

CHIP

www(chip-india.com)

at the heart of technology



Fortunetellers

Your world of technology is about to change. Here is what these visionaries predict about the future of hardware, software and the Internet ■ 34



Best Products Annual

36 great gadgets, certified by our Test Center ■ 68

Graphics Meltdown!

Nvidia G80 vs ATI 1950 XTX CrossFire. Any bets? ■ 66

Quad Scorcher

Exclusive! Intel's newest desktop processor ■ 94

Spyware be Gone

8 definitive tools to safeguard your computer ■ 120

Magic with your Digicam

Get up to 48 megapixels from your own camera! ■ 156



Lenovo ThinkPad X60

Ultra-portable goodness ■ 43

LG Recommends Microsoft® Windows® XP Professional



CORINNE WEE / TORONTO STAR



WHAT'S
ON YOUR
LAP?

Unbelievably rich cinematic quality sound. Only with the LG XNote Entertainer's 5.1 Channel Dolby Digital System.

Powered by the Intel® Centrino® Duo Technology, LG XNote is a range of new-age multimedia laptops that come loaded with the most advanced entertainment features ever. The 5.1 Channel Dolby Digital Sound System, the exclusive LG XTS Pro Sound Technology and SRS Tru Surround XT give the LG XNote the ultimate edge in sound quality. The Next-Gen Multimedia features such as theatre-like Wide Screen and Cinematic Quality Graphics make the LG XNote the best in picture quality. All because, we believe that laps are for fun! For more details, visit us at www.lgindia.com or mail at PrashantSingh@lgindia.com

5.1 Ch Dolby
Digital System

Battery Miser
Technology

Wide Screen with Cinematic
Quality Graphics and Hyper Memory

Dual Hexa Band
Antennae

Fingerprint
Security

Sleek and
Light Design



LG | X NOTE
MOBILE ENTERTAINER



reddot design award
winner 2006

The exciting range of Mobile Entertainers powered by Intel® Centrino® Processor starts at Rs. 39,990/- *
Also check for LG XNote powered by Intel® Celeron® processor @ 29,990/- *

*Feature may vary from model to model & may change without prior notice. Prices indicated above are exclusive of Sales tax/VAT, Octroi & local levies & will be charged extra as applicable.
Rs. 1,970/- extra towards the cost of freight, handling & carry case.



LG Electronics India Pvt. Ltd. Regd. Office Plot No.51, Udyog Vihar, Surajpur-Kasna Road, Greater Noida-201 306; Tel:0120-2560900; **Agra:** 9811354607; **Amritsar:** 9988077714; **Chandigarh:** 9988077783; **Dehradun:** 9719004898; **Delhi:** 9873002307, 9873378639; **Ghaziabad:** 9811354607; **Gurgaon:** 9811006594, 9899302343; **Jaipur:** 9828503010; **Jalandhar:** 9988077714; **Jammu:** 9419135807; **Jodhpur:** 9828503104; **Kundli:** 9811006594; **Lucknow:** 9838203398, 9838203396; **Ludhiana:** 9988077714; **Udaipur:** 9828503104; **Varanasi:** 9839800136; **Bangalore:** 9886507623; **Cochin:** 9846299704; **Hubli:** 9986507707; **Kozhikode:** 9846299704; **Chennai:** 9884718513, 9884718527; **Coimbatore:** 9843544125; **Hyderabad:** 9985487414, 9985487415; **Vijayawada:** 9985487515; **Mumbai:** 9820410608, 9833282714; **Nagpur:** 9823317004; **Pune:** 9823317004; **Thane:** 9820707617; **Goa:** 9820019722; **Aurangabad:** 9823317004; **Bhopal:** 9826722775; **Indore:** 9826722775; **Raipur:** 9826030371; **Ahmedabad:** 9879106728, 9825503857; **Surat:** 9879106728; **Bhuwaneshwar:** 9937099010; **Kolkata:** 9830335705, 9830898976; **Guwahati:** 9435103920; **Patna:** 9934011156; **Ranchi:** 9835371739

BUFFALO

JAPAN

NFINITI

Buffalo's AirStation Nfiniti™ wireless solutions deliver ultimate connectivity across your wireless world for the broadest coverage at blazing fast speeds. Designed to stream high-definition (HD) video, music, media and gaming, Nfiniti gives you infinite possibilities to test the limits of your wireless network. Combine 2-in-1 Nfiniti Wireless Router & Access Point WZR-G300N with Nfiniti Wireless Notebook Adapter WLI-CB-G300N or Nfiniti Wireless Desktop PCI Adapter WLI-PCI-G300N and get the ultimate bandwidth, range and reliability for your wireless world!

DRAFT-N

- Great for High-Speed Multimedia Streaming or Online Gaming
- Easy Setup with AirStation One-Touch Secure System™ (AOSS™)
- Smart Router automatically detects and sets up your cable or DSL internet connection
- Supports WPA-PSK (AES) and 128/64-bit WEP Security
- Includes NAT/SPI Firewall and Intrusion Detector
- Built-in DHCP Server and 4-port 10/100 Auto-Sensing Switch
- Works Seamlessly with Nintendo Ds™ Wi-Fi Connection



WZR-G300N

To learn more about Buffalo Nfiniti™ products,
go to www.buffalo-asia.com

Mind. Adv

WHAT DO YOU SEE?



SUCCESS REQUIRES IMAGINATION ...
... AND THE RIGHT BUSINESS PLATFORM!

- Extensive market overview
- Multiple product innovations
- Profitable contacts
- Highly respected speakers

CeBIT
Join the vision

The leading business event for the digital world



Deutsche Messe
Hannover · Germany

For further information: Representative of Deutsche Messe AG in India
C/o Indo German Chamber of Commerce
304 Shah Sultan, Cunningham Road, Bangalore 560052.
Phone : +9980563309 · Fax: 080-22203797 · Email: sudhir.patil22@gmail.com
Travel and accomodation: Travel2Fairs GmbH, Hannover, Germany,
Phone +49-511/33 64 45 10 · info@travel2fairs.com · www.travel2fairs.com

**HANNOVER
GERMANY**
15–21 MARCH 2007

cebit.com



India's No.1 UPS Manufacturer

Give the No.1 protection to your PC



NUMERIC Digital 600 Plus

FEATURES • Micro Processor Based Design • Enhanced Automatic Voltage Regulator - (AVR) - 140 to 300V • Full time EMI / RFI Suppression • Telephone / Modem line surge protection • Cold Start Capability • Overload / Short Circuit Protection • Advanced Power Monitoring Software • No-load Shutdown

India's No.1 UPS manufacturer brings you top of the line protection for your home PC the Numeric Digital 600 Plus. The futuristic Numeric Digital 600 Plus is manufactured by Numeric Power Systems Ltd, an ISO 9001-2000 company, having 7 state-of-the-art manufacturing plants, and backed by a vast service network of over 165 Numeric owned branches and 1500 trained, dedicated professionals across the country.

Numeric is a fore runner in the UPS industry, and a true Indian MNC, with a growing presence across the globe, providing end-to-end power solutions and catering to all segments with a wide range of UPS systems. So much so, that Numeric has been proclaimed the "Indian Market Leader" of the UPS Industry*.

So when you choose Numeric, you can be sure that you have chosen the finest protection and a longer life span for your PC. And guaranteed peace of mind for yourself.

* Source Frost and Sullivan "Indian UPS Industry Award 2005"



Family Utility DVD

4.7 GB of terrific content for everyone in the family

Games, Utilities, Spyware & Tons of goodies...

FREE

NUMERIC

End to end power protection solutions.

Digital LI Series
600 VA - 2 KVA



Digital SW Series
1 KVA - 3 KVA



Digital Home Power
500 VA & 1 KVA



Digital HP Series
500 VA - 3 KVA



Digital HDI Series
1 KVA - 120 KVA



Iso Safe Series
Isolation Transformer
1 KVA - 400 KVA



WIN



First 50 correct entries
NUMERIC Haversack bag



Second 50 correct entries
NUMERIC T-Shirt

Answer simple questions given below:-

1. NUMERIC Digital 600 Plus UPS has an input window of
140V-300V □ 160V-280V □ 145V-295V □
2. How many manufacturing plants does NUMERIC have?
4 □ 5 □ 6 □ 7 □
3. How large is NUMERIC service Network across India?
145 □ 155 □ 160 □ 165 □
4. NUMERIC Digital 600 Plus UPS guarantees you complete peace of mind because:-
(write within 10 words)

Name:

Address:

City:

Phone:

Email:

Tear the coupon and post it to:

Koushik, Numeric Power System Limited, No.5, P.S. Sivasamy Salai, Mylapore, Chennai-600 004.

my movies. my mixes. my candids.
my can't-live-withouts. all on one rugged device.

Go small. Go tough. Introducing SanDisk Cruzer® Micro and the Cruzer Titanium. Both hold your music, your pictures, your work and your play: the Cruzer Micro in a small and compact package and the Cruzer Titanium in a tough Liquidmetal® casing, protecting your stuff from the world at large. And with U3 smart technology in both Cruzers, you can take your portable applications with you.

So hit the road, these drives are ready to go, wherever you go.

WWW.SANDISK.COM



Cruzer® Titanium Cruzer® Micro



SanDisk 
STORE YOUR WORLD IN OURS®

SanDisk, the SanDisk logo and Cruzer are trademarks of SanDisk Corporation, registered in the US and other countries. Store Your World in Ours is a trademark of SanDisk Corporation. Liquid Metal is a registered trademark of Liquid Metal Technologies, Inc. Other brand names mentioned herein are for identification purposes only and may be trademarks of their respective holder/s. © 2006 SanDisk Corporation. All rights reserved. 1 megabyte (MB) = 1 million bytes; 1 gigabyte (GB) = 1 billion bytes. Some of the listed capacity is used for formatting and other functions, and thus is not available for data storage.

Distributed in India by



RASHI PERIPHERALS PVT. LTD.

For more information call us today on any of the following numbers:

- **EAST** :- Bhubaneswar - 2544546, Bilaspur-9329120502, Gangtok-9932232221, Guwahati-2607114, Kolkata - 22153364, Patna - 3955740, Raipur - 4033241, Ranchi-2330276, Siliguri- 2525646 • **WEST** :- Ahmedabad- 27430080, Aurangabad - 9372007654, Baroda - 9824499746, Goa - 2420312, Indore-2528056, Kolhapur- 9850977588, Mumbai - 28783570, Nagpur - 6617998, Nashik - 9822577344, Pune - 26136332, Rajkot - 9824499773, Sangli-9850354822, Surat - 9824499772, Vashi-9322199688, Junagadh- 362001 / 9824042673 • **NORTH** :- Chandigarh - 3048351, Dehradun-9319702147, Ghaziabad-9311117299, Gurgaon-4084860, Jaipur-2370949, Jammu-09906082351, Lucknow-2231795, Ludhiana - 5015686, New Delhi-26448428, Panwanoo- 234303 • **SOUTH** :- Bangalore- 41120202, Calicut - 2366250, Chennai- 28586773, Cochin- 2318611, Coimbatore - 2479576, Hubli - 2213777, Madurai- 9842344633, Mangalore - 9845420204, Pondicherry- 9842310080, Secundrabad - 27721296, Trivendram - 2339945, Vijayawada- 5562166, Vizag- 9848579975, Rajahmundry- 9848494781

All Systems Go



Dear readers,

As we were putting together our anniversary issue, I couldn't help but reminisce on the year that was and more importantly, on the one that lies ahead of us. Firstly, there is no thank you big enough to express our appreciation for the tons of feedback we've received from all of you. If we have consistently brought you the freshest of product reviews, exclusive peeks into pre-release technologies or the most comprehensive and utilitarian of reviews, we owe it all to your continuous stream of viewpoints.

For this, our anniversary issue, we decided to effect a change through several parts of our magazine and embarked on a fairly arduous journey a couple of months ago. But it was definitely worth it—besides the magazine, we made several strategic decisions that resulted in a newer look and plenty of hot new features on our website and our Dual Layer cover DVD as well. In the magazine, you will notice significant as well as subtle changes in the way we have portrayed our textual and visual information in the articles. We re-looked at areas that were most critical to our readers and bred ideas that we believe will take the experience of reading our magazine to a more enjoyable level. From our cover to the pages of our various features and test sections, you will notice a breezier layout, added emphasis on the visual stories and better navigation through the magazine. Be it test results, technology insights, graphs or tables, you will find a new design methodology that is aimed at making all of this easier to imbibe and absorb.

You will also notice our transition to the dual layer DVD format—with over 8 gigabytes of the most exciting software across categories like gaming, movies, system and Internet tools, (some of which is exclusive, by the way!), there are plenty of goodies to discover here. And yes, you will find our past issues since December 2005, all archived in handy PDF files that are optimized for view on your laptop, desktop or even a cell phone—do enjoy! And this is just the start of where we plan to take our DVD to.

Which brings me to our website; welcome to your new destination for the most happening information on technology in India! For the 28,000+ registered users on our site, we reaffirm our pledge to bring you the best in web-based technology features—be it product reviews, lucid and practical buying guides, back issues of our magazine and of course discussion forums, find them all here on the new and improved chip-india.com. Step over and take a look around—you're bound to encounter a few surprises and loads of information on your favorite technology topics. Be sure to let us know what you think of it via the several avenues of feedback across its sections. And yes, this website is a continually evolving beast. We want you to be part of the change process, so keep the feedback coming in.

As this year draws to a close and we stand in the threshold of a new one, I believe the industry is poised toward an extreme growth phase. Across the board, you will find enhanced technologies making their way into your lives, and policies will facilitate sweeping changes across cellular telephony, broadband adoption and hardware evolution. In a departure from our other cover stories, this time we decided to share with you what some of the movers and shakers of the IT sector in India have to say about their technology verticals. Through their eyes, it is indeed interesting to get a glimpse into the road ahead.

Across the various media, I wish you a satisfying experience as you dig into our anniversary issue, the new DVD and our re-launched site.

| Marco Angelo D'Souza

marco.dsouza@chip-india.com

Power Play. At Just Under 2kgs.⁸

Dell™ XPS™ M1210 Notebook

INTEL® CENTRINO® DUO MOBILE TECHNOLOGY

GENUINE WINDOWS® XP HOME EDITION

1GB MEMORY

120GB¹ HARD DISK DRIVE

DVD BURNER⁶

+

INTEGRATED WEBCAM

From:

Rs. 62,900**

E-value code: N541208



Dell™ Inspiron™ Notebooks featured here are powered by Intel® Centrino® Duo Mobile Technology for rapid multitasking.

Dell™ Inspiron™ 640m Notebook

- Intel® Centrino® Duo Mobile Technology featuring Intel® Core™ Duo Processor T2050
- Genuine Windows® XP Home Edition
- 512MB DDR2 SDRAM at 533MHz
- 60GB¹ SATA Hard Disk Drive 5400 rpm
- Integrated Intel® Graphics Media Accelerator 950 up to 224MB Shared⁴ Memory
- 24X CDRW/DVD³ Combo Drive (Free Upgrade to DVD Burner⁶)
- 14.1" (35.8 cms) Wide Screen XGA TFT Display (1280 x 800 res)

From:
Rs. 43,400** Offer Price
E-value code: N541204

RECOMMENDED UPGRADE

- Upgrade to 1024MB DDR2 SDRAM at 533MHz

Dell™ Inspiron™ 6400 Notebook

- Intel® Centrino® Duo Mobile Technology featuring Intel® Core™ Duo Processor T2050
- Genuine Windows® XP Home Edition
- 512MB DDR2 SDRAM at 533MHz
- 80GB¹ SATA Hard Disk Drive 5400 rpm
- Integrated Intel® Graphics Media Accelerator 950 up to 224MB Shared⁴ Memory
- 24X CDRW/DVD³ Combo Drive (Free Upgrade to DVD Burner⁶)
- 15.4" (39.2 cms) Wide Screen XGA TFT Display (1280 x 800 res)

Free upgrade to DVD Burner⁶

From:
Rs. 49,900** Offer Price
E-value code: N541206

RECOMMENDED UPGRADE

- Upgrade to 1024MB DDR2 SDRAM at 533MHz

Dell™ XPS™ M1210 Notebook

- Intel® Centrino® Duo Mobile Technology featuring Intel® Core™2 Duo Processor T5500
- Genuine Windows® XP Home Edition
- 512MB DDR2 SDRAM at 533MHz (Free Upgrade to 1024MB DDR2 SDRAM at 533MHz)
- 80GB¹ SATA Hard Drive 5400 rpm (Free Upgrade to 120GB¹ SATA Hard Drive 5400 rpm)
- 12.1" (30.7 cms) Wide Screen XGA Display with TrueLife™ (1280 X 800 res)
- UltraSharp™ Truelife™ display with an ambient light sensor
- 8X DVD+/-RW³ Combo Drive with dual layer write capabilities
- Wi-Fi catcher
- Graphics card (Optional)
- RoadReady™
- Windows® Vista Capable
- Built-in 1.3 mega pixels rotating Web Cam

Free upgrade to 1024MB DDR2 SDRAM at 533MHz and 120GB¹ SATA Hard Drive 5400 rpm

From:
Rs. 62,900** Offer Price
E-value code: N541208

RECOMMENDED UPGRADE

- Upgrade to 2048MB DDR2 SDRAM at 533MHz

The Dell™ Inspiron™ 6400 has been rated Best Buy by PC World and Digit.

PC WORLD Best BUY
August 2006



CompleteCover™ absolutely free.

Along with select Dell™ Inspiron Notebooks you get Dell's CompleteCover™ service absolutely free for 1 whole year. This provides you with repair or replacement of your Inspiron™ Notebook in case of any damage caused by accidents. Your notebook stays covered against the rough and tumble world of mobile computing at all times.

To get more information on CompleteCover™, email: dell_enquiries@dell.com

Dell™ Inspiron™ 640m, 6400 and XPS™ 1210 Notebooks featured here come with FREE 1-Year CompleteCover™ Support.

**Sales taxes or value added taxes, local taxes and any other applicable levies are additional. Delivery charges of Rs. 2,000 per unit are payable on Dimension™, Rs. 999 on Inspiron™ and Rs. 2,590 on PowerEdge™ products purchased.

1 For hard drives, GB means one billion bytes, actual capacity varies with preloaded material and operating environment and will be less. 2 Technician replacement part or unit (depending on service contract) will be dispatched if necessary following phone-based troubleshooting. Subject to parts availability, geographical restrictions (on site and/or next business day service not available in some locations) and terms of service contract. Service timing dependent upon time of day call placed to Dell. Defective unit must be returned or paid for. Replacements may be refurbished. 3 The DVD region code can be changed up to 5 times and will then be locked so that it plays only D9 movies from the final region code selected. 4 Between 32MB & 224MB of system memory will be allocated to support graphics, depending on the system memory size and other factors. 5 CompleteCover service is available for personal computers. It excludes theft, loss, and damage due to fire or intentional damage. Customer may be required to return unit to Dell. For complete details, refer to CompleteCover service agreement found at www.dell.com/ap/services. This service is only available in selected countries. 6 Discs burned with this drive may not be compatible with some existing drives and players, using DVD+R media with +RW/+R drive provides maximum compatibility; R = capability to burn disc once; RW = capability to burn disc multiple times. Special media/disk required, and third party software may

also be required for certain applications. 7 Dell Inspiron, XPS Latitude and Dell Precision are designed RoadReady to deliver uncompromising performance under the most extreme conditions. To learn more, visit www.dell.com/roadready. 8 Weight shown is with a DVD/CD-RW Combo Drive and 6-cell Li-Ion battery. Weights vary depending on configurations and manufacturing variability.

System performance measured by MobileMark™ 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations.

DELL'S NORMAL TERMS AND CONDITIONS APPLY AND ARE AVAILABLE ONLINE OR UPON REQUEST.

Pricing, specifications and availability subject to change without notice. All efforts will be made to check for errors in typography and photography; however inadvertent errors may occur for which Dell may not be responsible. Dell, the Dell logo, E-Value, CompleteCover, UltraSharp, Dimension, XPS, Inspiron and PowerEdge are registered trademarks or trademarks of Dell Inc. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in/or United States and/or other countries. Celeron, Celeron Inside, Centrino, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo, Intel Viiv, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Dell disclaims proprietary interest in the marks and names of others. Copyright 2006 Dell Inc. All rights reserved.

Dell™ recommends Windows® XP Professional.

Dimension™ E520 Desktop

- Intel® Pentium® 4 Processor 524 with HT Technology
 - Genuine Windows® XP Home Edition
 - 512MB DDR2 SDRAM at 533MHz
 - 160GB¹SATA 3.0Gb/s with Native Command Queuing
 - 15" (38.1cms) Flat Panel Monitor (15.0" v.i.s.) included
 - Integrated Intel® Graphics Media Accelerator X3000
 - 48X DVD+/-RW² Combo Drive
- 15" (38.1cms) Flat Panel Monitor Included!**
- Cash Off Rs. 2,500/-**

Rs. 31,400** Price after savings

E-value code: N221203

RECOMMENDED UPGRADE

- Upgrade to 17" (43.1cms) Flat Panel Monitor (17.0" v.i.s.) for Rs. 2,968/-

Dimension™ E520 Desktop

- Intel® Pentium® D Processor 820 with Dual Core Processing
 - Genuine Windows® XP Home Edition
 - 512MB DDR2 SDRAM at 533MHz
 - 160GB¹SATA 3.0Gb/s with Native Command Queuing
 - 17" (43.1cms) Flat Panel Monitor (17.0" v.i.s.) included
 - Integrated Intel® Graphics Media Accelerator X3000
 - 16X DVD+/-RW² Combination Drive with Double Layer Write capability
- 17" (43.1cms) Flat Panel Monitor + DVD Burner⁴ Included!**
- Cash Off Rs. 3,000/-**

Rs. 35,900** Price after savings

E-value code: N221205

RECOMMENDED UPGRADE

- Upgrade to 1GB DDR2 SDRAM at 533 MHz for Rs. 3,400/-

Dimension™ E520 Desktop

- Intel® Core™2 Duo Processor E6300
 - Genuine Windows® XP Home Edition
 - 512MB DDR2 SDRAM at 533MHz (Free Upgrade to 1GB DDR2 SDRAM at 533MHz)
 - 160GB¹SATA 3.0Gb/s with Native Command Queuing
 - 17" (43.1cms) Flat Panel Monitor (17.0" v.i.s.) included
 - Integrated Intel® Graphics Media Accelerator X3000
 - 16X DVD+/-RW² Combination Drive with Double Layer Write capability
- Free upgrade to 1GB DDR2 SDRAM at 533MHz**
- Cash Off Rs. 4,000/-**

Rs. 44,900** Price after savings

E-value code: N221207

RECOMMENDED UPGRADE

- Upgrade to 256MB NVIDIA® GeForce® 7300LE TurboCache™ for Rs. 5,342/-



Dell™ Dimension™ Desktops featured here come with FREE 1-Year Limited Warranty (Next Business Day On-Site Service²).

Dell™ PowerEdge™ 840 Server

Entry Level Workgroup Server

- Intel® Pentium® D Processor 915 with Dual Core Processing
- 2 x 2MB Internal L2 Cache/800MHz
- 512MB DDR-2 ECC SDRAM 533MHz (Upgradeable to 8GB)
- 80GB¹ SATA II Hard Drive 7200rpm
- 48X Speed CD-ROM Drive
- 3-Year Limited Warranty (Next Business Day On-Site Service³)
- Free Lifetime Telephone Technical Support

Cash Off Rs. 3,000/-

Rs. 41,900** Price after savings

E-value code: N421271

RECOMMENDED UPGRADE

- Upgrade to 1GB DDR-2 ECC SDRAM 533MHz for Rs. 4,047/-

Dell™ PowerEdge™ 1950 Server

1U Rack Dense Server

- Dual Core Intel® Xeon® Processor 5140
- 4MB Internal L2 Cache/1333MHz
- 512MB DDR-2 ECC 1R Fully-Buffered 533MHz Memory (Upgradeable to 32GB)
- 80GB¹ SATA II Hard Drive 7200rpm
- 24X IDE Slim CD-ROM Drive
- Bezel for PE1950
- 3-Year Limited Warranty (Next Business Day On-Site Service³)
- Free Lifetime Telephone Technical Support

Rs. 1,12,900** Price after savings

E-value code: N421252

RECOMMENDED UPGRADE

- Upgrade to 1GB DDR-2 ECC 1R Fully-Buffered 533MHz Memory for Rs. 7,824/-

Dell™ PowerEdge™ 2950 Server

2U Rack Dense Server

- Dual Core Intel® Xeon® Processor 5140
- 4MB Internal L2 Cache/1333MHz
- 512MB DDR-2 ECC 1R Fully-Buffered Memory 533MHz (Upgradeable to 32GB)
- 80GB¹ SATA II Hard Drive 7200rpm
- 24X IDE Slim CD-ROM Drive
- 3-Year Limited Warranty (Same Day 4 Hour On-Site Service²)
- Free Lifetime Telephone Technical Support

From:
Rs. 1,23,900**

E-value code: N421253

RECOMMENDED UPGRADE

- Upgrade to 1GB DDR-2 ECC 1R Fully-Buffered Memory 533MHz for Rs. 7,824/-

DEAL DIRECT WITH DELL™

Direct Relationship - No middleman
Fresh Technology - From factory to you

CUSTOMIZE YOUR DELL™

Pay for exactly what you need
and nothing you don't.

DEPEND ON DELL™

DellConnect™ – Remote troubleshooting
On-Site¹ – Timely technical assistance

Call Dell™ Toll-Free
Mon-Sun: 9am - 6pm **1800 425 4029**

Or Call **080-2506 8029** (Standard charges apply)

Visit us at www.dell.co.in

Hurry! All offers valid till 27th December, 2006 only.

PURELY FOR YOU.



The Highly R

VOLUME I – ISSUE 1



Windows Server 2003

For all stories go to

LONDON STOCK EXCHANGE CHOOSES WINDOWS OVER LINUX FOR RELIABILITY



Tom Nagy for The Highly Reliable Times

THE HEADQUARTERS BUILDING of the London Stock Exchange, located in London's Paternoster Square.

Reliable Times

www.microsoft.com/india/getthefacts

special edition

Reliability Is Key in the “World’s Capital Market”

By MICHAEL BETTENDORF

LONDON, Oct. 2006 — When an IT system must process 15 million real-time messages per day, with peaks at 2,000 messages per second, even one second of downtime counts. That's the pressure the London Stock Exchange faced when building Infolect, the Exchange's real-time stock-ticker information delivery system.

The solution had to have rock-solid reliability, nothing less. "Reliability is one of the key attributes of the Exchange in its technology systems. These systems have to work every day, 24/7, to make sure the markets are there," said CIO David Lester, who evaluated both Linux and Microsoft® Windows Server® 2003 for the Exchange's core technology systems. "We looked at a number of different platforms for our Technology Roadmap and we lined up our business requirements with the capabilities of those platforms and Windows Server was the clear choice."

In Lester's view, long-term reliability is a function of a solid relationship: "We wanted a deep partnership with an organisation that could deliver the kind of mission-critical technology that we needed and we felt Microsoft delivered just that."

For the full London Stock Exchange case study, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit microsoft.com/india/getthefacts

RELIABILITY NEWS & NOTES: A study released yesterday found that Windows Server was



BREAKING NEWS: London Stock Exchange Achieves Record Reliability

London Stock Exchange CIO David Lester (above) cites Windows Server as key to maintaining system reliability and performance.

LESTER SPEAKS OUT:

"We looked at a number of different platforms for our Technology Roadmap and we lined up our business requirements with the capabilities of those platforms and Windows Server was the clear choice." —David Lester, CIO, London Stock Exchange

JOURNALISM BEAT: Continued growth for reliability-focussed newspapers A worldwide survey tracking trends in newspaper use has found some shocking results that were not

Contents



30

Finally, more Space!

NEWSWIRE

22 New-Age Newspapers

More and more newspapers are coming out with their digital equivalents. Find out about the technology driving this.

30 Finally, More Space!

Hard disks will have storage space of a terabyte and more. In fact, in future, the capacities of hard disks is likely to double every two years.

COVER STORY

34 The Fortunetellers

Looking forward, what trends will rule your lifestyle? Industry experts comment...

HARDWARE

42 Top Gear

This, being the anniversary issue, we bring you a beefed-up review section replete with dollops of juicy products.

66 Lord of the Cards

The first DirectX 10 compatible



The Fortunetellers

graphics card from Nvidia—the 8800 GTX—is blazingly fast.

68 Best Products Annual

Top-of-the-line products that had cruised through our intensive tests through the year make a comeback in this anniversary special section.

90 The Muscle of Merom

After the Conroe for desktops, Intel launched the Merom for laptops. Although both have a similar architecture, their clock speeds and FSB are different.

94 Awed by Quad!

The world's first quad core processor—Intel's Kentsfield is better than Core 2 Duo only when it is put to the grind with heavy multi-tasking.

102 Boosting Video Cards

Increase the speed and performance of your graphics cards with BIOS flashing and software-based overclocking.



34

Best Products Annual

APPLICATIONS

110 Software Center

What's new in Norton Antivirus 2007? Also included—cool applications for editing, CD burning, music, Internet, encryption and backups.

120 Beware of Spyware

Tips on how to use a few tools to safeguard your system against spyware.

126 17-Second Globe Span

How long does it take an e-mail to traverse through networks? A test carried out at our German test lab concludes it to be only 17 seconds.

132 Thought Processing

Your brain can actually control a computer! Find out how...

138 Fedora Core 6

The much awaited Fedora Core 6 has finally released. An in-depth analysis of this latest distribution from Red Hat.



94

Awed by Quad!

148

Thumb Drive Lockdown

182

Need for Speed: Carbon**HANDS ON****148 Thumb Drive Lockdown**

With thumb drives increasingly being used to carry sensitive information, it is important to secure it, to prevent unauthorized viewing.

150 Ultra Fast DVD-ROM

Use virtual DVD drives to boost data transfer speed to 50x or more, using freeware.

152 Webcomics on a PSP

Use free downloadable software to import comics onto your PSP.

156 48-Megapixel Photos

Increase the size of images shot from your digicam to as high as 48 megapixels.

160 Your own Photo Mosaic

Join hundreds of digital images to create one poster-sized picture—called a mosaic.

162 Link your TV to your PC

Your TV can be the all-in-one

entertainment center to watch DVD/DivX movies, surf the Internet or even play games.

UNWIND**174 What's in a Game?**

An insight into present and future gaming by Electronic Arts.

178 Ridge Racer

Namco's arcade racer is now available on the PlayStation Portable.

180 FIFA 07

Play your favorite team and take them to the top of the league.

182 Need For Speed: Carbon**184 Sid Meier's Railroads****185 Bully****Software/Game Demos featured on the CHIP DVD**

Firefox 2 • Norton Antivirus 2007

Corel PaintShop Pro 11 • Fedora Core 6

Battlefield 2142 • Sid Meier's Railroads

Need For Speed: Carbon

For a complete listing turn to **page 211**

PRODUCTS TESTED**Hardware Standalones**

42

Lenovo X60

Nokia E61

Samsung YP-K5

Asus Vento 7700

ACI Matrix 1425

Western Digital My Book Premium

Leadtek 7950 GT Extreme

Asus P5W DH Deluxe

MSI G965M

Cooler Master Real Power Pro 850W

Epson Stylus CX5900

Kingston DataTraveler Mini Fun

Dicota PC-Link

Blues SLR-878MV

Logitech R20 2.1

REGULARS

Letters	18
Technology Landscape	100
Dr. CHIP	142
Tips & Tricks	166
Townsquare	210
Last Word	212

Quick Quote

“CHIP is one magazine that practises the art of simplifying complex technology, thereby making it relevant for readers.

Sandeep Mehrotra
Country Sales Manager,
Adobe Systems India



[www\(chip-india.com](http://www(chip-india.com)

DECEMBER 2006 | VOLUME 4 | ISSUE 1

GENERAL MANAGER - PUBLISHING

Krishna Tewari

EDITOR

Marco Angelo D'Souza

SENIOR COPY EDITOR

Sharmistha Dey

WRITERS

Ashutosh Desai, Sharon Lobo, Francis D'Sa

TEST CENTER

Anand Tuliani, Kunal Rupera

DESIGN

Jagdish Limbachiya, Pramod Jadhav,
Hemali Gandhi, Manoj Tandel,
Umesh Dahiwalkar, Sachin Pandit, Ravi Parmar

PHOTO EDITOR

Shriresh R Karrale

MULTIMEDIA & WEB

Hemant Charya

SPECIAL PROJECTS

EDITOR-PROJECTS

Brian Pereira

SUB-EDITOR

Charmaine Fernandes

WRITERS

Vijay George, Saroni Roy, Kimberly Fernandez

BUSINESS HEAD

Ganesh Lakshmanan

HEAD OFFICE

Intelligent Computing Chip,
TBW Publishing & Media Pvt. Ltd.
'A' Wing, Ruby House, 2nd Floor, J.K. Sawant Marg,
Dadar(W), Mumbai - 400 028. INDIA
Phone: (91 22) 24232323, Fax: (91 22) 2430 2707
E-mail: comment@chip-india.com

Sagar Salunkhe
sagars@infomediaindia.com

Mrugesh Patel
mrugesh.patel@infomediaindia.com

Hafeez Shaikh
hafeez.shaikh@infomediaindia.com

BRANCH OFFICES

Bangalore

Harish Kamat
harish.kamat@infomediaindia.com
Phone: (080)559 7282,83,84 Fax: (080)559 7285

Chennai

O K Gurumurthy
gurumurthy@infomediaindia.com
Phone: (044) 28295050-54 Fax: (044) 28295060

Cochin

Sawmya Kumar
sawmya.kumar@infomediaindia.com
Phone: (0484)4054380/90

Hyderabad

Vasudevan Iyer
viyer@infomediaindia.com
Phone: (040) 55622211 Fax: (040) 23393488

Kolkata

A K Roy
akroy@infomediaindia.com
Phone: (033) 2468637, 2468638 Fax: (033) 2462964

New Delhi

Chhatra Chhetri
chhatra.chhetri@infomediaindia.com
Phone: (011) 66303278,79,80,82 Fax: (011) 23327884

Jitendra Gupta

jitendra.gupta@infomediaindia.com

CIRCULATION

National Circulation Manager
Kumar Mohanani
kumar.mohanani@infomediaindia.com

SUBSCRIPTIONS

Surekha Pendse, Sarita Quadros
E-mail: customercare@infomediaindia.com
Tel: +91 22 2423 2804 / 05 Fax: +91 22 2430 2707

SUBSCRIBE ONLINE

at eshop.infomediaindia.com

CHIP INTERNATIONAL

Editorial Consultant International

Wolfgang Su, Poccistrabe 11, 80336 Munchen

CHIP is also published in the following countries

China

Czech Republic

Germany

Greece

Hungary

Indonesia

Italy

Malaysia

Netherlands

Poland

Romania

Russia

Singapore

Thailand

Turkey

Ukraine

TBW Publishing & Media Pvt. Ltd. does not take the responsibility for returning unsolicited material sent without due postal stamps for return postage. No part of this magazine can be reproduced without the prior written permission of the publisher. TBW Publishing & Media Pvt. Ltd. reserves the right to use the information published herein in any manner whatsoever.

