications. Additionally, there's a 20 GB Seagate hard disk and a very fast ASUS 8x DVD drive completing the system.

On the multimedia front, gamers would like the Sound Blaster Live! Value, the Logitech X2 Soundman speakers and the 17-inch monitor. One area where this computer lost out was the fact that there were just two speakers—four would have ideally complemented to four-channel soundcard. This system is also suited for video applications since the graphics card features composite and S-video ports. With a very impressive multimedia subsystem, this computer is a good choice for gamers and any applications that require powerful graphical capabilities.

Tested CHIP October 2000, Benchmark

▲ NOMINEES

OCKAM Professional PC
Tested CHIP, October 2000, Benchmark

HCL Beanstalk Ultima
Tested CHIP, October 2000, Benchmark

LAPTOPS

ACER TravelMate 602TER

In the field of mobile computing, the line between portable and desktop computers has been getting increasingly blurred in terms of raw power. Today's notebook computers boast of processing power that can rival its desktop counterparts. Various other features of notebook computers have also been enhanced such as integrated DVD drives, 3D acceleration, FireWire connectivity and even integrated videoconferencing cameras. With the price of processors and mainboards falling, you can procure a laptop today for as low as Rs 75,000.

The ACER TravelMate 602TER is powered by a Pentium III 650E with 64 MB RAM. It has a huge hard disk of 11.22 GB and the ATI Rage Mobility-M1 8 MB AGP card. The sound is generated by the ESS Solo-1 soundcard. Other integrated components are the 4x write/20x read CD-RW drive, fax/data PCI modem, 10/100 network card, two USB ports along with a long-lasting lithium ion battery.

Even *Quake III Arena* managed to run on this system and gave 16.6 fps, whereas on other laptops it's difficult to get it running at all. The ACER TravelMate is very smooth and quiet and it doesn't emit much heat either. It has a pretty good 3D accelerator card—the ATI Rage Mobility with 8 MB of VRAM on it.

The price tag of the ACER TravelMate is quite high, it is quite worth the money as it is very rare that you get a laptop with peripherals such as 3D cards, LAN card and modem built within it.

Tested CHIP October 2000, Radar

▲ NOMINEES

ACER TravelMate 341T
Tested CHIP September 2000, Radar

ACER TravelMate 732TX
Tested CHIP August 2000, Radar

COOL PRODUCTS

ACER Veriton FP2

A right step into the future of PC and desktop computing, ACER's Veriton FP2 is a machine that boasts good looks and a space saving design with plenty of power under its hood. Based upon a Coppermine processor in excess of 1 GHz, an i815-based motherboard and with 128 MB of RAM with an integrated video and audio sub-system, this desktop has enough power to drive most applications and definitely makes a statement about its owner. Aimed at the savvy CEO and trendy executive, this business desktop comes with integrated audio, video and network connectivity. Depending upon applications, this computer is pre-loaded with either Windows Millennium Edition or Windows 2000.

COOL PRODUCTS

Apple PowerMac G4

Known as the PC-killer, this machine epitomises power and design. With drop-dead good looks, a very intuitive and practical design and a seriously powerful processor, this Apple PowerMac G4 is one of the best solutions for the demanding graphical user. Available with a plethora of options in terms of peripherals and connectivity options, the G4 can be used for applications ranging from high-end image processing to cinema-quality special effects and 3D authoring. Using principles of design that are used in the design of supercomputers, the G4 processor is a streamlined and very powerful desktop computer. Apple has looked to the future with USB and FireWire being used extensively in this product and everything from the 22-inch Apple Cinema TFT display to the optical mouse to the translucent system casing spells grace and museum-like design.

HANDHELD COMPUTERS

HP Jornada 680E

A field that is still in its infancy, handheld computers are the desirable objects that only busy CEOs and affluent people possess. But this won't be true much longer–prices of these ultra-utilitarian devices are on the fall and therefore the forthcoming year will see even students and most office-goers carrying these devices around. Advances here have been in the amount of memory these devices carry and in the features that they incorporate. Some handheld device also feature full-colour displays, integrated modems and MP3 players making them digital companions in every sense of the word.

The winner in the handheld computers category is the Hewlett-Packard Jornada 680E that comes built with a 6.5-inch full colour TFT screen. It's powered by a 133 MHz Hitachi SH3 and it comes with 16 MB of RAM, which runs Windows CE 3.0. It also comes packed with software packages such as Pocket MS Office, HP utilities, etc. The HP Jornada 680e has a PCMCIA slot along with the Flash slot and can hold a modem or a NIC. It has voice recording capabilities and playback support. You can play MP3 and midi files using other software. HP sells the computer with some CDs, which are necessary for the docking procedure. The HP Jornada 680e can be connected to a desktop computer, thus allowing you to transfer files from the HP Jornada 680e to the desktop computer. It also allows you to install new applications by using the Tools menu in the handheld. Overall, considering its excellent usability and size, the HP Jornada 680E is the best handheld computer around.

Tested CHIP, May 2000, Radar

▲ NOMINEES

HP Jornada 430
Tested CHIP, June 2000, Radar

Palm 2000
Tested CHIP, June 2000, Radar

COOL PRODUCTS

Matsucom on Hand

Personal Information Managers generally bring to mind those feature-packed little software that most of us can't live without. This little watch from Matsucom is definitely a feature-packed piece of hardware that lets you do anything from storing contacts and personal information to keeping track of schedules and appointments. You can also download images from the Internet or from your scanner onto the watch. It comes armed with 2 MB of flash memory, which means that your data is still intact even if the batteries are fully drained. The in-built infrared port lets you exchange information with other watches of its kind and also your laptop computer. With loads of functionality and features, this next-generation information manager is a great tool.

MP3 PLAYERS

Creative NOMAD II

Ever since the MP3 revolution swept the IT world, portable digital audio players have been on top of people's wish lists. Today, there are well over a hundred manufactures that have numerous MP3 players on the market. In India, this revolution has just begun and there are close to 10 different types of players available. Advancements here have been in the form of greater storage capacities–some players even integrate miniature hard disk drives, thus offering a barn house of space that can hold thousands of songs. However, the majority of them are based upon Flash RAM and can give users about 75 minutes of high fidelity audio.

Creative had improved on its older MP3 player, the Creative NOMAD, and created the new Creative NOMAD II. The NOMAD II, like the earlier version, has excellent sound quality and performance. It still has the docking station to transfer songs from the computer to the MP3 player, but now uses the USB port, making the process much faster. The docking station is also used to charge the NOMAD II. It also includes an FM radio tuner and an in-built voice recorder. It has an equaliser with presets such as Jazz, Rock, Classic, etc built into it.

