hardware

Test

HARDWARE CHIP TEST

This month, CHIP tests affordable, useful products for the home user segment

SnapScan 1212P
The award winner lives up to the impression

Winner of 18 International awards, the SnapScan 1212P bundles an external adapter and parallel interface cable. The software comprises Agfa FotoSnap (scanner driver software) and Agfa FotoLook (advanced version) on three CDs.

Other applications include Ulead iPhoto Express—the basic image editing software, Visioneer PaperPort—for storing scanned images into appropriate folders and a limited (25-trials) edition of Omni-Page 5.0, an OCR software. Drivers for Windows 95, NT, and 98 are also bundled.

A printer by-pass socket at the rear (for optional printer) and the facility to lock the movable assembly by sliding the switch at the bottom are the unique features of the SnapScan 1212P. The latter is particularly useful while transportation of the scanner. The documentation comprises an exhaustive section on troubleshooting and tips to improve your scans. A 'Getting started' booklet accompanies the manual and gives precise instructions about installing the scanner.

For the test, the scanner was connected to the lone parallel port on a 333 MHz Pentium processor-based machine with 64 MB RAM and made to scan a high-resolution A4-sized photograph with intricate details. The pre-assigned settings claim to scan at a maximum resolution of 2400 dpi, but during the test the scan aborted, allowing only a maximum permissible resolution of 1200 dpi.

To measure the colour differentiation the 'ID8' colour shade postcard was used and then checked under Adobe Photoshop. The monochrome region of the card was analysed with the histogram function. Progressive greyscale regions are analysed for differences in shades.

Similarly the four corners of the ID8 scan were checked for any difference in the standard deviation—whether or not the standard deviation between the adjoining colour squares was greater than 2.0. This exercise was repeated for individual red, green and blue components of each of the squares.

Another outstanding feature is that the Agfa PhotoSnap software runs a basic self-test upon launching any scanning application and prompts you of errors encountered, if any. This was found to be highly accurate most of the time.

ID8 colour shade card

VERDICT A+

⊞ Excellent resolution
⊟ Tedious software installation

```
Resolution:       600x1200
Resolution (interpolated): 9600 dpi
Colours:     36-bit
Interface:   Parallel port
Warranty:    One year
Price:       Rs 13,000
Contact:     Manoj Trading Corporation
Phone:       022-2083541 / 022-2057644
Fax:         022-2064458
E-mail:      benganis@bol.net.in
```

3Com 10/100 LAN+56K modem card

This high performance card-consisting of a v.90 56K standard modem and a 10/100 Mbps Lancard, is a good choice for globe-trotters. It comes with a modem cable connector to hook the modem to the phone jack or a LAN socket. The product also comes with WorldPort country selection software and Rapid-Comm Voice for Windows, which is a data/fax software. The card is auto detected and gets automatically configured. Features include compatibility with Novell NetWare, Windows 95, Windows NT, Banyan VINES, LANtastic and other operating systems. Installation is different for the different OSes so taking a thorough look at the well illustrated installation booklet 'Read Me First' is a must. Strangely, a manual has been provided with the 10/100 LAN CardBus but not with the 56K where it is really required.

```
Grade: A+
Price: Rs 16,250
Contact: Godrej Pacific Technology
Phone:022-5182431
Fax: 022-5170415
```

GVC keyboard

Though not very significantly different from others in design, this keyboard stands out in having extra-soft membrane-type of keys. The keyboard has the standard Windows 95 layout (104 keys). A small palm-rest has been incorporated into the body of the keyboard. The 50 inch-long cable is not spirally coiled.

On the flip side, the AT type connector of the keyboard is almost obsolete.

```
Grade: B+
Price: Rs 375
Contact: Priya International
Phone: 022-2663611 / 2663676
Fax: 022-2664154
E-mail: shriram@priyagroup.com
```

hardware

Test

Cyber PC
An Internet-ready, priceworthy PC

If you are on the lookout for a no-fuss computer that can get you online the instant you plug it to your telephone line, the new Cyber PC from Minicomp is the PC for you.

At a price that easily fits even the stringiest of budgets, the manufacturers have stretched the limitations of this Internet-enabled PC to give you the power of a P-II 333 MHz processor mounted on a Baby AT form factor A-Trend 440EX mainboard. However, the problem is that the

mainboard is already outdated and those wanting to upgrade the PC will have to change the mainboard itself. The 14-inch Proview monitor is multimedia-enabled and has an external microphone and speakers. A DEXXA three-button serial mouse is provided with the PC.