Copyright 2004 INTELLIGENT COMPUTING CHIP

For all international subscription enquiries, contact the subscription department, Intelligent Computing CHIP (subscription@chip-india.com).

Intelligent Computing CHIP is printed by A. S. Vadiwala and published by K. V. Rao on behalf of TBW Publishing and Media Pvt. Ltd. and printed at Infimedia India Ltd, Plot No.3, Sector 7, Off Sion-Panvel Road, Nerul, Navi Mumbai – 400 706 and published at TBW Publishing and Media Pvt. Ltd., 'A' Wing, Ruby House, 2nd Floor, J.K. Sawant Marg, Dadar(W), Mumbai - 400 028. INDIA

CHIP is an internationally protected trademark owned by Vogel Burda Communication GmbH

Cover Design: Pramod Jadhav

Illustration: Sachin Pandit

Dell™ recommends Windows® XP Professional.



PERFORMANCE AT AN AFFORDABLE PRICE.



15.4" (39.2cms)
Wide Screen Display

From:
Rs. 42,900**
E-value code: N541203



17" (43.1cms)
Flat Panel Monitor included!

List Price Rs. 38,900/-
Cash Off Rs. 3,000/-
Offer Price
Rs. 35,900 ** Price After Savings
E-value code: N221206

Free upgrade to 1GB DDR2 SDRAM at 533MHz

Presenting the Dell™ Inspiron™ 1501 Notebook and the Dell™ Dimension™ E521 Desktop. Host of features yet affordably priced. Your business demands one. Call Dell™ today and let us configure one purely for you.

Dell™ Inspiron™ 1501 Notebook

■ AMD® Turion™ 64x2 Mobile Technology TL50 ■ Genuine Windows® XP Home Edition ■ 512MB DDR2 SDRAM at 533MHz ■ 60GB¹ SATA Hard Drive 5400rpm ■ ATI Radeon® Xpress 1150 256MB HyperMemory™ ■ 24X CD-RW/DVD² Combo Drive ■ 15.4" (39.2cms) Wide Screen XGA TFT Display (1280x800 res.)

Dell™ Dimension™ E521 Desktop

■ AMD® Athlon™ 64x2 Dual-Core Processor 3800+ ■ Genuine Windows® XP Home Edition ■ NVIDIA® nForce® 430 MCP ■ 512MB DDR2 SDRAM at 533MHz (Free upgrade to 1GB DDR2 SDRAM at 533MHz) ■ 160GB¹ SATA 3.0Gb/s NCQ Hard Drive ■ 17" (43.1cms) Flat Panel Monitor (17.0"v.i.s.) included ■ Integrated NVIDIA® GeForce® 6150 LE ■ 48X DVD³/CDRW Combo Drive

Dell™ Inspiron™ and Dell™ Dimension™ Systems featured here come with FREE 1-Year Limited warranty (Next Business Day On-Site² Service).

Call & Configure

Call Dell™ Toll-Free
Mon-Sat 9am - 6pm

1800 425 4029

(For BSNL and MTNL subscribers only)

Or Call

080-2506 8029

(Standard charges apply)

Click & Configure at www.dell.co.in/chip →

For more information, email:
dell_enquiries@dell.com
Offer valid only till 27th December 2006.

DEAL DIRECT WITH DELL™

Direct Relationship - No middleman
Fresh Technology - From factory to you

CUSTOMIZE YOUR DELL™

Pay for exactly what you need
and nothing you don't.

DEPEND ON DELL™

DellConnect™ – Remote troubleshooting
On-Site² – Timely technical assistance

PURELY FOR YOU.



¹Sales taxes or value added taxes, local taxes and any other applicable levies are additional. By delivery only 3-4 weeks from the date of order. Delivery charges of Rs. 999 per unit are payable on Inspiron™ and Rs. 2,000 on Dimension™ products purchased.

²For hard drives, GB means one billion bytes, actual capacity varies with preloaded material and operating environment and will be less. ²Technician, replacement part or unit (depending on service contract) will be dispatched if necessary following phone-based troubleshooting. Subject to parts availability, geographical restrictions (on site and/or next business day service not available in some locations) and terms of service contract. Service timing dependent upon time of day call placed to Dell. Defective unit must be returned or paid for. Replacements may be refurbished. ³The DVD region code can be changed up to 5 times and will then be locked so that it plays only DVD movies from the final region code selected. ⁴The total of local and shared system memory used by this graphics card

is up to 256MB. Local on-board memory is 128MB. Up to 128MB of system memory may be allocated to support graphics, depending on system memory size and other factors.

System performance measured by MobileMark® 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations.

DELL'S NORMAL TERMS AND CONDITIONS APPLY AND ARE AVAILABLE ONLINE OR UPON REQUEST.

Pricing, specifications and availability subject to change without notice. All efforts will be made to check for errors in typography and photography; however inadvertent errors may occur for which Dell may not be responsible. Dell, the Dell logo, E-Value, UltraSharp, Inspiron and Dimension are registered trademarks or trademarks of Dell Inc. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in/or United States and/or other countries. Dell disclaims proprietary interest in the marks and names of others. Copyright 2006 Dell Inc. All rights reserved.

Team CHIP



Marco D'Souza

A gadget freak at heart, Marco loves to own them and fix them himself. If your headphone wire needs soldering, you know who to call on!

Anand Tuliani

Our resident strongman, Anand keeps us abuzz with his practical jokes and spot-on mimicry. If he's not buried in overclocking the latest chipset, he's feverishly working up a sweat to add inches to those biceps.



Francis D'Sa

The rookie of our team, Francis decided to leave a drab life of computer hardware maintenance and enter the exciting world of gadget reviewing. He's always eager to pitch in when the going gets tough.

Sharmistha Dey

The sole woman in an all-boys club, Sharmi is the one who scrutinizes every word that goes into the magazine. She's also a fantastic cook. Don't let her stature deceive you—when Sharmi means business, she means business!



Sharon Lobo

Sharon does not say much, but his work speaks for himself. Ever ready to break out into a broad smile, he's our resident software guy who is quite at home reviewing applications and churning out feature articles.



Ashutosh Desai

The fount of all that is technically accurate, Ashu has walked hordes of stranded users through trying technical problems. Don't let his reticent demeanor fool you—beneath hides a sharp wit and a passion for sports games.



Kunal Rupera

Kunal does not speak any English—that's what most people say after listening to his rapid fire (though sincere) explanations of a new technology that has got him excited. He is the eternal geek with a healthy appetite for anything electronic.



Pramod Jadhav

Pramod is the person behind story visuals and color selections in the magazine. You will often find him looking at his monitor from several angles before deciding what looks just right on the next cover or game review pages.



Jagdish Limbachiya

The anchor of our page layouts, Jagdish is one of those quiet designer types. He lives and breathes InDesign and regularly sets land speed records while working mouse and keyboard shortcuts during article layouts.

CHIP Special Projects

**Brian Pereira**

Show him anything and the first question is, 'What can we do to make this better?' A perfectionist to the core, Brian is easily the most organized person on the floor.

**Charmaine Fernandes**

When Charmaine gets an assignment, you just know it will be done and perfectly on time.

Saroni Roy

She can tell you where to get the best *pav bhaji* in Mumbai or where to pick up shoes at bargain prices.

**Hemali Gandhi**

The quiet, serene one. Like the fairy godmother, Hemali waves her wand and brings pages to life.

**Kimberly Fernandes**

Sharp and witty, Kimberly can dig into an Excel sheet and solve the mystery behind the numbers.

**Vijay George**

When the going gets tough, Vijay keeps his cool! He loves gadgets and knows his smartphone inside out.

**Manoj Tandel**

Manoj is cool and reserved at work. Two Vodka shots and he can give Prabhu Deva a complex on the dance floor!

**Sagar Salunkhe**

Extremely dependable, armed with a broad smile, Sagar is always around to help the team with administrative issues. Especially when the Gate Pass book gets misplaced. 'Sagar tere pass hai kya?'

**Sachin Pandit**

Extremely quiet, Sachin speaks only with his brush. Speed is his other name—he can churn out illustrations even at the eleventh hour.

Umesh Dahiwalkar

With a penchant to do things differently, Umesh has created many memorable character illustrations for the magazine.

Letters

Dear CHIP,

I am a graduate in Statistics from Mumbai University. I have been an avid reader of CHIP ever since it was launched in April 1999. CHIP has been the single most important factor to goad me to plan my career in computers. However I was struck with a miserable bout of Chicken Pox in my 12th grade and I ended up getting a lower grade. This prohibited me from taking up a degree in computer engineering. Ultimately, I ended up doing my Bachelors in Statistics. Now I am applying to an IT institute for a post graduation course in software development. During the interview process at the institute, I was asked why I had opted for Statistics if eventually I wanted to study computers. Without thinking, I ended up saying that it was because of my below-par 12th standard performance! Of course, they rejected my application after that.

This time, I wish to leave no stone unturned in my preparation. I will appreciate if you can enlighten me about articles, books or websites that can help me relate Statistics to Computers. I want to know how the two fields intersect and what opportunities lie there. Your suggestions and references will help me get admission into a college of my choice and ultimately be in the career I have always dreamt of.

Thank you and regards,

Aryan Parab

Hello Aryan,

We appreciate the kind words from you and are glad that you're a part of the CHIP family. The question you ask is interesting—it spans two very wide fields. In both cases of Computers and Statistics, there are a vast number of verticals that each of the fields can address, either by themselves or when used in combination. To obtain the correct answers, you first need to ask

yourself what excites you more—Statistics or Computers. If it is the former, then you would need to start exploring fields that focus on the empirical discipline of Statistics, as applied to various practical problems like population, consumer buying trends, product life cycle trends, etc. If it is computers that you are more interested in, you would then need to highlight the application of computing technologies in addressing statistical problems. This would typically include learning the software used in statistical modeling (it could be an application as general as Excel or as dedicated as Statistica, used to address statistical problems in fields like insurance, marketing, Hedge fund applications, etc). We believe it would be best to explore the angle of using computers to solve statistical issues and how the relevant programs are used.

Our other readers who have experience in this field are most welcome to write in—we will forward any pertinent information we receive to Aryan. So do write in!

Regards,

Team CHIP

Hi Marco,

I am a regular subscriber of CHIP and find it an exhaustive source of useful information. However, I have a small suggestion to make—similar to your section on Hot IT Jobs, can you also start a section providing details about various technical conferences and seminars across the country and abroad? I am sure it will prove to be useful to many of your subscribers and readers including me who are in search of live gatherings where companies share technical information and showcase the newest products for consumers.

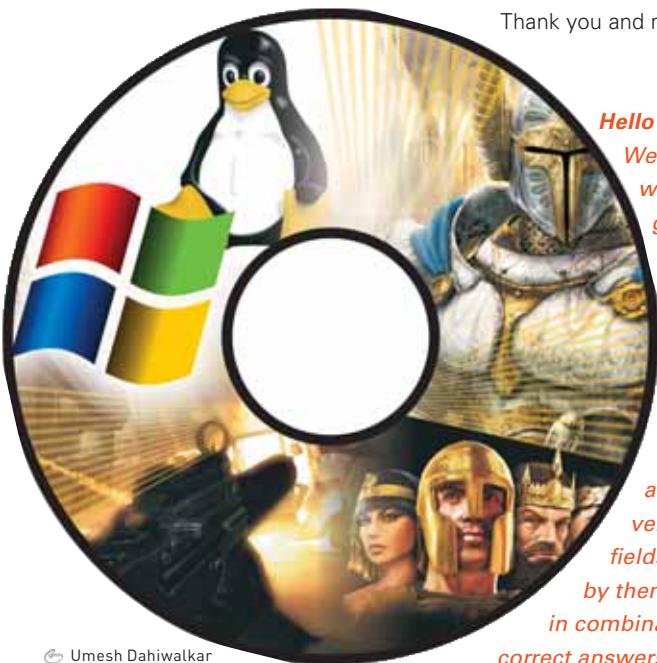
Regards,

Rishi Khanna

Hello Rishi,

Thanks for the feedback—that is a good idea. We will seriously consider including a list of upcoming seminars, conferences and expos within our magazine each month.

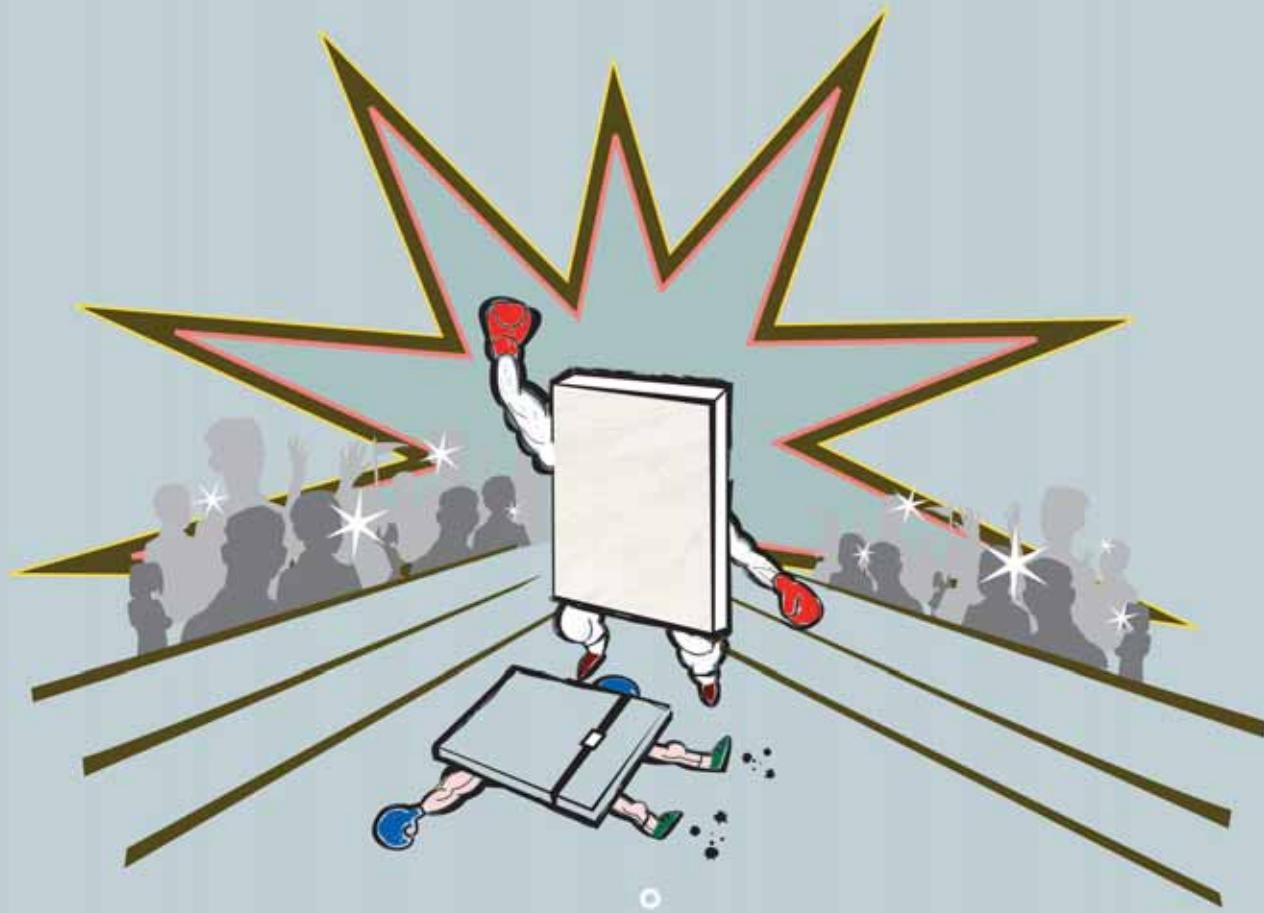
Team CHIP



© Umesh Dahiwalakar

WONDERWALL WINS. CERAMIC LOSES.

Marbonite WonderWall – the beginning of a new era in bathroom and kitchen walls.



Now ordinary ceramic tiles are a thing of the past. Presenting Marbonite WonderWall for your bathrooms and kitchens. It's the perfect combination of beauty, variety, easy maintenance and long-term functionality. Moreover our range of beautiful intricate borders is the literal icing on the cake. Giving your walls beauty that will keep you captivated for a long, long time to come.



Marbonite
Wonderwall

* EXCLUSIVE DISPLAY CENTRES : Calicut:0495-2702505, Ernakulam:0484-2381208, Coimbatore:0422-2540501/5382698, Chennai:044-28293956, Madurai:0452-5355584/94, Trichy:0431-2741730/40, Hyderabad:040-27766831/2, Bangalore:080-22234310/22296185, Hubli:0836- 2236955, Vizag:0891-2796376/2799911, Mumbai:022-26547300/30647300, Pune:020-26451561/2, Ahmedabad:079-30072053/54, Jaipur:0141-2810989/3242415, Indore:0731-2492004/5, Chandigarh:0172-2790862/2790288, Gurgaon:0124-4089973/74, Lucknow:0522-3944449, Bhubaneshwar:0674-5539836/7, Kolkata: 033-22272128/29 • BRANCH OFFICES: Vijayawada: 0866-2415853/2415753, New Delhi: 011-23311558/23323895, Ghaziabad: 0120-3093311, Guwahati:0361-2345671. • CORPORATE OFFICE:H. & R. Johnson (India) Limited, Windsor, 7th Floor, CST Road, Kalina, Santacruz (E), Mumbai- 400 098. Tel.: 022- 26547300 / 30647300, www.hrjohnsonindia.com.

Letters

Now you can SMS us!

Since we like knowing what's on your mind and what you think about our magazine, we now bring you another way to get in touch with us. Have something to say about a test review? Liked a feature story? Was the workshop useful? SMS us your feedback! Here's how:

**For comments on a story, create the following message:
ICCO <Your comments here>
Example: ICOO The cover story was very useful**

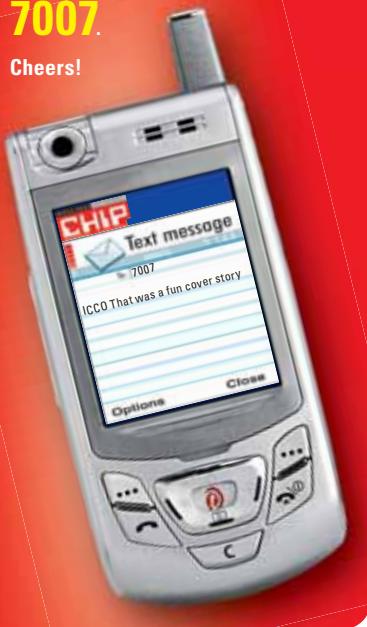
You can write as much as you want in your comment!

**To rate a story, product review, etc look out for the story tag at the base of each article and use it as follows:
ICCP <Story tag> <Rating>
Example: ICCP PWS 5**

The "Story tag" is mentioned at the base of every story in the magazine and the "Rating" is on a scale of 1 to 5.

**Finally, send your messages to
7007**

Cheers!



Dear CHIP,

I have been a hardcore fan of your magazine ever since December 2003. I have been a subscriber since the past three months. For a while now, I have been considering writing to you about the Disc Contents—I do appreciate the two CDs and one DVD for 100 bucks, but in most of the cases, I do not find the DVD very useful as it features little more than just game demos and movie trailers. Many people including me think that the storage space could be used more effectively. You do provide good content on the DVD but I feel that happens only occasionally.

I do not understand why you need to fill the DVD with game-related programs when you already have a Toys CD. If there are big games, you can dedicate around 1 GB for the same, but not more than that. There are so many other useful tools and applications that you could also provide on the DVD. It is good that you've started the relevant section in Town Square on your website, but I would like it if you follow that list more closely and provide as many of the applications highlighted there on the DVD. Provide full movies, full version or freeware games, one or two Linux distributions per DVD, depending upon the number of discs.

Thanks & regards,

Rajiv Nedungadi

Hello Rajiv,

It's good to hear your suggestions with regards to our cover disks. As you will have noticed this month, we have decided to move to the dual-layer DVD format. With so much of information being provided on a single DVD disk, we do not plan to regularly bundle CDs with the magazine from now on, except perhaps on occasional instances. You will also notice that we've consolidated the previous sections in the CDs and DVD and have formulated a more navigable and intuitive interface to help you find the applications you need as quickly as possible. We look forward to hearing from you about our new media and its content mix. You will also notice that we've started including our past issues in PDF format on our DVD!

Team CHIP

Dear Marco,

Although I have been a regular reader of your super magazine ever since the first issue, this is the first time I am writing a letter to you. I buy my copy of CHIP from the news stand each month. Whenever I buy any magazine (including CHIP), I first go through its contents, followed by the other offerings in the magazine like contests, etc. I've noticed that almost every issue of CHIP has a contest along with a form to participate in it. I enjoy solving these questions and consider them a good test of my level of awareness and knowledge. Plus, the gift at the end of it is a definite bonus!

However more often than not, I wind up never sending them to you! That's because you demand that a page from the magazine be torn out—and more often than not, the other side of the page contains useful stuff on it.

Here's what I'd like to suggest—if you want to feature contests in the magazine, please put the contest pages on ones that don't have a part of a story or a review on the reverse side as I don't want to lose that page. I'm sure that there are others who share these same thoughts—it would be useful to them as well, and would also result in a greater number of readers participating in the contests.

Regards,

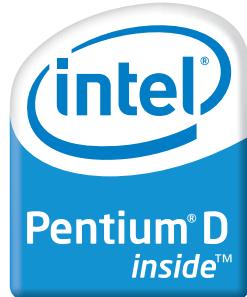
Sunil

Hello Sunil,

That is indeed a pertinent observation. While we do try as often as possible to lay out our contest pages such that they do not have critical article-related information on the reverse side, we are sometimes limited by layout constraints—do bear with us if you find your favorite contests also sharing space with an interesting article on the reverse. But we will endeavor to have this happen as rarely as possible.

Team CHIP

With hundreds of SMSes sent to us, this new feedback system has evoked tremendous response. Going ahead, we're using what you're saying to incorporate changes into our content. Keep it coming!



GET THE HIGH PERFORMANCE DESKTOP FOR THE DEMANDING NEEDS OF TOMORROW'S BUSINESS.

Presenting OptiPlex™ GX520 Small Form Factor from Dell™.

The OptiPlex™ GX520 Small Form Factor from Dell™ comes packed with a choice of Intel® Pentium® D Processors for the fast-paced business world of today. Its highly customizable form factor makes it an ideal choice where space is a constraint. Get in touch with Dell™ today to know more about this amazing business machine.

Dell™ OptiPlex™ GX520 Small Form Factor.

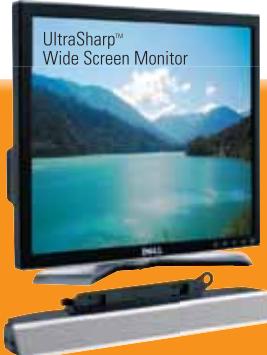
Intel® Pentium® D Processor 820 (2.80GHz, 2MB L2 Cache, 800MHz FSB)
Genuine Windows® XP Professional SP2 Edition | Intel® 945G Chipset | 512MB (2 x 256MB) NECC Dual Channel Shared³ DDR2 SDRAM at 533MHz | 80GB⁴ SATA II Hard Disk Drive 7200 rpm | 17" (43.1 cms) Flat Panel LCD Monitor (17.0" v.i.s.) | 24X CD-ROM Drive | Integrated Gigabit Ethernet⁴ via PCI Express Bus | Integrated Intel® Graphics Media Accelerator 950 | 3-year Limited Warranty (Next Business On-Site² Service)

RECOMMENDED UPGRADE
 • Upgrade to 17" (43.1 cms) UltraSharp™ Flat Panel LCD Monitor (17.0" v.i.s.) for only Rs. 2,100/-

From Rs.
44,500** Price Includes Delivery
 E-value code: N321202

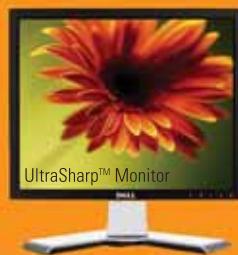


Pictured with optional 17" (43.1cms) UltraSharp™ Flat Panel LCD Monitor



**Time to switch over from your old existing CRTs to Dell™ TFTs.
Sleek Dell™ TFT Monitors with latest technology.**

Choose from a wide range of 15", 17", 19" and 20" Dell™ TFT Monitors



For Desktop Call
 Dell™ Toll-Free
 Mon-Sat 9am - 6pm

1800 425 8044 (For BSNL and MTNL subscribers only)

Or for Displays Call
 Mon-Sat 9am - 6pm

080-2506 8215 (Standard charges apply)

For details on Desktop E-mail us on saravanan_raman@dell.com

For details on Displays E-mail us on priya_lawrence@dell.com

Hurry! All offers valid till 27th December 2006.

Visit us at www.dell.co.in

****Sales taxes or value added taxes, local taxes and any other applicable levies are additional. By delivery only 3-4 weeks from the date of order.**

1 For hard drives, GB means one billion bytes, actual capacity varies with preloaded material and operating environment and will be less. 2 Technician, replacement part or unit (depending on service contract) will be dispatched if necessary following phone-based troubleshooting. Subject to parts availability, geographical restrictions (on site and/or next business day service not available in some locations) and terms of service contract. Service timing dependent upon time of day call placed to Dell. Defective unit must be returned or paid for. Replacements may be refurbished. 3 Between 32MB and 224MB of system memory will be allocated to support graphics, depending on the system memory size and other factors. 4 The term does not connote an actual operating speed of 1Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

System performance measured by MobileMark* 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations.

DELL'S NORMAL TERMS AND CONDITIONS APPLY AND ARE AVAILABLE ONLINE OR UPON REQUEST.

Pricing, specifications and availability subject to change without notice. All efforts will be made to check for errors in typography and photography; however inadvertent errors may occur for which Dell may not be responsible. Dell, the Dell logo, E-Value, UltraSharp and Optiplex are registered trademarks or trademarks of Dell Inc. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in/or United States and/or other countries. Celeron, Celeron Inside, Centrino, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo, Intel Viiv, Intel vPro, Itanium, Itanium Inside, Pentium, Pentium Inside, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Dell disclaims proprietary interest in the marks and names of others. Copyright 2006 Dell Inc. All rights reserved.



New-Age Newspapers

Do you find reading the morning newspaper a time-consuming task? If you can't wait for a more efficient way to get your daily dose of news, read on to find out what technology has in store for you

BY MANFRED FLOHR

Bill Gates does not believe that he will ever see the end of the newspaper. "Even 50 years down the road there will still be people who print newspapers and those who will still read them", says the Microsoft founder. But another visionary expects things to turn out differently. In his science fiction thriller, *Minority report*, Steven Spielberg replaced the daily, *USA Today* with a transparent display, on which any kind of text and picture could be loaded. People, in the movie navigated through the medium with the help of data gloves. The Hollywood film portrays the year 2054—less than 50 years from today. So which one of the two scenarios is more believable? Will Bill Gates' pessimistic outlook about the future of newspapers prevail? Or will the imaginative Spielberg who exerted a fair amount of artistic freedom triumph?

E-NEWSPAPER: At first sight, the thin, elastic display from Plastic Logic appears to be almost like a conventional newspaper. However, for the time being, the publisher is still focusing on the inflexible Reader variants in the tablet form.

It seems as if Spielberg might just be right after all. For the first time ever, some newspaper publications are working towards giving their readers a new medium to hold in their hands—a paper that uses 'electronic ink'. The core technology was developed by the Media Laboratory of the Massachusetts Institute of Technology (MIT) and its Spinoff enterprise who are marketing this E-ink. Clearly, it has an inexorable link to Spielberg's vision in the film.

But Bill Gates is aware of the fact that the media scene is changing. He says, "Today, every publication should think about its digital strategies". He also points out that the younger generation should look towards electronic media rather than the traditional newspaper.

Till now, options were limited to electronic versions of newspaper pages that could be read on PCs, either in the PDF format or at web sites of newspapers and magazines. Mobile devices like e-book readers have still not been established as viable replacements for trustworthy newspapers.

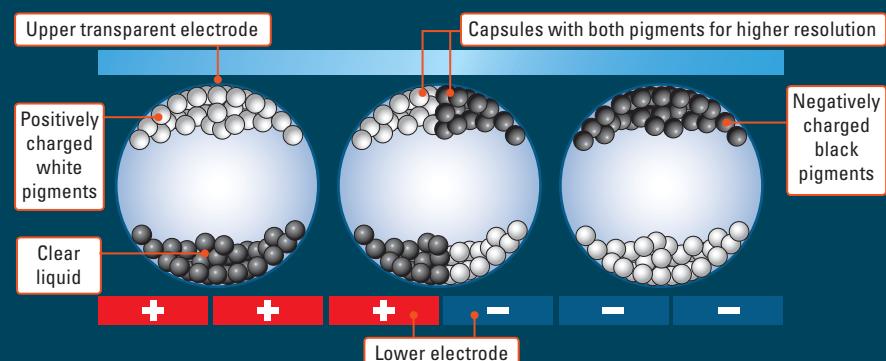
Microcapsules replace printing ink

For more than 30 years now, the industry has been working on the

'Electronic paper'. The time taken for this development was worth it since it is now possible to have pin-sharp text with the help of electronic ink. The display on which this 'ink' shows up is flexible and just about a few millimeters thick, making it very similar to the experience of creating traditional print on paper. Here, millions of small, microcapsules between two plastic sheets are used instead of the standard printing ink. They contain black and white coloring matter that is loaded using different electric processes and which float in a transparent liquid. An electrical field between minute electrodes in the sheets contains either the black or the white pigments on the surface, thus creating the picture elements.

Unlike flat screens, the electronic ink requires power only while browsing. It thus requires power only for the layout of the pages and not for the display. Due to the high-contrast display, reading is easy even without backlighting. Around 400 picture elements per square centimeter correspond to the resolution of the newspaper print. With 0.3 millimeter thickness, the display is just slightly thicker than the standard newspaper.

However, differences still exist. For years now, developers have been



OPERATING PRINCIPLE: In accordance with the electrode pole under the pigment capsules, either the white or the black color particles are pulled upwards. This produces the picture.



promising us a newspaper with screens that can be rolled like real paper. But such technology has not seen the light of day yet. This is because the filigreed power supply to the individual picture elements is delicate. So far, not a single manufacturer has succeeded in making a robust, standard device with a display that can be rolled up without any problems.

The first electronic newspaper was created by Belgium Publishers. They did not want to wait long to create a solution that could be free of all possible technical challenges. Instead they used rather unattractive technology to create newspapers. The result was that those ended up looking like inflexible tablet PCs.

Readers of the Belgian business newspaper *De Tijd* can download the digital version of the daily on the reader. This reader, manufactured by iRex, is

around 22x16 centimeters long and 16 millimeters thick and weighs about 390 grams. Daily news of 4 to 6 Megabytes can be downloaded onto the reader from the Internet.

Even the French *Les Echos* and the *New York Times* newspapers have announced their tryst with electronic devices. Manufacturers like Sony are poised to come up with more readers in the market. The expectations are high. In the case of readers, it might just pay off—by following Apple's footsteps in creating hype for the next generation of newspaper readers with 'Reader iPods'.

Video clips on daily newspapers

The industry is currently working on prototypes that could even display video clips on electronic paper. E-Ink and Fujitsu have already demonstrated their versions

of colored displays. They work on the same principle of creating the color points with the use of filters. While Plastic Logic has fabricated large-format flexible displays that resemble paper, Philips prefers making compact devices and in fact presents some in the size of a PDA, having a partially fixed and a partially rolled up display.

Interestingly, manufacturers are now experimenting with moving pictures. While this still sounds like something out of a fiction movie, don't be too surprised if it does turn into a reality in the near future.

Links

www.eink.com: MIT-Spinoff E-Ink

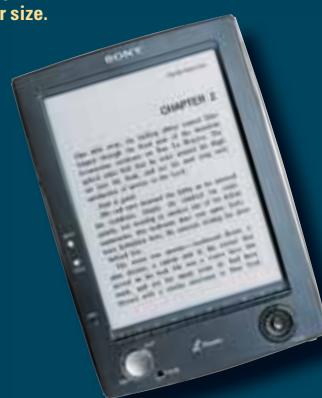
www.irextechnologies.com: Iliad-Hersteller iRex

www.plasticlogic.com: Flexible Displays ■



PHILIPS READIUS : The Rolldisplay arms the PDA prototype with a new, wide format screen which is bigger than the actual device.

SONY READER: Besides e-books, the reader can also display PDF files. The font can also be set to a bigger size.



NOTE BLOCK: The Reader by iRex records notes. The underlying technology is the same as in case of the electronic newspaper.

HOT OFFERS!