Tested CHIP August 2000, Radar

▲ NOMINEES

Creative NOMAD
Tested CHIP March 2000, Hardware Comparison Test

Diamond Rio PMP500
Tested CHIP March 2000, Hardware Comparison Test

COOL PRODUCTS

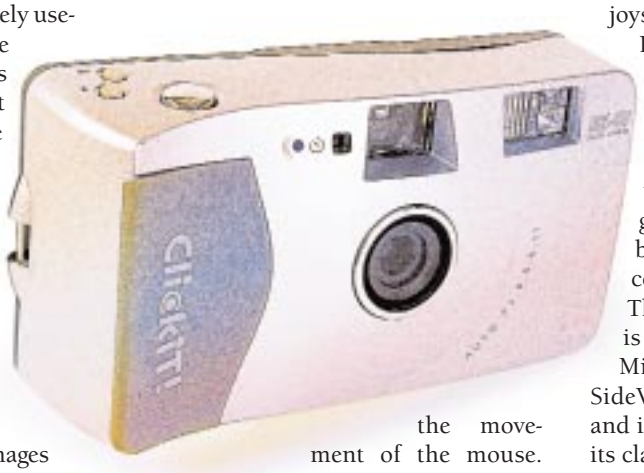
Creative NOMAD Jukebox

Imagine having a device that can hold 150 CDs worth of your favourite music, imagine it weighing less than 350 grams, imagine this device looking like something right out of a sci-fi movie—you should be thinking of the Creative NOMAD Jukebox. A breakthrough in portable personal audio, this MP3 player carries a 6 GB hard disk (the same used in notebook computers) and allows you to arrange your songs using a variety of methods of categorisation. Forget about it skipping because it's got an 8 MB onboard buffer. For variety in listening, this device can also process MP3s in real time with effects such as concert hall, stone room, etc. For your home entertainment system, it can directly drive up to four speakers, giving you full surround sound support. With cool looks, amazing functionality and top-notch audio quality, this is the future of portable hi-fi audio.

DIGITAL CAMERAS

ClickiT DCE-400

This is definitely a device that is high on any digital aficionado's wish list. Allowing you to seamlessly capture images and transfer them to your computer, digital cameras are immensely useful for both the amateur and the professional user. Digital cameras differ in respect to the sensors that are actually used to capture the images—the greater the resolution supported, the greater is the quality (as also the price). Digital cameras are still a while away from being truly affordable but trends are definitely indicating that this is bound to happen in the near future.



The best among the digital cameras, ClickiT DCE-400 has a lot to boast about. It can capture images at high resolutions like 1024x768 and preview them immediately. You can store these images on the 4 MB Flash memory card. Other features include the slideshow option and 2:1 zoom. When connected to the PC using the USB port, it allows you to move files from the camera, which is treated as a removable drive by the system. The camera has very good quality capturing capability even for tiny images.

Tested CHIP, January 2000, Hardware Test

▲ NOMINEES

Logitech QuickCam Pro
Tested CHIP, May 2000, Radar
D-Link Webcam DUC 300
Tested CHIP, October 2000, Radar

POINTING DEVICES

Microsoft Intellimouse Eye

There was a time when a pointing device was often a neglected peripheral. But that's changed. With games and applications demanding much more accuracy, the newest incarnations of pointing devices use exotic technologies such as optical sensing and radio to track the location of the mouse, giving unparalleled accuracy and smoothness. Pointing devices of today are even capable of imparting a sense of 'feel', where surface effects can be replicated by the mouse and its software and conveyed to the user, taking interaction to new heights.

One of the most amazing and innovative pointing devices that have appeared this year is the Microsoft Intellimouse Eye. Unlike other mice, this one does not use any rotating ball or rollers to sense the movement of the mouse. Instead, this is done completely by light!

At the base of the mouse there is a little light that illuminates the portion of the surface on which the mouse is moving. As this light bounces off the surface, a CCD (Charge Coupled Device) sensor 'sees' this movement and a powerful processor inside the mouse converts this image information into information pertaining to the position, current rate of movement and the direction of the mouse. This CCD samples what it sees at a rate of 1,500 times per second, making the resolution of this mouse very high and the movement immensely smooth. Also, since there are no moving parts in the mouse, it is very robust and highly resilient to dirt.

We don't have nominees in this category as none of the other mice we tested have any extraordinary features.

Tested CHIP January 2000, Hardware Test

GAMING PERIPHERALS

Microsoft SideWinder Force Feedback Pro

Diehard gamers play to win. To do this, total control over your character or vehicle is the key. Gaming peripherals enable you to do this and allow much greater functionality and realism while playing. The newer iterations of joysticks, game pads and steering wheels are capable of imparting effects such as force feedback. Many of these controllers are also constructed like the real thing. For example, some joysticks that are modelled on the basis of an F-16 flight stick.

The Microsoft Sidewinder Force Feedback Pro is one of the coolest looking joysticks available in the world market. It includes a cooling fan and has several buttons, making it one of the best customisable joysticks. One of the main features in this joystick is that it keeps track of all the personalised profiles for the games you play with Force Feedback. You can then simply start the controls from the Windows taskbar. The joystick has a throttle dial, which is very helpful in games such as Microsoft Flight Simulator. The SideWinder is extremely comfortable and it easily beats the other joysticks in its class.

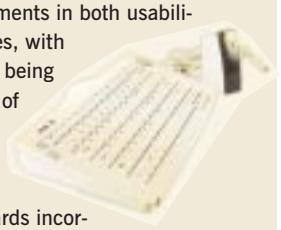
Tested CHIP, July 1999, Hardware Test

▲ NOMINEES

Logitech WingMan Force
Tested CHIP, July 1999, Hardware Test
Logitech Wingman Extreme Digital 3d
Tested CHIP October 2000, Radar

Keyboards

ACER AIRKEY



The trusty keyboard has shown remarkable improvements in both usability and features, with greater stress being given to ease of use and comfort. Many of the newer keyboards incorporate greater functionality in the form of shortcut keys and integrated touch pads.

The ACER Airkey is a cordless keyboard which has a mouse built within it. The Airkey is supposed to be compatible with both computers and Web TV units. It works on the infrared concept and doesn't need any software or drivers during its installation. The circular area on the right hand top corner of the keyboard works as a mouse. The two mouse buttons are located on the top left corner of the keyboard. The keyboard is ranked as the best due to its integrated peripherals.

Tested CHIP, April 2000, Radar

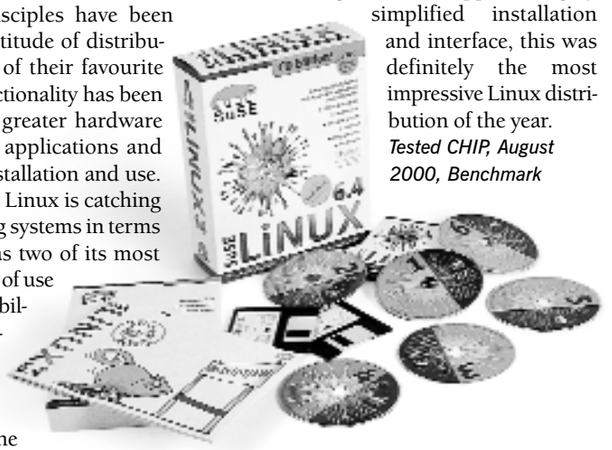
OPERATING SYSTEMS (LINUX)

SuSE Linux

This year, Linux disciples have been blessed with a multitude of distributions and flavours of their favourite operating system. Functionality has been added in the form of greater hardware support, more robust applications and even greater ease of installation and use. With all these features, Linux is catching up with other operating systems in terms of public acceptance as two of its most daunting features—ease of use and hardware compatibility—have been extensively addressed in the various iterations of Linux.

SuSE is definitely one of the easiest Linux distributions when it comes to installation and usability. This distribution has increased hardware and peripheral compatibility and works even with newer hardware such as i810 chipsets and 3D accelerator cards. The full installation comes with a plethora of applications and system utilities that let you get up and running after the entire installation. All the applications available in the six different CDs can be selected from one unified interface and installed in the same way. The application library is nothing less than an encyclopaedia and gives you an idea of how vast the Linux community is. The full install of SuSE takes more than 5-6 GB of space, although you would rarely need all of it. Even though there are so many packages, the categorisation of packages is perfect. SuSE contains a host of Linux games, demos and full versions and not only this, 3D graphics support comes preset in SuSE. With amazing hardware support, a highly simplified installation and interface, this was definitely the most impressive Linux distribution of the year.