Apart from the internal 56K US Robotics fax-modem, Cyber PC bundles OEM versions of the 1.44-MB FDD, 32x CD-ROM (LITEON), and Windows 98, not to mention the free one-year Internet access with Satyam Infoway.

The manufacturers seem to be cutting costs by providing a Mini tower cabinet and AT power supply, even though ATX power supply is the de-facto standard at present.

Cyber PC was tested on the CHIPmark, a benchmarking tool developed by the International CHIP Test Center in Munich, which tests a computer in areas of processing power, graphics and entertainment. The overall score attained by the PC was an impressive 85.1, much of

which can be attributed to the exceptionally high score in the Entertainment section. Audio capabilities were tested with the Audio Winbench99, which displayed 100 percent accuracy for the horizontal and vertical DirectSound3D Helicopter circular motion test.

The test results indicate that the PC is not only perfect for the home user who is looking for instant access, it is also a wonderfully low-priced alternative for those who love playing games.

VERDICT Ⓐ

✛ Instant Internet access,
⊖ limited upgradability

CPU:	P-II (333 MHz)
RAM:	32 MB
Hard Disk:	4.3 GB IDE
Graphics Card:	S3 Trio (AGP)
Monitor:	14-inch Multimedia
Warranty:	One year
Price:	Rs 47,780
Contact:	Minicomp
Phone:	022-8367273
Fax:	022-8362424
E-mail:	info@minicomp-india.com

Yamaha CRW4416S
Gives outstanding performance

The Yamaha CRW4416S drive is based on a fast SCSI-2 interface, and supports a maximum write and re-write speed of 4x and a read speed of 16x. The writing modes supported are Disk at Once (DAO), Session at Once (SAO) and Track at Once (TAO).

The drive does not support vertical writing and has to be horizontally mounted. It also has an in-built cooling fan and bundles the Adaptec DirectCD 2.5a and EasyCD Creator 3.5a software.

Also bundled with the drive are a Yamaha CD-RW and a CD-R. The box

contains audio and SCSI cables and the necessary screws. Like most SCSI devices, the CRW4416S has a huge buffer of 2 MB.

A comprehensive manual details the installation procedure, with illustrations to explain the jumper settings for the Master and Slave adjustment. The stereo jack on the front panel allows you to connect the earphones and listen to audio CDs.

The drive has an analog volume control button and a single-button Play and Eject mechanism. This manual Eject mechanism helps if you have to forcibly remove a jammed CD. The READ/WRITE indicator flashes green when data is being read and amber when data is written on it.

The test bench consisted of a P-II 233 system with an Adaptec 2940 U/W SCSI adapter. The Yamaha CRW4416S can write on the Golden as well as Blue media. The drive was tested to write the entire disk and close all sessions and also for multiple session formats. The drive performed exceptionally well in the most

challenging test of writing VCDs (a 640-MB .DAT file) thanks to the 2-MB onboard RAM.

The CD drive is detected by the ADAPTEC 2940 SCSI card and unlike other CD-Writers, the CRW4416S does not require special drivers.

This drive is targetted at the heavy duty segment where there is a constant need for creation of CDs. Though the CD-Writer supports 4x Write speed, it is not a recognised standard by the CD-ROMs.

VERDICT Ⓐ

✛ 2 MB buffer RAM
⊖ Cannot be used in vertical position

Speed (Read/Write/Re-write):	16/4/4
Rewritable:	Yes
Vert. Operation:	No
Interface:	SCSI-2
Audio Function:	Yes
Warranty:	One year
Price:	Rs 25,900
Contact:	TechTeam
Phone:	022-6511517
Fax:	022-6514561
E-mail:	techteam@bom3.vsnl.net.in

ASUS AGP-V3000ZX
Lets you use your television as a monitor

This display-cum-TV-out allows you to replace your monitor with your television. The AGP-V3000ZX card is built around the RIVA 128ZX graphics engine and has an on-board 8-MB 128-bit SGRAM, and an in-built 250-MHz RAM-DAC for higher pixel rate. The five sockets (Composite video RCA-In/Out, S-Video In/Out and 15-pin VGA out) are well-spaced and you can connect all the five cables simultaneously. An RCA and S-Video cable are also part of the attractive package which houses the card.