Powered by:


Nokia N 70

Indicative Price – Rs. 14,500

Nokia 6600

Indicative Price – Rs. 8,500



1GB USB MP3 players

Indicative Price – Rs. 800



60GB

Apple iPod Video

Indicative Price – Rs. 18,000



1GB USB Drives

Indicative Price – Rs. 990



Jabra Bluetooth Headsets

Indicative Price – Rs. 1,600



Microsoft Wireless Keyboard + Mouse

Indicative Price – Rs. 1,600



6Mega Pixel Sony Digicams

Indicative Price – Rs. 8,200

For more exciting offers visit www.ebay.in/chip

eBay does not verify, buy, sell, stock, distribute or ship any item listed on www.ebay.in.

Indicative Price as on November 9, 2006. Conditions apply.



Entry Level Dicams

Indicative Price – Rs. 650



512MB Apple Ipod Shuffle

Indicative Price – Rs. 4,000



256MB USB Drives

Indicative Price – Rs. 599



HP/Compaq laptops

Indicative Price – Rs. 37,000



Xbox 360

Indicative Price – Rs. 22,600



Sony Playstation 2

Indicative Price – Rs. 7,999

Netgear 54Mbps Wireless Routers

Indicative Price – Rs. 2,290

Samsung DVD Writers

Indicative Price – Rs. 1,900



17" LCD Monitors

Indicative Price – Rs. 11,000

For more exciting offers visit www.ebay.in/chip

eBay does not verify, buy, sell, stock, distribute or ship any item listed on www.ebay.in.

Indicative Price as on November 9, 2006. Conditions apply.

Black magic!

In 1916 when Albert Einstein laid the foundation for laser he had surely visualized the tremendous potential it held. Today, laser is employed in every aspect of life, from manufacturing industries to bloodless surgeries to communication systems and so on. But now scientists at the University of Rochester have found another practical application for laser. They have formulated a method using laser to alter the properties of almost all metals—to render their facade to appear black. This technology promises to make everything from fuel cells to space telescopes to detectors more efficient.

The researchers wanted to discern what could possibly happen to a metal's properties under different laser conditions. While carrying out their research, they stumbled upon this technique where the reflective properties of metals are altered completely.

The key to this black metal creation process is a super-brief, ultra-intense beam of light called a 'femtosecond laser pulse'. This burst of laser is so short lived that it lasts only for a few quadrillionths of a second. To get a vague idea—a 'femtosecond' is to a second what a second is to about 32 million years! During this brief burst the laser unleashes tremendous power. The intensity of the laser is so high that if you placed your hand in the path of the focused laser beam, even though it fired for a few femtoseconds, it would drill a hole through your skin!

This intense blast forces the surface of the metal to dramatically increase in area and capture radiation and thus form a black body. This black body is capable of absorbing practically all the light that falls on it. Thus this process makes metal extremely useful whenever radiation gathering is needed.

This turns out to be useful in creating detectors of all kinds, from space probes to light meters as they would be capable of capturing far more data than any other ordinary metal-based detector.

Robot defies injuries

We have come across indestructible robots many times in books and movies. Such robots have been portrayed as superior characters, capable of capturing the world from the control of the human race and turning them into slaves. But don't worry, that is not a reality yet—artificial intelligence has not been developed to that extent!

However, a robot capable of adapting itself to injuries with breaking down have been developed by researchers at Cornell University, New York.

This robot, unofficially referred to as 'Starfish robot', uses a software to keep it moving in case of a sustained injury such as a shortened or a broken limb, unlike traditional robots which fail completely if something goes haywire.

The Starfish robot maintains a



computer model of itself when it adapts to certain changes made to its body or environment. For instance, if a person injures his knee, he would walk in a way that he can circumvent applying more pressure on the injured leg. Starfish is

quite similar to the manner in which living organisms constantly evaluate their abilities and surroundings and adjust their behavior accordingly. Once Starfish senses a change has occurred in the surroundings, the computer generates hundreds of new physical movements randomly and tests which one would

be effective for its present status, and accordingly uses that.

So far when robots were sent to explore terrains on another planet, researchers couldn't predict what was in store for them, but with this development, this shouldn't be too difficult.

India has stealth technology

The F117a stealth fighter helped the US win the Gulf war. Stealth technology, which makes ships and planes invisible to ground radar, has been a closely guarded secret of developed nations. Now some Indian scientists have made a breakthrough in this area. Once proven, the emergence of India's stealth fighter will be just a few years away.

Scientists at the Indian Institute of Technology in Roorkee (IIT-R) have developed a special nanocomposite coating that can absorb microwaves; when applied on specially designed aircraft, they become almost invisible to radar.

Radars emit pulses of microwave radiation that are reflected off the body of a flying aircraft. But the special coating absorbs most of the incident radiation and reflect very little. The shape of the aircraft must also be such that it deflects the microwaves in every other direction, other than the path back to the radar. And



that's how an aircraft becomes invisible on the radar.

The nanocomposite coatings have been developed by Rahul Sharma and his team at IIT-R. They unveiled their work at an international nanomaterials conference, held at the Indian Institute of Science. Sharma believes their nano-product is a significant step in developing a technology to enable aircraft escape radar surveillance.

The IIT team found that crystals of 'barium hexaferrite' with particle size of 10-15 nanometres have the ability to absorb microwaves.

The team developed a special process for synthesising the nanopowder and formulating it as a coating. Sharma said that the nanocomposite coating on aluminium sheet absorbed 89 percent of incident microwaves at 15 GHz—the frequency normally used by radars—reflecting only 11 percent.

Big brother bully

According to some Taiwanese sources, Intel Corporation, the world's largest CPU maker is coercing its smaller rival Via Technologies to quit the CPU market. In lieu Intel will allow Via to continue manufacturing computer chipsets which employ Intel's patented technology. Both companies have not made official any comment on the subject.

The chipset business earns Via most of its revenue, though its CPUs generate the growing profits. Via CPUs are increasingly been adopted by product designers for handheld PCs, low-cost notebooks and other applications where low cost, noise, heat and power consumption are strong selling points. This

In the last few years, Intel alleged that Via has been using Intel's patented technology in its chipsets. These patents cover particulars such as the timing of electronic signals that the chipset uses

to communicate with the CPU. The legal pressure Intel has been mounting over Via has resulted in an unnerving effect on Via's relation with motherboard manufacturers, who purchase its chipsets and this has resulted in Via losing a substantial chipset market share.

Intel has suggested that Via should cease manufacturing CPUs, in exchange of which Via would be permitted to make Intel CPU compatible chipsets. But it seems Via has other plans in store.

Recently it announced a major restructuring by way of which its CPU and chipset units would be spun into two diverse businesses. This shift would enable Via to offshoot its CPU unit as a separate entity. While this could be a plus point for Via, the flipside is such a move can get complicated when it comes to products that combine both the CPU and chipset in a single unit.



Paper strikes back

For ages, paper has been the only means of data storage. Whether it is Shakespeare's plays or Einstein's theory of relativity, we have read them in print. Then came the Personal Computer that changed the way data is stored at home and office. Today when we are almost convinced about the indispensability of the PC, Sainul Abideen, an Indian student has devised a method to store more than 256 GB of data on an A4-sized paper.

The technology dubbed 'Rainbow' by Abideen encodes data as colored geometric shapes and stores it in dense patterns on paper. This method is capable of storing text, images, sounds and video clips in the form of colored circles, triangles, squares and prints them as dense graphics on paper at a density of 2.7 GB per square inch. The contents can be played or decoded when the paper is read by a scanner. The Rainbow technology is low-cost and is bound to reduce the cost of storage.

New Advanced CCNS

CMS Certified Network Specialist

Career program for HSC, Graduates & Engineers



**"Job Guarantee Out.
On Job Training In."**

• 7 Global Certifications • On Job Training With Stipend

ITES (IT Enabled Services) industry is expected to generate On Job Training opportunities for over 1.1 million certified students. CCNS exposes you to ITES requirement of global certifications & wireless networking. Join CCNS for a bright ITES career, today.

- PC Engg. • CCNA • N+ • MCSA
- RHCE • Solaris (SPARC) • ITIL Orientation
- Remote Management • CWNA

• CMS is India's largest networking company, since 30 years • Offers customized corporate, ITIL training & certification • Over 11,000 students employed & 3,000 within CMS • OJT sites include Reliance, ICICI, Citibank, TATA AIG & Philips • Credit cards accepted.



Authorised Microsoft, Red Hat & Novell courseware

Free MCP & RHCT Exams

Mumbai: Andheri (E): 28381584/28399266 **Andheri (W):** 26202522/33/26202448 **Bandra:** 26418789/32588019 **Dadar:** 24386616/4424/24382527/28 **Charni Road:** 23884762/63 **Vashi:** 27864844/45 **Ghatkopar:** 56810949/ 50/51 **Margao:** 23710999/23700999 **ARMEDABAD:** 30027336/37 **SRINAGAR:** 3083212/13 **SHRINAGAR:** 3200180/3200181 **DEHRADUN:** 4271908/4271938 **PUNE:** **Shastri Road:** 24332756/0418 **Camp:** 26136578/79 **79 Aundh:** 25897483/84/85 **Pune Satara Road:** 24225977/8 **KLK:** **South Ext:** 24643888/24831218 **Karolbagh:** 41450293 **Kanita Nagar:** 41853504/05 **Laxmi Nagar:** 42448340/41/42 **Janakpuri:** 41579341/2/3 **Bishad Garden:** 32460091 **KANGAROO:** **St. Mark Rd:** 25320426/57649911 **Rajajinagar:** 55349800/55349801 **CHENNAI:** **1. Nagar:** 28157115/18/8290/42606541 **Annamangai:** 42155118/9/42606531 **Ayer:** 42117792/83 **Mount Road:** 42142650/51/52 **HYDERABAD:** **Paradise:** 55320512/13 **Bitsukhnagar:** 55366747/55738747 **Musheersabad:** 55466747/748 **SATCITY:** 6503380/3012708/9388629211 • www.cmsinstitute.co.in

SALES@CMSINSTITUTE.COM

Consoles fight, IBM wins

After Microsoft's launch of the Xbox 360, Sony and Nintendo are all set for a worldwide release of their latest offerings—the PS3 and Wii respectively. Therefore, a war is bound to break amongst the trio for the top slot. Interestingly, it doesn't matter who wins, as IBM will remain the winner. This is because all the three console makers use microprocessors made by IBM.



With the gaming console market heating up, IBM is expected to rake in billions of dollars from the sales of chips and related design services this year. Even analysts are pointing at IBM's chip making division a profitable unit.

IBM is all geared to achieve huge profit targets by replicating its video game collaborations in industries such as telecom, defense, medicine and so on.

Super Silicon

New developments in Silicon is underway. Because of its semiconducting nature, Silicon when doped with elements like Boron, replaced bulky vacuum tubes with miniature transistors. Now researcher Busterret Etienne and his colleagues at the renowned Center National de la Recherche Scientifique (CNRS) in France have demonstrated the superconductive nature of silicon. They achieved this feat by substituting 9 percent of the Silicon atoms with Boron ones. The resistance of this newly formed material drops sharply when cooled below 0.35 K.

Silicon takes the form of a semiconductor due to the Boron atoms being added to it. But rarely does the concentration of the Boron exceed 0.002 percent of the total number of atoms. Boron has one electron short than Silicon—available for bonding with neighboring atoms. Hence when Boron is incorporated into Silicon, a positively-charged 'hole' is formed at each spot where the Boron's electron gets paired with that of Silicon. Usually, at room

temperatures, these 'holes' move around freely, forming a Boron-doped Silicon (a 'p-type' semiconductor). But at low temperatures, the 'holes' remain bound in orbital to the Boron nuclei. It was known for a fact that if the concentration of Boron was increased to 0.01 percent then at low temperatures these orbitals overlap, leading to a metal-like conductivity.

However till date all attempts to create a superconducting Silicon failed. But now researchers at CNRS have accomplished the impossible by doping Silicon with a higher concentration of Boron. In order to achieve this feat, the researchers had to make use of a vigorous doping method called 'gas immersion laser doping' as under normal doping methods Silicon is reluctant in allowing impurities to be added to its structure. The new method repeatedly melts and cools a thin Silicon layer using a pulsed laser. During each of the molten phase, the Boron atoms get diffused into the Silicon layer and solidify, ultimately replacing up to 9 percent of the Silicon atoms.

Cell phone barometer



Top Search Terms for Cell Phones

1. Nokia 6600
2. Nokia 3230
3. Nokia N 70
4. Nokia 6233
5. Sony w700i]

Average Sale Price (past 30 days)

- Nokia 6600 = Rs. 7,399
- Nokia 3230 = Rs. 8,896
- Nokia N 70 = Rs. 15,623
- Nokia 6233 = Rs. 12,448
- Sony w700i = Rs. 9,732

Total Items Sold (past 30 days)

- Nokia 6600 = 180
- Nokia 3230 = 126
- Nokia N 70 = 26
- Nokia 6233 = 32
- Sony w700i = 36

Featured listing

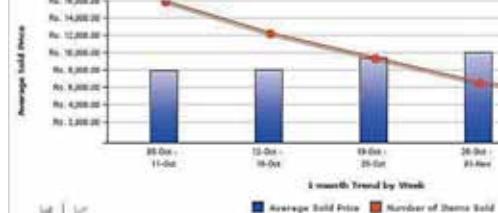
Nokia 8800



October 2006



Nokia 3230



Courtesy: eBay Marketplace Research

World's lightest notebook

The Japanese are renowned for their miniaturization techniques; we've seen this in everything from Bonsai trees to radio sets to tape recorders. In fact, the notebook may be regarded as a Bonsai version of the desktop. Now Japanese electronics major Sony wants to shrink the notebook further. Sony said it plans to start selling the world's lightest notebook this December. This notebook is targeted at business users.

Weighing just 898 grams without an optical drive (or 984g with one), Sony's 'type G' Vaio will be the lightest notebook



available. It is made of carbon composites and has a 12.1-inch LCD screen. Sony expects to sell a basic model of its new 'type G' computer, which runs for about 12.5 hours on a battery, and is not equipped with an optical drive, for about 220,000 yen (\$1,881 or Rs 85,000 approx).

This isn't Sony's first attempt at making super light notebooks. Some years ago Sony sold the X505—an ultra thin PC made of carbon. Then Panasonic launched the R5 and became a leader of compact, thin, and robust computers.

The 'type G' notebook will be available only in Japan and there are no plans to market it overseas. Sony has not disclosed revenue or profit figures for its PC business, but it aims to sell 4.2 million units of Vaio laptops within a year.

Canon wants to make it simple

Technology evolves at a mind-boggling pace. More and more features are packed into products with each successive generation. It might be good news for the tech-savvy but the tradeoff is that it takes longer to master them. But a product with good technology need not be too complicated. That's the



message Canon wants to give the business community through their 'Business can be Simple' campaign. Som Gangopadhyay, Marketing Head, Business Imaging Solution, Canon India says, "We are going to provide features easier to use by introducing a simplistic design element in our products—voice-enabled and color interfaces, thereby eliminating the need for consumers to read through thick manuals to learn how to use the product."

But how soon will we see these easy-to-use products? "It is already happening in our ImageRunner series and Canon's PictBridge technology," informs Gangopadhyay.

ImageRunner is Canon's series of networked document management and production systems. It includes digital copiers for desktop, workgroup and business. They can process jobs concurrently, reducing wait time and eliminates job queues. PictBridge devices can connect directly to each other. Dicams with this feature can print directly to a compatible printer.

Full use, Useful

Raftar

Exclusive Performance?



Z

Full A To Z use of your computer RAM

Is it the best?



India's No.1 Genuine memory brand

Missing deadlines?



Zero hanging / Zero blue screen problems/ Zero Fatal Errors

National Direct

N

National Direct 3 years Warranty



Now in a new attractive instastatic pack

Also Available

- ZION USB Flash Drives
- ZION MMC Cards

For faster multi applications.
(Graphics, Video, Music, Animation, Gaming, Downloads, etc.)

Accredited by major computer brands.

Testimonial

I have sold above 2000 ZION modules. But the astonishing thing is that "Not a Single Module comes for warranty". Just FIT IT, FORGET IT. Great! Superb Quality. On TOP of all.

- Narenra M Ra, Sunny Enterprise, Madgaon

A Quality offering from:

ABACUS PERIPHERALS PVT. LTD.
(An ISO 9001:2000 Company)

Raftar
ZION
Dynamic RAM

Web: www.abacusperipherals.com www.zionmemory.com
Email: info@abacusperipherals.com sales@abacusperipherals.com

Sales Offices: Mumbai (H.O) 022 - 66923941/44/45, ajain@abacusperipherals.com,
Delhi: 011-32973154, delhi@abacusperipherals.co, Cochim: 9447041158, abacus_chn@vsnl.net,
Kolkata: 9830080103, kolkata@abacusperipherals.com,
Bangalore: 9844033528, bangalore@abacusperipherals.com,
Chennai: 044-32965772, chennai@abacusperipherals.com, Secunderabad: 9391308746,
secunderabad@abacusperipherals.com, Ranchi: 9334463384, jharkhand@abacusperipherals.com,
Bhubaneswar: 9337705624, orissa@abacusperipherals.com, Ahmedabad: 9328209998,
ahmedabad@abacusperipherals.com, Pune: 020- 32303383, pune@abacusperipherals.com.

Finally more Space

Hard disk manufacturers are packing increasingly more data onto hard disks. Future hard drives may even contain a laser or lubricant reservoir

BY MANFRED FLOHR



Pramod Jadhav

Those who have been crying hoarse over storage will be delighted to know that now hard disk drives for PCs will have storage space of a terabyte and more. This is not all—it is speculated that in future, the capacities of hard disks entering the market will double every two years. This means, notebooks that today have hard disks of 160 gigabytes will come fitted with drives with a storage capacity of 320 GB. If the manufacturers fail to come up with new innovations, then they will have to face the problem from 2010 onwards. This is because the problem lies in the fact that it is no longer enough to reduce the size of the bits on a hard disk. Manufacturers have been trying to make bits (the unit in which data is stored on hard drives) as small as possible so as to pack more information into the hard disks. If this method of packing data on a hard drive continues then sometime or the other the 'superparamagnetic effect' will turn into a game of roulette. This technique of reducing bit size has its side effects. If the bits on the disk are too small, then they could immediately lose orientation. In a worst-case scenario, even a slight change in temperature in the hard drive casing might render the data (which is saved in ones and zeros) unreadable.

The first step towards a change in technology was taken in the form of 'perpendicular recording' that makes sure all the bits are aligned perpendicular to the direction of disk rotation. Due to the direction in which the bits are arranged, the undesired reversion of polarity (caused by the superparamagnetic effect) can be successfully averted. In addition to this technology, manufacturers have been able to equip their hard disks with more sensitive electromagnets and improved algorithms for reading data.

Nonetheless, smaller bits also have a disadvantage—they create weaker magnetic fields. Perpendicular recording is a rather nascent technology and is being further refined today. It is ideal for data that needs to be very tightly packed in hard disks. Dr Dieter Weller,

Research Head at Seagate's Recording Media Center in the Silicon Valley reckons that with the introduction of this technology, a storage density of up to 500 gigabit per square inch can be achieved—today this density (known as areal density) is just 130 gigabits per square inch.

Heat makes hard metal writable

To pack more data into hard disks, new materials are required. This means they need to be handled in a completely new way. For instance, an Iron-Platinum alloy (FePt) has a very specific chemical structure. This hard material is supposed to prevent the tiny magnetic bits from undesired reversion of polarity. However in this case, the write head has to create an extremely strong magnetic field to be able to write the data on to the Iron-Platinum alloy.

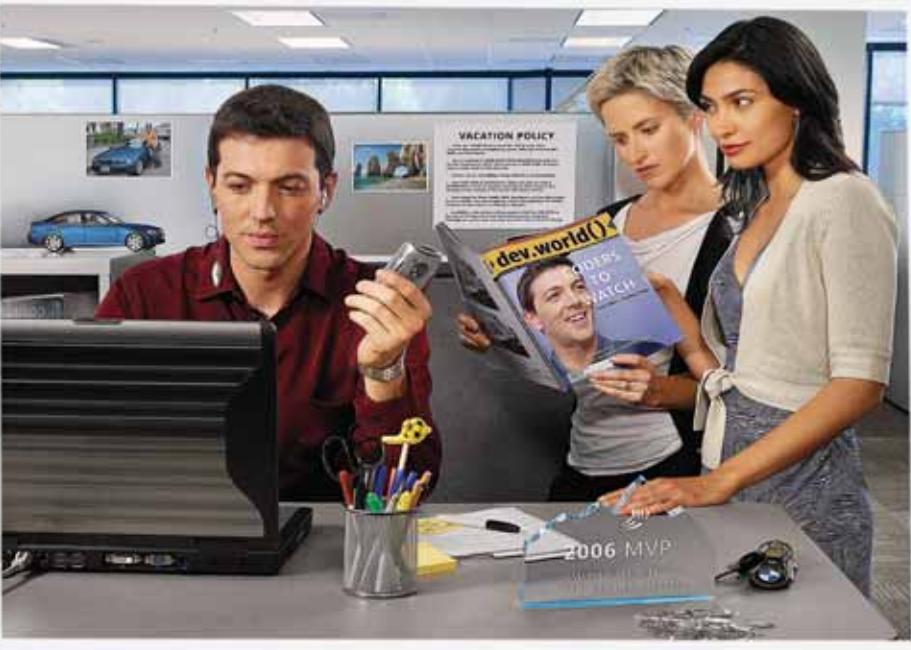
Seagate finds a solution for such infirmities in a technology called HAMR. HAMR is the acronym for 'Heat Assisted Magnetic Recording'. According to the vision of developers, although data will continue to be magnetically written on spinning disks, a laser will also be incorporated into the hard disks. The task of the laser is to heat the hard metal 'bit by bit' for a short while. The bits can also be easily arranged on this softened magnetic layer thus making the setup more stable after cooling.

The combination of the magnetic head with a laser is not new. For several years magneto-optical disk drive (MO) has been used as storage media. However, the MO drives seem to work in a slightly different manner as compared to the hard disk. "With HAMR, the magnetic head and the laser form one unit", reveals Seagate developer, Weller. The laser creates a hot point close to the write head on which the magnetic field and temperature work together. On the other hand, MO devices work with two separate heads.

For these devices an additional deletion process is required even before starting the writing process, which initializes the storage medium. The MOs are not fast enough to carry out both the processes at one go. Here the laser

Your potential. Our passion.™

Microsoft®



Visual Studio® 2005. The difference is obvious.

Spot the difference? Your peers will. A faster path to Visual Basic® 2005 makes it easier to leverage your existing skills, while taking on the challenging projects that make reputations. And get over 400 features that streamline coding, so you can focus on the work that matters. Find out more at microsoft.com/india/msdn/flash

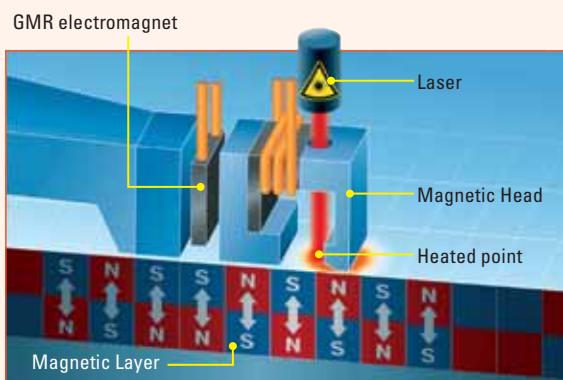
Microsoft®
Visual Studio® 2005

© 2006 Microsoft Corporation. All rights reserved. Microsoft, Visual Basic, Visual Studio, the Visual Studio logo, and "Your potential. Our passion." are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

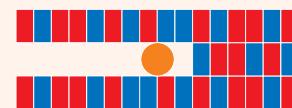
How HAMR works

'HEAT ASSISTED MAGNETIC RECORDING':

A direct laser in the magnetic write/read head supports the hard disk system while reversing the polarity of individual bits. Since the laser heats 'bit by bit', hard alloys like Iron-Platinum particles (FePt) can be used for the magnetic layer. Small bits are saved in a stable state in this layer.



MAGNETIZATION



SMALL BITS

For HAMR to function, the magnetic head and the laser beam must meet at a 60 nanometer spot.

and magnetic head are on different sides of the storage medium, whereas in case of HAMR, both are on the same side.

By increasing the speed, the developers can even miniaturize the electro-magnet in the magnetic head. With a size measuring barely 100 nanometers, the electro-magnet is five times smaller than those present in MO drives and thus moves in the same order of magnitude as the laser spot.

HAMR laboratory samples are already at the Seagate laboratory in Pittsburgh. However, the test setups here have little in common with hard disks. Although the disks readily achieve a storage density that exceeds that of the existing hard disks, these are not set up in the usual casing, instead these still rotate in the so called 'spin stands'—the most appropriate tools to test materials. Also, the required combination of iron and platinum cannot be easily manufactured. In future hard disks, when the disk surface needs to be subdivided in fine structures, the storage space for each bit is needs to be accurately determined. Currently, every bit of the disk's surface is composed of approximately 100 granules. As the bits get smaller, the precision factor becomes even more important. In FePt disks, a maximum of 50 granules form a bit cell. To achieve storage density of terabits per square inch, all the bit particles must have an identical size of only five nanometers.

However, technologies enabling the manufacture of such surfaces do not exist as yet. Although these could be manufactured using the procedure adopted

for producing chips, Dieter Weller favors the self-organization chemical procedure, which delivers the desired size of particles.

"Theoretically, the storage density of 40 to 50 terabit per square inch is possible", says Weller, which means producing hard disks that have a capacity of 150 terabytes. But it will take decades for this technology to be translated into commercial products.

Self-repairing hard disks

Magnetization of points that are becoming minute by the day require small spaces between the head and the disk surface. Today, just five nanometers (a millionth of a millimeter) amounts to this distance. It will not be too long until these dimensions further come down to two to three nanometers. With special protective layers

it could reduce to even one nanometer. At the same time, the industry wants to increase the rotational speed of the disks to 15,000 revolutions per minute.

To protect the sensitive magnetic layer, Fujitsu has developed a layer that has properties similar to that of Teflon. Seagate also believes that it is possible to use gases like Helium to prevent corrosion in hard disk casings.

Meanwhile, Americans have patented a technology in which the hard disk has a reservoir containing a lubricant. This method uses carbon nanotubes to lubricate the hard disk. In the event of damages to the disk surface due to contact with the read head or intense heat, the hard disk can repair itself with the help of carbon particles from the tank.

Robust disks are very important for using this technology in mobile devices like notebooks or MP3 players. For instance, Seagate plans to soon introduce 1.8-inch hard disks with a storage capacity up to 120 gigabytes for one of the next-generation Video iPods. Solid State Memory (read-only memory without movable parts) are strong contenders here. IBM, HP and Seagate are working on new storage technologies without spinning disks in which a field consisting of several write/read heads read data from a vibrating disk. The innovations continue...

Links

www.seagate.com/newsinfo/newsroom/papers/D2c25.html: Seagate. <http://jp.fujitsu.com/group/labs/>: Fujitsu ■



Entertainment Dose: Seagate envisions hard disks of 120 gigabytes that are especially robust for mobile devices like the Video iPod

THE WORLD NEEDS MORE
SKILLED DATABASE professionals.

Become one with an Oracle 9i certification from NIIT.

New Technology Edge Programs in Oracle 9i.
ENROLL TODAY.

ORACLE 9i DBA
(DATABASE ADMINISTRATOR)
PROFESSIONAL

Course Duration: 160 hrs
Exit Profile: Oracle 9i Certified Database Administrator

ORACLE 9i FORMS
DEVELOPER TRACK

Course Duration: 120 hrs
Exit Profile: Oracle 9i Certified Forms Developer

NIIT
edgeineers
WHERE WILL YOU TAKE THE FUTURE?

ORACLE

WORKFORCE
DEVELOPMENT
PROGRAM



Fortunetellers

What are the hot technology trends today and how will they affect us in the future? Find out what the industry experts have to say...

BY MARCO D'SOUZA



Sachin Pandit



We live in an age of continual innovation and adoption. More exemplified this year than ever before, we've seen the mushrooming of trends in every stream of technology around us—be it personal gadgets, cellular or the Internet, we are witnessing threads that waft and weave to form the intricate fabric of technology as it wraps around us. On the one hand, our country's annual Internet adoption is growing at a rate of 25 percent while the cellular world is ballooning at a humongous 45 percent. On the other hand, we are seeing scintillating examples of people using these two media on a different level altogether—online transactions, travel bookings, information access from cellular phones and the world of SMS feedback has significantly enhanced the functionality of these media. It is now that we are beginning to witness the true power of connectivity as software and hardware converge to deliver world-class convenience and power in the hands of the common user.

During this, our anniversary issue, we decided to supplement our customary technology and product reviews and features, by pulling back and looking at our world of technology through the eyes of industry leaders at the vanguard of it all. In addition to bringing you a landscape view of this industry and how it is poised to affect consumers, we bring you incisive viewpoints on a range of different technologies. With this year drawing to an end and another dawning on us, fledgling technologies will become tomorrow's trends, today's hot trends will grow to be such an intrinsic part of our lives that will fade into the background of our lives and better our societies.

Within the fields of desktop and portable computing hardware, online applications, Internet-based services and mobile applications, this is your world of technology tomorrow from the minds of the trendsetters themselves.



Desktop and mobile computers

RAJ SARAF

Chairman and Managing Director,
Zenith Computers

BACKGROUND

Founded in 1980, Zenith Computers is the largest manufacturer of desktop computers, laptops and servers in India. They have recently expanded to cater to the technology lifestyle market with displays and high-end home entertainment computers.

How has desktop hardware changed over the years?

Gone are the days when consumers were only looking for faster processors. Today it is becoming increasingly difficult to build a faster processor. Even if a 5 or 6 gigahertz processor could be built, you'd need a car radiator to cool it down! The trends today are moving towards the dual and quad core paradigm—wherein application load is distributed, resulting in smoother functioning. This trend will continue.

The mobile CPU will also evolve along the same lines—beyond the 2 Gigahertz mark, it will make sense to go in for additional functionality in the form of dual core, 64-bit, etc. With Widows Vista coming in, the minimum requirement for memory is going to be 1 GB. Sure it will run on 512 MB, but the usage experience would be compromised. Also with desktop storage, today's entry-level standard is 80 GB. Through it all, I believe prices are not going to fall. However, within the same price range, you will get better specifications. The 10,000-rupee PC will not exist for the very simple reason that manufacturers of CPUs, hard disks or monitors also have constraints as far as technology manufacturing goes. The entry-level PC prices that we see today are probably the lowest the PC prices will fall to.

What are the factors that can fuel PC adoption?

PC growth in India stands at 25-30 percent, but growth in countries like China is higher. This can be attributed to the fact that we do not have an Indian PC. I'm referring to an India language-driven PC. In case of several Microsoft applications, for example, you will find all sorts of language options—Russian, Slovakian, you name them. But there is no Indian language.

I believe the onus of effecting such a change lies with large Indian companies. They need to pool their resources together to effect such a

The entry-level PC prices we see today are probably the lowest we will ever see PC prices fall to

sweeping change. One cannot expect every computer user to know English. Today unless a person knows English, they cannot use a computer. When a device like the PIC was launched, I expressed my doubts on whether the system would be popular. The same goes with the Simputer. The price was the most significant hurdle against its adoption—at Rs 16,000 if a person could buy a full-fledged PC, why would they need these devices?

What about portable computing?

Starting with the PDA, it has not been very successful due to the inherent factor of it being cumbersome to use, its small screen size, its tiny keyboard, etc. It was but natural for the PDA's functionality to migrate toward the cellular phone. Going ahead, we expect users to have devices like a cellular phone and a notebook with a 10-inch screen at its most portable level. Between a mobile phone and this notebook computer, I believe there is no space for other devices to exist.

What are the prime reasons for computer buying?

Education is the most compelling reason. The student drives the buying decision in the household and the parents are comfortable with it. In the office space, the laptop will never completely replace a desktop. This is due to the inherent fear of data leaving of the office. People are also used to working on a 15- or 17-inch desktop. At that size, a similar laptop is way too large and expensive to appeal to the masses. However, laptops are ideally suited to SOHO or professional environments. Lifestyle products will see a growth. People want individuality and those with a higher disposable income will want products that embody a certain class and design besides aspects like features and performance. In urban scenarios, consumers are expecting more exclusivity in their technology products.

The Web today is transforming into 'My Web'

JASPREET BINDRA
Country Manager, MSN India



What are consumers demanding from the Internet these days?

With the proliferation of the Internet, software and services are converging. On a global level, there are three content models on the Web—the published model, aggregated model and search model. In the published model, you typically have the Web 1.0-type websites that we are all familiar with. This typically includes most of the media websites. The next model—Search—is a lot like a gatekeeper. This model says, "I am here and I will send you to various places in the Web". With players like Google and other search sites, this has become a large model. The last model is the aggregated model and typically includes elements of what is popularly known as Web 2.0. This model is typically powered by consumers who are evolved and don't necessarily want to search for information since they already know where to go. Users aggregate everything from the Web and put it in one place along with their own content, making it their own personal space on the Web. You will find plenty of this user-generated content and personalization on websites like MySpace, YouTube and My Yahoo. Today, online content is increasingly moving toward the aggregated and search models.

Microsoft has traditionally been strong in the publishing model. Taking it further, new initiatives like our Windows Live is taking us toward the aggregated model. When users log on to Windows Live, they find a blank page where they can aggregate information relevant to them. You get to decide what you want to see every morning when you arrive at the page.

So does this mean everything will eventually move to the online world?

No it won't. Take the case of Microsoft which has traditionally created offline products, unlike Google where everything is online. Being a

large organization, any change within Microsoft is accompanied by a momentum that usually spans paradigm shifts—we started off being PC-centric, then added on server, then .Net, and moved toward the Internet with Internet Explorer and other related technologies. The last 10 years have seen Microsoft moving more toward the Internet. Live includes both software and services. Certain things will continue to exist on the desktop—consumers will still prefer to have certain services on the desktop that they can choose to stay on.

With users increasing creating their own little world of content on the Internet, security will become an increasingly important issue.

With so much of the Web being user-powered, how does one find qualified information?

The Web today is transforming into 'My Web'. There's no thrill associated with 'discovering' the Internet because users are increasingly looking at familiar stuff. They now want to carve out their own space. More users are finding qualified and relevant information on the Internet when their information sources are linked together with other users through levels of trust. We are effecting this through MSN Spaces where users can choose their friends and decide upon the information they want to share.