Tested CHIP, August 2000, Benchmark



▲ NOMINEES

Mandrake 7.0
CHIP, August 2000, Benchmark
Red Hat 6.2 Deluxe
CHIP, August 2000, Benchmark

OPERATING SYSTEMS (WINDOWS)

Windows 2000 Professional

The world's favourite operating system has seen many reincarnations and mutations over the last year with specific releases for certain applications and groups of users. The newer versions of these operating systems have brought about greater stability and support for newer and more exotic hardware such as 3D accelerators, USB, FireWire, etc. In the coming year, we can look forward to newer releases of Windows that incorporate greater security and even cleaner interfaces and technologies.

Based on Windows NT, Windows 2000 Professional is one of the most stable and robust operating systems Microsoft has to offer. Although the requirements for this OS is quite high, it is extremely stable as compared to its earlier desktop operating systems such as Windows 9x. Microsoft has ended its long tradition of the DOS environment and you won't find any pure DOS mode in this operating system. Windows 2000 is said to have very good network support and has other tools such as Internet Information Server. The fade in effects of the Start Menu give the interface of Windows 2000 a more appealing look. New technologies have been incorporated into Windows 2000 such as Active Directory, enhanced power management and greater security. The Management Console is something that provides for greater control. Given these factors, Windows 2000 is definitely the operating system of choice for the power user and for office environments.

Tested CHIP, January 2000, Software Test

▲ NOMINEES

Windows 2000 Server
Tested, CHIP, January 2000, Software Test-
Windows Me
Tested. CHIP, September 2000, Benchmark

COOL PRODUCTS

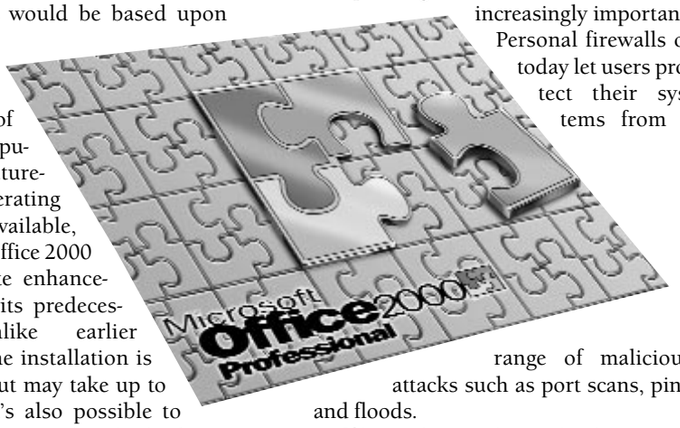
Mac OS X

Macintosh operating systems have been synonymous with clean interfaces, robust performance and ease of use. This is epitomised in the latest iteration of the Mac operating system—OS X (also known as OS 10). Based on a new 2D graphics system called Quartz, what's immediately apparent with this new OS is the liquid and translucent look and feel of the system, adding a totally different dimension of neatness and striking visual quality that is very rarely seen in operating systems. Also, OS X features full multiprocessor support and can therefore take full advantage of more power system configurations and applications that are run on it. OS X also fully integrates the OpenGL graphics subsystem making it a very robust platform for demanding and photo-realistic graphical applications.

OFFICE SUITES

Microsoft Office 2000

One of the most often used applications in most home and business environments, office suites have incorporated increasingly greater functionality and features with special support for the Internet. With many office suites available, the most favourable one for most users would be based upon functionality and familiarity.



One of the most popular and feature-packed operating systems available, Microsoft Office 2000 is a definite enhancement over its predecessors. Unlike earlier versions, the installation is very easy but may take up to 400 MB. It's also possible to click-and-type anywhere in the document. With much tighter integration with the Internet, documents, spreadsheets and presentations can now be created directly for the Web.

Office 2000 also bundles Microsoft Internet Explorer 5.0 free. The most impressive application in this package is the new Outlook 2000—with far greater functionality in terms of features, ease of use and interface. Outlook is the one-stop answer to e-mail and personal information management. The new 'smart menus' keep track of the features that you access most often and only displays those options, thus giving a far cleaner and less cluttered look and feel to it. Backward compatibility with earlier versions works well and you can store older version documents within newer versions and vice versa.

With greater integration with the Internet, HTML is added as a native file format with existing ones. MS Word is now the default Web page editor. Microsoft Office 2000 Professional Edition is not a mere enhancement to its predecessors but incorporates a range of new features, making it a rock-solid solution for the home and office.

▲ NOMINEES

Corel WordPerfect Suite

Lotus SmartSuite Millennium

FIREWALLS

Norton Personal Firewall 2000

With a plethora of newer and more advanced networking technologies that have made headway in corporate and home networks, protecting your computer against unauthorised access is increasingly important. Personal firewalls of today let users protect their systems from a range of malicious attacks such as port scans, ping and floods.

If its total network security that you are looking for, then Symantec's Norton Personal Firewall is one of the most feature-packed solutions for network security. It uses a comprehensive series of rules to determine when to block or not block a particular packet of information passing in or out of the network.

With earlier versions, firewalls were notoriously difficult to configure and even required the user to have an in-depth knowledge of the network and its structure. Norton Personal Firewall 2000 minimises this inconvenience by including a large number of prewritten rules that handle most common situations. The program also maintains detailed event logs, showing connections, firewall activity, Web history, and other events.

With very robust support for protecting your computer and network from unauthorised access, Norton Personal Firewall 2000 is a very worthy choice.

Tested CHIP, September 2000, Benchmark

▲ NOMINEES

ZoneAlarm 2.1
Tested CHIP, September 2000, Benchmark

McAfee Personal Firewall
Tested CHIP, September 2000, Benchmark

VOICE RECOGNITION

Dragon NaturallySpeaking

With the increasing power of the desktop computer, the reality of real-time speech recognition is now actually possible. With Dragon NaturallySpeaking, the entire process of training and using this software has been greatly simplified compared to others in its category. The time taken to train the software in order to achieve about 90 per cent accuracy in interpretation is hardly 10 minutes.

This is one of the highest speech recognition performance numbers in the industry as other software take about half an hour at the minimum to achieve this kind of accuracy. This software utilises a combination of phonetic identification methods in conjunction with a large internal dictionary and only chooses words in the dictionary.

So there are only word errors not spelling errors. Of course, words can be added to the dictionary.

The highlight of this software is the fact that you can speak continuously—there is no need to individually pronounce each word for correct speech recognition to take place. More importantly, this version of Dragon NaturallySpeaking features support for Indian languages, making this highly suited for the Indian market.

Tested CHIP, December 2000, Radar

▲ NOMINEES

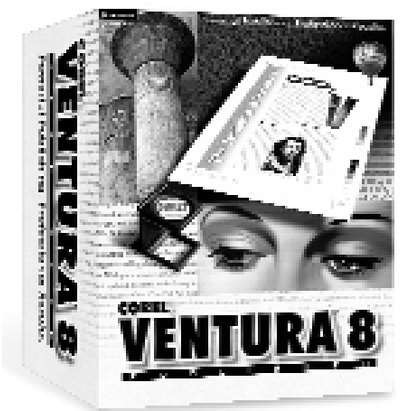
Philips Freespeech

IBM Viavoice

PAGE LAYOUT

Corel Ventura 8

There are a plethora of software on the market that can enable truly professional features and capabilities for the discerning and demanding publisher. Each of these software feature specific functionalities and capabilities and their popularity, besides raw features and performance, depends to a large extent upon the preferences of individual users. Users of a particualr sofware get accustomed to that softwre and its features. Also, there are other features that greatly influence the overall performance of page layout software. With the proliferation of the Internet, one of the greatest pieces of functionality and feature support that has been incorporated into page layout software is Web support. With standards like PDF and direct saving for Web, publishing content for Web sites has been greatly simplified with the newer breed of page layout software.