This card has an AGP 2.x compatible bus interface. Along with the driver CD the full version of the game *Incoming* has been included to test the graphics capabilities of the card. The manual is well illustrated and some of the technical details are also written on the box.

The card is fairly simple to install—you will have to assign the INT/IRQ to PCI-VGA in the BIOS setup. Desktop Utilities provides some advanced settings for Direct3D. You have the option to allow cus-tomisation of texture buffer size, and to Enable/Disable each direct 3D component.

The test bench consisted of a Celeron 266 MHz on an Intel 440LX-chipset board with 64 MB RAM. The Windows 95 environment was set to a resolution of 800 x 600 in 16-bit colour. A total of seven games were used to test the performance of the graphics card: five under Windows and two under the DOS mode.

The speed of the card was measured in the FPS (frames per second) value that it produced for each of these games: Under Windows 95 the frame rates recorded were: *G-Police* (30.7); *Forsaken* (54.02); *Turok* (37.0); *Incoming* (24.65); *Quake 2* (22.7), *Quake for DOS* (21) and *Duke Nukem 3D* (51). These frame rates place the performance of the card in between that of the Riva TNT and the PerMedia2. Though the test results reveal that the card is suitable for a middle-level gamer, the card's ability to let you view the full-motion action game on television makes it an attractive option.

VERDICT A

- View full motion picture on TV
- High price

R A M (inst./max.):	8/8 MB
Refresh Rate:	200 Hz
Chipset:	RIVA128 ZX
MPEG:	Software
DVD settings:	Yes
W arranty:	One year
Price:	Rs 5,600
Contact:	Matrix
Phone:	022-3084511
Fax:	022-3011288
E-mail:	matrix@vsnl.com
W eb site:	w w w.asus.com

ASUS NLX Solution (IndiaPC)
The smallest of the lot

A perfect example of a compact desktop, this PC has a small footprint and an equally slim body, courtesy the NLX form factor from ASUS.

Though the cabinet is small, it does not compromise on features. The Intel 440LX chipset mainboard supports Pentium II 233- to 333-MHz CPUs. The ATI 3D RAGE PRO display card has 2 MB SGRAM and supports TV in and out. The PC supports a maximum of 256 MB of RAM. The motherboard has the ESS Maestro-2 3D PCI audio chipset and also supports health monitoring capabilities such as the processor temperature, CPU fan speed, and system voltage levels to ensure stable current to the critical components.

The PC also supports features such as the 'Auto fan off', which puts the fan in the sleep mode to reduce power consumption and noise, and has an anti-virus installed.

Keyboard Power Up can be toggled to allow the computer to be switched 'ON' by pressing any key. The PC comes with SB20 powered speakers and a Samsung PS/2 keyboard. Two PCI and a single ISA slot allow for further expansion. The USB ports are on the front panel and so is the IR port.

The IndiaPC received at the CHIP Test Centre consisted of Intel Celeron 333 processor, CPU L1 Cache (32 KB) and CPU L2 Cache (128 KB) and 64 MB system RAM. When put to the CHIPMark test, the PC scored a splendid 83.6 points.

It bagged 83.6 points in the Entertainment category. The package also contained the following free multimedia titles from Ziff Davis—*How your Body works*, *Your Personal Fitness Trainer*, *How Multimedia Computers Work* and *World Wide Web Encyclopedia*.
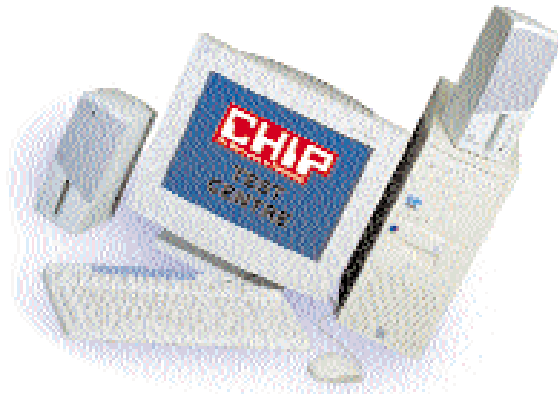
The PC is highly recommended for space-conscious buyers and those who do not foresee a great need for upgrading. It is ideal for offices, cybercafes and booking counters.