When it comes to searching, with Live Search we have refrained from throwing millions of pages at users—here, everything's on one page, keeping only the most relevant stuff there. Of course, this is going to take a while to refine. As far as relevance is concerned, right now, we're at the 'DOS' of search—60 out of 100 times you don't find what you're searching for. While the speed element of online searching has been cracked, the localization and relevance has not. Refining this will be an ongoing process and efforts will continue on this path.

BACKGROUND

Launched in September 2000, MSN India is a web portal containing services that allow users to communicate, gather information and organize the Web around what is relevant to them. It features e-mail, customizable access to online information, news, lifestyle, sports, travel, entertainment, etc.

MSN India, a part of MSN Word, is the preferred online destination for Indians across the globe. In keeping with its motto of making the Web more useful everyday, MSN India helps people stay in touch with family, friends and colleagues.

MSN India continues to offer e-mail functionality, customizable access to the best of online content like news, lifestyle, sports and popular sites like travel, entertainment, etc. Today MSN India has over 12.5 million unique users on its network.



Spending and earning, Web style

BACKGROUND

eBay India (formerly Baazee.com) is an online marketplace where users can buy and sell. It has over 2 million registered users from about 670 cities across India. Users can sell a product or service either by auction, by stating a fixed-price or through classifieds.

AVNISH BAJAJ
Chairman, eBay India

Local artisans find ready buyers in both India and abroad via the Web

What has changed in the world of online transactions?

Indian Internet users have come a long way indeed—they are getting increasingly comfortable with the idea of buying and selling on the Internet. With the penetration of online banking, easy access to account information and the proliferation of debit and credit cards, it is now easier to trade on the Internet. There was a time when users were still getting accustomed to the idea of using the Internet. It is not just about the information but about serving real-world applications and needs through the Internet. This has of course been fueled in a significant way by the adoption of the Internet at various levels across the country.

From the usage standpoint, basic consumers are moving from simple document creation and e-mailing to more compelling applications like chat, while intermediate consumers are moving to even higher levels of creativity, communication and collaboration using enhanced capabilities of the Internet using Web 2.0-centric technologies. With eBay, the community effect has resulted in users getting accustomed to the idea of transacting on the Web. Even though users don't get to see the actual products, the very aspect of trusted ratings being given to buyers and sellers, along with our buyer protection schemes have resulted in greater confidence in online transactions. Besides consumer goods, electronics and handicrafts, even high-value goods are being bought and sold on our website. Our automobile trading segment has matured to such an extent that it is now a separate eBay property.

What about users who are apprehensive about using the Internet for trading?

eBay does have training schemes for users in smaller cities and towns. Here, we not only train users in using the website but also in selecting

product for the Web, setting pricing levels and reaching the widest audience possible. Especially in the case of smaller cities, we found that local artisans are able to find ready buyers in both India and abroad via the Web. In fact, about 30 percent of sales on eBay are directed toward foreign markets and buyers. For example, products like carved wooden furniture find plenty of buyers in large cities and even among international eBay buyers. Especially with smaller, local business, owners find it an effective platform to reach wider audiences. In fact, some of our sellers have found eBay to be so effective that they have done away with the physical aspect of their business and now transact exclusively online using our website.

Even among buyers, there has been a perceptible change in the way they shop on the Internet. With individuality being so important among the urban consumer today, they find eBay to be a good source for truly ethnic products, ranging from clothing to furniture to pottery to locally manufactured personal grooming products. For these kinds of products, smaller towns in states like Rajasthan or Kerala are great sources—they have local artists and craftsmen who create them. These products are easily available on the Web, so people don't need to take the effort of hunting for them.

How have web-based companies evolved in the recent past?

For companies that have significant portions of their functionality in the online world, the ones that are doing well are the ones that survived the dotcom bust. The 2001-03 time frame saw a new coming of the Internet, where there was renewed innovation. This has coincided with the development and consolidation of Internet technologies like AJAX and Java which have come together to create engaging online applications.

Online entertainment and communities



People are looking for relevant and, more importantly, localized information that serves their specific applications

When it comes to online entertainment and e-mail, how have consumers' needs changed over the years?

In the online world, there is such a huge variety of choice. Be it searching, e-mailing, online services, users now have several destinations they can go to, and most of them are free. For e-mailing, it isn't just the storage aspect of e-mail that is all important—after all, most Internet users aren't connected through broadband, and even the very definition of broadband in our country is a compromise when compared to global standards. Therefore, no matter what the size of the mailbox offered, majority of users don't have Internet pipes large enough to fill it. The key therefore lies in the functionality and the user experience with these online applications. With the new Yahoo Mail service, users will see a greater amount of familiarity with their traditional desktop mail along with extras that enhance their online mailing experience.

Yahoo has always specialized in delivering relevant content through its various online applications. We do not create any content, but source it from various points and deliver it through compelling web-based applications. There are several driving factors that will affect the widespread usage of online applications. Chief among them is their availability in local languages—once the information becomes localized, it will become more relevant for consumers. Consumers want to see something they can relate to. For example, the Avatars that we started in our Messenger are a big hit abroad and even here in India.

Also, users are looking increasingly at personalization. With the My Yahoo page, for example, users can handpick what they want to see on their own personalized web page and can choose from hundreds of thousands of sources covering a wide range of topics that appeal to them.

What are the elements that will effect change in the way people use the Web?

With the Internet, consumers are certainly looking for ways to have access to their favorite resources and they will want to be able to do so through various platforms besides the computer. Therefore, we will see increased usage of web-based services running on portable devices like cell phones and laptops. This is possible because of the availability of several applications with the proliferation of faster Internet access. Fueling this growth will be standards like WiMAX and next-generation cellular data services—these will certainly bring the Internet to the far reaches of the country and grow the user base significantly.

Strides in Internet technologies that are being referred to as Web 2.0 are also leading to the creation of new applications that let you do things better and more effectively on the Web. These will continue to be instrumental in driving tomorrow's online applications. Yahoo has been actively using these technologies ever since the past few years, but it is only recently that we are beginning to see these applications gaining popularity and acceptance.

How can users trust the information on the Web?

With more user-generated content appearing on the Web each day—either through text, audio or video—it is all too easy to stumble over content that is either irrelevant or so deeply buried that it cannot reach the user quickly enough. However, with groups of users on the Web converging into trusted circles, it results in relevant information being distributed amongst the members. It is websites and applications such as these which will spawn the next wave of information search and retrieval on the Web. People are looking for relevant and, more importantly, localized information that serves their specific applications.

BACKGROUND

Launched in June 2000, Yahoo India is a leading Internet portal providing value-added services for web users in India and abroad with interests in India. They provide online products and services across communications, commerce and content services such as e-mail, search, messenger, finance, chat, photos, shopping, news and so on.



Mobile applications

BACKGROUND

Founded in 2004, Webaroo pioneered an innovation that lets users surf the Web offline on their laptops or mobile devices. After downloading the Webaroo client, you can access real Web pages with real search results on a variety of topics like travel, technology, lifestyle etc. Webaroo's innovative algorithms analyze web pages, selecting pages that are relevant, of high quality and with broad coverage, providing abundant information in small downloadable 'Web packs'.

Consumers are increasingly using mobile applications. What are the prime drivers of this trend?

Several really—some of the most important being the explosion in adoption rates of mobile telephony due to falling prices of hardware and services plans, coupled with the fact that flash memory prices are also plummeting. In the case of portable memory, about ten years ago manufacturers used to talk about 1 MB Flash memory devices, ten years before that it was a kilobyte, today we speak in gigabytes and ten years from now it is bound to reach terabytes.

The number of mobile phone users in the country with phones priced at about 10,000 rupees is far lesser than those with basic, entry-level phones. Here at Webaroo, we aim to bring relevant information to mobile users that they can carry around with them and use even if they are not connected to the Internet. Through our Web packs, they can pull up information on a wide variety of topics ranging from city information, hobbies, sports, technology etc. Up ahead, we want to bring this functionality to mobile devices with even lower storage capabilities—like the entry-level phones that have about a megabyte of memory on them. With these users, since there isn't space to store large file sizes, we are aiming at creating a system where they can obtain information from either the Internet or other users and then use it temporarily. When they need information on the next topic, they simply discard what is currently stored on their phone and reload it with the next chunk of information. This 'cache and search' will bring information to users no matter where they are.

This brings me to another important trend—that of mobile users sharing information with each other. With almost every new phone having Bluetooth capabilities, users are increasingly sharing the information they like with friends. This information can be everything

'Cache and search' will bring information to users no matter where they are

RAKESH MATHUR

CEO, Webaroo

from images to videos to documents and files.

In this scenario, having a medium to store it on is important and therefore the amounts of memory on cell phones (or the ability to upgrade it), will definitely increase.

Extending the fact that file storage is now becoming such an integral part of personal technology, users are looking for a way to carry their information wherever they go, and also to use it wherever they are. One of the developments we've seen happening is the increasing demand for portable data storage like USB thumb drives consumers can use to hold their personal data. On the next level, standards like U3 would go a long way in enabling users to even carry relevant applications with them. It seems as if computing is now becoming more decentralized, where focus is decidedly moving toward the storage.

What will change in the way people access their information?

People today need access to relevant information. They already know the sources of this information—the Web, other users, etc. At present, there are still too many hurdles on the way to high quality Internet access in India—policies, laying the infrastructure (either wired or wireless), pricing, service providers etc. It will definitely be a while until all of these aspects come together, but in the meanwhile people will still want their information. This is where a product and service like Webaroo will supply mobile users with data that is relevant to them, wherever they need it. Even after broadband services in India reach maturity, we will see several consumers enter technology cycles at several entry points—if a certain number of consumers are moving up from always-on connectivity to true broadband, there are a large number moving from dial-up to always-on connectivity. Online and offline services will both continue to co-exist.

Love it, Moser Baer it.



It's the beginning
of a new life - vibrant, joyous
and full of promise.
But as the mehndi fades, so do the
memories of your most special day.

Don't let time fade

these precious moments.
Entrust them to a Moser Baer
recordable or rewritable DVD or
CD and keep your memories
fresh forever.



CD-R's with
Scratch Guard
protection.

TWMA12Z Chip R

For technical support / purchase queries call : 1800-111113 or visit www.moserbaer.in

MOSER BAER INDIA LTD.: Corporate office: 43B, Okhla Industrial Estate, New Delhi - 110020, India. Ph: 91-11-41635201-05, 26911570-74, Fax: 91-11-41635211 / 26911860. **NORTH:** Delhi: Ph: 9811135851, 9873155223, Chandigarh/Punjab/HP/J&K: Ph: 9360051451, UP/Uttaranchal/Haryana/NCR: Ph: 9811135629, 9335332227, 9819199023, Rajasthan: Ph: 9314631537. **EAST:** West Bengal: Ph: 9331049976, North East: Ph: 9864044723, Orissa: Ph: 9338230761. **CENTRAL:** MP/Chhattisgarh: Ph: 9303131091. **WEST:** Maharashtra/Goa: Ph: 9322693256, 9322654640, 9371156990, Gujarat: Ph: 9327076752. **SOUTH:** Tamil Nadu: Ph: 9381077169, Andhra Pradesh: Ph: 9393044555, Karnataka/Kerala: Ph: 9341258175. Also available at all Reliance WebWorld outlets across the country.

moserbaer
DVD ± R/RW • CD-R/RW • MINI DVD-R • MINI CD-R



Pramod Jadhav

Top Gear

This month being our anniversary issue, we've beefed up the product count. We feature a wide range of products from a stylish gaming cabinet to a top-of-the-line motherboard with built-in Wi-Fi. The ultra portable Lenovo X60 notebook has an exceptional battery life of 6 hours.

The single card version of the 7950 GX2 called the Nvidia 7950 GT comes at a lower price point for enthusiasts. Also take a look at the mammoth 850-watt power supply unit that is Nvidia GeForce 8800 SLI certified and provides enough juice for your system.

The book-sized external hard drive from Western Digital supports the FireWire interface giving an opportunity to gauge the performance difference between the USB 2.0 and FireWire interfaces. For your listening/audio conferencing needs, we bring you a headset that not only sounds great but is also a good value-for-money deal.

Apart from the above, there is an ultra portable, spiffy pen drive that provides 1 GB of storage and looks more like a toy from LegoLand. Read on to find out our views on these products.

Ratings Explained

The products in the individual and comparison tests share exactly the same test procedures.

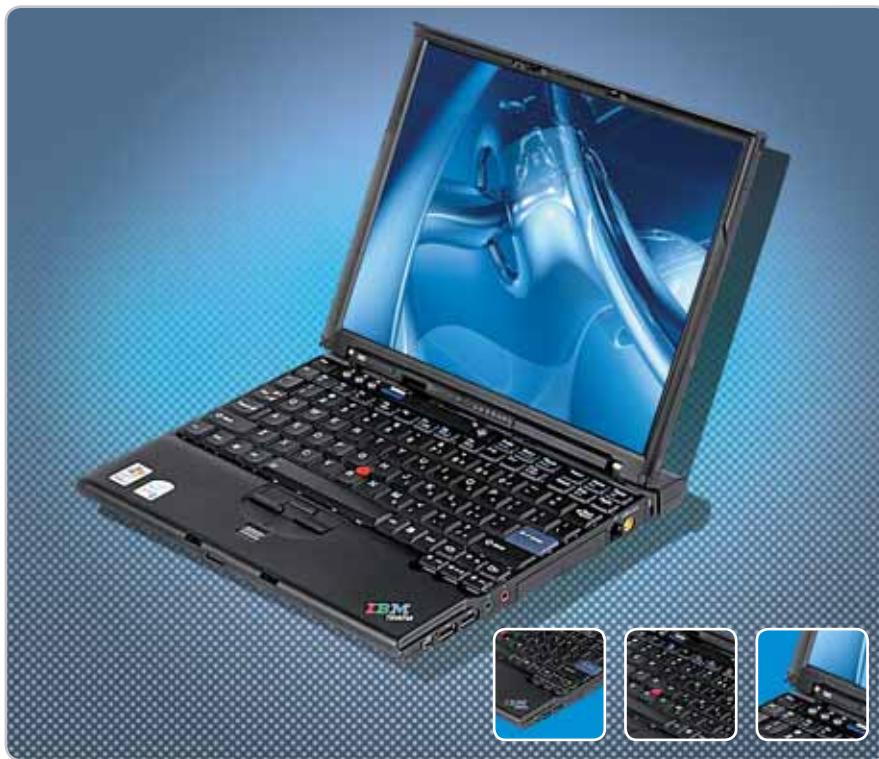
Each product in Top Gear is rated on a scale of 5 for different key parameters: Performance, Build Quality, Features, Ergonomics and Warranty. These vary according to the characteristics of the hardware. For instance, ergonomics (ease of use) is not important in a graphics card and therefore, it will not be evaluated for this.

A product's Overall Rating is calculated by assigning weightages to each evaluation parameter—the more important a parameter, the

higher is the weightage allotted to it.

In addition, there is a Value for Money rating, which is calculated from the performance and the features of the product in relation to the price. High performance and lots of features at a low price translates into a better Value for Money rating. This rating is calculated using current prices.

NOTE: The prices mentioned here do not include taxes. Hence, they will vary according to the taxes applicable in the city or state where you buy the product from.



POWER ON THE MOVE ▶ The Lenovo X60 is an ultra-portable laptop just about the size of an actual notebook. A sleek black beauty, it weighs merely 1.5 kgs and yet packs in a great set of features and superb performance, making it ideal for serious computing while you're on the move. It's so small and light that even typing with one hand while you're standing is quite comfortable.

Features

The X60 is powered by Intel Core Duo T2400 processor clocked at 1.83 GHz and 512 MB of DDR2 memory. This makes it powerful enough for basic home and office use while offering a good battery life at the same time. The notebook comes fitted with a 60 GB SATA hard drive having a spindle speed of 5400 rpm. Thus you get ample storage space for movies and music if you need some entertainment on the go. However, we wouldn't recommend this one for watching movies or playing games as it's a simple machine meant purely for work.

Being ultra-portable, the size of the screen is restricted by the form factor. Although 12.1-inch for a screen is quite small, the display is crisp and doesn't strain the eyes. Networking components

include support for Gigabit Ethernet, Wi-Fi 802.11 a/b/g and a 56K modem. Security is a major concern at the workplace especially when you're not at your seat. To prevent unauthorized access, this notebook features biometric security in the form of a fingerprint scanner. Finally, 3 USB ports, SD card reader, PCMCIA slot and IR port round up the feature set.

Build quality and ergonomics

The build quality of the notebook is top notch. The screen frame, chassis, keyboard, hinges and buttons are all robust with a great finish. Lenovo has paid close attention to ergonomics. The keyboard layout is a major issue in most ultra-portable notebooks. But this one features a fantastic keyboard with regular sized and well-spaced keys, thanks to seven rows of keys instead of six. The mouse is in the form of a pointing stub located at the center of the keyboard.

Performance

For a machine with a dual core processor and 512 MB of DDR2 memory, we found it a tad sluggish. However, it will hardly make any difference to you if you are going to use it only for basic applications like using the Microsoft Office suite,

NOTEBOOK

Lenovo X60

Specifications

Dimensions (WxHxD): 267 x 282 x 210 mm, Weight: 1.6 kg, Processor: Intel Core Duo T2400, Chipset: Intel 945GM, Memory: 512 MB DDR2, Hard drive: 60 GB, Display: 12.1-inch, 3 USB ports, Gigabit Ethernet, 56K Modem, 802.11 a/b/g, SD card reader, IR

Price	Rs 87,900
Contact	Rahul Agarwal
Phone	022-30533019
E-mail	buy@in.lenovo.com
Website	www.lenovo.com/in/en
Warranty	1 year

RATINGS

Build quality	
Ergonomics	
Performance	
Features	
Overall Rating	
Value for Money	

surfing on the Internet and for e-mail.

Verdict

A great package for those who are frequently on the move and require a powerful ultra-portable laptop.

FOR: Great form factor, excellent battery life and very good ergonomics.

AGAINST: No optical drive, a bit sluggish.

Scores

PC MARK 05

Overall	: 2776
CPU	: 4233
Memory	: 2849
HDD	: 3028

SISOFT SANDRA 2007

Processor arithmetic	
Dhrystones	: 12328
Whetstones	: 9089
Memory bandwidth	: 3462 MB/s

FILE SYSTEM

Sequential read: 29 MB/s
Sequential write: 30 MB/s

MOBILE MARK 2002: 6 HOURS

Real World Tests
Video Encoding: 42 fps
Doom 3: 640x480@low: 15 fps

SMARTPHONE**Nokia E61****Specifications**

Dimensions (WxHxD): 69.7x117x14 mm, Weight: 144g, Display: 16M color 2.5-inch TFT screen, Resolution: 320x240, Built-in Memory: 64 MB, Expandable Memory: 64 MB miniSD, Network: quad-band GSM, Connectivity: Infrared, Bluetooth, Wireless LAN, Pop-Port to USB cable, Battery: 3.7V, 1500 mAh

Price Rs 21,249

Contact Nokia India Pvt Ltd

Phone 022-26128112

Website www.nokia.com

Warranty 1 year

RATINGS

Build quality

Ergonomics

Performance

Features

Overall Rating

Value for Money

**FORGET ABOUT THE BULK ▶**

Nokia introduced its new line of business phones in the first quarter of 2006 in the international market. The Nokia E-series reached Indian shores only recently. The E-series consist of the E60, E61 and E70. They offer services and features oriented to business activities. All of the phones greatly differ from one another other in terms of their form factors. Let's take a closer look at the Blackberry-lookalike, the E61.

Build and ergonomics

The E61 is the largest of the E-series phones but still manages to retain a rather slim structure. Unlike the Treo series—which it is usually compared to—it has an internal antenna and is not as ‘thick’ either. The 2.5-inch screen is large and in landscape mode. The display is good and makes document reading easier. The phone provides volume control and a voice recorder button on the side panel. It has a QWERTY keyboard with two ‘Shift’ buttons on either side of the spacebar, a blue ‘Function’ key, a single [CTRL] key and a special ‘Character’ key. The blue ‘Function’ key and ‘Shift’ keys take a while to get used to since only some of the special characters on the keys require the use of ‘Shift’. The keys are quite small

but evenly spaced. It will take sometime getting used to them if you have thick fingers. The ‘backspace’ key functions as the ‘Clear’ button (found on older Symbian version phones). Hot keys like the ‘Menu’ and ‘Mail’ buttons are placed adjacent to the joystick. The buttons have a harder tactile feel but are very responsive.

Features and applications

The E61 is a 3rd edition Series 60 phone running Symbian OS version 9.1. The phone keeps you quite functional while on the move. During times of network outages, you can settle to either play a game of Golf Pro or work on your presentation on the Office Suite. You can create and save a presentation on

your phone, connect to a PC either as a USB storage device or send the file via Bluetooth to another device. A stylus would have been useful while creating spreadsheets.

The size of the display is ideal for working on documents or while using a GPRS/EGPRS/UMTS connection. The mouse pointer helps to navigate the page—as in the case of the N-series phones. This can get a bit cumbersome. However, it supports AJAX pages as well as RSS feeds. Using Opera Mini, however, reduced the time spent browsing since it adjusts the page to the screen size on the fly.

Verdict

This smartphone has features ideal for those who need to work and stay connected while on the move. Receive video calls, use VoIP, connect via a wireless LAN, infrared or Bluetooth, or simply answer your mail—this phone will do all this for you. The E61 has good battery life too—it will easily see you through three days of basic usage.

FOR: Supports Blackberry service, wireless connectivity, slim form factor, antenna-less design and good battery life.

AGAINST: A touchscreen with a stylus should have been present. Weak vibrator.



The E61 smartphone offers many wireless connectivity options

UMAX

< max your life >

Now watch all your favourite
TV programs on your PC!



TV 5810E
Ext LCD TV box with built-in speakers
Compatible with LCD/CRT monitors

Get the New UMAX Tvision today.



UTV 320
USB 2.0 Ext. TV-Tuner
Compatible with Notebooks



TV 3820E
5TH Generation Combo Chip
Compatible with CRT monitors



UT 1288
4TH Generation Ext. TV-Tuner
Compatible with CRT monitors

Common features: Stores upto 1000 channels, comes with remote, PIP function, TV wall preview function, 2 year warranty

neoteric informatique pvt. ltd. Corporate Office: 225, Chintamani Plaza, Andheri-Kurla Road, Andheri (E), Mumbai - 400099, India. Tel: 91-22-39828600 Fax: 91-22-39828694

Ahmedabad: 79-26754523, F: 79-26741231	Gandhinagar: 422-2490085, F: 422-4374534	Hyderabad: 40-53382231, F: 40-27845204	Pune: 20-24487666, F: 20-24484442
Bangalore: 80-24831168, F: 80-24831115	Delhi: 011-26445318	Indore: 731-4026619	Rajkot: 771-3290878
Bhubaneswar: 674-2543103, F: 674-2545160	Dibrugarh: 135-3299010	Jalpur: 141-2360978, F: 141-2379314	Ranchi: 651-3331176
Chandigarh: 172-3918467, F: 172-4446563	Ghaziabad: 170-2991208, F: 170-2991208	Jammu: 191-2562039, M: 9119134465	Surat: 261-3299753, F: 261-32460005
Chennai: 44-28190444, F: 44-28190476	Goa: 832-3296791	Kanpur: 512-3919043	Trivandrum: 471-3259504
Cochin: 484-2319330, F: 484-23124310	Guwahati: 361-2606152	Kolkata: 33-22346347, F: 33-22346386	Varanasi: 891-3201000

neoteric
sales@neoteric.co.in

MP3 PLAYER**Samsung YP-K5****Specifications**

Dimensions (WxHxD): 98x47x18 mm, Weight: 108 gms, Memory: 2 GB flash, Connectivity: USB 2.0, Formats supported: MP3 and WMA, Display: 1.7-inch color OLED, Integrated features: FM tuner, photo viewer and alarm, Battery life: 30 hours

Price	Rs 14,900
Contact	Samsung India Electronics Ltd
Phone	011-41511234
E-mail	praveen.c@samsung.com
Website	www.samsung.com/in
Warranty	1 year

RATINGS

Build quality	
Ergonomics	
Performance	
Features	
Overall Rating	
Value for Money	



GET INTO THE GROOVE ▶ The YP-K5 is Samsung's latest and the hottest MP3 player that will leave you floored with its unique design and a whole lot of goodies packed in its smooth, black body with a glossy face.

When switched on, it'll surely turn some heads as it sports a backlit touch-sensitive navigation system and a slick 1.7-inch color OLED display, residing above the controls. The most striking feature is the eye-catching user interface. The functions (music, FM, photo and alarm) are denoted by animated figures made up of dots. As you keep scrolling, the figures morph into each other—very neat!

On an average, most solid-state players are sleek devices hardly weighing around

48 grams. However, the K5 is a bit hefty, weighing 108 grams. That's because the player integrates stereo speakers. Looking at the player you won't know it has built-in speakers as they are concealed. To reveal the speakers you have to turn the player sideways and slide down its face. The tiny neodymium speakers are neatly packed in a panel protected by a shiny steel mesh. The moment you slide out the speakers, the orientation of the display changes to landscape and the output automatically switches from earphones to speakers.

The player houses 2 GB of flash memory that can hold around 400 songs or 25 music albums. After connecting the player to the PC, it is detected as a mass storage device. But to transfer

music you can either use Samsung Media Studio 5 that comes bundled or the Windows Media Player 10. The audio formats supported are MP3 and WMA of all bitrates. The K5 features FM radio and displays photos in the JPEG format.

Performance

Overall, the K5 is a stellar performer. The controls are not over sensitive and the user interface is quick. The bundled rubber-tipped earphones sound excellent. The sound quality is top notch with a good balance of frequencies. If you still aren't satisfied with the output, you can use equalizer presets to enhance the sound quality. The rated battery life of the player is 30 hours through earphones and 6 hours through the speakers.

Verdict

For a 2 GB flash player, the price tag of the K5 is heavy. After all, you will be spending for great features and performance. But the player goes beyond the concept of personalized listening as you are able to share music with people around.

FOR: Excellent battery life, intuitive controls, good built-in speakers.

AGAINST: No voice recorder and video playback, a bit bulky for a flash player.



The player slides open to reveal the stereo speakers



Using Windows Media Player you can sync playlists with K5

CREATIVE



Survival of the Fittest: How speakers evolve

Wireless 5.1 Speaker



GIGAWORKS G550W

Ultimate 7.1 Speaker



Powerful ProGaming 5.1



GIGAWORKS G500



Inspire 7.1
T7900



Inspire 5.1
T6060



Inspire 2.1
T3030



I-Trigue
L3800



I-Trigue
3400



I-Trigue
3220



1GB/512MB
MUVO SLIM



1GB/512MB/256MB
MUVO TX FM



1GB/2GB/4GB
ZEN V PLUS



30GB/60GB
ZEN VISION : M



30GB/60GB
ZEN VISION : W



HN-700



HN-505



ZEN Aurvana



SL 3100



CB-2530



HQ-65



HQ-1300



HS-300



HS-350



EP-230



EP-480



EP-635

PC CABINET**Asus Vento 7700****Specifications**

Form Factor: ATX, Expansion Slots: 7, Drive bays: 5.25 x4 inches, 3.5x2 inches, System fans: Rear: 80 mm x 2, Front: None, Front I/O: USB 2.0 x 4, Line Out, Mic, FireWire, Dimensions (WxHxD): 308x627x527 mm

Price	Rs 9,500
Contact	Vinay Shetty
Phone	022-40558888
E-mail	media_india@asus.com
Website	www.asus.com

RATINGS

Build quality	
Performance	
Features	
Overall Rating	
Value for Money	



KILLER CASE ▶ Opening up a PC case and modding it is a pastime a geek loves to indulge in and also brag about. Case mods allow users to personalize their computers in terms of design as well as functionality. Nowadays, PC case designs are out of the box and look funky. Today's cases have plastic windows to customize fans, knobs, lights; they are also of different shapes and sizes.

This trend of sexy cases is catching up and will remain for a while. Computer manufacturers feel that there is a market for case mods. Case mods impart an aesthetic appearance to the otherwise simple looking and boring cases that you're so used to seeing in your study. This month we review one such case offering by Asus called the Asus Vento 7700 case system.

Aesthetics

A closer look at the cabinet and you will feel you are in front of a miniaturized version of an alien ship. This case is a little less complicated than the Asus Vento 3600 that we reviewed earlier. The 7700 features a good color combination of blue and black that imparts a sexy look and feel. The silver X-shaped frame enhances its overall appearance. The power button

has a colored LED and the black frame is covered by UV coat that makes the case glow in the dark.

Build quality and design

As far as build quality is concerned, this cabinet has a plastic body over a metal casing. But the quality of the plastic makes it prone to scratches. The shiny black top portion of the case is prone to getting smudged easily with fingerprints. So make sure you clean it on a regular basis.

The front flap design shows improvement from the 3600 and it does not slap on the top surface of the cabinet anymore. The edges are smoothed out—this can be a boon for many a system assemblers who have experienced cuts due to sharp metallic edges of the cabinet. It provides a complete tool less design. Clips are provided inside for attaching hard drives and optical drives.

However, what we missed in this cabinet is a reset button. Ventilation areas that are provided on both sides of the cabinet pulls in cool air to stabilize system temperature. Another negative aspect of the case is it is very difficult to carry it even without the components inside. Wheels should have been provided for facilitating movement of the cabinet.

Features and setup

The Asus Vento supports the ATX and microATX form factor motherboards. The cabinet has four 5.25-inch, two 3.5-inch and four internal 3.5-inch drive bays. This means you have plenty of space to fit in hard drives into the case, and make use of the RAID feature if required. There are seven expansion slots to plug in additional cards. The front site features an audio jack, a microphone, four USB 2.0 ports and a FireWire port. Two 80 mm fans are provided on the rear side of the cabinet and a single 80 mm fan on the front side provides smoother circulation of air. Clips are provided to cover the PCI slot so that cards can be easily fixed and removed.

Verdict

Asus has surely added more features to the Vento 7700 as compared to what it had packed in within the 3600. It is better in terms of looks also. But you might want to question whether spending Rs 9,500 for a cabinet only for looks is worth or not. There are better cabinet systems available at much lower price points.

FOR: Good looks, tool-free operation, good air flow.

AGAINST: Too expensive, average build quality.



*Celebrate this New Year with a great
LCD monitor and big profits.*

With TCL 'A' grade LCD monitors, your celebrations just don't cease. As a TCL dealer, you stand to win a lot more than just loyal customers.

Checkout the prizes:

**3 nights / 2 days trip to Bangkok, TCL K10 Laptop, TCL DV007 Digital Camera,
TCL TWM-60DC Washing Machine & TCL TC18J Induction Cooker.**

With an offer like this, profit making is a piece of cake. Join in, be a part of this money minting opportunity.

Conditions Apply

TCL

My New Favourite

Better Luminance

Superior Contrast Ratio

Quick Response Time

Wide Viewing Angle

Slim Design



Best quality. Affordable prices.

TCL INDIA HOLDINGS PVT. LTD.

Marwah Centre, 3rd Floor, Krishnalal Marwah Marg, Andheri (E), Mumbai - 400 072. Tel: 022-40080619. Fax: 40080800. e-mail: mabh@tcl.com

BRANCHES - Mumbai Tel: 022-40080600 • **Pune** Tel: 020-56016743 / 56021765 • **Nagpur** Tel: 07104-221712

DISTRIBUTORS - Vardhaman Computers, 313, Bhaveshwar Arcade, opp. Shreyas Cinema, L. B. S. Marg, Ghatkopar (W), Mumbai - 400 086.
Tel: 022-25007002, 39526026. Mob: 09322271321. OEM: 09322268875. e-mail: amit@rambhia.com • Nageshwar Infotech Ltd., Lamington Road. Tel: 23891039,
23822280, 56331479. • Spectrum, Mulund. Tel: 25601487. Mob: 09821027083. • DSK Infotech Pvt. Ltd., Tel: 020-25512394 / 12395 / 30724. Mob: 09881496624.

AMONCLT FOCUS

NOTEBOOK**ACI Matrix 1425****Specifications**

Processor: Intel Core Duo T2300, 1.66 GHz (Yonah),
 Memory: 512 MB DDR2, Storage: 80 GB, Display:
 Nvidia GeForce Go 7300, Optical Drive: 8x DVD
 Writer, Wireless: Intel PRO b/g, Card Reader,
 Integrated web cam

Price	Rs 55,999
Contact	Allied Computers Intl Ltd
Phone	022-40947000
E-mail	sales@aci-india.com
Warranty	1 Year
Website	www.aci-asia.com

RATINGS

Build quality	
Performance	
Features	
Overall Rating	
Value for Money	



IMPROVED FEATURES ▶ In the past ACI laptops left much to be desired. Their lower price point affected either the build quality, performance or features. But the Matrix 1425 notebook promises much more than what was offered before.

Features

This ACI notebook is powered by an Intel Core Duo (Yonah) processor running at 1.66 GHz, which means it can provide enough juice to the system to run most power-hungry applications. The notebook features an Intel I945PM chipset with 512 MB of DDR2 memory running at 667 MHz. The graphics of this notebook is powered by an Nvidia GeForce Go 7300 graphics card with 256 MB of memory. Storage options include a 74 GB IDE hard drive from Western Digital. Also included is an 8x DVD writer that can even write to dual layer DVD media. Digital enthusiasts will be happy with the inbuilt card reader, capable of reading SD, MMC and Memory Stick formats. The 15.4-inch widescreen LCD is ideal for watching movies and DVDs. An integrated web cam positioned on top of the LCD enables video chatting over the Internet through different instant messaging applications.

Connectivity options include two 3.5

mm jacks for audio out and microphone connectivity. There are four USB ports in all to ensure connectivity with external devices. It even supports a FireWire port to enable connectivity with external Firewire devices. Video options include a D-SUB port for connectivity with an external monitor and an S-Video port for connection with a television set. Network connectivity options include a GbE network port and an inbuilt modem. It also features the Intel PRO b/g wireless connectivity.