Corel Ventura 8 scores over all other page layout packages in its class. Corel Ventura 8 has very low system requirements and can run on a Pentium 90 with 32 MB of RAM. There are a lot of menus and cluttered toolbars scattered over the interactive environment. The installation is quite big as it took approximately 50 to 60 MB of hard disk space. Corel Ventura 8 includes other extra goodies such as CorelSCAN, Corel Script Editor and the OCR Trace. The software does take some time to load but if you have a lot of RAM, it shouldn't bother you. The package includes other features such as image importing. You also have the option to export to the PDF format without any problems. All the Corel products and applications are well integrated. Taking into consideration the excellent integration and features that Corel Ventura 8 provides you with, it is the ultimate winner among the page layout packages.

Tested, CHIP, February 2000, Software Comparison Test

▲ NOMINEES

Adobe PageMaker 6.5
Tested, CHIP, February 2000, Software Comparison Test

QuarkXpress 4.04
Tested, CHIP, February 2000, Software Comparison Test

Web Browsers

Internet Explorer 5.5

Easily, one of the most often used software components in a computer, Web browsers have their own clans of fans. The functionality and the feature support of Web browsers are very similar. The differentiation lies in the technologies that are implemented and supported in the browsers in terms of security, graphics and streaming formats.
The new version is worth the download for its improved performance when displaying sites that use frames and for its new print preview feature. Most of the other new features, however, add support for proprietary extensions to Dynamic HTML (DHTML). The biggest change to the menus and interface is the Print Preview feature with its ability to show how many pages are needed to print a site. Unfortunately, IE 5.5 doesn't integrate Print Preview with IE's long-standing ability to print one frame on a page, which means that Print Preview can be used to display output only when you print all the frames on the page. The most significant performance improvement occurs when you view sites that use multiple frames. Earlier IE versions invisibly opened separate copies of IE to display multiple frames; users did not see the separate copy but each copy slowed performance. The new version displays all frames in a single page with a slight but noticeable increase in speed. There's now support for 128-bit encryption in the browser itself. It doesn't require a separate download from the Windows Update site, as was with Version 5.

NOMINEES

Netscape Communicator 4.7
Opera 4.0

WEBAUTHORING

Macromedia Dreamweaver 3.0

Some of the most interesting technologies have been incorporated into Web authoring software, enabling users to incorporate high-impact multimedia into their Web pages. The biggest trends in the field of Web authoring has been in terms of ease of use, where software companies are creating packages that enable Web development and content creation in the shortest possible time.

Dreamweaver 3.0 is the best Web authoring tool available today. This release of Dreamweaver now has support for server side markup languages such as ASP, Java Server, Cold Fusion PHP and the existing HTML and XML. It comes packed with a code editing software called Allaire's HomeSite 4. It includes several features such as Clean-up-Word HTML which allows you to format the HTML code that Word 97/2000 creates. The site menu allows you to log on to FTP on any site and check your files. Synchronising files is another helpful feature in Dreamweaver 3.0 that allows you to synchronise the local and remote version of the site. Macromedia has given Dreamweaver very good integration with other products such as Fireworks and Homesite 4. One can also insert Flash and other content into their Web pages. These features make Macromedia the winner of the Web Authoring Tools category.

Tested, CHIP, March 2000, Software Comparison Test

▲ NOMINEES

Microsoft FrontPage 2000
Tested, CHIP, March 2000, Software Comparison Test

Adobe GoLive 4.0
Tested, CHIP, March 2000, Software Comparison Test

ANTI-VIRUS

Norton Antivirus 2001

With the ever-present threat of viruses, the new range of anti virus software bring about the capability of shielding your individual computer or an entire corporate network from new generations of malicious code. Advancements in this field have been in the form of newer ways of identifying and eliminating viruses using methods like heuristic analysis and advanced patterm matching algorithms. The greatest challenge for an Antivirus software is not just disinfecting and ridding the computer of viruses: instead it's about keeping the computer free of viruses.

This involves a whole lot more than just scanning your system and cleaning infected files and other areas of your hard disk. The factor that separates a good antivirus software from a great one is when the software is capable of updating itself on a regular basis and therefore keep the user's computer continually protected against the threat of newer and more malicious viruses and other threats to a user's data.

In order to achieve this, many antivirus software offer online updates of their virus databases and scanning engines. One of the software that has repeatedly come out tops in this field is Symantec's offering to the antivirus market.

Norton strikes again with the latest release of its well-known and reputed anti virus package—Norton Antivirus 2001. The package comes packed with a CD and a manual. It has been created to run on the Windows platform. It also has support for the latest Windows 2000 and the Windows ME operating systems. The anti-virus is quite resource hungry though it says its minimum requirement is a Pentium 133 MHz processor. It did take more resources than it said and we realised this when we installed the anti-virus on a Pentium III-based system. The anti-virus features the capability of catching newer viruses such as the I Love You! virus and also the Kak worm that affects computers through e-mail. The installation of the anti-virus took quite sometime but it offers very good configurable options.

Like most of the Norton products, this software also has the Live Update feature, which allows one to effortlessly download updates for the anti-virus package from the Symantec website. One negative point is that Norton Antivirus 2001 requires the CD even during the uninstallation process.

Although the anti-virus package seems to take more resources than it states, it is the best anti-virus program available because of its ability to catch and disinfect files and rectify damage caused by the latest and the most devastating viruses.

Tested, CHIP, November 2000, Radar

▲ NOMINEES

Norton Antivirus 2000
Tested, CHIP, October 2000, Benchmark

McAfee Virus Scan
Tested, CHIP, October 2000, Benchmark

Personal Information Managers

Microsoft Outlook 2000

This is one category of software that not many computer users utilise. But those who do use Personal Information Managers cannot do without them! These applications incorporate a plethora of functionality into them such as schedule and personal finance management, reminders, task schedulers, etc. These greatly simplify day-to-day activities and processes and can actually help bring sanity and organisation into a fast paced lifestyle.

Outlook 2000 is more than just an e-mail client. It combines robust contact management with calendar features and mail management tools.

It handles basics such as e-mail and contact management very well, but it also goes beyond standard e-mail clients. This is possible due to its integration of mail, contact and scheduling capabilities so that you can send e-mail from your calendar, search for messages related to an event in your date book and set up anti-spam filters from your inbox. Outlook 2000 also comes ready for the Web.

The program gives you the power to publish documents in HTML (such as your calendar) and includes support for HTML-formatted e-mail. With a plethora of options in terms of organisation of contact lists, schedules and reminders. Users can use Outlook 2000 to even schedule and assign tasks to co-workers, making it a very good workflow tool.

NOMINEE

Lotus Organizer

E-mail Clients

Outlook Express 5

Like Web browsers, e-mail clients have their ardent followers. With most e-mail clients offering the basic functionality of accessing POP and Web mail, there are other feature and usability enhancements that are built into the newer breed of e-mail clients such as integrated thesaurus, formatting tools and e-mail organising features.

One of the smoothest and functional e-mail clients available, Outlook Express 5 has been one of the most worthy choices for users. With a range of features such as support for multiple e-mail accounts, Web mail access, message rules, etc. What makes the software also noteworthy is its compactness. And to top it all, it comes for free! The reason why this software is chosen as the best in e-mail clients is due to its features and the fact that the interface and the tools are very easy to access.