VERDICT A

- Compact size
- Limited upgradability

CPU:	Intel Celeron 333
R A M:	64 MB
Hard Disk:	4.3 GB
Graphics card:	ATI 3D Rage
W arranty:	One year
Price:	Rs 39,999
Contact:	M ATRIX
Phone:	022-3011288
Fax:	022-3011288
E-mail:	matrix@vsnl.com
W eb site:	w w w.asus.com

hardware

Test

Zenith i-PC
SCSI hard disk on an entry-level PC

Perhaps the fastest computer for the home user segment, the i-PC has a SCSi hard disk drive and two amazingly powerful speakers that are capable of delivering 200W maximum PMPO output. There is also an in-built amplifier in the system.

The magnetically shielded and low distortion speakers are 3-inch cone type and at first glance appear to be rather too big for a PC. Perhaps, they would be perfect for your 2-in-1 or a Walkman.

Programmable keys
The Keypower keyboard bundled with the PC has some enhancements that make it more suited to the Internet— there are a number of pre-defined short-cut keys, an in-built microphone and a pop-up calculator. The keyboard also has 18 programmable keys using which one can customise shortcuts for many programs.

Using these, you can switch between multiple applications. Though drivers are not necessary for all applications, those required for some multimedia functions are bundled on a CD-ROM which also contains a multimedia tutorial.

A 32x CD-ROM drive from Samsung comes pre-installed on the system, along with Windows 98 and pre-loaded peripheral-drivers. In addition to this, the company has taken pains to provide the original manuals and drivers on removable media wherever applicable.

The users manual is difficult to read, as the font size is very small. The diagrams are also elementary. The warranty card was just a single piece of paper with "Warranty against manufacturing defects" written on it and nothing more.

The Pentium-II 350 is the newer version of the chip with 32 KB L1 cache and 512 KB L2 cache. The 4.3 GB (ST34520W) Wide HDD from Seagate has an rpm of 7,200 and a maximum data transfer rate of 40Mbps.

The SCSI card is from Symbios Logic (875xSID). Wide (W) and the Ultra Wide (UW) SCSI cables have been provided. The RAM is the 10ns SD type from Hyundai and there are a total of four banks on the mainboard.

Unlike machines from the grey market where the signature and the date is scribbled at random, the components of this PC have neat identification labels.

When we ran the CHIPmark test, the PC scored 83.9 points. It excelled in power processing test with 146.6 points. The PC scored 83.9 points in the Entertainment section and in the graphics capability test, it scored 48.0.

A 17-inch Proview monitor has user friendly controls, even thoug they are not digital in nature. The screen also lacks an anti-glare coating. The mouse bundled with the system is the OEM version from Logitech.

For Internet connectivity the PC features the internal 56K PCI modem from US Robotics.

VERDICT **A**

➕ Extensive features
➖ Poor monitor

```
CPU:          Intel Pentium II 350 MHz
RAM:          64 MB
Hard Disk:    4.3 GB Ultra Wide SCSI
Graphics card: SiS 6326 AGP
Warranty:     One year
Price:        Rs 57,760
Contact:      Zenith Computers
Phone:        022-8377300 / 022-8366030
Fax:          022-8364859 / 022-8377297
Web site:     www.zenith-india.com
```

GVC MD-311
Price: Rs. 155

This 'micro switch' three-button mouse is based on the Opto-mechanical technology and offers a 420-dpi resolution. The mouse is easy to install and operate, and fits snugly into the palm. The left button of the mouse has a matt finish which ensures that your finger does not slip while using it.
Grade: B+
Contact: Priya International
Phone: 022-2663611 / 2663676
Fax: 022-2664154
E-mail: shriram@priyagroup.com

GVC Fast Ethernet
Price: Rs 1,200

This 10/100 Mbps fast Ethernet card complies to the PCI local bus specifications 2.0/2.1. The plug-and-play adapter is easy to configure. The card supports bus mastering and full/half duplex support for increase in the network bandwidth. The card can auto detect between 10- and 100-Mbps operations and four LEDs display the status of the network.
Grade: A
Contact: Priya International
Phone: 022-2663611/2663676
Fax: 022-2664154
E-mail: shriram@priyagroup.com