Build quality and design

The glossy LCD screen draws your attention. It is of good quality allowing viewing of smooth and sharp images. Although the build quality of the notebook is average, it is a huge improvement from what ACI produced in the past. The plastic surface is thicker and sturdier though it still needs to improve to be on par with laptops belonging to popular brands. The keys are large and well spaced but the overall quality of the keyboard is not up to the mark. When you type harder, the keys sink under pressure.

Performance

The performance was impressive in all

respects except in the case of battery life. Mobilemark measured a battery life of 1 hour and 44 minutes, which is far too less as compared to the two-and-a-half hour battery life offered by other brands. This is probably the only area where the ACI lacks behind and stops people from looking at it as an alternative.

The 3D Mark 2005 score was 1661 which is average for a GeForce Go 7300 series graphics solution. In real-world terms, this translated to running Doom 3 at 1024x768 resolutions while offering playable frame rates at 33.6 fps. Its PC Mark score was quite good at 2496 and the memory bandwidth recorded 3473 MB/s in SiSoft Sandra. As regards the real-world benchmarks, this notebook was able to finish our audio encoding test in 1 minute and 47 seconds and video encoding in 2 minutes and 3 seconds which is commendable.

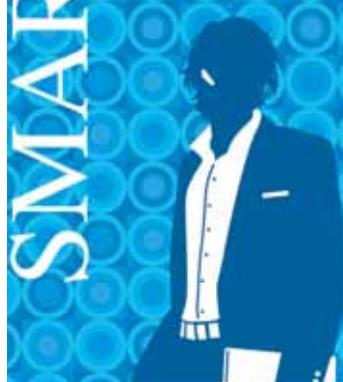
Verdict

While the ACI Matrix 1425 is a decent laptop as far as performance and features are concerned, its battery life and price leave much to be desired.

FOR: Good performance, decent set of features, good LCD screen.

AGAINST: Poor battery life.

SMART



SAVVY



STYLISH



SPORTY


P975 Platinum

- Base on Intel® 975X Express Chipset
- Support LGA775 Intel Core™ 2 Processors
- Support 1066/800/533 MHz FSB
- Support DDR2-1066/800/667/533
- 2 PCI Express x16& 2 PCI Express x1 slots
- Support ATI CrossFire Technology
- 4+1 SATA2 3Gb/s Support RAID
- Support 7.1 Channel Dolby MS HD Audio
- Support Intel® PRO Gigabit LAN


P965 Neo-V

- Socket AM2 for AMD Athlon 64/X2/FX processors
- NVIDIA nForce 590 SLI Chipset
- 4 DIMM Dual Channel DDR2 800 up to 8GB
- Sound Blaster Audigy SE
- 7.1 CH Hardware Audio with EAX HD
- Dual Gigabit LAN
- 10x USB 2.0, 3x IEEE1394
- Dual CoreCell with D.O.T. Express
- Heatpipe and Silent Sink design


K9 Diamond

- Socket AM2 for AMD Athlon 64/X2/FX processors
- NVIDIA nForce 590 SLI Chipset
- 4 DIMM Dual Channel DDR2 800 up to 8GB
- Sound Blaster Audigy SE
- 7.1 CH Hardware Audio with EAX HD
- Dual Gigabit LAN
- 10x USB 2.0, 3x IEEE1394
- Dual CoreCell with D.O.T. Express
- Heatpipe and Silent Sink design


K9VGM-V

- Base on VIA K8T890 chipset
- Support Socket AM2 AMD® Athlon® 64 X2/FX and Sempron® processors
- Support HyperTransport 2GT/s
- Support dual channel DDR2-800/667/533
- Integrated Chrome9™ graphics
- Support PCI Express x16
- Support 7.1 channel surround audio


NX7900GTX-T2D512E

- Core: 650 MHz, Memory: 1600 MHz
- Memory Interface: 256bit
- High speed DDR3 design
- Nvidia® CineFX® 4.0 Engine,
- UltraShadow II Technology
- Intellisample™ 4.0 Technology
- Open GL 2.0, Shader Model 3.0, DirectX 9.0c
- True high dynamic-range (HDR) lighting support
- Support up to 2560x1600 in flat-panel display
- SLI™ Technology ready


NX7600GT-T2D256E

- Core: 560 MHz, Memory: 1400 MHz
- Memory Interface: 128bit
- High speed DDR3 design
- Nvidia CineFX 4.0 Engine,
- UltraShadow II Technology
- Intellisample™ 4.0 Technology
- Open GL 2.0, Shader Model 3.0, DirectX 9.0c
- True high dynamic-range (HDR) lighting support
- Support up to 2560x1600 in flat-panel display
- SLI™ Technology ready


RX1900XTX-VT2D512E RX1600PRO-TD256E

- Powered by ATI® RADEON® X1900XTX
- 90nm Process GPU
- GPU 650MHz/ Memory 1550MHz
- 48 Pixel/ 8 Vertex Shader Processors
- 512MB DDR3 Graphic Memory
- Dual DVI/ VIVO/ HDTV-Out Support
- Dual-Link DVI for High Resolution Display
- ATI AVIVO™ Video & Display Technology
- PCI Express 16X Interface



- Powered by ATI® RADEON® X1600PRO
- 90nm Process GPU
- 256MB DDR2 Graphic Memory
- HDTV-Out Ready
- Dual-Link DVI for High Resolution Display
- ATI AVIVO™ Video & Display Technology
- PCI Express 16X Interface
- Compatible for all DirectX 9.0® & OpenGL® 2.0 Applications

WHERE TO BUY

Esys Information Technologies

Tel: 011- 39700011

email: manishsood@esysmail.com

Maxtone Electronics Pvt. Ltd.

Tel: 022-3016466

email: sg@maxtone.com

Priya Ltd.

Tel: 022-56663100

email: priyabom@priyagroup.com

Tirupati Enterprises

Tel: 033-22251193

email: abhishek@tirupati.net



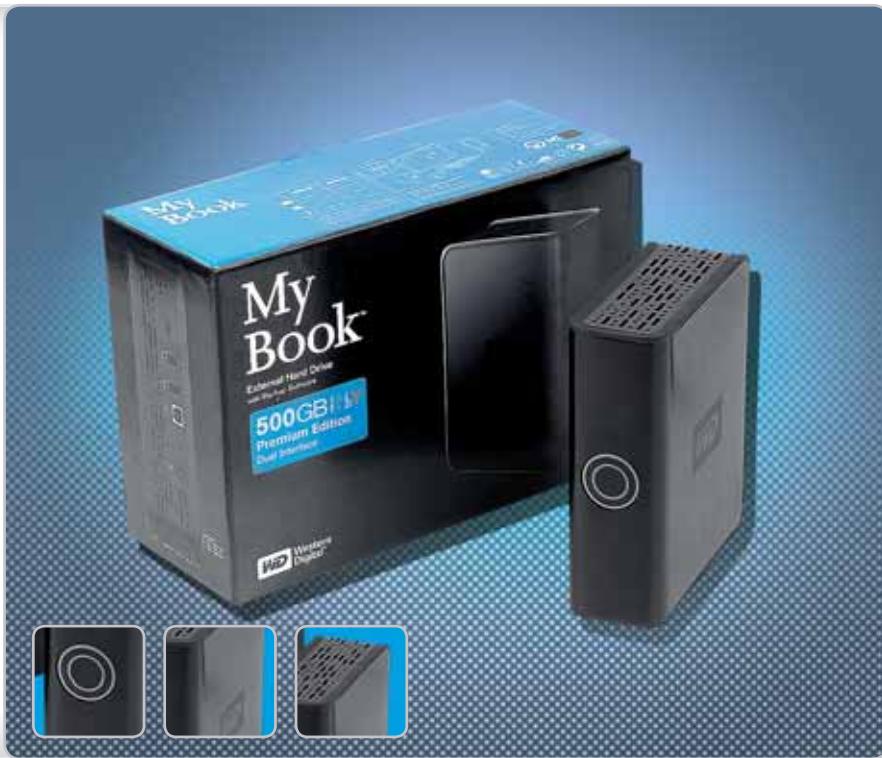
EXTERNAL STORAGE**Western Digital My Book Premium****Specifications**

Dimension (WxHxD): 56.7x172x143 mm, Capacity: 500 GB, Spindle speed: 7200 rpm, Buffer size: 16 MB, Interface: Hi-Speed USB 2.0 and FireWire 400

Price	Rs 17,160
Contact	Amarjit Singh
Phone	9321029204
E-mail	amarjit.singh@wdc.com
Website	www.wdc.com
Warranty	1 year

RATINGS

Build quality	
Performance	
Features	
Overall Rating	
Value for Money	



STORAGE SATISFACTION ▶ Even though most external storage devices with similar capacities are available from various manufacturers, the major differentiating factors are value-added features like interface options, backup software, form factor etc. The My Book series is the latest addition to Western Digital's range of external storage. Let's find out what the 500 GB Premium Edition has to offer.

Features

My Book is designed to give the external storage device the looks of a book. The device when placed in a vertical position looks like a thick dictionary! Packed within the black brushed aluminum shell is a 500 GB Western Digital RE2 hard drive with a spindle speed of 7200 rpm and 16 MB cache. Since the WD RE2 is an enterprise drive, My Book offers high-reliability and vibration tolerance.

The front panel of the device has a power button with two illuminated rings around it. The outer ring indicates drive activity and the inner ring displays the status of the space occupied. The drive can be connected to the PC using either USB 2.0 or FireWire 400 interface, the latter giving a speed bump of around 7 MB/s. After connecting the drive, the

mass storage drivers are automatically installed and then you are prompted to install the backup software stored on the drive. Hence, the package excludes an installation disc.

Western Digital Backup provides an intuitive interface to back up various file types such as photos, videos and music. There's also the option of backing up personal documents that includes MS Office documents, IE Favorites, e-mails and Media Center TV shows. Optionally, you can even choose to back up selected drives or folders using the 'Advanced Backup' feature. You also have the choice to perform full, incremental as well as scheduled backups.

Performance

To assess the performance of the drive we used SiSoft Sandra's file system benchmark and real-world file transfer tests that included evaluating read and write speeds using single and multiple files. The table displays the scores using both the interfaces. The overall performance of the drive is very good.

Verdict

For the performance and features offered, the My Book Premium Edition is a good investment provided you're ready to spend.

FOR: Dual-interface, good backup software, easy to set up.

AGAINST: None.

Performance scores

	FireWire 400	Hi-Speed USB 2.0
SiSoft Sandra 2007		
Drive index (MB/s)	37	28
Sequential read (MB/s)	43	31
Sequential write (MB/s)	35	25
Random read (MB/s)	33	25
Random write (MB/s)	29	21
File transfer test		
Single file: Read (MB/s)	32.26	26.55
Write (MB/s)	29.41	22.06
Multiple files: Read (MB/s)	30.61	25.00
Write (MB/s)	27.78	21.00

**Gamer's
Choice!**
GIGABYTE Gaming Solutions

Quad-Core

Ready!

VISTA
PREMIUM
READY



Do More, Do it Faster.
GIGABYTE Quad-Core Ready Motherboards, Now Available!

Ultra Durable



Silent & Cool



High Performance



Future Upgrade



6-Quad GA-965P-DQ6

Supports Intel® Core™2 Extreme Quad-Core Processors



DOLBY DIGITAL DTS

ALL IN ONE

QUAD CORE READY



S Series GA-965G-DS3

Supports Intel® Core™2 Extreme Quad-Core Processors



D (Ultra Durable) : All-Solid Capacitor Designed Motherboards

**Windows Vista Premium Ready* meets Microsoft Windows Vista Premium hardware requirements

GIGABYTE TECHNOLOGY (INDIA) LIMITED

A Joint Venture of D-Link (India) and GIGABYTE Technology

Mumbai : Tel : 022-26526696-56902210 Ahmedabad : Tel : 079-26871034 Bangalore : Tel : 080 - 26783137 Fax : 080 - 26783561

Bhopal : Tel : 0755-5283190 Bhubaneshwar : Tel : 0674-2595783 Chandigarh : Tel : 0172-2623425

Chennai : Telefax : 044-24332745-46 Cochin : Tel : 0484-2381341 Goa : Tel : 0832 - 2885400 Fax : 0832 - 2885395

Guwahati : Mob : 09864042881 Hyderabad : Tel : 040-27717392 Jaipur : Tel : 0141-5113149

Jamshedpur : Tel : 0657 - 2487396 Fax : 0657 - 2487396 Kolkata : Tel : 033 - 24855342 Fax : 033 - 24855343

Lucknow : Tel : 0522-2374478 New Delhi : Tel : 011- 26283576 Fax : 0832 - 26283573 Pune : Tel : 020-25450018

Website : www.gigabyte.in



www.gigabyte.com.tw

These speed settings are not guaranteed by GIGABYTE. The specification and pictures are subject to change without notice. All trademarks and logos are the property of their respective holders. Any infringement is at user's risk. GIGABYTE Technology shall not be responsible for any damage or instability to your processor, motherboard or any other components.

GIGABYTE
TECHNOLOGY

GRAPHICS CARD**Leadtek 7950 GT Extreme****Specifications**

Core Clock: 600 MHz, Memory Clock: 1430 MHz, Chipset: GeForce 7950 GT, Memory Size: 256 MB, Memory type: GDDR3, Memory bus: 256-bit, Output: Dual DVI, HDTV enabled

Price	Rs 20,000
Contact	Mushtaq Ali
Phone	9323546190
E-mail	mumbai@zeronics.com
Website	www.leadtek.com
Warranty	3 Years

RATINGS

Build quality	
Performance	
Features	
Overall Rating	
Value for Money	



FULL THROTTLE ▶ Graphics card manufacturers make incremental changes to their products in terms of the core clock, memory clock, bus width, bus speeds, total amount of memory, etc rather than building a completely new architecture. The 7950 GT is an overclocked version of the 7900 GTX with double the available memory.

Features

Our review sample from Leadtek differs from the stock Nvidia 7950 GT in terms of the total available memory. Although a standard 7950 GT card features 512 MB of memory, the Leadtek 7950 GT features only half. Also, a standard 7950 GT features a memory clock speed of 700 MHz, which is 40 MHz more than that of 7900 GT. However, Leadtek's 7950 GT TDH Extreme is clocked even higher than that at 715MHz. The core clock has also been beefed up at 600 MHz. Its core clock speed is about 200 MHz faster than the 7900 GT. This card looks like the stock 7900 GT and GS video cards and features the same core as the 7900 GT as also the Nvidia G71. A regular version of the 7950 GT card is also available from Leadtek. This card supports the PCI-E interface. The memory bandwidth interface is

256-bit which makes this card a mid range solution. The RAMDAC feature a clock speed of 400 MHz which helps the card draw 2D images faster. The card supports APIs like DirectX 9.0c and OpenGL 2.0. Another new feature in the 7950 GT card is that it is HDCP compliant, which means you will be able to watch Blu-Ray and HD DVD movies if they use the HDCP content protection encoding.

Build quality and contents

The Leadtek card comes bundled with a package full of goodies. It features a product guide, a quick installation guide, a setup CD-ROM, a HDTV cable for connecting the graphics card to a HDTV capable monitor or TV, a DVI to D-SUB converter for connecting the card to a monitor that features the standard analog input. Games like *SpellForce2* and *Serious Sam II* are bundled along with the card. The card also bundles software like PowerDVD 6 for DVD playback, Adobe Acrobat Reader and Orb software for broadcasting any sort of media.

What we also noticed is that Leadtek decided has included a heatsink and fan that covers more area over the graphics card compared to that in the 7900 GT edition.

Performance

The performance of Leadtek is impressive to say the least. Its 3D Mark 2006 score crossed the 10k mark which is very impressive for a card that has just 256 MB of memory. It recorded around 2300 range with 2331 points in Shader Model 2.0 and 2247 in Shader Model 3.0. The synthetic benchmark performance was reinforced by real-world benchmarks with the card being able to run *Doom 3* at playable frame rates, at 1600x1200 resolution with 4x Anisotropic Filtering. Elder Scroll's *Oblivion* was playable at normal resolutions but it stressed out the card at 20 fps when all the details were set to maximum. The scores with regard to *F.E.A.R* was also impressive at 133 fps, at 1600x1200 in normal mode and 38 fps with all the details maxed out.

Verdict

The Leadtek graphics card retails for Rs 20,000, which is a good price for a card that provides better performance than a mid-range card and is not as expensive as the high-end cards.

FOR: Lower price, three-year warranty.

AGAINST: Limited memory, not all games are playable with maximum details enabled at high resolutions.

POWERCOM

140v

WITH POWERCOM IND SERIES SAY GOODBYE TO VOLTAGE FLUCTUATIONS.

300v



IND600A

The Powercom IND600A is a potent combination of features, price and quality. Unlike lesser mortals, it can comfortably handle voltage fluctuations from 140v to 300v without a hitch. And then continue performing online without switching to battery mode. Thus preserving battery life, and protecting your investment.

Connect with Powercom IND600A...today.

Also available KAL Series, HOM Series and VGD Series.



Complete Power Solution™
ISO 9001 Certified Company

ASIA POWERCOM PVT. LTD.

H.O.; A/2 Shriji Niketan, 541/D Dr. Ambedkar Road Matunga (C.R.),
Mumbai 400 019. • Tel.: (022) 2410 2288 • Fax: (022) 2410 2277
• Email: sales@asiapowercom.com • www.asiapowercom.com

Ahmedabad: 9825041302 Bangalore: 9845017761 Bhubaneswar: 9238500428 Chandigarh: 9810042965 Chennai: 9840792225 Cochin: 9847177504
Guwahati: 9954050043 Himachal Pradesh: 9810042965 Haryana: 9810042965 Hyderabad: 9866889707 Indore: 9329670862 Jaipur: 2372728/2373071
Jharkhand: 9934399954 J&K: 9811018387 Kolkata: 9830897311 Mumbai: 9870493116 Nagpur: 9890616721 Nasik: 9822032698 New Delhi: 9810042965
NCR: 9810554004 Patna: 9431273289 Pune: 9890181975 Punjab: 9810042965 Rajasthan: 9811018387 Ranchi: 9830897311 UP: 9821349177 UPI/West: 9811018387
Uttranchal: 9358833000

MOTHERBOARD**Asus P5W DH Deluxe****Specifications**

Processor support: Quad core/Core 2 Duo/Pentium D/Celeron D, Chipset: Intel 975X, FSB: 1066/800 MHz, Memory Size: 8 GB Max, Memory type: Dual channel DDR2, Memory speeds: 800/667/533 MHz, CrossFire Ready

Price	Rs 18,600
Contact	Vinay Shetty
Phone	022-40558888
E-mail	media_india@asus.com
Website	www.asus.com
Warranty	3 years

RATINGS

Build quality	
Ergonomics	
Performance	
Features	
Overall Rating	
Value for Money	

**PERFORMANCE PLEASURES ▶**

The latest and the fastest offering from Intel—the Core 2 Duo Processor and a comparable motherboard—the Asus P5W DH Deluxe will end your quest for a powerful system.

Features

This motherboard is based on Intel's latest 975X chipset with support for processors that feature the 65nm fabrication technology as well as the Intel Core Duo and Core 2 Duo series of processors. It supports up to 8 GB of dual channel DDR2 memory running at 800 MHz. This means more than enough memory capacity for gamers as well as workstation users. The core clock and the memory clock speed ensure that you get the fastest system possible. This motherboard is a gamer's delight as it features 2 PCI-Ex16 slots and is ATI Crossfire ready. You can plug in two ATI Radeon X1950XTX cards that offer an excellent gaming experience. Other expandability options include 3 PCI slots and 2 PCI-Ex1 slots. Storage options include 3 SATA ports with a Raid controller which can be used in conjunction with eZbackup to setting drives in RAID 0 or RAID 1 mode, an IDE connector for an optical drive and a floppy drive port. The

rear I/O ports include PS2 ports, 4 USB 2.0 and FireWire ports, a 7.1 channel audio system with built in Dolby digital 5.1 encoder, a wireless LAN card, 2 GbE ports for high speed network connectivity, a console port and a S/P DIF port for digital audio out to provide for excellent audio experience.

Contents and build quality

The Asus box package includes serial ATA cables, power cables, IDE cable and a floppy cable. It also includes a remote control and an infrared receiver. This board has been designed with an effective silent cooling solution for the 975X chipset and power circuitry. The heatpipe does a good job of passing heat away from the chipset quickly. The socket area is free of components, thus facilitating the use of large-sized heat sinks. The P5W DH is an overclocker's delight. It can overclock the core voltage, the chipset voltage as well as the memory.

Performance

The P5W DH deluxe boasts of top notch performance. SiSoft Sandra memory bandwidth benchmark crossed the 5000 MB/s mark with a total score of 5062 MB/s in Integer score and 5065 MB/s in

Floating point score. This is the most that you can extract out of a motherboard with the E6700 Core 2 Duo processor. These scores would have gone higher with the use of the X6800 Extreme Edition version of the Conroe processor. The PC Mark 2005 score was a little over 7500—the highest achieved by any motherboard. This was largely due to the high graphics score achieved by the Nvidia 7950 GT Extreme graphics card. The HDD score of 6350 was purely a result of the Western Digital raptor running at 10,000 rpm. Its 3D mark 2006 scores were also impressive but it could have been faster with a better graphics solution. In real-world benchmarks, the audio and video encoding tests took 36 and 40 seconds respectively while the simultaneous audio and video recording test got over in 43 seconds—a highly impressive score!

Verdict

Those who are willing to pay the price for superior performance and excellent feature-set, the Asus P5W DH Deluxe is surely the choice.

FOR: CrossFire ready, feature rich, can be used as a home theater system, Wi-Fi enabled.

AGAINST: Premium price.



ASUS - Lamborghini Masterpiece 2006

ASUS recommends Windows® XP Professional

ASUS-LAMBORGHINI VX1 Limited Edition

Available in both yellow and black, the ASUS-Lamborghini VX1 Notebook Series is the ultimate representation of technology and automobile fusion and a true mobile computing revolution. With design details and special mirror painting finish, the VX1 is an extreme and spectacular expression of the ASUS and Lamborghini spirit that, with the look alone, exudes power, speed, strength and beauty. www.asus.in



- Intel® Centrino® Duo Mobile Technology
 - Intel® Core™ 2 Duo Processor T7400
 - Mobile Intel® 945PM Express Chipset
 - Intel® PRO/Wireless 3945ABG Network Connection
 - Microsoft® Windows® XP Professional
 - 2GB, DDRII 667 MHz
 - Color Shine Glare Type 15.1" SXGA+ (1400 x 1050)
 - nVIDIA GeForce Go 7400VX / 512MB Turbocache™
 - 160GB
 - 10/100/1000 Ethernet, 802.11a/b/g,
 - Bluetooth™ V2.0+EDR

Special mirror
painting finish

The sharp yet streamlined design



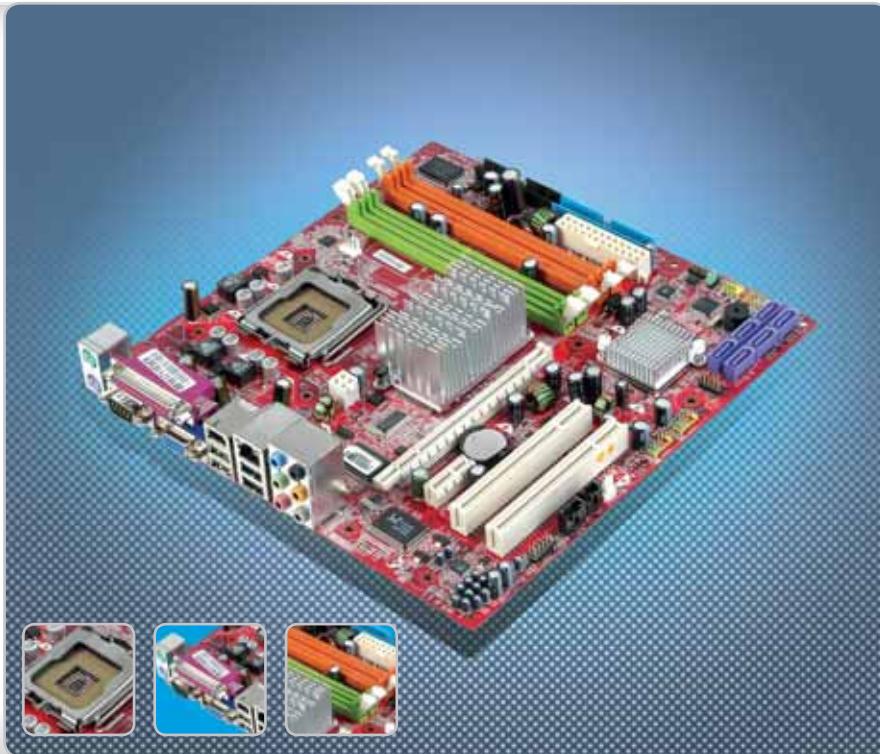
MOTHERBOARD**MSI G965M****Specifications**

Form factor: Micro ATX, CPU Socket: LGA 775, Northbridge: Intel G965 Express, Southbridge: Intel ICH8, FSB: 1066 MHz, Memory: DDR2 800 MHz (Max 4 GB), Graphics: Intel GMA 3000, PCIE 16x slot, 7.1-channel HD audio, Gigabit Ethernet, 6 SATA 300 MB/s

Price	Rs 7,900
Contact	Micro-Star International
Phone	011-41758808
E-mail	marketing@msi-india.com
Website	www.msi-india.com
Warranty	3 years

RATINGS

Build quality	
Performance	
Features	
Overall Rating	
Value for Money	

**UPGRADEABLE BOARD ▶**

The MSI G965M features the new Intel G965 Express chipset supporting Intel's new generation Core 2 Duo processor. This includes support for the older generation of socket 775 processors like Pentium 4 and D. The new chipset features an improved memory controller (called 'Fast Memory Access'), which now supports DDR2 memory up to 800 MHz.

Apart from the Northbridge, the Southbridge has been upgraded to ICH8 to replace the ICH7. The most notable feature in ICH8 is the lack of support for parallel IDE as it favors the newer SATA technology. This calls for an independent IDE controller to support PATA drives that include hard drive and optical drives. The number of SATA 300 MB/s channels has been bumped up to 6 supporting RAID modes 0, 1, 0+1 and 5. The ICH8 Southbridge supports 7.1-channel high-definition audio and Gigabit Ethernet that runs through the PCI Express bus.

The board has enough room for expansion. If you're a gamer, you can replace the onboard graphics (Intel GMA 3000) with PCIE graphics card as the board features a PCIE x16 slot. In addition to this, there are two PCI slots and a PCIE x1 slot. The rear panel has four USB ports

and four additional ports are provided through onboard headers.

FOR: Support for Intel Core 2 Duo, good performance.

AGAINST: Single IDE connector.

Layout

The board has a decent layout with a fair amount of attention paid to the placement of connectors. For easy access, the SATA connectors are placed at the bottom right corner and the IDE connector at the side. The DIMM slots lying to the right of the CPU socket are well spaced so that thicker modules with heat spreaders fit in easily. The area around the CPU socket is clutter-free without too many resistors surrounding it. Both the Northbridge and Southbridge chips are passively cooled by an aluminum heatsink.

Performance

We evaluated the board with the Intel Core 2 Duo processor and 1 GB of DDR2 memory running at 800 MHz. For a mainstream board, such performance is quite impressive.

If you are planning to upgrade or build a new system with a Core 2 Duo processor, we recommend you to buy this board as it suits mainstream users. Enthusiasts will certainly crave for more features — you can't expect tons of features on a micro-ATX board.

Test bed

Processor	:	Intel Core 2 Duo
Memory	:	2x512 MB Kingston KHX8500D2K2
Hard drive	:	Samsung SP1614C
Graphics card	:	Nvidia GeForce 7600GT

Scores**SISOFT SANDRA 2007****Processor arithmetic**

Dhrystones:	24587 MIPS
Whetstones:	17047 MFLOPS
Memory bandwidth:	5294 MB/s

3DMARK 05: 6367**PCMARK 05**

Overall:	6764
----------	------

CPU:	6804
------	------

Memory:	5518
---------	------

Graphics:	5811
-----------	------

Hard drive:	5000
-------------	------

Audio compression:	12.5 MB/s
--------------------	-----------

Video encoding:	106.3 fps
-----------------	-----------

<i>Video encoding with audio compression:</i>	83.8 fps
---	----------

DOOM3

640x480@low:	206 fps
--------------	---------

1280x1024@ultra:	90 fps
------------------	--------

A New Generation of Gaming Power!

ECS P965 Series motherboard powers your game with all the cutting edge features!

Support ATI CrossFire™



ECS P965 series motherboards, including middle to high segment products, all support ATI CrossFire™ function.

MULTI-GPU READY

Quad Core CPU Support



ECS P965 series support Intel® Quad Core processors, providing extreme performance for enthusiasts.

Windows Vista Premium Ready



For the ultimate multimedia experience for years to come, ECS P965 series motherboards completely Windows Vista Premium ready.

C2 Stepping



The latest C2 stepping of P965 chipset enhances both the compatibility and performance of DDR2 memory.

Qooltech™ technology



The PX1 with Qooltech™ technology is a silent, yet powerful solution to build a digital home environment around.



PX1 Vlvi Edition
Intel® P965+ICH8DH



- Supports Intel® Core™ 2 Duo processors
- 4 DIMM for Dual DDR2 800 memory up to 8GB
- 2 PCI Express x16 + 2 PCI Express + 3 PCI slots
- 7 SATAII and RAID 0,1,0+1,5 and onboard eSATA port
- Built in Dual Gigabit LAN
- Intel® Vlvi technology ready
- Qooltech™ technology



P965T-A
Intel® P965+ICH8



- Supports Intel® Core™ 2 Duo processors
- 4 DIMM for Dual DDR2 800 memory up to 8GB
- 2 PCI Express x16 + 2 PCI Express x1 + 3 PCI slots
- 5 SATAII supporting RAID 0,1,0+1
- Built-in Dual Gigabit LAN

945G-M3
Intel® 945G + ICH7DH

- LGA775 socket
- Supports Intel® EM64T
- Dual DDR2 667/Max: 2G
- Integrated Intel GMA950
- Built-In Gigabit LAN
- Integrated high quality 8-channel audio

945P-A
Intel® 945P + ICH7

- LGA775 socket
- Supports Intel® EM64T
- Dual DDR2 667/Max: 4G
- Features 2 PCI Express x16 slots
- Features SATAII for a high disk performance

945PL-A
Intel® 945PL + ICH7

- LGA775 socket
- Supports Intel® EM64T
- Dual DDR2 533/Max: 2G
- Features 2 PCI Express x16 slots
- Features SATAII for a high disk performance

POWER SUPPLY UNIT**Cooler Master Real Power Pro 850W****Specifications**

Dimension: Standard ATX 150x180x86 mm, Output capacity: 850W, Connectors: 4 PCIE, 6 Molex, 8 SATA, 4-pin CPU, 8-pin CPU, Compliance: Intel standard ATX 12V V2.2, SSI standard EPS 12V V2.91, Others: 6+12V rails, 135 mm base fan

Price Rs 15,000

Contact Matrix 3D

Phone 022-23084511

E-mail sales@matrix3d.com

Website www.coolermaster.com

Warranty 2 years

RATINGS

Build quality

Performance

Features

Overall Rating

Value for Money



REAL POWER ▶ An average power supply unit that usually comes bundled with a PC case is just enough to power two hard drives and an optical drive. If you throw in a high-end graphics card and add a few more drives, it will become unstable as it won't be able to bear the excessive load. Hence, high-end systems that employ multi-GPU setup, RAID array and multiple optical drives call for a meaty power supply unit that can comfortably handle high load without being stressed out at all.

Features

If you're an enthusiast, the Cooler Master Real Power Pro 850W will make you drool. The unit features eight SATA and six

Molex connectors to power over a dozen drives simultaneously. In addition to this, there are four 6-pin PCIE connectors to drive multi-GPU setups. A silent low-rpm 135 mm fan is fitted at the base of the unit to cool the components within. The speed of the fan is intelligently controlled depending on the load conditions.

For a PSU with more than 20 connectors, ease of cable management is critical. To prevent the cables from getting messed up, they are sleeved in a nylon mesh. The only drawback is a non-modular design. Had the design been modular, it would have been possible to detach the unused cables to reduce clutter. This would also improve the circulation of air within the case. But here, you will have to

keep the unused connectors tied up.

Performance

Handling four hard drives, two graphics cards and an optical drive would be an easy task for any good power supply unit. To stress this mammoth PSU, we had to put together an extremely power-hungry rig comprising eight hard drives, two ATI Radeon 1950XTX in CrossFire and one optical drive. This is actually enough to bring even a regular 500W PSU down to its knees. But for this PSU, driving this entire setup was a cakewalk. Even under loaded conditions, where the CrossFire setup was rendering HDR in real-time, the voltages refused to budge. The stability of the Real Power Pro is clearly attributed to the presence of six 12V rails and compliance to ATX 12V and EPS 12V standards. It has also been officially approved for the Nvidia GeForce 8800GTS/GTX SLI setup.

Verdict

If you want the best PSU to juice up a high-end rig, the Real Power Pro 850W is the ultimate choice.

FOR: Extremely stable under stress, sleeved cables.

AGAINST: Non-modular design.