NOMINEES

Eudora Pro
Pegasus Mail

The Linux GAME

Illustration: Mahesh Benkar

Still puzzled by the garbled characters on your PC running on Linux? Time to take a look at the hardware you are running Linux on

Rossi Fernandes

Yes, we know! You think Linux is tough and the installation is especially problematic. Perhaps you are still stuck with the early versions of Linux and don't realise that most Linux distributions have graphical interfaces and installation wizards which automate most of the process. Most good distributions have hardware support incorporated into the core. Along with the stability, features and their extraordinary-looking interface, you have a different operating system in your hands.

Computer manufacturers are also doing their best to extend support for the Linux operating system. In the US, companies such as Dell and IBM have put Linux on their PCs and laptops as the main operating system for office and home users. Dell has tied up with Red Hat and is providing Red Hat 7.0 on their wide range of desktop systems. This is being done to promote the use of Linux on desktop computers as well as on servers. The Zseries from IBM also runs Linux as the main operating system. IBM has tied up with Turbo Linux to initiate a seminar on Linux topics and IT solutions, which is being held in several cities across the US.

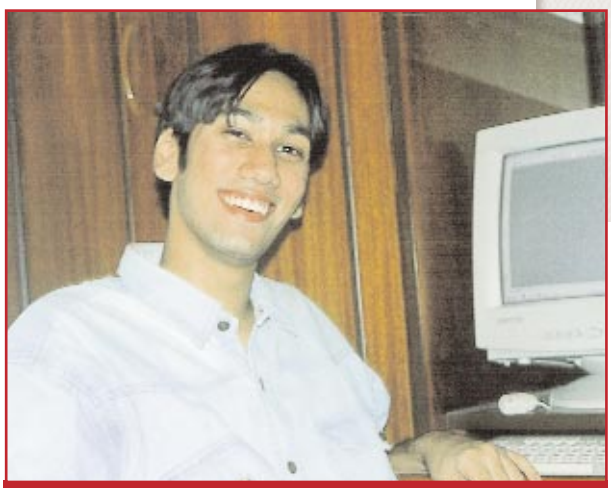
Reality check

Things seem perfect then, right? Not exactly, there are still a few grey areas as far as Linux is concerned. While Linux has done away with the problems associated with processors and now has support for a wide range of processors which include Intel, Alpha, Sparc, MIPS and PowerPC, integrated products or peripherals are still a problem.

Products you need to be careful about are LAN cards, display cards, TV tuners, modems, etc. These hardware are known to have compatibility issues. Recompiling the kernel can help at times, but you may also have to go to your hardware manufacturer's site and download any Linux drivers for your card.

For instance, Imran Kagalwala, a student from Mumbai, has a peculiar problem. His TV tuner card functions properly as a display card, but the card doesn't provide the TV tuning features that it's meant for. Add to that, his generic PS2 mouse, which has a scroll option, works perfectly except for the scroll function. "Linux is a good OS, but not good enough for my PC. With my TV tuner card and the scroll function on my mouse not working, all the entertainment and user-friendliness is dead," says a disgruntled Imran.

Suhail Faizy, a student who tried Linux, is equally disappointed because Linux didn't detect some new hardware. "The problem I face with Linux is that it doesn't have any support for my Philips monitor and my new AGP card. So it's not my cup of tea," states Faizy.



Imran Kagalwala
STUDENT FROM MUMBAI

> "With my TV tuner card and the scroll function on my mouse not working, all the entertainment and user-friendliness (of Linux) is dead"

Watch out!

The earlier releases of Linux distributions, Red Hat 6.0 for instance, had problems with SiS cards and people couldn't get X windows system to run. So, the future releases of this distribution started having SiS card support. SuSE Linux also started providing packages to fix the problem.

Kudzu is one of the good tools that are being included in many Linux distributions. It helps in auto detecting and setting up new hardware you put on your system.

A major problem is also faced with Winmodems (modems built into the motherboard in the form of AMRs), as they don't work with Linux. For more information on Winmodems, you can check out the Winmodems-and-Linux-HOWTO.html document from the Linux Documentation Project (www.linuxdoc.org). There is a lot of information one can find on Linux Documentation Project—everything from setting up your mouse to all kinds of servers.

A good place to search for information and solutions to your hardware problems would be ZDNet's Linux Hardware Archive located at http://lhd.zdnet.com, which has a list of regular hardware and the location of the drivers and patches.

Most good distributions such as SuSE, Red Hat and Mandrake hardly pose any problem with hardware but just in case they do, the first thing you should do is to check on the Net for any drivers that the hardware vendor provides for the product.

Perennial Peripheral problems

People have had wild experiences trying to set up all kinds of peripherals on their machine. Because of the wrong drivers or no kernel support, many peripheral devices couldn't be detected. Often, when the hardware isn't detected and the drivers don't have installers with them, the only option is to recompile the kernel. And lest you think recompiling the kernel is a dangerous task, let us assure you that there's not much to it. You just enable some options in the kernel and start the compiling. The compiling process takes some time, but at the end you have a new kernel which has support for your hardware.

Hardware Guide for Linux

Product	Kernel	Problem	Description and Solution
i810 Motherboard	Kernel 2.2.15 and lower	Doesn't support all features	Display problems with X window system http://support.intel.com/support/graphics/intel810/linuxsoftware.htm
SiS display cards	X 3.3.6 and lower	No support	Not detected http://www.sis.com.tw/support/download/linux.htm
Genius Net Mouse Pro	All kernels	Doesn't support all features	The scrolling function doesn't work
Diamond Multimedia MX2000	All kernels	No support	Doesn't work
Yamaha YMF724	Kernel 2.2.12-20 and lower	Not always detected	Isn't supported in most standard Linux distributions
Boca Research	All kernels	No support	Win Modem, so not supported
Logitech Cordless iTouch Keyboard	All kernels	None of the features work	Special function keys don't seem to work
Diamond Stealth s540	Kernel 2.2.13 and lower	None of the features work	Good 2D performance, bad 3D performance
Matrox G100 AGP	All kernels	Not always detected	Detects on Mandrake
IBM MWave	Kernels 2.2.7 and lower	No support	Doesn't work
Hewlett-Packard Scanjet 4200E	All kernels	No support	Doesn't work
Hewlett-Packard 3300C USB	All kernels	No support	Doesn't work
Hewlett-Packard Scanjet 3300C	All kernels	No support	Doesn't work

Suhail Faizy
LINUX USER

> "The problem I face with Linux is that it doesn't have any support for my Philips monitor and my new AGP card"

Hardware compatibility list

Based on users' experiences, and common problems regarding Linux compatibility issues posted on many Web sites, we have come up with a summarised hardware guide for Linux (*see table on page 100*).

Most distributions did have problems with hardware that integrated features—in most cases there was no support for the different features. USB products were another common area of concern. For that matter, even Red Hat gave trouble when it came to some really common hardware.

Enhanced support

Given that Linux can cause some problems, it's better that if you are planning to install Linux, you go through the hardware compatibility list so that you may not face any problems during installation. If you do have problems, the first thing you should do is to visit your hardware company's Web site for drivers for Linux or check the floppies or CDs to see if the drivers are provided in the media. With the increase in the number of Linux users, big names in hardware such as nVidia, and Matrox have started providing drivers and patches for their hottest products.

Overall, there is very little hardware that is bound to have compatibility problems with Linux. So, make sure you choose a good Linux distribution that won't let you down and will save you the trouble of recompiling the kernel or downloading extra drivers from the Net. So, happy Linuxing till then.