3Com 10/100 LAN
Price: Rs 8,025(+ Taxes)

This 32-bit 10/100 LAN Card BUS comes with XJACK connector and configures your PC to optimise to 10/100 Mbps connection. The card has the lowest power consumption of 3.3 volts, generates less heat and promotes a longer battery life. This card features Parallel-tasking technology which optimises system performance by allowing the bus master interface to stream data. The card comes with a six-feet network cable and a LAN installation disk.
Grade: A
Contact: Godrej Pacific Technology
Phone: 022-5182431
Fax: 022-5170415

hardware   Test

BEST V.90/56K Voice/Fax/Data
Phone or fax, this modem is the best

This new modem has the ability to send/receive faxes; an answering machine and a full-duplex speakerphone, which allows the user to speak (handfree) over the phone line via the attached microphone and speaker.

The modem has eight indicator lights and for connecting to the computer, a DB9 serial connector has been provided. The line port connects the modular phone cable to the modem and an 'MIC' connector is used as an input port for an external microphone.

The modem has a plug-and-play functionality. Do not install the default modem drivers; instead pick up the drivers from the ComputerAssociates CD-ROM that is bundled with the package. The manual gives the installation instructions and the Basic Data Mode AT Commands.

BEST is based on the Cirrus Logic controller chipset and the BIOS is upgradable. Also noteworthy is the 1.6 Ampere fuse, which prevents the intricate modem circuitry from being burnt out by power surges.

The circuit board is well organised and some of the parts can be replaced during minor repair works. The sleek design of the modem complements its fine working.

```
V.90/56K Voice/Fax/Data
Price:        Rs 4,000
Contact:      S K Overseas
Phone:        022-2014949
Fax:          022-2064687
E-mail:       paresh@skgroup.com
```

Aztech 56K PCI
The internal modem which doubles up as a call-identifier

This plug-and-play internal modem has a speakerphone with data/fax and voice. Based on the PCI bus interface rather than the almost obsolete ISA,

Aztech's 56K PCI modem comes with a suite of communication software. Telephony features include Auto dialling and auto answering, line quality is monitored and retained without need for extra settings, while the voice is monitored using the automatic fax/voice switch. Other highlights include an answering machine, enhanced voice AT-command set, full duplex speakerphone, wake up on ring and an amplified onboard buzzer.

The software supports the Caller ID recognition facility available in the metros. The card also supports Rockwell's flex, VRPI and ITU's V.80 technologies.

The data compression is at V.24 bis, MNP 5, and error correction at V.42 LAPM, MNP 2-4. The external connectors are the 3.5-mm jack for mono mic input and another one for the mono line-out. The card is well designed and a looping cable (to connect to the soundcard) is also provided along with it.

```
Aztech 56K PCI Modem
Price:        Rs 3,500
Contact:      Integra Micro Systems
Phone:        022-8215179
Fax:          022-8231461
E-mail:       integra@bom3.vsnl.net.in
W eb site:    w w w.aztech.com
```

JTS Champion
An impressive performance by the dark horse

The JTS Champion is probably the only hard disk drive, which comes in an individual protective foam cover housed in a cardboard casing that lists details like the serial number, capacity, manufactur-

ing information and a proud 'ISO 9002' registration logo. The physical drive is completely sealed in a black metallic casing. The controller chip on the drive is from Adaptec. We tested the drive on a newly installed Windows 98 (on the entire single partition) system and were pleasantly surprised to find the hard disk drive performed in stark contrast to its bad reputation. It did not have a 'high failure rate' and performed exceptionally well. The test system consisted of a Celeron 333 with 64 MB SDRAM on a 440 BX Transcend mainboard. WinBench 99/ Business Disk WinMark 99 gave a speed of 1820

thousand bytes per second. The average Disk access time was 19.2 milliseconds, which is higher than others in the same category. The Disk CPU utilisation was 4.82 percent, and the data transfer rate averaged to 4K thousand bytes per second, while the average Disk playback/HE rate was 4.93K thousand bytes per second.

```
JTS Champion
Price:        Rs 6,544
Contact:      Priya International
Phone:        022-2663611
Fax:          022-2664154
E-mail:       shriram@priyagroup.com
W eb site:    w w w.jtscorp.com
```