**Digital Multimeter**

	Idle	Load
12 V	12.05	12.01
5 V	5.01	5.00
3.3 V	3.39	3.37

Everest 2006

	Idle	Load
12 V	11.95	11.95
5 V	4.95	4.95
3.3 V	3.3	3.3

**SPEND A MINUTE
ON THIS PAGE.
IT WILL SAVE YOU
HOURS ON EMAIL.**

Rediffmail
Lightning fast



INSTANT MAIL PREVIEW



INSTANT SAVE



INSTANT ATTACH



INSTANT SEARCH



11 INDIAN LANGUAGES



1 GB INBOX

rediff.com
simply addictive

MULTIFUNCTION DEVICE**Epson Stylus CX5900****Specifications**

Dimensions (WxHxD): 463x181x354 mm, Weight: 6.9 kgs, Cartridges: 4, Print Resolution: 5760x1440, Scan Resolution: 1200x2400, Bit Depth(Input/Output): 48/24, 2-inch LCD screen, Memory card reader, PictBridge support, Data Buffer: 64 KB

Price Rs 9,199

Contact Tushad Talati

E-mail tushad@eid.epson.co.in

Website www.epson.co.in

Warranty www.epson.co.in

RATINGS

Build quality

Ergonomics

Performance

Features

Overall Rating

Value for Money



DURABRITE PRINTS ▶ Convergence is the talk of the town. Therefore a device that is able to perform multiple functions, is affordable and can offer good performance is everyone's favorite. One such device capable of performing myriad functions is the Epson Stylus CX5900 inkjet printer. This printer is part of the new line of inkjet printers recently launched by Epson. Let us take a look at this multifunction device that boasts of producing outputs that can withstand the effects of light and water.

Features and performance

Apart from printing, the Epson Stylus CX5900 inkjet is capable of scanning and copying. The printer design is simple and includes two paper trays. No additional space is provided to stack paper. The input tray has a plastic flap attached to it that prevents dust particles or debris from entering it when not in use. There aren't any additional 'appendages' to fix onto the printer. The only things that need fixing are the color cartridges. The DuraBrite cartridges are very easy to install. Driver and software installation is very straightforward and takes less than 15 minutes. Apart from the driver, you can install PIF Designer, Web-to-Page, Easy Photo Print and a Creativity Suite. The PIF

Designer will come in use only if you want to turn your photos into greeting cards. The Properties section is not very complicated, allowing you to set profiles for the kind of print quality you want. We printed ten plain text documents (of varying fonts and point sizes) in the draft mode in just 49 seconds. The same prints made under the normal mode took less than 4 minutes. The inks tended to bleed a little (when observed on close inspection).

Photo printouts of the reference image on a 4x6-inch photo paper (at high photo quality) took a little under 3 minutes. The output was average—not very different from the CX4700. (The ink being used is different—DuraBrite ink contains colorants and a resin coating, which protects

the printout from fading under lights or smudging in water.) A direct copy and print of a page took 4 minutes and 15 seconds while a simple 300 dpi scan took only 22 seconds. The printouts are good in terms of the printer's ability to reproduce details. However, gradients are not very accurately produced and the overall look appears to be a little dull. Printing just solid blocks of C, M, Y, K yielded a very dull Magenta.

Build quality and ergonomics

Epson printers never fall short in the quality segment. The overall build is excellent and since there are no trays to fix, it is easier to maintain. The control panel is simple to operate, especially with the 2-inch LCD screen. You can set the paper quality and size on the panel itself. The only thing lacking on this classy looking panel is a 'Scan' button. The media card reader is covered with a spring-loaded flap—a very practical solution. The printer software monitors cartridge levels at all times.

FOR: Is able to print details in a high-resolution photograph without any problems. A 2-inch LCD screen and media card reader slots.

AGAINST: Color reproduction is average. The prints produced look a bit dull.



The USB port for PictBridge devices and multiple memory card support

MINI STORAGE ▶ Soon one will have to refer to 'pen drives' with some other name. Kingston's DataTraveler Mini Fun is proof to support this comment. The model we received can store up to 1 GB of data. Standing just over 3 cm tall, the Mini Fun resembles a Lego piece.

The Mini Fun does not need to be installed on Windows 2000/XP or Mac OS 10.x computers. However, if you intend to use the device on an older operating system you need to download the drivers from the Kingston web site. The Mini Fun comes pre-loaded with two 'Big Fish Studios' games called *Atlantis* and *Magic Vines*. Apart from these games and an installation guide, there is nothing else on the drive. Encryption or backup software could have been provided.

This USB 2.0 Hi-Speed Kingston drive was put through its paces with single as well as multiple file transfers to and from a Western Digital (10,000 rpm) hard drive. SiSoft Sandra was also used to give an idea of the sort of throughput one can expect from this device.

SIMPLE AND QUICK TRANSFER ▶

If you have two computers at home that you would like to connect to each other without using an Ethernet cable then the Dicota PC-Link is the solution. Instead of connecting a crossover Ethernet cable to the network ports of your computers, you can use the USB-based Dicota PC-Link to transfer data easily. The PC-Link is nothing but an adapter with a USB male connector on either end. An additional USB cable is provided, so your computer does not have to be very close to the other one. This kind of a setup is suited for file transfers between a notebook and a desktop. (If your computers are in separate rooms then an Ethernet cable is a practical option.)

The PC-Link contains its own firmware, which Windows 2000/XP is able to detect. After you connect it for the first time, it will install itself and require you to restart the computer. If you connect the device afterwards, it instantly loads its own interface on both the computers. The interface consists of two panels—Remote Host and Local Host. By default, the Remote Host's folders are set to 'Read

Scores

SISOFT SANDRA 2007

Drive Index: 11 MB/s
Access Time: 4 ms
Random Read/Write (MB/s): 12/3.83
Sequential Read/Write (MB/s): 13/4

REAL-WORLD TEST

Write Test:

Single File : 10.9 MB/s
Multiple Files: 3.9 MB/s

Read Test:

Single File: 11.84 MB/s
Multiple Files: 10.85 MB/s

Verdict

The above results clearly reflect that the drive provides a fairly decent throughput while transferring files (multiple or single) to a hard drive. However, you will experience a noticeable drop in the transfer while writing multiple files on to the flash memory.

FOR: Superb design and good performance.

AGAINST: Can be easily misplaced.

FLASH STORAGE

Kingston DataTraveler Mini Fun



Specifications

Dimensions (WxHxD): 8x38x19 mm, Capacity: 1 GB, Preloaded Games: Atlantis and Magic Vines, Interface: USB 2.0 Hi-Speed, System requirements: Windows 2000/XP, Mac OS 10.x

Price	Rs 1,050
Contact	Kingston Technology
Phone	022-26592961
E-mail	techsupport_india@kingston.com.tw
Website	www.kingston.com/asia
Warranty	5 years

RATINGS

Build quality	██████████
Ergonomics	██████████
Performance	██████████
Features	██████████
Overall Rating	██████████
Value for Money	██████████

USB ACCESSORY

Dicota PC-Link



Specifications

Dimensions (WxHxD): 95x34x15 mm, Interface: USB 2.0 Hi-Speed, System Requirements: Windows 98/ME/2000/XP

Price	Rs 1,825
Contact	J S Equipments
Phone	022-23810713
E-mail	jse@vsnl.com
Website	www.dicota.com
Warranty	2 years

RATINGS

Build quality	██████████
Ergonomics	██████████
Performance	██████████
Features	██████████
Overall Rating	██████████
Value for Money	██████████

HEADPHONES**Blues SLR-878MV****Specifications**

Driver size: 40 mm, Microphone Sensitivity: 58dB, Speaker Sensitivity: 105dB, Impedance: 32 ohm, Frequency response: 20-20,000 Hz, Input Power: 100mw, Cord Length: 2-3 meters

Price	Rs 399
Contact	Blues IT Innovations India Pvt Ltd
Phone	9320064767
E-mail	info@bluesindia.com
Website	www.bluesindia.com
Warranty	1 year

RATINGS

Build quality	█ █ █ █ █	█
Performance	█ █ █ █ █	█
Features	█ █ █ █ █	█
Overall Rating	█ █ █ █ █	█
Value for Money	█ █ █ █ █	█

MULTIMEDIA SPEAKERS**Logitech R20 2.1****Specifications**

Frequency Response: 40 Hz – 20 KHz, Output Power: 12 watts, Signal to Noise Ratio: >70dB, Dimensions: (WxDxH): 7.75x5.5x 6.25 inches

Price	Rs 2,295
Contact	Logitech Electronic India Pvt Ltd
Phone	022-26571160
E-mail	response@logitech.com
Website	www.logitech.com
Warranty	1 year

RATINGS

Build quality	█ █ █ █ █	█
Performance	█ █ █ █ █	█
Features	█ █ █ █ █	█
Overall Rating	█ █ █ █ █	█
Value for Money	█ █ █ █ █	█

CRYSTAL CLEAR CONFERENCING ▶

Having tested many audio communications equipment in the past, we have noticed a distinct void between a good set of entertainment headphones and a communication headset. The SLR-878MV from Blues aims to bridge that gap.

Build quality and design

The first thing that you notice about this headset is its metal body. This makes the device usable for longer periods of time. The headphones are padded with foam thus making them sit comfortably over the ear. These headphones do not cover the entire ear, thus they do not completely cancel out the distortions resulting from external noise. The headset is adjustable to suit one and all.

The microphone is attached to the side of the headphone and can be adjusted by rotation. As the cable from the microphone runs through a metallic casing, it can adjust both vertically and horizontally as required. The headset has an inbuilt volume control system.

Performance

We were quite surprised at the audio quality of these headphones. The bass sounded exceptionally well for a 500-rupee piece. Although the SLR-878MV is not at par with high-end audio headphones, they are definitely better than the typical nondescript brands that you get out there. The treble and the mids are not as sharp or clear as those belonging to the enthusiast category but they should be more than sufficient for most people who want something better than a run-of-the-mill headset. Having used them for audio chat, the quality of the microphone was decent while being able to capture the breathing sounds at close distances.

Verdict

The SLR-878MV provides good sound quality with great bass and an acceptable treble at a price of Rs 500 thus making itself a highly recommended product.

FOR: Metallic body, great bass, includes volume control.

AGAINST: Unbalanced treble and mids.

INEXPENSIVE AUDIO

ALTERNATIVE ▶ Most people yearn for a speaker system that sounds good and is also affordable. The speakers that are provided by default with most desktop systems are not adequate for those who expect good listening experience. Logitech, well known in the high-end segment for producing excellent speaker systems has just the solution with the R20 set of desktop speakers. This is meant for users who crave for a great listening experience without burning a hole in your pocket.

Build quality and design

The Logitech R20 features a slim design. When coupled with its jet black colour, it gives the speakers an attractive look. The best part about the speakers is that they feature an onboard 3.5 mm audio jack for connecting your headphones. This can be particularly useful if you have a cabinet that does not feature a front audio port.

Performance

The listening experience of the Logitech R20 is mixed. While the treble was

above average, its bass lacked the punch. Although most of these entry-level speaker systems are not able to produce as good bass as the more expensive ones, the R20 particularly sounded hollow and the sound of the drums suffered slight distortion at higher volume. However, the speakers were able to reproduce good mids providing enough range that is usually expected out of an entry-level speaker system. The 12 watt RMS power provides enough loudness to fill up a moderately-sized living room.

Verdict

The Logitech R20 retails for a price of Rs 2,295 and is slightly expensive for an entry-level speaker system. While providing good mids and treble, the speaker's lack of quality bass might want to make you look for other alternatives such as the Creative SBS 370 which is available for almost half this price.

FOR: Decent mids, good Treble, 3.5 mm audio jack.

AGAINST: Bass sounds hollow and gets distorted at higher volumes.



If it stops printing,
the error's probably human.

OpusCDM

*On select models

The World's No.1
Dot Matrix Printer

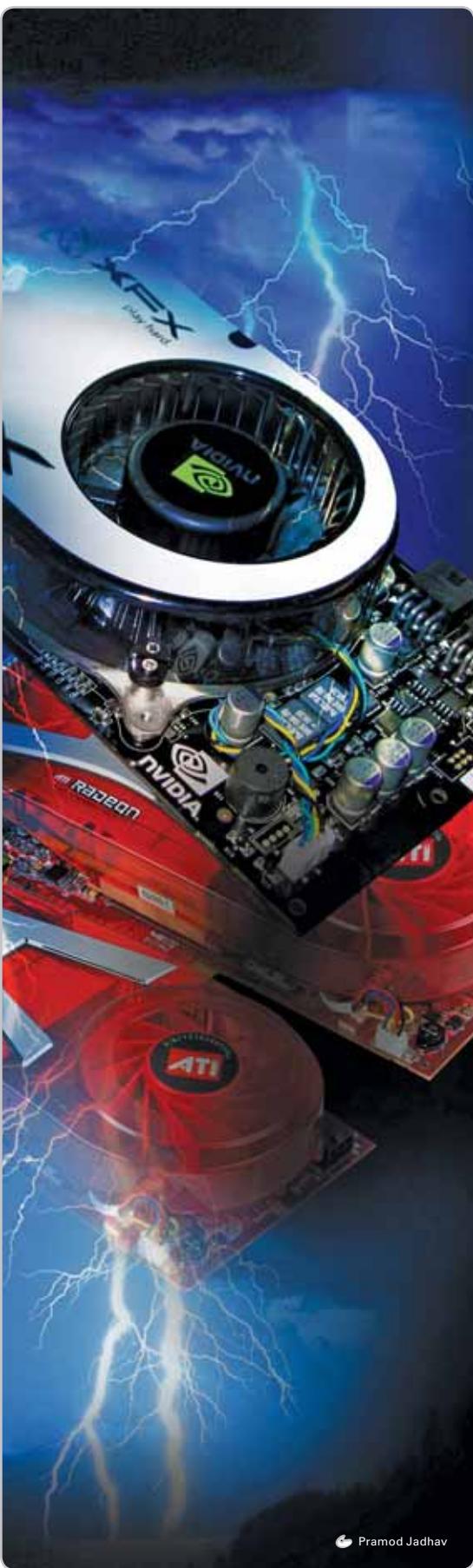
2 year
ON-SITE WARRANTY
INCLUDING PRINT HEAD



The Epson range of Dot Matrix Printers is built for invincible reliability and heavy-duty volume handling. So while they deliver cost-efficient, superior printing, you get to sit back, relax and watch the Epson Dot Matrix Printers do what they're best at. Non-stop printing.



Epson Dot Matrix Printers



Pramod Jadhav

Lord of the cards

Nvidia devours competition with its DirectX 10 compatible graphics chipset—the G80 **BY KUNAL RUPERA**

Thanks to technological breakthroughs in hardware as well as software, gaming has become a more engaging experience with superb photo-realistic effects. Microsoft has taken the first stride in photo-realism with its upcoming Vista. Windows Vista will feature DirectX 10, the game-programming interface that will push game developers to their limits in terms of what they can do with the software. At present, Nvidia's G80 core is the only card that is capable of playing DirectX 10 games. Let us find out if its new design can make the G80 the fastest graphics solution.

Nvidia's Unified architecture

Microsoft's DirectX 10 API has been built with unified architecture in mind. Earlier, there were separate units for rendering vertexes, geometry and pixels. Data would have to pass through all these layers one step at a time. This provided for a game to be bottlenecked if it needed more vertex or pixel shaders than those that were already available in the hardware. The API in DirectX 10 can handle all of these instructions through a single stage instead of breaking up into separate units like it has been done in the past leading to inefficient use of the pixel and vertex shaders. This problem is eliminated in DirectX 10.

DirectX 10 features a geometry shader that sits between the vertex and the pixel shaders. Geometry shaders are able to compute entire geometrical shapes like triangles, objects, lines, strips, primitives, etc instead of just a point, thus leading to faster executing of graphics intensive scenes.

The GPU becomes more of a general-purpose processor than a graphics processor. This is exactly what Nvidia has done in the G80. These improvements should obviously lead to better performance of the graphics card.

Support for DirectX 10

DirectX facilitates making better looking games. For example, foliage and the environment is made using copies of trees or grass. Game developers make changes to color, hue and saturation to make them look different. Grass and trees can also be rendered in real time in a scene with DirectX 10 just like other objects, making each of their properties unique—all of this results in better looks, interaction and better graphics in the game. A good example of a game that uses this feature is *Crysis* from Crytek. Also, having a separate geometry shader facilitates creating better 3D characters and environment by smoothening curved surfaces.

Nvidia Core architecture

There are 128 streaming processors that run at 1.35 GHz. These SPs (streaming processors) are fully unified and offer exceptional branching and multi-threaded performance. The new scalar architecture on the SPs benefits longer shader applications to be more efficient when compared to the vector architecture of the G70 and all other previous Nvidia designs.

Having delved into the architecture, let us now analyse an actual product that is based on the G80 design—the XFX GeForce 8800 GTX.

XFX GeForce 8800 GTX

FEATURES: The XFX 8800GTX features a core clock speed of 575 MHz which is about 50 MHz more than the standard 7950 card. It features 768 MB of GDDR3 memory which is 256 MB higher than that of its predecessor. Memory is clocked at 900 MHz which is about 185 MHz higher. Although the quantity of memory is higher, its memory clock is about 100 MHz slower than the ATI Radeon X1950XTX.

BUILD QUALITY: The XFX 8800GTX is a mammoth card. To put it into perspective,

Benchmark Scores

	3D Mark 2005 standard	3D Mark 2006 standard	Doom 3 1600 x 1200 16 AA	F. E. A. R. 1920 x 1200	NFS: Carbon 1600 x 1200 16 AA	Elder Scrolls: Oblivion 1600 x 1200	Elder Scrolls: Oblivion 1920 x 1200
ATI Crossfire X1950XTX	12535	2505 / 2766	Not Playable	49 fps	34 fps	47 fps	26 fps
XFX GeForce 8800 GTX	15707	4803 / 4891	70.8 fps	64 fps	56 fps	60 fps	37 fps

it is longer than an ATX motherboard. The cooling solution covers the card in its entirety. This card provides a combination of liquid and air cooling system. The GPU and memory are cooled by a heatsink which is in turn air cooled by fans that throw out the hot air through the outlet at the rear. Even though the 8800 is the most powerful of cards, its cooling solution was silent. You need two molex connectors to power up this graphics mammoth.

Test rig

Processor: Intel Core 2 Duo E6700
running at 2.66 GHz

Motherboard: Asus P5W DH Deluxe

Memory: Kingston HyperX 5-5-5-15

Monitor: Viewsonic VP231wp | LCD

Hard drive: Western Digital WD740

BENCHMARKS: As you can see in the table, the 8800GTX beat the ATI CrossFire X1950XTX rig by a good 50 percent margin in some benchmarks at high resolutions.

VERDICT: The XFX 8800GTX is undoubtedly the fastest graphics solution around. Supporting the next generation gaming programming API, this card is a must have upgrade for all hardcore gaming enthusiasts. Like all record breaking products, the XFX retails for Rs. 42,000. With the cost of 23-inch and above LCD monitors going down, you can practically play the latest games at HD resolutions with this card.

GRAPHICS CARD

XFX GeForce 8800 GTX

Price	Rs 42,000
Contact	Navinder Chauhan
Phone	022-67090909
E-mail	navinder@ptechindia.com
Website	www.xfxforce.com
Warranty	3 years

RATINGS

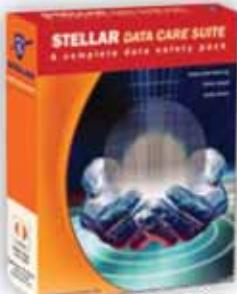
Build quality	
Performance	
Features	
Overall Rating	
Value for Money	

Think more seriously about protecting your data before you actually lose it.



STELLAR DATA CARE SUITE
A complete data safety pack

We would not want to alarm you or shock unnecessarily. But it is alarming that every year over 20 million people in this world suffer major business and personal losses due to there data loss; even worse to know that this loss could have been avoided. It is also better to hit the problem before it hits you back hard.



FREE
1 year
Licence of
PANDA Antivirus Software
Offer Valid for Limited Period

- Pre-crash data protection
 - Automated regular data backup
 - Easy to install and use
 - A value for money pack

- Covers maximum risk of data loss
 - Restores data after any form of logical data loss
 - Constantly monitors the health of hard disk

24 Hrs.
Technical Support
USA (Tollfree) 1-866-978-0600
UK (Europe) +44-207-993-2280
India Helpline +91-9213955609
Monday - Friday

www.stellarinfo.com

At Stellar we help you to recover your Business

Stellar

Information Systems Ltd.
An ISO 9001 : 2000 Company



C-051 B & C, Super Mart I, DLF Phase - IV, Gurgaon 122002,
Haryana (INDIA). E-mail : sales@stellarinfo.com

Gurgaon : 4045819, 4046193, 9311890056, Delhi : 26418809, 26418810, 9891368667, Bangalore : 25327865, 25327866, 9342831292
Mumbai : 28215946, 28215947, 9324254706, Kolkata* : 30930199, 22877720, 9831004659, Chandigarh : 3018664, 9357010910



Best Products Annual

'Blazing frame rates', 'mammoth storage capacity', 'excellent imaging', 'steroidal transfer rates'... just some of the words used to describe the *crème de la crème* of devices that passed through the CHIP Test Center this year





While we at the CHIP Test Center live and breathe bleeding-edge products day in and day out, the rate of evolution of products during this past year has pleasantly surprised even us. Be it gadgets like cellular phones and MP3 players or platform components like processors and graphics cards, product lines are surfacing and fading away almost every six months, the frequency being higher in case of certain products. For example, multi-function devices, digital cameras and graphics cards have a life cycle of barely four months before the launch of new iterations that incorporate additional features or break price barriers. Drool-worthy personal technology gadgets such as high-end smartphones find eager buyers in our own country—gone are the times when you needed to ask your uncle to pick it up for you from abroad. While the performance escalation in some products (graphics cards and processors, for example) are more dramatic than others, there are product lines that indicated only incremental increases in performance, but broke new ground in new features and lower pricing (such as cellular phones). This year, we've also seen enthusiastic user interest in entirely new product categories like wireless products and external storage devices aimed at personal use. We featured both of these as separate comparison tests during the year.

We've come across interesting transitions in technologies such as the move from dual core to quad core processors, which continue to result in significant improvements in multi-tasking capabilities in computers. Then we have the dual GPU trend in graphics cards, which has resulted in graphics monsters that blaze past their predecessors by orders of magnitude in performance. In products like TFT monitors, the widescreen form factor is increasingly becoming the rage, thanks to home theater phenomenon that's sweeping today's consumers. And with greater efficiencies in TFT fabrication techniques the world over, high performance specifications like sub-8 millisecond response times are now a norm across virtually all price categories.

As this year draws to an end, we bring you the products that have broken ground with their sheer performance, either as part of our comparison tests or as standalone reviews. These products represent the pinnacles in each of their categories. We at the CHIP Test Center congratulate every one of the winning companies for the innovation and dedication exhibited in bringing out these products and redefining the performance envelopes in each of their segments.

Multimedia Phones



Dimensions (WxHxD): 55.2x113.1x22 mm, Display: 176x208 pixels, System Memory: 30 MB, Storage: 4 GB microdrive, Network: GPRS, EDGE, UMTS
Reviewed in January 2006

First runner up



Dimensions (WxHxD): 46 x 100 x 20 mm, 256K color display, 512 MB memory stick, 2.0 megapixel camera with optical focus, Network: GSM/GPRS
Reviewed in January 2006

Second runner up



Screen size: 7.3 x 5.5 cm, Screen resolution: 640 x 480 pixels, RAM: 64 MB, Wireless standards: GSM 900/GSM 1800/GSM 1900/GPRS Class 10
Reviewed in January 2006

Nokia N91

The Nokia N91, according to us, stole the show when the N-series was launched. The reasons for this are quite obvious. Its shell is made of steel; it looked stylish with its brush metal finish and can hold up to 4 GB of music and video. Even though this phone attracted some critical comments about its screen and slow interface, it sure caught the fancy of many tech-junkies. No one really expected a phone to hold more than a gigabyte of data to be available so soon.

A microdrive meant the multimedia phone is heavier than its compatriots but it was not to be left behind in the media formats it supports—WMA, WAV, MP3

and AMR at various bit rates—what more can one ask for. It also has a 3.5 mm stereo connection and an iPod-like media management suite, which supports album art. It even came with its charging dock. This N91 is made to function and look more like a media player than a regular phone. So what we got was a phone with a faceplate that had media player controls. Sliding it open revealed the keypad. A large screen and a 2-megapixel camera makes for a great combination while taking photographs. Nokia packed this phone with EDGE and Wi-Fi support. This is a phone truly meant for those who have the greens.

Sony Ericsson W800i

The Walkman series is the most popular range offered by Sony Ericsson. It all started with the W550i and the W600. The W800i followed in their tracks (no pun intended) with greater functionality and increased memory storage in the form of a 512 MB Memory Stick Duo Pro. It has a sizeable amount of built-in memory too—38 MB. The zippy interface has controls that compliment the phone's core function of being a competent media player. The phone's 'Walkman' button takes the user directly to the playlist. The phone also boasted a built-in handsfree with a powerful loudspeaker. True to a

multimedia player, it supports popular audio formats like MP3, WAV and AAC. Except for not having EDGE support, this phone packed in some really good features in its sleek candy bar frame. In the imaging area it is able to take praiseworthy pictures with its 2-megapixel camera. The camera can auto focus on objects and produce good quality photographs in different light settings and with white balance options. The W800i even records video in MPEG4 as well as AVI format on the fly. Add to that a very reasonable battery life—if some of you still own the W800i, now you know why.

I-mate Jasjar

Immediately distinctive with its 'shrunken laptop' appearance, this device packed quite a wallop in terms of phone features and functionality. Unlike most of the smartphones that suffer when it comes to inputting data, the Jasjar cracks this problem with a very useable QWERTY keyboard. Add to that a crisp 7.3 x 5.5 cm screen boasting a 640 x 480 resolution that also supports touchscreen input with handwriting recognition. Usage is spiffy since it is powered by a 520 MHz processor with 64 MB of RAM, making it a breeze to use application on its Windows Mobile 5.0 Pocket PC platform. On the

wireless front, it supports GPRS, and is 3G-ready. And yes, it also boasts wireless LAN, Bluetooth and infrared. On the fun front, its 1.3 megapixel camera will let you capture images and video, plus there is a secondary VGA camera that allows video conferencing when the time comes! You can also store and listen to your MP3s either via its stereo speakers or external headphones. If you require additional storage space, the SDIO/MMC slot will let you plug in additional Flash memory. If you need a powerful, pocketable device that is just shy of a laptop in functionality, the I-mate Jasjar is as close as you can get.

ASUS recommends Windows® XP Professional



U5
True Mobility

ASUS®
Rock Solid · Heart Touching

Slim and Lightweight Design with Full Connectivity 1.4kg Ultra Compact Design and Built-in Bluetooth EDR



U5F - Compact Design, Powerful Computing & Beautiful Display

- Intel® Centrino® Duo Mobile Technology
- Intel® Core™ Duo Processor T2300
- Mobile Intel® 945 GM Express Chipset
- Intel® PRO/Wireless 3945ABG Network Connection
- Microsoft® Windows® XP
- Home
- 12.1" XGA LCD



V6J - The Slim and Lightweight 15" Notebook

- Intel® Centrino® Duo Mobile Technology
- Intel® Core™ Duo Processor T2400
- Mobile Intel® 945PM Express Chipset
- Intel® PRO/Wireless 3945ABG Network Connection
- Microsoft® Windows® XP
- Professional
- 15" SXGA+ ZBD LCD



W5F - See and Be Seen with Built-in Swivel Webcam

- Intel® Centrino® Duo Mobile Technology
- Intel® Core™ Duo Processor T2400
- Mobile Intel® 945 GM Express Chipset
- Intel® PRO/Wireless 3945ABG Network Connection
- Microsoft® Windows® XP
- Professional
- 12.1" WXGA Color Shine & Crystal Shine LCD

Intel, the Intel logo, the Centrino logo, and Centrino, are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

HEAD OFFICE : ASUS Computer Inc., 101-108, Bonanza 'A' Wing, Sahar Plaza Complex, J.B Nagar
Andheri (E), Mumbai 400 059. Tel: 022 4005 8922 **Contact :** Apratim - 9892756755

www.asus.in

REGIONAL OFFICE : North - Lalit - 9810766071 / **South** - Ganesh - 9886624247 / **East** - Suproakash - 9331278976

Graphics Cards



Core clock: 575 MHz, Max Resolution: 2560 x 1600,
Memory Clock: 1.8 GHz, Memory Size: 768 MB,
Memory type: GDDR3, Interface: PCI-E

Reviewed in December 2006

First runner up



Core clock: 500 MHz, Max Resolution: 2560 x 1600,
Memory Clock: 1.2 GHz, Memory Size: 512 x 2 MB,
Memory type: GDDR3, Interface: PCI-E

Reviewed in November 2006

Second runner up



Core clock: 650 MHz, Max Resolution: 2560 x 1600,
Memory Clock: 2.0 GHz, Memory Size: 512 MB,
Memory type: GDDR4, Interface: PCI-E

Reviewed in December 2006

Nvidia GeForce 8800 GTX

With Microsoft planning to ship Vista early next year, DirectX 10 games should be just around the corner. If you want to play games like graphics and take your game playing experience to the fullest, you have to absolutely buy this card. As of now, the 8800 GTX is the fastest gaming card around featuring single core architecture. The G80 core features a unified architecture which dynamically assigns processing power to geometry, vertex, physics or pixel shading operations as required, thus preventing single process bottlenecks. DirectX 10 features a geometry shader that sits between the vertex and the pixel shaders. Geometry

shaders are able to compute geometrical shapes like triangles, objects, lines, strips, primitives and so on instead of just a point, thereby leading to faster execution of graphic-intensive scenes. This is what makes the 8800 GTX faster than the fastest ATI cards configured in CrossFire mode by a decent margin. In our tests, the 8800 also beat the Nvidia 7950 GX2 in all the benchmarks. This card is available for Rs 42,000, so it is clearly meant for hardcore gamers who expect nothing less than the best for their systems. Two GeForce 8800GTX cards arranged in an SLI system would be the fastest gaming desktop system.

Nvidia GeForce 7950 GX2

While the concept of multiple graphics processors working in tandem with each other is not new, Nvidia used this concept to retain the top spot in performance.

This graphics card is powered by two Nvidia GeForce 7950 GPUs featuring a core clock speed of 500 MHz. A salient feature of the 7950GX2 is that although it consists of two separate graphics cards merged into one, it uses a single PCI Express slot on the motherboard. The lower core clock speed generates less amount of heat thus keeping the two cards running relatively cooler. The memory clock speeds are also lower at

600 MHz. It features 8 vertex shaders and 24 pixel shaders per card, which is standard for the 7900 series GPU family. Each individual card features a 256-bit interface and 512 MB of GDDR3 memory. Although this results in a decrease in individual performance in case of each card, the combined performance does provide enough juice to run games at highest possible resolutions. This card is also HD ready as it features XHD (eXtreme High Definition) gaming which allows you to play games with resolutions better than HDTV quality. It also features hardware based decoding of HDTV audio and video.

ATI Radeon X1950XTX

The Radeon X1950XTX is ATI's flagship product and its latest offering. It enjoyed the post of the fastest graphics solution for quite some time till Nvidia launched the 7950 GX2.

In terms of architecture, the GPU inside the X1950XTX is the same as the Radeon X1900. It has 48 pixel shader units, which support Shader Model 3.0, and can render HDR and AA at the same time. (ATI has increased the number of pixel shaders to 48 in the 1900 core compared to the 12 in the X1800 series cards). This results in better visual quality of the environment. It is also capable of decoding HD video

and it maintains its 384-million transistor count. The Radeon X1950XTX card utilizes the 90 nm fabrication process. The other major change is the move to GDDR4 memory, which uses less power and runs cooler. This is the reason why it can be clocked faster for better performance. The memory speed is clocked at 1 GHz, making this the first card to break the GHz mark. The GPU features a core clock speed of 650 MHz and vertex speed of 650 MHz. A cousin of the X1950XTX is the CrossFire edition card, which can be teamed up together to provide better gaming performance.



BH-900
Rs. 4970/-*



www.nokia-asia.com/enhancements

It's so light you'll hardly notice it, though other people might notice the stylish design. Wear it on your ear and talk in style with the extendable mouth piece. The Nokia Bluetooth Headset BH-900 is designed for those who want premium quality with a touch of elegance.

Also available:



HS-26W
Rs. 2580/-*



HS-36W
Rs. 2990/-*



BH-200
Rs. 3180/-*



BH-300
Rs. 2940/-*



BH-700
Rs. 4150/-*



BH-800
Rs. 6850/-*

* MRP (inclusive of all taxes).

Bluetooth is a registered trademark of Bluetooth SIG, Inc. Devices need to support Bluetooth wireless technology. Interoperability between the device and other product supporting Bluetooth wireless technology is not guaranteed and depends on compatibility. For more information on the compatibility between the devices with other product supporting Bluetooth wireless technology, please check with the manufacturer.

NokiaCare

30303838#

Always insist on original Nokia India Warranty to safeguard against buying used, refurbished or tampered phones. Nokia India Warranty is applicable only for phones imported by Nokia India Pvt. Ltd. #For assistance on Nokia products and services, call Nokia Care. Add STD code when dialling from a GSM connection.

Nokia Wireless Headsets available at Nokia Concept Store, Nokia Priority Dealers and other mobile phone outlets.

NOKIA
Connecting People

Bates Enterprise 1280

Laptops



Processor: Intel Core Duo T2600, Graphics: Nvidia GeForce Go 7600, Display: 17 inches, Hard Drive: 160 GB SATA, Optical drive: Blu-ray writer
 Reviewed in October 2006

First runner up



Processor: Intel Core 2 Duo T7200, Graphics: ATI Mobility Radeon X1600, Display: 15.4 inches, Hard Drive: 120 GB SATA, Optical drive: DVD writer
 Reviewed in December 2006

Second runner up



Processor: Intel Core Duo T2500, Graphics: ATI Mobility Radeon X1600, Display: 15.4 inches, Hard Drive: 100 GB, Optical drive: DVD writer
 Reviewed in March 2006

Sony VAIO VGN-AR18GP

More than a notebook, the Sony VAIO VGN-AR18GP is an exquisite piece of art. It sports a glossy black body with a VAIO logo that illuminates when switched on. Work on this gorgeous device while you're on the move and people around you won't be able to resist giving it a second glance. The laptop is powered by the fastest Core Duo processor, the T2600 clocked at 2.16 GHz. Being a desktop replacement, it features 1 GB of DDR2 memory and a mammoth storage capacity of 160 GB. The AR18GP highlights not a single, but a couple of breakthroughs in mobile computing. The massive 17-inch WSXGA TFT display is capable of stretching to an

ultra-crisp resolution of 1920x1200. Thus, it is capable of playing back HD 1080i content. Dedicated graphics powered by Nvidia GeForce Go 7600, Blu-ray disc writer and HDMI output make the AR18GP a mean machine. Also, this was the first time we came across a laptop with two 5400 rpm SATA hard drives configured in RAID 0—the read/write speeds crossed the 50 MB/s mark!