Sites to visit

www.linuxhardware.net/vendors.html
List of Linux hardware vendors
www.linuxdoc.org
Linux Documentation Project
http://lhd.datapower.com/
ZDNet's Linux database
www.linux.com/hardware
Linux.com's hardware section
www.linhardware.com
ZDNet's Linux Hardware Database
www.drivershq.com
Headquarters for drivers for the PC
www.driverupdate.com/drivers/linux/index.html
Drivers update site
www.driverforum.com
Driver forum

Behind the Scenes

Do the special effects in movies and television leave you dazzled? Video editing software is what transforms stark videos into eye-catching candy

Sunil Srinivasan

Digital video editing goes further than just creating multimedia presentations for CD-ROMs or small video clips used for opening presentations. Video editing hardware and software make the job much easier for both professionals and hobbyists involved in creating and editing home videos.

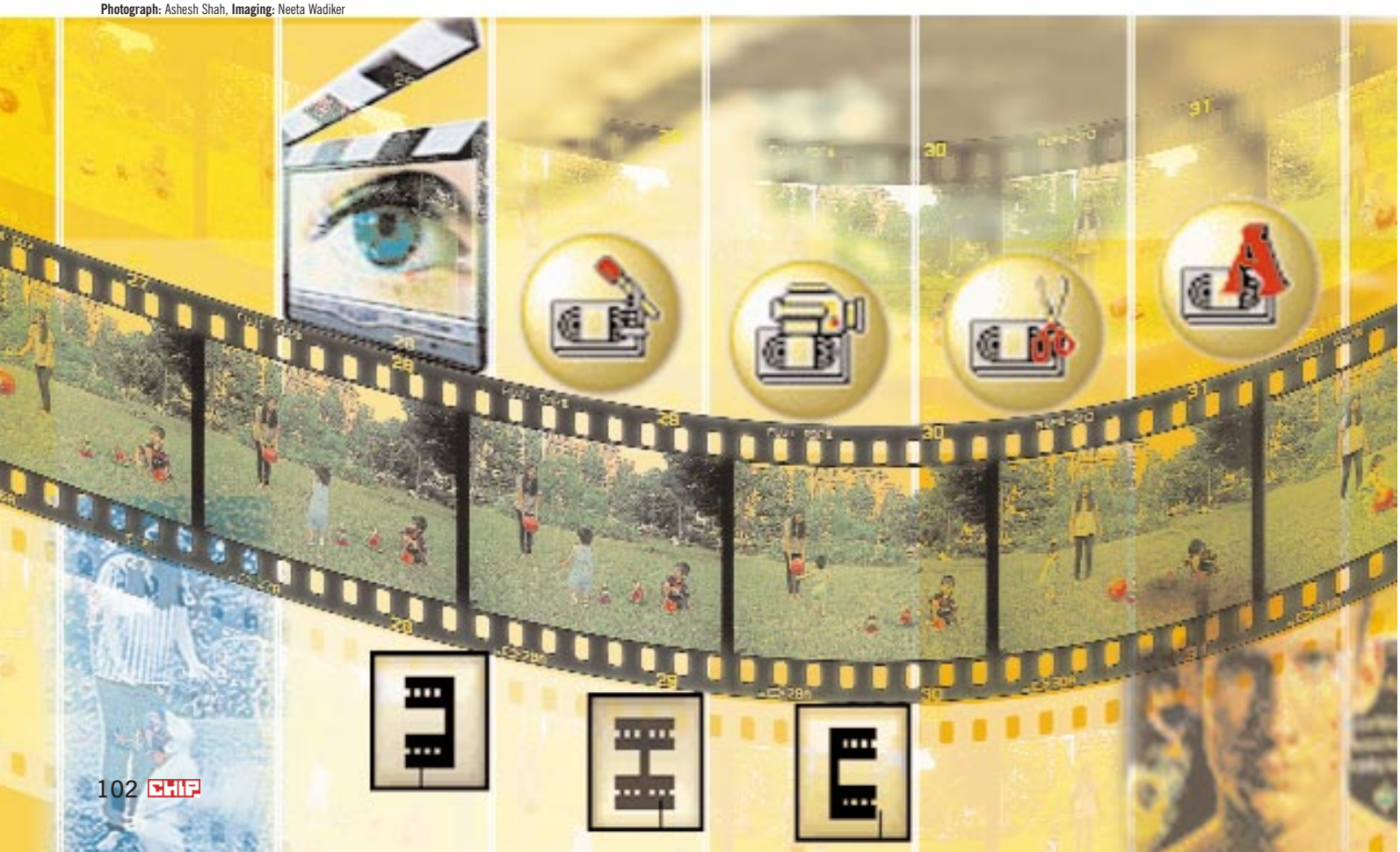
With the right hardware and software, you can preview digitised videos as strips of images, and then set about manipulating them in any fashion you want. The future is digital video and the applications are far-ranging, from the film industry to television and advertising and even making your own simple home videos.

The digital studio

Earlier, for a home user, to create and edit a movie would have been a dream that required a lot of money to come true. But today, with far greater accessibility and lesser costs, you can make your first video at home. According to Deb Mohan, who works for C-Tech, Mumbai, and is into mainstream professional video editing for the last four years, the minimum hardware requirements for video editing would be a Pentium II or III with 350 to 550 MHz processor speed, 64 MB RAM and 10 GB hard disk drive. A FireWire card is also preferable as it ensures faster transfers between your video capture device and your computer system. According to Mohan, there are a number of cheap transfer cards such as that from Orange Micro which comes with free versions of software such as Ulead Media Studio for the PC or Premiere LE (Light Edition) for Mac. There are other options as well—video cameras from Sony and Canon have FireWire interfaces to capture videos. For around Rs 60,000, you can also get a small digital camcorder that you could use to capture videos and transfer on to the computer for editing. The FireWire/IEEE 1394 compatible cards operate at 400 Mbps and allow transfer of data to and from the camera as also playback of video content. A professional would prefer a similar system, though with more memory and a SCSI disk.

Many professionals also go in for Macintosh machines such as iMac which have built-in FireWire cards and video

Photograph: Ashesh Shah, **Imaging:** Neeta Wadiker



editing software such as iMovie. When it comes to the camera, 3CCD cameras are better, and a camera such as Sony VX1000 is one of the lightweight cameras around.

The video format

There are various stages in making a movie. First and foremost, you need the raw material in the form of video. Video could be either in the form of VHS or any other analog format, which has to be converted to digital format using video capture cards. Alternatively, the video could be in a digital format to begin with, and transferred to the computer through a FireWire card. There are a number of video formats such as VHS, SVHS, Hi-8, Beta DigiBeta, DV, etc. All these formats, except DV, use analog signals to display video. DigiBeta is a high-end analog video with digital control.

The lower-end video formats are losing out because of the low quality of output they produce, the heavy equipment they need to be shot on and the high cost of these equipment. Digital video of extremely high quality can be shot using small and relatively cheaper equipment. Further, you can even change this format to the older video formats—for instance, you can convert a DV format video to a VHS tape.

The editing equipment that you would need to work with would be a camcorder and a VCR at the lower end. Of course, the same cannot be useful for higher-end purposes.