With such features packed under the hood, the notebook is absolutely future-proof. It will not get outdated for at least two years from now. If you want to own this powerhouse, be prepared to shell out Rs 1,99,990.

ACI Matrix 1500

The ACI Matrix 1500 is the first notebook to feature the newly launched Intel Core 2 Duo processor (code named Merom) for the mobile platform. The notebook features the Core 2 Duo T7200 processor clocked at 2 GHz. Like the Conroe, Merom is based on Intel's Core micro-architecture featuring two cores on a single die sharing 4 MB of L2 cache. Since Merom shares the same FSB as Yonah (Core Duo), it is compatible with the existing mobile Intel 945GM/PM chipset. Thus, if you have a notebook based on Centrino, you can upgrade to Merom if you need additional computing power. The Matrix

1500 features a 15.4-inch widescreen TFT display and ATI Mobility Radeon X1600 dedicated graphics. This makes it possible to game comfortably with game settings set to high. To complement the rich feature set, the laptop is fitted with a 1.3 megapixel webcam, 100 GB SATA hard drive with a spindle speed of 5400 rpm and a DVD writer. So you will never run out of space unless you're addicted to P2P file sharing and Torrent. And if you run out of space, you can use the DVD writer to dump data on DVDs. The ACI Matrix 1500 has made its way here simply because it marks a new beginning.

Acer TravelMate 8204 WLMi

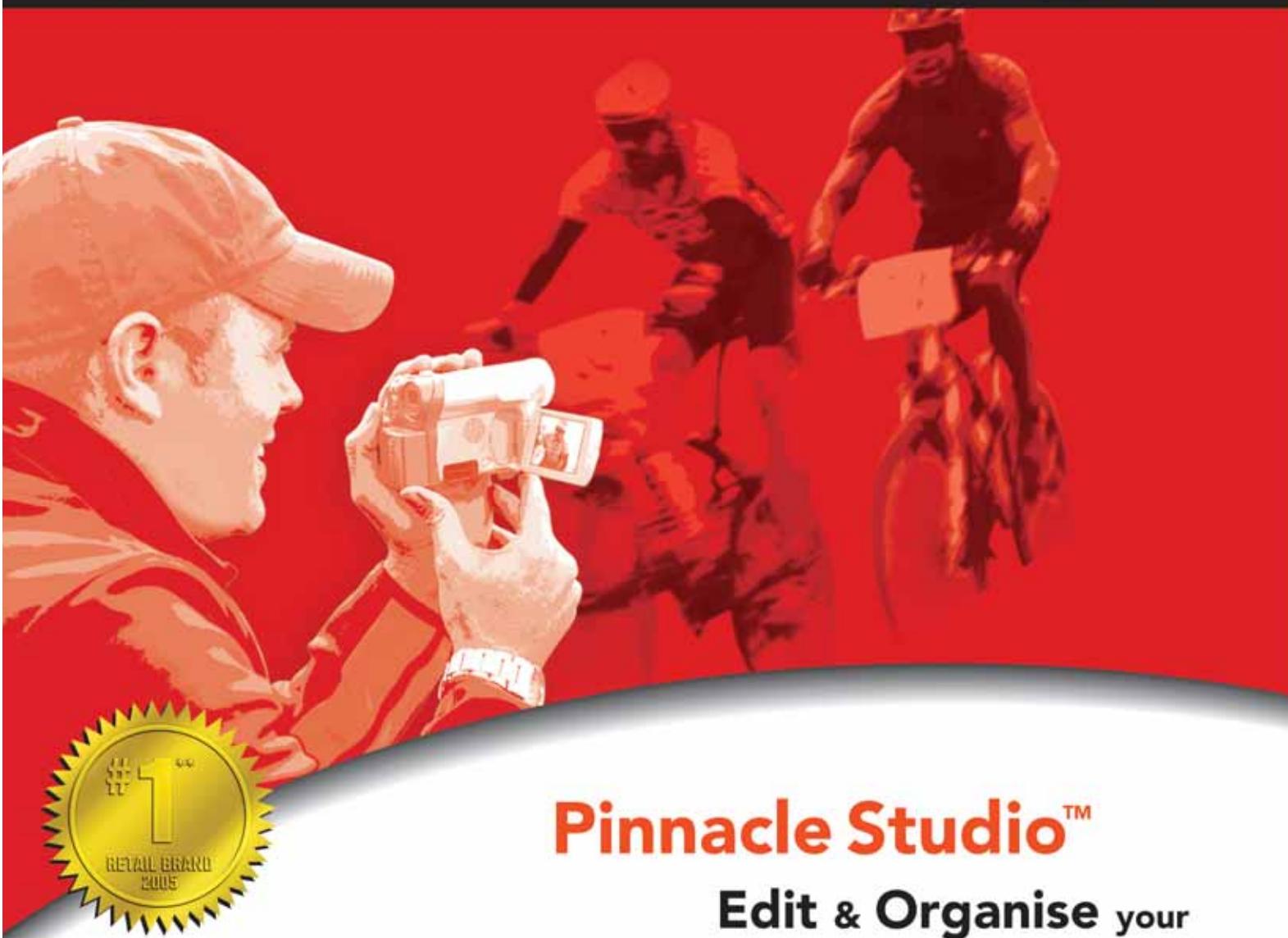
The Acer TravelMate 8204 WLMi emerged as a clear winner during the laptop roundup in the month of March 2006. That was the time when Yonah was just two months old. The notebook features the Intel Core Duo T2500 processor clocked at 2.0 GHz. Coupled with 1 GB of DDR2 memory and ATI Mobility Radeon X1600 dedicated graphics, the 8204 WLMi was the fastest gaming laptop then. For all your storage requirements, it comes with a 100 GB hard drive and a DVD writer if you run out of drive space. Early 2006 was marked with the advent of widescreen TFT display in notebooks. The aspect ratio of 16:10

enabled the user to enjoy games and DVD movies in widescreen format. Most laptops today feature a widescreen display. The notebook also features a swivel 1.3 MP pixel webcam which enabled taking snaps at 1280x1024 and video conferencing over the Internet. The Acer 8204 WLMi notebook has been designed keeping durability and weight in mind. The carbon fiber shell renders rigidity while keeping a check on the weight at the same time. The notebook came for more than one lakh rupees, but it was worth the buck considering the nitro boosted performance and a 5-hour battery life.



pinnacle
A division of **Avid**

pinnacle
20 YEARS
of media enjoyment



Pinnacle Studio™

Edit & Organise your
Events Videos & Photos...
...into Amazing Movies



Studio 500-PCI

Studio 500-USB



MovieBoard Plus-PCI

MovieBox Plus-USB

MovieBox
Analogue Digital Converter

- NEW! Keyframeable Real-time Effects with Preview*
- NEW! All Popular sources and Formats Including HD*
- NEW! Professional TV Style Effects
- Built-in DVD Authoring.
- Audio Scrubbing

(*Available with Studio Plus)

**Source: The NPD Group/Retail Tracking(Jan-Jun 2006) for US & GfK for DE+FR+GB(Jul 05-Jun 06) for consumer video editing software.

pinnaclesys.co.in

Distributed by:

ADITYA
Trends are our business

Pinnacle Contact Detail : For Enquiries Contact at adey.extern@pinnaclesys.com, ptsci@pinnaclesys.com, Phone: 09811904809, 09312271864

ADITYA INFOTECH LIMITED: Corporate Office: Khemka Center, 2-5, Nehru Place, New Delhi-110019 Ph: +91 11 26223810-11, 26452211-12 Fax: +91 11 26227978/ 26232212. For Enquiries contact at sales@adityagroup.com.

Delhi: 9310523364, **Faridabad:** 9311099262, **Nitin Mehta:** aditya_ndt@adityagroup.com, **Noida:** 9311099262, **Aditya_Nda:** aditya_ndt@adityagroup.com, **Lucknow:** 9336088956, **aditya_lkw@adityagroup.com**, **Indore:** 9329727470, **Aditya_Indr:** aditya_ndt@adityagroup.com, **Bhilai:** 9329009585, **Aditya_Bhilai:** aditya_ndt@adityagroup.com, **Chandigarh:** 9356505200, **Aditya_Chd:** aditya_ndt@adityagroup.com, **Ludhiana:** 9356506100, **Aditya_Idh:** aditya_ndt@adityagroup.com, **Jaipur:** 9829066290, **Aditya_Jpr:** aditya_ndt@adityagroup.com, **Ahmedabad:** 9328035085, **Aditya_Ahm:** aditya_ndt@adityagroup.com, **Mumbai:** 9371298668, **Aditya_Mmb:** aditya_ndt@adityagroup.com, **yogesh_dutta@adityagroup.com**, **Nagpur:** 9322214814, **Aditya_Nag:** aditya_ndt@adityagroup.com, **yogesh_dutta@adityagroup.com**, **Pune:** 9322214814, **Aditya_Pne:** aditya_ndt@adityagroup.com, **Kolkata:** 9330668230, **Aditya_Cal:** aditya_ndt@adityagroup.com, **Guwahati:** 9388148560, **Aditya_Koch:** aditya_ndt@adityagroup.com, **Secunderabad:** 9393017024, **Aditya_Hyd:** aditya_ndt@adityagroup.com

Storage Devices



Data Capacity: 150 GB, Buffer Size: 16 MB, Spindle Speed: 10,000 rpm, Interface: SATA 1.5 GB/s, NCQ support

Reviewed in March 2006

First runner up



Data Capacity: 750 GB, Buffer Size: 16 MB, Spindle Speed: 7,200 RPM, Interface: SATA 3 GB/s, NCQ support

Reviewed in July 2006

Second runner up



Dimensions (WxHxD) mm: 279x152x216, Weight: 3.72 kg, 7200 rpm, 16 MB, buffer, FireWire 800, Interface: USB 2.0 Hi-speed

Reviewed in May 2006

WD Raptor X 1500AHFD

Western Digital makes some of the fastest drives in the world for the desktop market. The Raptor 740GD was the fastest drive till the Raptor X took over the title. While the 740GD provided better performance than most SATA-II based drives that were double its buffer size, the Raptor X provides about 30 percent more performance than the 740GD.

The spindle speed of the Raptor X is the same as that of the Raptor—10,000 rpm. This spindle speed was the factor that gave the Raptor the leading edge compared to their lower 7,200 rpm counterparts. While the typical 7,200 rpm drives feature a 3.5-inch platter, the Raptor

X can boast of a shrunk 2.5-inch platter size. Of course, this comes at a cost. While SATA-II drives have data capacities of 300 GB and above, the Raptor X provides only 150 GB of storage space. The Raptor X differs from the Raptor in its track density per platter. The Raptor X has 74 GB/platter while its predecessor offered 36GB/platter. This is the chief factor making the Raptor X faster than the 740GD. It features a 16 MB data buffer and even supports Native Command Queue for faster access by multiple applications. The Raptor X features a jazzy transparent body, which also makes it aesthetically pleasing.

Seagate Barracuda 7200.10

The USP of the Seagate Barracuda 7200.10 hard drive is that it supports perpendicular recording. In perpendicular recording, the data bits are stored perpendicularly to the surface rather than parallel to the surface, resulting in higher data storage densities. Since the head has to travel a shorter distance to seek data, data access also becomes faster.

The Seagate Barracuda 7200.10 is the only hard drive that supports a massive storage capacity of 750 GB. Other features of this hard drive include a spindle speed of 7200 rpm, 16 MB buffer size, support for Native Command Queue. Like all other

products that feature a new technology, the 7200.10 was priced on the higher side at Rs 23,200. But as technologies advance and the product becomes mass market, the prices are likely to reduce.

As far as performance is concerned, it was about 15 percent slower in all the benchmarks compared to the Western Digital Raptor. With such a massive storage capacity, you can set up a 1.5 TB storage server using three of these hard drives in RAID 5. That would be an ultimate desktop system in terms of storage capacity while increasing the performance by about 20 percent.

Maxtor OneTouch III Turbo

The 3.5-inch drive category in the external storage comparison was more of a 'Battle of Gigabytes'. This section did not feature stylish looking drives. They were a line-up of chunky blocks of 7200 rpm hard drives. All of them looked like they could withstand a good amount of shock but the Turbo stood out of the lot. This brick of a drive not only won the Best Performance award but it also turned out to be the heaviest one of them all. The size was a result of it being fitted with two 500 GB ATA hard drives spinning at 7200 rpm. Its external shell was fitted with a thick rubber molding giving a nice anti-slip

grip. Apart from clocking very appreciable transfer rates of 23 to 33 MB/s, it also delivered well on the features front. The two hard drives can be configured as RAID-0/1, giving users an option to increase throughput or create a fault tolerant storage system. It could even create secure partitions. A drive with varied capabilities, the Turbo III is compatible with the Macintosh OS and provides a FireWire 800 interface for transfer rates higher than its USB 2.0 Hi-Speed port. Maxtor's One Touch button can be used to create an automated backup system.



*Celebrate this New Year with a great
LCD monitor and big profits.*

With TCL 'A' grade LCD monitors, your celebrations just don't cease. As a TCL dealer, you stand to win a lot more than just loyal customers.

Checkout the prizes:

**3 nights / 2 days trip to Bangkok, TCL K10 Laptop, TCL DV007 Digital Camera,
TCL TWM-60DC Washing Machine & TCL TC18J Induction Cooker.**

With an offer like this, profit making is a piece of cake. Join in, be a part of this money minting opportunity.

Conditions Apply

TCL

My New Favourite

Better Luminance

Superior Contrast Ratio

Quick Response Time

Wide Viewing Angle

Slim Design



Best quality. Affordable prices.



TCL INDIA HOLDINGS PVT. LTD.

Marwah Centre, 3rd Floor, Krishnalal Marwah Marg, Andheri (E), Mumbai - 400 072. Tel: 022-40080619. Fax: 40080800. e-mail: mabh@tcl.com

BRANCHES - Mumbai Tel: 022-40080600 • **Pune** Tel: 020-56016743 / 56021765 • **Nagpur** Tel: 07104-221712

DISTRIBUTORS - Vardhaman Computers, 313, Bhaveshwar Arcade, opp. Shreyas Cinema, L. B. S. Marg, Ghatkopar (W), Mumbai - 400 086.
Tel: 022-25007002, 39526026. Mob: 09322271321. OEM: 09322268875. e-mail: amit@rambhia.com • Nageshwar Infotech Ltd., Lamington Road. Tel: 23891039,
23822280, 56331479. • Spectrum, Mulund. Tel: 25601487. Mob: 09821027083. • DSK Infotech Pvt. Ltd., Tel: 020-25512394 / 12395 / 30724. Mob: 09881496624.

Multifunction Devices



Print resolution: Max, 9600 x 2400 dpi,
Monochrome print speed: Up to 29 ppm (Max),
Color print speed: Up to 19 ppm, 2.5-inch screen
Reviewed in May 2006

First runner up



Print resolution: max. 4800 x 1200 dpi, Monochrome print speed: Up to 22 ppm (Max), Color print speed: Up to 17 ppm, 1.8-inch LCD screen
Reviewed in May 2006

Second runner up



Print resolution: max. 4800 x 1200 dpi,
Monochrome print speed: Up to 22 ppm (Max),
Color print speed: Up to 17 ppm
Reviewed in May 2006

Canon Pixma MP500

When applications like photo printing are increasingly finding their way from local photo studios to people's homes, multi-function devices are bound to become the de facto standard to get your digital images into print and vice versa. For all you serious photo enthusiasts out there, the Canon Pixma MP500 is a super choice with its needle-sharp print quality and features that make it fun and simple to use. On the tabletop, it looks great with its silver/black duotone color scheme. With five separate ink cartridges powering its print engine, photographs rivaled those printed in professional studios when teamed up with the correct photo paper.

This multi-function device also supports PictBridge—a standard that allows you to print directly from a compatible camera or even cell phone.

Eliminating the need of a computer, its integrated 2.5-inch LCD screen shows you a preview of the pictures you want to print. Besides sourcing images from your computer or camera, it can even read picture files from USB sticks plugged into its front and side USB ports or from its SD, MMC, CompactFlash, Microdrive, Memory Stick or Memory Stick Pro slots. If you are looking for wireless printing, infrared and Bluetooth modules are optionally available.

Canon Pixma MP450

For general printing and scanning needs, the Canon Pixma MP450 delivers plenty of features and capability at a friendly price. With a catchy duo-tone color scheme, this device is designed well and looks good on the desktop with its designer curves. Aimed at the home user, this device features printing, scanning and copying capabilities (but it excludes the ability to Fax and cannot be directly networked for sharing). This MFD contains four ink cartridges that can deliver everything from photo quality to standard text document prints. Unlike some of the more expensive MFDs with more than one input tray, this

one uses a single sheet feed tray. Like its elder sibling the MP 500, this one also features the ability to print directly from a PictBridge-compliant cellular phone or a digital camera.

Otherwise, it can access image files from one of several Flash media formats including CompactFlash (Type I and II), Micro Drive, Smart Media, SD, Multi-Media Card, Memory Stick, etc. You can also preview images before printing them via its integrated 1.8-inch LCD screen. You can also impart wireless capabilities to the device by adding the optional Bluetooth or infrared module.

Canon Pixma MP150

Now this was one interesting MFD—even though it was one of the most affordable multi-function devices we tested during the year, it stood up and performed against other competitors costing over twice as much. Just like the others in the Pixma range, it delivered very good photo and text print quality. Inspite of it being an entry-level MFD, it featured excellent print quality in both text and photo printing. Unlike the higher-end models, this one does not feature any Flash memory slots but it can be connected to other devices with the PictBridge functionality to enable direct printing without the

need for connecting to a computer. The scanner also delivered sharp image quality and color faithfulness in our tests and boasted a design that enabled it to scan thick books effortlessly. It also has a neat feature by which you can scan 10 photos simultaneously and have each saved as a separate image—ideal for batch jobs. Since this is an entry-level device where volumes are not expected to be too high, it only features one tray for sheet input. Canon did not skimp on the build quality.

At a very affordable pricing, this MFD delivers print and scan quality that makes other devices in its category blush.

CREATIVE



Survival of the Fittest: How speakers evolve

Wireless 5.1 Speaker



GIGAWORKS G550W

Ultimate 7.1 Speaker



Powerful ProGaming 5.1



GIGAWORKS G500



Inspire 7.1
T7900



Inspire 5.1
T6060



Inspire 2.1
T3030



I-Trigue
L3800



I-Trigue
3400



I-Trigue
3220



1GB/512MB
MUVO SLIM



1GB/512MB/256MB
MUVO TX FM



1GB/2GB/4GB
ZEN V PLUS



30GB/60GB
ZEN VISION : M



30GB/60GB
ZEN VISION : W



HN-700



HN-505



ZEN Aurvana



SL 3100



CB-2530



HQ-65



HQ-1300



HS-300



HS-350



EP-230



EP-480



EP-635

Motherboards



Form factor: ATX, Northbridge: Nvidia nForce 680i SLI, FSB: 1333, Memory: DDR2 1200 MHz, HD audio: Realtek ALC885

Reviewed in December 2006

First runner up



Form factor: ATX, Northbridge: Intel 975X, Southbridge: ICH7R, FSB: 1066, Memory: DDR2 800 MHz, HD audio: Creative Sound Blaster Live! 24-bit

Reviewed in June 2006

Second runner up



Form factor: ATX, Northbridge: Intel 975X, Southbridge: ICH7R, FSB: 1066, Memory: DDR2 800 MHz, HD audio: Realtek ALC882M

Reviewed in December 2006

Nvidia nForce 680i SLI

With the launch of the new G80 graphics accelerator, Nvidia has also announced a new family of chipsets for the Intel platform called nForce 600i. Prior to the launch of the new chipset, the Intel 945, 965 and 975 chipsets were the ones that ruled.

The nForce 4 and 5xx Intel Edition did exist but failed to gain popularity as they lost to chipsets by Intel in terms of performance and overclocking features. Things took a sharp turn when Intel launched its new range of processors based on the Core 2 Duo microarchitecture that became a huge success. To support multi-GPU setup on Intel's latest platform,

Nvidia had no choice but to develop an adrenaline-pumped chipset—the outcome is the nForce 600i series.

The nForce 680i SLI is the top solution in the 600i family. The new Northbridge—C55—features a 1333 MHz FSB and supports DDR2 memory up to 1200 MHz allowing great overclocking options. The 680i SLI MCP features support for six SATA II drives, 10 USB ports, dual gigabit Ethernet and high-definition audio. Using this motherboard we were able to overclock the Kentsfield from 2.66 GHz to 3.5 GHz using an air cooled heatsink. This board is truly an overclocker's dream come true!

Gigabyte GA-G1975X

Having the looks of a jet engine, the Gigabyte GA-G1975X is a motherboard meant for enthusiasts. Boards based on the Intel 975X come at a premium. Therefore, to differentiate this product from others, Gigabyte has spiced up this board with an innovative cooling system called 'Turbojet'. The cooling system encloses the area housing the Northbridge, CPU socket and inductors. These components require maximum cooling as they heat up the most, especially during overclocking and overvolting. The first duct pulls in air over the Northbridge and exhausts

the hot air through the 40 mm rear fan. The second duct cools the power phase and inductors. The memory slots layout facilitates easy dissipation of heat that is exhausted by Turbojet. To give the board a geeky look, the cooling system is lit up by four LEDs. The board supports 4 SATA II ports. The i975X chipset is CrossFire-certified, it also supports multi-GPU setup with two PCIE 8x lanes. Further adding to the feature count is Creative SoundBlaster Live 24-bit audio chip supporting 8-channel sound. At the time of the roundup, this board was the best board one could buy for the Intel platform.

Asus P5W DH Deluxe

The P5W DH Deluxe is Asus' latest offering for enthusiasts loyal to Intel. We received the board from Asus this month and were floored by the features it offers. The best thing about high-end boards by Asus is the design and layout. The P5W DH Deluxe is based on the Intel 975X chipset with an FSB of 1066 MHz and the ICH7R Southbridge. As a feature of the chipset, the board is CrossFire-certified and supports multi-GPU setup utilizing two PCIE 8x lanes. Premium features come in the form of 8-phase power design and heat-pipe cooling for extreme stability while overclocking. The board also boasts

an eSATA port on the rear panel along with optical and coaxial digital audio outputs. The board's most interesting feature is an integrated Wi-Fi adapter using which you can hook on to the wireless network if you have one setup at your home or office. This feature is rarely seen in motherboards. The board comes bundled with an IR remote control with which you can turn your PC on or off and control media applications like Windows Media Player and Winamp wirelessly. The P5W DH Deluxe is a perfect candidate for an enthusiast looking out for a feature-loaded board.



12+3 Offer

Presenting the exclusive anniversary offer.

Get 12+3 extra issues at Rs. 1200.

This is a limited period offer

so hurry and subscribe now.

Yes! I would like to subscribe to CHIP for
1 year (12+3 issues)

Pay Rs. 1200 and get 15 issues =12 + 3 issues **EXTRA**

(Please fill the form in capital letters)

Name: Mr. /Ms.

Designation: Organisation:

Mailing Address:

.....

City: State: PIN

Tel: (O) (R) (M)

Fax: E-mail:

Please find enclosed Cheque/DD No.

(Add Rs. 30 for outstation cheque) drawn on bank

..... dated for Rs

favouring Infimedia India Limited, payable at Mumbai.

Or charge my Credit Card VISA MasterCard Amex

Card No.:

Date of Birth: Card Expiry Date:

Date: Signature

Student Professional Self-employed Other

Fill this coupon and mail it with your Cheque/DD to: CHIP, Subscription Department, Infimedia India Limited, 'A' Wing, Ruby House, J. K. Sawant Marg, Dadar (W), Mumbai - 400 028. INDIA You can also fax your credit card orders to (022) 2430 2707 or e-mail us at subscriptions@infimediaindia.com. Please allow one month for your subscription to commence. Cancellation of subscription will not be entertained. This offer is valid only in India.

International subscription charges - US\$ 84 or Rs. 3750 (12 Issues)

The subscriber hereby authorizes Infimedia India Limited, to use the information contained herein for maintaining their database as well as for any other purpose that IIL may deem fit. The signatory hereby authorizes IIL to print the information in all or any of the future issues at IIL as may deem fit.

For further details contact

INFOMEDIA INDIA LIMITED :

Subscription Dept, 'A' Wing, Ruby House, J. K. Sawant Marg, Dadar (W)

Mumbai - 400 028. INDIA t: 022-24232804/5/10 Fax: 022-2430 2707

@:subscriptions@infimediaindia.com, Website: www.chip-india.com

Subscribe online: <http://eshop.infimediaindia.com>

Optical Drives



Interface: ATAPI, Form factor: Internal, Buffer size: 2 MB, BD-R/BD-RE/BD-ROM: None, DVD+R/DVD-R/DVD-ROM: 16x, DVD+RW/DVD-RW: 8x/6x

Reviewed in July 2006

First runner up



Interface: ATAPI, Form factor: Internal, Buffer size: 2 MB, BD-R/BD-RE/BD-ROM: None, DVD+R/DVD-R/DVD-ROM: 16x, DVD+RW/DVD-RW: 8x/6x

Reviewed in July 2006

Second runner up



Interface: ATAPI, Form factor: Internal, Buffer size: 2 MB, BD-R/BD-RE/BD-ROM: 2x, DVD+R/DVD-R/DVD-ROM: 8x, DVD+RW/DVD-RW: 8x/6x

Reviewed in October 2006

Lite-On 1635s

The Lite-On SOHW 1635s was the only product that won the Best Performance as well as the Best Value award in our July comparison test for DVD writers.

This writer is capable of writing to DVD media at 16x speeds. So no matter what type of DVD media you have—DVD+R/-R or DVD+RW/-RW, you can be sure that this drive will be able to write to it effectively. It can also write to dual layer DVD media which is capable of holding up to 8.5 GB of data on a single disc. It supports writing to DVD-RAM drive making this product a true multi-format DVD writer.

It supports features like bit setting,

quality and error scanning of written discs which make sure that data is written error free to the DVD media.

On the performance front, this drive was able to write about 4.3 GB of data in under 6 minutes which was the fastest of the lot. Apart from the write speeds, its read speeds are excellent as well. The Lite-On is very affordable—at the time of review, it was available at Rs 2,350, which is a price point offered by combo drives about a year ago.

Lite-On drives are statistically known to be extremely good in performance. They are also inexpensive—this drive being a case in point.

LG GSA-H10A

Another good value-for-money drive is the LG GSA-H10A. At the time of testing, it was available for Rs 2,400—a price marginally higher than the Lite-On 1635s. Although this drive features writing to DVD media at 16x, it is only limited to DVD-R media. It can write to DVD+R media at merely 6x speeds. This drive is able to write to DVD-RAM media as well. It features a 2 MB buffer and also supports technologies that ensure error free writing. It features writing to CD media at 48x and dual layer DVD media at 8x speeds. Like most other optical drives, the LG GSA-H10A is bundled with DVD

authoring software like Nero Express and it also includes a DVD playing software like PowerDVD for watching DVD videos.

Although this drive is not the fastest out there, it falls only slightly behind the leader in all aspects except the audio extraction test. This implies that while the drive is generally on par with other drives in terms of writing DVDs, it lags behind a little during reading operations.

LG enjoys a good dealer network, so you are bound to get support for this drive almost anywhere in the country. Its 1-year warranty makes this drive as good as any other in the market.

Sony BWU-100A

We saw another breakthrough in optical storage technology this year with the launch of Sony's Blu-ray drives. These drives are capable of writing data up to 200 GB on a disk which comes in the same form factor as a CD or DVD media. Blu-ray and HD-DVD are going to be the next generation storage technology. The BWU-100A drive supports recording both 50 GB and 25 GB BD-R (write once) and BD-RE (rewritable) discs, as well as 4.7 GB DVD+R/+RW/RAM, 8.5GB DVD+R Dual Layer, and CD-R/-RW discs. Sony bundles the Cyberlink suite along with the drive that can be used to view HD quality

movies and a Blu-ray mastering software to write to the Blu-ray writeable and rewriteable disks.

On the performance front, this drive provides about 8.44 MB/s of data throughput which is slower compared to current DVD writing standards. Although Blu-ray provides five times the storage capacity of a standard DVD media, it comes at a premium of Rs 44,300. The availability of the media is very limited. In future, when prices of the drives and the media plummet, and the availability of the media becomes mainstream, Blu-ray might become a good storage alternative.



HAVE THE WORLD AT YOUR FINGERTIPS

DO MORE SHARE MORE
STORE MORE

With a snap of the fingers, Kingston microSD gives instant access to your world

In the mobile era, speed matters! Kingston high-performance microSD cards give your PDA, phone and other mobile devices an all important boost so you can access more data, faster! Whether you are transferring important business documents, tracking emails when out of the office, or just taking time out to enjoy the latest music and share your favourite photographs, Kingston microSD cards have the edge to keep you and your precious data "one step ahead".

- Fast data access
- High quality
- High compatibility



- Toll free Service Hotline: 1 800 425 4515
- Service Hotline: 044 4201 5215

- RMA/Warranty Related: services_india@kingston.com
- Technical Support Related: techsupport_india@kingston.com

MP3 Players



Dimensions (WxDxH): 610x104x11 mm, Capacity: 30 GB, Weight: 136 gms, Functions: MP3 player, video player and photo viewer, Battery life: 14 hours

Reviewed in July 2006

First runner up



Dimensions (WxDxH): 60.8x23x103 mm, Capacity: 20 GB, Functions: MP3 player, FM tuner, voice recorder, Battery life: 35 hours

Reviewed in November 2006

Second runner up



Dimensions (WxDxH): 17x60x29 mm, Capacity: 1 GB, Functions: MP3 player, FM tuner, voice recorder, Battery life: 35 hours

Reviewed in July 2006

Cowon iAUDIO X5L

If you think there's nothing better than the iPod, here's an iPod-killer! Designed by Cowon Systems, the 20 GB iAUDIO X5L can do much more than just play music and videos. The X5L packs in each and every function a music lover would like to have in his portable music player. While most players support MP3, WMA and WAV playback, this one has added support for FLAC (lossless compressed codec) and OGG formats.

Apart from playing music, you can also watch videos or tune in to your favorite radio station. Using the built-in microphone, it's possible to capture important lectures and meetings. With the

direct encoding feature, you can capture audio from any external device such as a Walkman, television, LP player and so on. It may seem a lot, but these make up for less than half of the features.

Other features include picture viewer, lyrics display, on-the-fly playlist management, alarm clock, manual equalizer and wallpaper support! The most interesting feature is the USB Host (OTG) function, which lets you import movies and images from external storage devices such as USB flash drives or digital cameras. And all this comes packed in a device smaller than a deck of cards! Do you still vouch for the iPod?

Apple iPod

The iPod has retained its position as the world's hottest MP3 player ever since it launched in 2001. Back then it offered a storage capacity of 10 GB on which one could carry an entire music library of 2,500 songs.

The most innovative feature of the iPod is the 'Clickwheel', which is a physically rotating plastic dial that one has to rotate in order to locate songs on the player. Music could be sorted on-the-fly by artist, title, album or genre and that too using only the thumb.

It's been five years and the iPod still continues to be a must-have for all music

lovers. Today, the iPod still rules as the highest selling portable media player with a storage capacity of 80 GB (can hold around 20,000 songs). That's the size of a hard disk in a PC!

Apart from playing songs, it can also be used to watch video clips or movies while you're on the move. The fifth generation of the iPod featured a slimmer design and a larger display.

In September this year, the same model was enhanced by adding a 30 percent brighter screen, redesigned earphones for better sound quality and a increased battery life of 20 hours.

Cowon iAUDIO U3

Weighing merely 32 grams, the Cowon iAUDIO U3 is the lightest and the best solid state player you can get your hands on. The player is about the size of a cigarette lighter and packs in a powerful feature set within its sleek black shell.