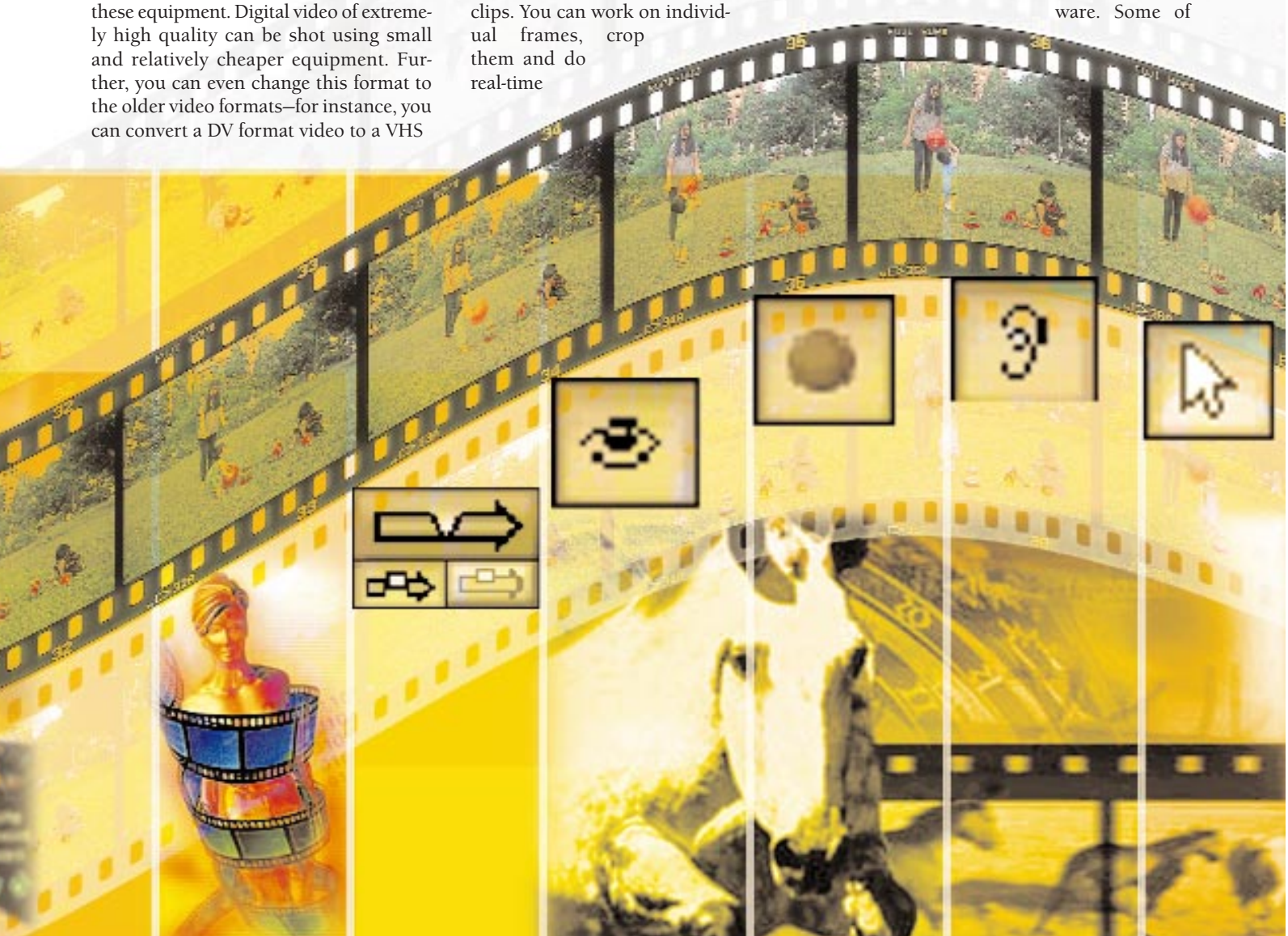
Using non-linear editing

As in the case of video moving from analog to digital, there has been a transition in the way video editing is carried out. From the world of linear, analog tape-to-tape editing, video editing has moved forward into Non-Linear Editing (NLE). To illustrate the difference between linear and non-linear editing, take the case of a typewriter. After you have typed a letter, if you need to add more text in the middle, you have no option except to start from scratch. But if the same function were to be done in a word processor in a computer, you could easily insert the text at any point you want to.

So, once you have the raw material in the form of video clips, you can use the video editing software to re-arrange the clips. You can work on individual frames, crop them and do real-time playback. Further, you can apply many effects such as adding clips or incorporating other videos or audio, include 3D animation and filters and add transition effects such as cascade, zoom, split, etc. With higher-end professional video editing tools, you basically have control over how the video output should be, including control over audio, special effects, altering individual frames or working on compression levels. For simple editing, just about anyone with a little patience can become proficient. Even beginners can learn to make fairly elaborate productions, complete with titles, graphics, fades, wipes and special effects using some basic video editing software.

Working with software

There are plenty of video editing software available depending on your task and whether you are looking at professional work or amateur work. For starters, there are video editing packages that come with video capture cards and are mostly a light edition of the original software. Some of



the card manufacturers even offer full versions of the software. So depending on the card you purchase, the software you get may differ. If you are thinking of buying software, Adobe Premiere costs about $550 and Ulead Media Studio Pro about $500. There are other alternatives too. Apple's iMovie package comes free with the operating system and has quite a few effects for a beginner. Some of the features of iMovie 2 include visual effects such as trails and mirrors, motion effects, the speed at which you want to play the video and other effects such as lock audio that would prevent video frames jumping before the audio.

Given the plethora of software, you would be wondering which is the right one for you. According to Mohan, "The quality of the video is dependent on the camera and not the cards or the hardware or video editing software." Mohan's personal choices depend on the complexity of the editing requirements and varies from Quick Time Movie Player to Final Cut Pro. He, however, prefers Final Cut Pro. "I am comfortable with this professional tool. Final Cut Pro has extensive features compared to any of the other software," he says.

Some of the features in Final Cut Pro such as the drag and drop interface help in handling the video much better. Sometimes Mohan also uses special effects software such as After Effects and Combustion based on his requirements. "I find After Effects to be a real creative tool. It is Photoshop in motion and more," he observes.

Digital video editing tools are also used by hobbyists such as Peter Mathews, a Danish teacher who works for a society in Malaysia. Mathews has been using video editing software for editing videos and packaging them on CDs to send to his people in Denmark. He randomly picked up Pinnacle DV Studio. Though it does not make much difference to him what software he uses for editing, he complains about the MPEG-1 type of output this software package produces for him.

Carl Frank of Singletree Digital Arts, LLC, USA, did a lot of editing for a cable company and has just started using PC-based editing tools. He isn't into production of videos yet, but certainly does a lot of experimentation and intends to do documentaries very soon. Frank uses a consumer-level, low-end Canon Ultra MiniDV camcorder, a Digital Origin FireWire card and free EditDV software that comes with it on a Dell Dimension P-III 600 which has 256 MB of RAM and a 40 GB hard drive. He also uses a Sony DVMC-DA2 video capture card to convert his old videos which are in analog format to digital format for editing. He plans to go in for a 3CCD MiniDV camcorder soon.

Deb Mohan
VIDEO EDITING PROFESSIONAL

He has used Adobe Premiere, but feels that it has a more or less similar interface as EditDV or even some NLE editors. He adds that his brother-in-law who works with Media100 and Avid software also finds the interfaces not that different from each other. Would he go for a high-end professional software yet? "I will stick with EditDV until I can afford an Avid system. From comparisons I have seen, I don't see much difference in quality between NLE software packages," he says. Frank, however, emphasises on the quality of interfaces. "The nice thing about Adobe is that everyone makes plugins for it and it is compatible with a lot of other software out there. But then the Adobe learning curve is pretty high. I personally find their software confusing and difficult to navigate. I suppose if you are used to the Adobe interface, you can easily adapt to other software whether you use Premiere, Photoshop, After Effects or GoLive. It is also pretty pricey for your average video enthusiast."

> "The quality of the video is dependent on the camera and not the cards or the hardware or video editing software"

Final Cut Pro: Preferred by professionals for its advanced editing features

Home videos by the day

With reducing costs, all you would need to start with your first video is a camcorder and a system with an IEEE 1394 compatible card. You can shoot the videos on the camcorder and transfer them directly to your computer through the card. Then, using the editing software, you can view the clips and effects.

Of course, there is a difference between a professional video and a home video—the same difference as "between building a moped and a space shuttle," as Niyam Bhushan, a professional in this field puts it. But anyone with a minimum set of hardware and software could start making videos.

Once your home video is ready, you can output it to a CD or a VHS and send it to your friends and relatives across the world. You could probably also output the video in the form of streaming media and publish it on the Web. So what are you waiting for? Get started. Here's your chance to be in the limelight.

Sites to visit

www.apple.com/finalcutpro/
For more information on Final Cut Pro
www.ulead.com
Ulead's range of products are detailed here
www.adobe.com
Adobe has a vast suite for DVE

Zero1 Awards—Best Performers 2000 AT A GLANCE

CATEGORY	PRODUCTS	TESTED IN
Monitors (14 & 15-inch)	**Sony CPD-E100**	CHIP, April 2000, Benchmark
	LG 57M	CHIP, April 2000, Benchmark
	DTK MDD-1537	CHIP, April 2000, Benchmark
Monitors (17-inch)	**LG Flatron 795FT Plus**	CHIP, April 2000, Benchmark
	ViewSonic GT775	CHIP, April 2000, Benchmark
	Philips 107S	CHIP, April 2000, Benchmark
Monitors (19 & 21-inch)	**Sony CPD-G500**	CHIP, April 2000, Benchmark
	Philips 201B	CHIP, April 2000, Benchmark
	Samsung SyncMaster 900IFT	CHIP, April 2000, Benchmark
3D Graphics Cards	**Creative 3D Blaster GeForce2 GTS**	CHIP, August 2000, Radar
	ASUS AGP-V6800 GeForce DDR	CHIP, May 2000, Benchmark
	ASUS AGP-V6600 GeForce Pro64	CHIP, August 2000, Radar
Speakers	**Creative Desktop Theater 5.1 DTT2500**	CHIP, November 2000, Benchmark
	Creative Desktop Theater 5.1 DTT1500	CHIP, November 2000, Benchmark
	Creative PC-Works CSW100	CHIP, November 2000, Benchmark
Soundcards	**SoundBlaster Live! Platinum 5.1**	CHIP, November 2000, Benchmark
	SoundBlaster Live! Value	CHIP, November 2000, Benchmark
	Aureal Vortex2 Quad	CHIP, November 2000, Benchmark
Motherboards	**ASUS A7M**	CHIP, September 2000, Radar
	ASUS CUV4X	CHIP, August 2000, Radar
	ASUS CUBX	CHIP, July 2000, Radar
Processors	**Pentium III 1 GHz**	CHIP, November 2000, Radar
	AMD Duron 600	CHIP, September 2000, Radar
	Intel Coppermine 733EB	CHIP, September 2000, H/W Workshop
External Storage Devices	**IOMEGA 2 GB Jaz**	CHIP, September 2000, Benchmark
	HP SureStore Optical 5200ex	CHIP, September 2000, Benchmark
	Sony RMO 5.2 GB	CHIP, September 2000, Benchmark
Hard Disk Drives (IDE)	**IBM Deskstar 72GXP DTLA-307075**	CHIP, September 2000, Radar
	Seagate Barracuda ATA ST320430A	CHIP, June 2000, Benchmark
	Seagate Barracuda ATA II ST310210A	CHIP, June 2000, Benchmark
Hard Disk Drives (SCSI)	**Seagate Cheetah 18XL ST318404LW**	CHIP, June 2000, Benchmark
	IBM Ultrastar 36LP (DPSS-336950)	CHIP, June 2000, Benchmark
	IBM Ultrastar 18LZX DMVS-18	CHIP, June 2000, Benchmark
CD-ROM Drives	**ASUS CD-S500**	CHIP, March 2000, Hardware Comparison
	Samsung 48x	CHIP, March 2000, Hardware Comparison
	Mercury KOB 52x	CHIP, March 2000, Hardware Comparison
CD-RW Drives	**Plextor PX W8432i**	CHIP, July 2000, Radar
	Kodak 4804	CHIP, March 2000, Hardware Comparison
	Compro CDRW 12432S	CHIP, September 2000, Radar
DVD Drives	**Pioneer DVD-104SZ**	CHIP, March 2000, Hardware Comparison
	ACER DVP1040A	CHIP, March 2000, Hardware Comparison
	ASUS DVD-E608	CHIP, March 2000, Hardware Comparison
Inkjet Printers	**Hewlett Packard Deskjet 930C**	CHIP, August 2000, Benchmark
	Hewlett Packard Deskjet 950C	CHIP, August 2000, Benchmark
	Epson Stylus Color 900	CHIP, August 2000, Benchmark
Laser Printers	**Samsung ML-5200A**	CHIP, August 2000, Benchmark
	Xerox Docuprint P8e	CHIP, August 2000, Benchmark
	Lexmark Optra, E310	CHIP, August 2000, Benchmark
Scanners	**Microtek ScanMaker 4**	CHIP, July 2000, Benchmark
	Umax Astra 2400S	CHIP, July 2000, Benchmark
	Epson Perfection 610U	CHIP, July 2000, Benchmark
Personal Computers	**The Best ASUS Coppermine 700E**	CHIP, October 2000, Benchmark
	OCKMAM Professional PC	CHIP, October 2000, Benchmark
	HCL Beanstalk Ultima	CHIP, October 2000, Benchmark

CATEGORY	PRODUCTS
Laptops	**ACER TravelMate 602TER**
	ACER TravelMate 341T
	ACER TravelMate 732TX
Handheld Computers	**HP Jornada 680E**
	HP Jornada 430
	Palm 2000
MP3 Speakers	**Creative NOMAD II**
	Creative NOMAD
	Rio PMP500
Digital Cameras	**ClickiT DCE 400**
	Logitech QuickCam Pro
	D-Link Webcam DUC 300
Pointing devices	**Microsoft Intellimouse Eye**
Keyboards*	**ACER Airkey**
	Microsoft Internet Keyboard
Gaming peripherals*	**Microsoft SideWinder Force Feedback**
	Logitech WingMan Force
	Logitech Wingman Extreme Digital 3D
SOFTWARE	
Operating systems (Linux)	**SuSE Linux**
	Mandrake 7.0
	Red Hat 6.2 Deluxe
Operating Systems (Windows)	**Windows 2000 Professional**
	Windows 2000 Server
	Windows Me
Office Suites*	**Microsoft Office 2000**
	Corel WordPerfect Suite
	Lotus SmartSuite Millennium
Firewalls	**Norton Personal Firewall 2000**
	ZoneAlarm 2.1
	McAfee Personal Firewall
Voice Recognition	**Dragon NaturallySpeaking**
	Philips Freespeech
	IBM Viavoice
Page Layout	**Corel Ventura 8**
	Adobe PageMaker 6.5
	Quark XPress 4.04
Web Authoring	**Macromedia Dreamweaver 3.0**
	Microsoft FrontPage 2000
	Adobe GoLive 4.0
Web Browsers*	**Internet Explorer 5.5**
	Netscape Communicator 4.7
	Opera
Anti-Virus	**Norton Antivirus 2001**
	Norton Antivirus 2000
	McAfee Virus Scan
PIMs*	**Microsoft Outlook 2000**
	Lotus Organizer
E-mail Clients*	**Microsoft Outlook Express**
	Eudora Pro
	Pegasus Mail

*Some of the products or some of the categories may not have been tested this because of lack of real competition in that category.