Apart from storage capacity and the USB host function, the iAUDIO U3 squeezes in most of the functions offered by its elder brother—the iAUDIO X5L. The player offers a storage capacity of 1 GB, which can hold 250 songs. The supported audio formats include MP3, WMA, WAV, OGG and FLAC. With support for playing video also, the iAUDIO U3 passes off

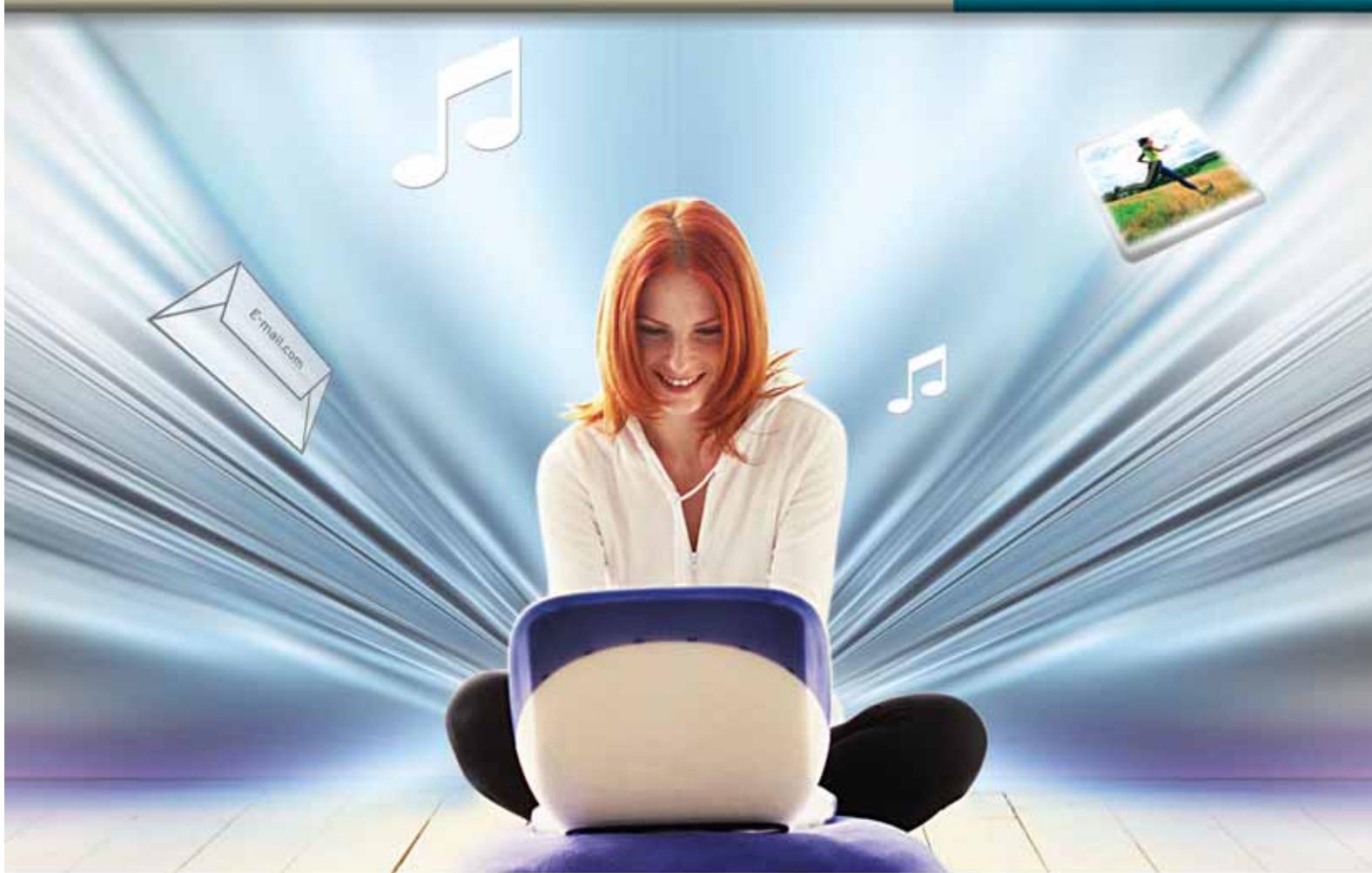
as the smallest and the lightest portable media player. Watching video on a 30 mm color display may be a pain, but yes, it can play videos! It's simply amazing how plain Jane flash players have emerged into light yet powerful devices.

The U3 also sports FM radio, voice recorder, direct encoding through line-in and equalizer presets. Another breakthrough is the usage of lithium-ion batteries in MP3 players. In case of flash audio players, they not only make the player light, but also deliver a battery life of around 20 hours.

Impressive, isn't it?

Enabling wireless freedom

D-Link®
Building Networks for People



Choose from wide range of wireless products by D-Link
ensuring high speed & good network coverage



DI-524
Wireless Router for sharing your ADSL Broadband Connection at home/office



DWL-2100AP
802.11g wireless Access Point for indoor use.
A multipurpose device to enhance wireless connectivity



DWL-G630
Wireless Card for Laptops
To Connect your Laptop in a wireless network



DWL-G510
Wireless PCI ADAPTER
To go Wireless with your Desktop Computer



DWL-G122
Wireless client USB Card: To connect a Laptop/Desktop in wireless network.



DWL-G700AP
802.11g wireless Access Point for indoor use.
Compact device to make wired network wireless

Speakers



Channels: 5.1, Output - Subwoofer: 210 W, Center: 70 W, Satellites: 70 W, Total: 700 watts, Frequency response: 33 Hz to 20 KHz, SNR: 99 dB
 Reviewed in August 2006

First runner up



7.1, Output - Subwoofer: 180 W, Center: 69 W, Satellites: 67 W, Total: 500 watts, Frequency response: 25 Hz to 20 KHz, SNR: 99 dB
 Reviewed in August 2006

Second runner up



Channels: 2.1, Output - Subwoofer: 50 W, Satellites: 14 W, Total: 78 watts, Frequency response: 30 Hz - 20 KHz, SNR: 90 dB
 Reviewed in August 2006

Logitech Z5500 Digital

It's been over two years and yet there isn't any multimedia speaker system to outperform the Logitech Z5500 Digital. The monstrous speaker system comprises four 61 watts surround speakers, a 69 watts center speaker and a powerful 187 watts subwoofer, which make up for a total of floor-pounding 500 watts RMS of total output. Unlike other multi-channel speakers that take input from 3.5 mm stereo jacks, the Z5500 Digital is way ahead of other speakers. The suffix 'Digital' comes from the fact that the speakers can decode content through coaxial and optical inputs. The presence of Dolby Digital/DTS decoder in the control

pod makes this possible. The speakers are precise and the delivery of sound across all the frequency bands is absolutely flawless. Even on pumping the volume to max, the sound is crisp without any distortion. The Z5500 Digital is so powerful that it can easily complement the home theater system in your living room.

Considering the ongoing advancements in high definition content used in movies and games, high audio quality is inevitable. At Rs 27,995, you can buy a computer, but if you're a serious audiophile, it's worth putting in the same money for these state-of-the-art speakers. If you buy these, make sure you place them in a big room!

Creative Gigaworks S750

Had the Logitech Z5500 Digital not existed, the Creative Gigaworks S750 would have ruled the roost as the most powerful multimedia speaker system. The speakers take the multimedia experience a level ahead by adding two more channels to 5.1-channel sound, making it a 7.1-channel system. The addition of side channels makes the experience more immersive. For instance, if you're playing a first-person shooter, you will be able to hear enemies coming to attack you from the side. The Gigaworks S750 comprises seven surround speakers, each rated at 70 watts RMS and a massive 210 watts RMS

subwoofer. The total output of the entire system is a whopping 700 watts RMS, which is the most powerful. So much power can easily turn your living room into a dance floor at peak volume!

Since the speakers comply with the THX standard, it goes without saying that the sound quality is top notch. The only reason why it couldn't outperform the Z5500 was because the bass delivered by the subwoofer drifted at high volume levels, resulting in undesirable heavy punch. Gamers and movie buffs will fall in love with the S750 but audiophiles will surely think twice!

Klipsch Promedia GMX A-2.1

This was the first time that Klipsch was part of our multimedia speaker roundup. The Promedia GMX A-2.1 was the only product that had been sent to us and it comfortably walked off as the best performer in the 2.1-channel category. With the subwoofer and satellites rated at 78 watts and 14 watts RMS respectively, the system can deliver a total output of 106 watts RMS. On an average, most 2.1-channel speakers have a total output of 50 watts RMS. So you can imagine how powerful the GMX A-2.1 is.

Coming to performance, the quality of drivers and design of the speakers are

responsible for precision in sound quality. Unlike other subwoofers that have a round bass port, this one features a bass port in form of an elongated slit located behind. The result is warm yet a powerful bass, enough to resonate objects in your room. The fancy satellites resembling miniature jet engines feature separate drivers for low, mid and high-range frequencies. As a result, the overall sound balance is excellent. To offer convenience to the user, the controls are offered on a pod having volume and bass knobs. Despite the heavy price tag, we still recommend the Klipsch Promedia GMX A-2.1.

Intel Core 2 Extreme QX6700

Intel improvised on the Conroe with a four-core processor codenamed Kentsfield. Kentsfield is based on the Core 2 Duo micro architecture and features four cores instead of two. The Kentsfield QX6700 is like two E6700 combined together on a single chip. The launch of quad core processors has started the trend of multiple cores being the future of desktop computing. Not many applications as of now take advantage of features like threading and parallelism.

The Kentsfield processor runs at a clock speed of 2.66 GHz. It is based on the LGA 775 socket and works on many Intel 965 and 975X chipset based motherboards.

It is manufactured using the 65 nm fabrication process with a massive 8 MB of L2 cache. Even though it is a quad core processor, it only consumes about 130 watts of power, which is as much as the Athlon 64 FX-62 processor.

This processor is the current king of the ring. It blazed through all our performance benchmarks and was twice as fast as the Conroe in the torture test. It is the fastest available desktop processor that money can buy. We have to wait and see if AMD's 4x4 technology can be a faster platform compared to the Kentsfield. Being the fastest processor, Kentsfield comes at a very high price point.

Processors



Number of Cores: 4, Fabrication process: 65 nm, Clock speed: 2.66 GHz, FSB: 1066 MHz, L1 Cache: 256 KB, L2 Cache: 8 MB, Socket: LGA775

Reviewed in December 2006

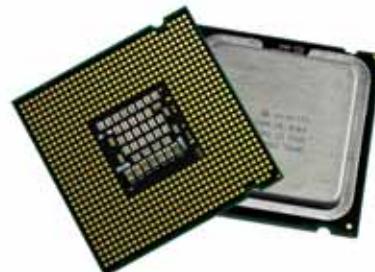
Intel Core 2 Duo E6700

AMD had a superior processor lineup for almost four years and became the market leader in many countries before Intel went back to the drawing board and designed its desktop processor segment based on the mobile platform called Yonah. The desktop version of this processor is called the Conroe. It is not only power efficient but it has an unlocked multiplier that makes this processor ideal for power users as well as overclocking enthusiasts. This processor has a clock speed of 2.66 GHz. It features a massive 4 MB of L2 cache that greatly improves the performance of applications. It is made using the 65 nm fabrication

process. Some of the main features of the Conroe include an advanced smart cache that basically enables sharing of data between both the cores. The processor is able to execute four instructions per clock cycle and a shorter pipeline. This feature makes the processor run applications faster even at lower clock speeds.

The Core 2 Duo uses the LGA 775 interface and can be used on some of the 945-based boards as well. The Conroe was launched at a slightly lower price point than its AMD counterpart which has made it an ideal buy from a price-performance perspective.

First runner up



Number of Cores: 2, Fabrication process: 65 nm, Clock speed: 2.66 GHz, FSB: 1066 MHz, L1 Cache: 64 KB, L2 Cache: 4 MB, Socket: LGA775

Reviewed in September 2006

AMD Athlon 64 FX-62

The Athlon 64 FX-62 was the first processor that supported the AM2 platform. The key highlights of the AM2 platform was AMD's move to using DDR2 memory (that had already been incorporated by Intel after their shift to LGA775-based processors). The Athlon 64 FX-62 was the last flagship product that held the crown of the 'fastest processor' for AMD. Only recently, did it have to give up this title to Intel.

The FX-62 supports the latest AM2 platform and is a dual core processor running at a clock speed of 2.8 GHz. The FX-62 is basically two FX-57 processors

combined into one. Manufactured using the 90 nm fabrication process, this processor features 2 MB of L2 cache (1 MB per core). The memory clock can go up to 800 MHz with the AM2 compared to 400 MHz on the socket 939 platform. On the performance front, it beat all the processors available then by a decent margin. The Intel Pentium D and its Extreme Edition version were still behind this mammoth. While this processor still contains enough horse power for most applications and games, the Core 2 Duo series of processors from Intel have stolen the limelight.

Second runner up



Number of Cores: 2, Fabrication process: 90 nm, Clock speed: 2.8 GHz, FSB: 1000 MHz, L1 Cache: 128 KB, L2 Cache: 2 MB, Socket: AM2

Reviewed in June 2006

LCD Monitors



Screen size: 15-inches, Optimal resolution: 1024 x 768, Aspect ratio: 4:3, Brightness: 250 Cd/sq.mt, Contrast ratio: 400:1, Response time: 12 ms

Reviewed in October 2006

First runner up



Screen size: 17-inches, Optimal resolution: 1280 x 1024, Aspect ratio: 4:3, Brightness: 280 Cd/sq.mt, Contrast ratio: 500:1, Response time: 4 ms

Reviewed in October 2006

Second runner up



Screen size: 22-inches, optimal resolution: 1680 x 105, Aspect ratio: 16:10, Brightness: 280 Cd/sq.mt, Contrast ratio: 700:1, Response time: 5 ms

Reviewed in October 2006

LG Flatron L1515S

What would you prefer—a bulky CRT monitor that eats into your desktop space or a sleek TFT monitor? The choice would obviously be a TFT monitor. However, a year back, the scenario was different. People hesitated opting for TFT monitors because they were very expensive. Today, thanks to advancements in the fabrication process of flat panel, manufacturers are reaping the benefits of huge economies of scale. In return, the end-user benefits due to the falling prices, which in turn makes the technology affordable.

If you want to go in for the best performing 15-inch TFT monitor, the LG Flatron L1515S is the choice. The monitor

has a pixel pitch of 0.294 mm, which effectively translates into an optimal resolution of 1024x768. For a 15-inch screen, the resolution is good enough for basic purpose like web surfing, e-mail and office suite. A brightness level of 250 cd/sq.mt and contrast ratio of 400:1 is ideal for vibrant color reproduction. It's the 12 ms response time which makes this monitor an ace performer. A low response time reduces the occurrence of ghost trails in fast moving videos. Therefore, you won't mind watching movies or gaming on this monitor. For a low budget, this monitor is a steal deal. This is the LCD monitor to buy if you are on a tight budget.

ViewSonic VP720B

Unlike CRT monitors, the technology used in manufacturing flat panels is not yet mature. Hence the cost of TFT monitors is continually diminishing. In a year's time, the average price of a 17-inch monitor has come down to what a 15-inch monitor used to cost a year ago. However, the ones that come with an ultra-low response time and high brightness level and contrast ratio come priced at a premium.

Belonging to the VP series, the VP720B is meant for professional users who need high screen performance coupled with great ergonomics. The monitor features 4 ms response time—the lowest we have

come across yet. A brightness of 280 cd/sq.mt and contrast of ratio of 500:1 enables the monitor to deliver crystal clear images. The optimal resolution of 1280x1024 offers ample workspace to edit large image and work with lengthy documents. For imaging professionals who work with portraits, the monitor features a unique screen swivel mechanism which allows the orientation of the screen to be changed. The VP720B also sports DVI video input which is uncommon in 17-inch monitors. If you're looking out for a professional 17-inch monitor and don't mind spending extra, this one is the best.

ViewSonic VX2235W

The 22-inch ViewSonic VX2235W delivers great visual performance and has a widescreen form factor. Imagine how it would feel working on a TFT monitor bigger than a 21-inch television set in your living room! The monitor has a stunning resolution of 1680x1050 which translates into an aspect ratio of 16:10. As compared to a 19-inch TFT monitor with an optimal resolution of 1280x1024, this one offers 35 percent more viewing area.

A speedy response time of 5 ms makes this gorgeous display ideal for watching movies and gaming at high resolutions. Precision in color reproduction depends

on the contrast ratio of the monitor. The brightness of this monitor is 280 cd/sq.mt and the contrast ratio stands the highest at 700:1. For a large screen, having a good viewing angle is critical for movies with family and friends—the horizontal viewing angle is 82 degrees. Coming to performance, it excelled in reproduction of color gradients. It can be used at the highest quality levels. You also have a audio connector for the speakers provided with the monitor. If your needs involve high-end 3D graphics, page layout or video processing, this monitor will complement a fast computer.

Asus WL-520G

The Asus WL-520G was another product that won the Best Performer and Best Value awards. It was the most inexpensive wireless router in the entire roundup. Not only is it easy to set up and configure, it also has all the features that a home user would require. If you want to set up a wireless network at home, look no further.

Besides the standard security features like WEP and WPA, it also provides basic home security features like a built-in firewall and a logging system. You can also use this router for connecting to a PPTP-based VPN tunneling which provides basic security. But don't rely on it to connect to your corporate network!

It also supports Wireless Distribution System for connecting to other wireless access points and routers. This helps in making a wireless network mesh for schools and offices. Other features include port forwarding and dynamic DNS support if you want to host services like FTP or HTTP on your home PC. It has a RJ-45 based WAN interface which means you can connect this device to ISPs or modems that support Ethernet connections. This will almost certainly mean investing in a modem. It passed our performance test with flying colours even at higher ranges and at the lowest price point; its price is simply unbeatable.



Supported Standards: 802.11b/g/Super G, WAN
Port: RJ 45, VPN Pass Through: None, Encryption: 64-128 bit WEP, WPA2, TKIP, WPA-PSK
Reviewed in November 2006

D-link DSL-G604T

If you want to share your brand new Airtel or MTNL connection and go wireless, the D-Link DSL-G604T is the router you should buy. This was the only router in our roundup that featured a RJ-11 WAN port and had an in-built modem. Not only is it easy to set up and configure, it also boasts of a comprehensive set of features.

It features a packet filter-based firewall that can do stateful packet inspection. This prevents many Denial of Service attacks. It has extensive data logging capabilities and is even capable of logging data to a remote system. This is a feature that would certainly even help small businesses

to go wireless. It can be configured to send e-mail alerts to security breaches. It supports all major VPN connectivity modes like PPTP, L2TP and IPSEC lest you want to connect to your office network from home.

Although this router was very fast in all our performance tests, it did not get the Best Performer award because of its failure in one of the range tests. At Rs 5,750, this router provides an extensive set of features and good performance that makes it an ideal buy for home users as well as small businesses using a ADSL connection.

First runner up



Supported Standards: 802.11b/g/Super G, WAN
Port: RJ 45, VPN Pass Through: PPTP, L2TP, IPSEC, Encryption: 64-128-256 bit WEP, TKIP, WPA-PSK
Reviewed in November 2006

Netgear WPN824

MIMO or 802.11 pre N is the current generation technology that is used in wireless devices. Not only does this technology provide better throughputs but it also increases the range of a wireless access point or router. Intel plans to support this technology in their next laptop platform. The Netgear WPN824 is one such router. This router does not feature an external antenna and has a spaceship like appearance.

It provides 128-bit WEP encryption and even supports the more secure encryption option like WPA. Additional security options include a stateful inspection-

based firewall, support for data logging and e-mail alerts for detected intrusions. One good feature in this router is that it supports an application layer firewall. You can configure this router to block websites based on URLs as well as string matches. It supports port forwarding and dynamic DNS, thus making hosting possible on your home computer, provided you have a global IP address.

Even though it was not the fastest of the routers, it managed to pass all our tests with decent scores. At a price of Rs 5,900, this router will definitely not burn a hole in your pocket!

Second runner up



Supported Standards: 802.11b/g/Pre N, WAN
Port: RJ 45, VPN Pass Through: None, Encryption: 64-128 bit WEP, WPA2, WPA-PSK
Reviewed in November 2006



Pramod Jadhav



The Muscle of Merom

After the Conroe for desktops, Intel launched the Merom processor for laptops. Merom's beauty lies in the fact that it's compatible with Intel's existing mobile platform **BY ANAND TULIANI**

After the runaway success of Core 2 Duo for the desktop, Intel is ready with its mobile counterpart (also called Core 2 Duo), codenamed Merom. The major differences between the two are lower clock speeds and FSB—that is because in case of a laptop, there has to be a balance between performance and battery life.

The first thing you will notice about the Merom is that the pipeline length has been cut to half (just like the Conroe). It is an upgrade of the previous Core Duo mobile processor, Yonah. Compared to the Yonah, Merom has a larger L2 cache, increased clock speeds, additional

decoders and enhanced prefetchers which translate into an increase in the performance without any increase in power consumption.

The current range of Core 2 Duo has an FSB of 667 MHz and is compatible with the Napa platform. So if you have a notebook fitted with a Core Solo or Core Duo processor, you can upgrade it to Core 2 Duo.

The launch of the Santa Rosa platform early next year is when Intel claims the chipset will support an FSB of 800 MHz with the Mobile 965 chipset and the ICH8M southbridge.

To analyze the power of Merom, we tested it both on the mobile and desktop platforms.

Intel Core 2 Duo comparison table

Processor number	T7600	T7400	T7200	T5600	T5500
Mfg process	65 nm	65 nm	65 nm	65 nm	65 nm
Clock speed	2.33 GHz	2.16 GHz	2 GHz	1.83 GHz	1.66 GHz
FSB	667 MHz	667 MHz	667 MHz	667 MHz	667 MHz
L2 cache	4 MB	4 MB	4 MB	2 MB	2 MB

POWER PERFORMER ▶ ACI is the first company to send us a notebook based on Merom. Let's take a look at its features.

Features

The Matrix 1500 is based on the Intel Centrino Duo platform. It is powered by the Intel Core 2 Duo T7200 processor running at 2 GHz on the Intel 945PM chipset having an FSB of 667 MHz. It features a dedicated graphics subsystem as opposed to integrated graphics provided by the chipset. The ATI Mobility Radeon X1600 graphics makes the Matrix 1500 capable of delivering blistering frame rates in games. Since it's a gaming machine, there is 1 GB of DDR2 memory with a frequency of 667 MHz and a speedy 120 GB SATA hard drive with a spindle speed of 5400 rpm. The components used are enough to make any notebook an ace performer.

Other features include a DVD writer, memory card reader and a 1.3-megapixel web cam that can capture images at a resolution of 1280x1024. Networking options include support for Gigabit

SMALL IS POWERFUL ▶ The ECS 945GTY-M is a first of its kind motherboard having support not for desktop, but mobile processor (Yonah and Merom).

Features

Measuring just 24.5x20 cm, the ECS 945GT-M is the smallest micro-ATX motherboard we have come across. It's based on the Intel 945GT Express chipset supporting Core Solo, Core Duo and Core 2 Duo mobile processors.

Inspire of its small form factor, it packs in enough features to build a powerful desktop PC. The chipset has support for DDR2 667 MHz memory in dual channel with a maximum installable capacity of 2 GB. The chipset features integrated graphics powered by the Intel GMA950 graphics accelerator. If you're a gamer you can upgrade the graphics as there's a provision for a PCIE 16x slot. Other expansion slots include a PCIE x1 and 2 PCI slots. The small form factor restricts the board from being loaded with features, but there is support for SATA 3.0 Gbps,

Ethernet and Wi-Fi 802.11 A/B/G. The crisp 15.4-inch widescreen was a pleasure to work on.

Build quality and ergonomics

Compared to previous ACI notebooks, we noticed a marked improvement in the build quality. The chassis is sturdy and the overall look and feel is acceptable. The side-placement of USB and FireWire ports, S-Video output and other components offers convenience while connecting external devices. While the keyboard needs minor improvement, ACI has paid close attention to other minute details like placement of the touchpad and buttons.

Verdict

For a gaming laptop that doubles up as a powerful desktop replacement, the Matrix 1500 is worth considering. You may find the price high, but it justifies the features and performance offered.

FOR: Great for gaming, good overall performance.

AGAINST: Average build quality.

LAPTOP

ACI Matrix 1500



Specifications

Processor: Intel Core 2 Duo T7200, **Chipset:** Intel 945PM, **Graphics:** ATI Mobility Radeon X1600, **Hard Drive:** 120 GB SATA, **Display:** 15.4 inches

Price	Rs 69,990
Contact	Allied Computers Intl Ltd
Phone	022-40947000
Email	sales@aci-india.com
Website	www.aci-asia.com
Warranty	1 year

RATINGS



MOTHERBOARD

ECS 945GTY-M



Specifications

Form Factor: Micro-ATX, Chipset: Intel 945GT Express, FSB: 667 MHz, CPU Socket: mPGA479, Memory: DDR2 667 MHz (Max 2 GB), PCIE 16x

Price	Rs 4,635
Contact	Mediatech India Distribution Pvt Ltd
Phone	022-26361111
Email	ghanshyam@mediatechindia.com
Website	www.ecs.com.tw
Warranty	2 years

RATINGS



Performance Scores		
	ECS 945 GTY-M	ACI Matrix 1500
SiSoft Sandra 2007		
Processor arithmetic		
Dhrystones	18392 MIPS	18357 MIPS
Whetstones	12750 MFLOPS	12735 MFLOPS
Memory bandwidth	3652 MB/s	3688 MB/s
3DMark 2005	6171	3735
PCMark 2005		
Overall	5549	4405
HDD XP Startup	7.74 MB/s	5.90 MB/s
Physics and 3D	185.28 fps	187.69 fps
HDD general usage	5.03 MB/s	3.91 MB/s
Multithreaded test		
Audio compression	2206.49 KB/s	2140.27 KB/s
Video encoding	370.63 KB/s	372.77 KB/s
CPU test suite	5106	5084
Memory test suite	3962	4021
Graphics test suite	5556	3061
HDD test suite	4849	3573
Real-world tests		
Audio compression - MP3@192 kbps high quality	10 MB/s	8.33 MB/s
Video encoding - Xvid@best quality	78.26 fps	76.47 fps
Video encoding with HD 720p playback	72.65 fps	67.06 fps
Doom3		
640x480@low	156 fps	91 fps
1280x1024@high	89 fps	63 fps
1280x1024@ultra	94 fps	73 fps

Test rigs

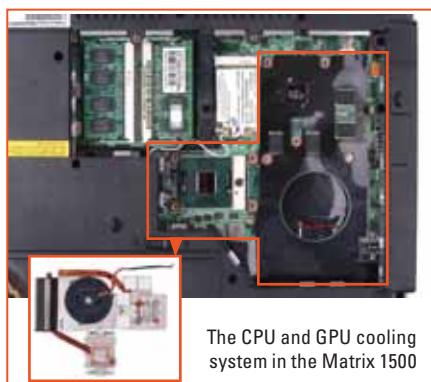
With the ACI Matrix 1500 and the ECS 945GT-M, we were able to test the Merom on the mobile as well as desktop platform. Evaluating the Matrix 1500 was pretty straightforward. To evaluate the performance on the ECS 945GT-M, we had no option but to pull out the processor from the laptop.

Notice the layout of the processor and the ATI Mobility Radeon X1600 graphics chip in the picture below. The heatsink is

designed in a way that the copper plates covering the processor and GPU dissipate heat via heatpipes which are cooled by the fan. The heat from the video memory chips surrounding the GPU is transferred to the heatsink via heatpads.

The CPU socket is 3.5x3.5 cms. To fit the processor, it has to be placed into the socket and then fastened by turning the lock (at the side of the socket) clockwise. The 945GT-M bundles an aluminum heatsink with a 50 mm fan.

To compare Merom's performance on the ACI Matrix 1500 and the ECS 945GT-M, we created equally powerful platforms. The components below were used with the ECS 945GT-M



The CPU and GPU cooling system in the Matrix 1500

Processor : Intel Core 2 Duo T7200
Memory : 512 MB Kingston HyperX 8500D2K2 @ 667 MHz
Hard drive : Samsung SP1614C (7200 rpm)
Graphics : Nvidia GeForce 7600GT

Performance

We ran both synthetic as well as real-world benchmarks to assess the performance of the two systems.

The benchmarks are designed to stress the processing, memory, graphics and storage subsystems by emulating real-world scenarios. The real-world benchmarks that include audio and video encoding and gaming, deliver results based on actual tests. Prior to beginning the tests, we had assumed the desktop board would defeat the notebook on all counts. But we were mistaken. Look at what the table says:

In SiSoft Sandra 2007, both the machines performed identically in the processor arithmetic and memory bandwidth tests. The ECS 945GT-M had a clear advantage in 3DMark 05 and PCMark 05 due to a much powerful graphics card and a faster hard drive which gave it a big lead over the notebook. While most of the scores are nearly equal, those involving storage and graphics are significantly high in case of the motherboard.

Even in the real-world tests, the results were quite similar. The time required to encode audio and video were almost equal in both the cases. But again, in Doom 3, the 945GT-M led the race thanks to GeForce 7600GT. Even the onboard ATI Mobility Radeon X1600 did a decent job. A frame rate of 63 fps in 'ultra' mode at 1280x1024 is commendable.

Last word

Building a desktop PC based on a mobile processor and the Intel 945GT chipset will give it a lead over a notebook as you get the big advantage of scalability. Another advantage is that this machine will run cooler than a regular desktop PC. Upgrading and servicing a desktop PC is cheaper than in case of a laptop.

If you are in dire need of additional power then it is recommended you go for Merom, otherwise a Yonah based laptop is good enough to perform most of your computing requirements. Finally, coming to price, you will have to wait for a while for Merom-based laptops to become affordable. ■

SONY®



First **Blu-ray** aftermarket PC drive in India
Now available in Sony.



35 CD Disc
(700 MB)

=



5 DVD Disc
(Single Layer)
(4.7 GB)

=



1 Blu-ray Disc
(Single Layer)
(25 GB)

SONY ELECTRONICS (S) PTE. LTD.

Distributed in India by



RASHI PERIPHERALS PVT. LTD.

e-mail : sony@rptechindia.com

web : www.rptechindia.com



- **EAST** :- Bhubaneswar - 2544546, Bilaspur - 9329120502, Gangtok - 9932232221, Guwahati - 2607114, Kolkata - 22153364, Patna - 3955740, Raipur - 4033241, Ranchi - 2330276, Siliguri - 2525646 • **WEST** :- Ahmedabad - 27430080, Aurangabad - 9372007654, Baroda - 9824499746, - Goa - 2420312, Indore - 2528056, Kolhapur - 9850977588, Mumbai - 28783570, Nagpur - 6617998, Nashik - 9822577344, Pune - 26136332, Rajkot - 9824499773, Sangli - 9850354822, Surat - 9824499772, Vashi - 9322199688, Junagadh - 362001/9824042673 • **NORTH** :- Chandigarh - 3048351, Dehradun - 9319702147, Ghaziabad - 9311117299, Gurgaon - 5084860, Jaipur - 2370949, Jammu - 09906082351, Lucknow - 2231795, Ludhiana - 5015686, New Delhi - 26448428, Parwanoo - 234303 • **SOUTH** :- Bangalore - 41120202, Calicut - 2366250, Chennai - 28586773, Cochin - 2318611, Coimbatore - 2479576, Hubli - 2213777, Madurai - 9842344633, Mangalore - 9845420204, Pondicherry - 9842310080, Secundrabad - 27721296, Trivendram - 2339945, Vijayawada - 5562166, Vizag - 9848579975, Rajahmundry - 9848494781



Awed by Quad!

Kentsfield—the world's first quad core processor is meant for heavy multi-tasking! BY ANAND TULIANI

As we all know, the Conroe features two cores sharing 4 MB of L2 cache on a single physical die measuring 143 sq.mm. Kentsfield is nothing but a quad-core processor with two Conroes in a single package. Thus, it features two dies each having two cores and sharing 4 MB of L2 cache. That's four cores and a whopping 8 MB L2 cache!

Dual vs quad

To demonstrate the true potential of a quad core processor vis-à-vis a dual core processor, we compared the performance of the Core 2 Extreme QX6700 with Core 2 Duo E6700, both clocked at 2.66 GHz. The difference being, the QX6700 is as good as two E6700s in a single package! In order to allow the processors to stretch their legs comfortably, we made sure the components used were top-notch. Not only this, we also ensured the applications used in benchmarking were multi-threaded.

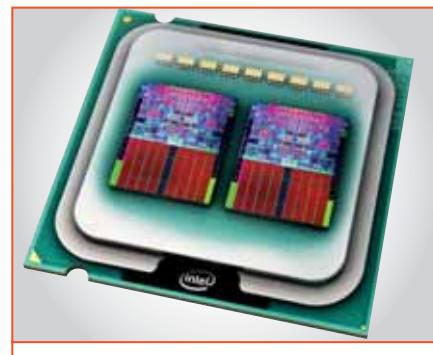
Test platform

Motherboard	: eVGA Nvidia nForce 680i-SLI
Memory	: (512 MB x 2) Corsair CM2X512-8500 4-4-4-12
Graphics card	: Nvidia GeForce 7600GT
Hard drive	: WD Raptor 740GD
CPU cooler	: Cooler Master Hyper 48

The battle

To begin with, if you notice the synthetic scores, everything looks almost the same with marginal differences except for the processor arithmetic benchmark in SiSoft Sandra 2007 and the CPU test suite in PCMark 05. The Dhystones and Whetstones of QX6700 are approximately double as compared to E6700.

The real-world benchmarks depict the true performance as they are based on actual scenarios unlike synthetic benchmarks that simulate such conditions. When it comes to using a single



Conroe E6700 x 2 = Kentsfield QX6700

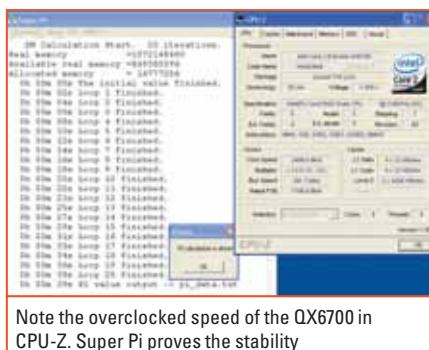
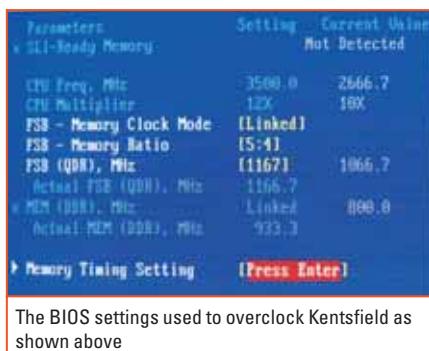
application at a time, it doesn't make much difference whether you use a dual core or a quad core processor—the first real-world scores prove this. However, when it comes to multi-tasking, the difference is clearly visible. When we ran the video encoding and file compression tests simultaneously, the CPU usage of the QX6700 hovered between 85 to 95 percent. The E6700 was out of breath with 100 percent utilization throughout the session! This gave the QX6700 a chance to move ahead of the E6700 by a difference of around 20 seconds.

The torture test is enough to give hiccups to any processor! While encoding the video, Kentsfield was constantly burdened with 100 percent utilization. The same task was indeed a torture for Conroe, which took more than double the time. The gain of 135 percent jump in performance is clearly attributed to two additional cores in Kentsfield.

In the gaming tests, Doom 3 showed a marginal improvement by 34 frames per second with a quad core processor. However, there was absolutely no difference in case of F.E.A.R.

Overclocking the beast

Like other Core 2 Extreme processors, the QX6700 comes with an unlocked multiplier to make overclocking a breeze. We managed to clock the processor way



up to 3.50 GHz from 2.66 GHz by bumping the multiplier to 12x and increasing FSB to 1167 MHz from 1066 MHz. This in turn pumped up the memory frequency from 800 MHz to 933.3 MHz. We also had to step up the CPU voltage from the stock voltage of 1.35V to 1.40V. Such high overclocking was possible thanks to the FSB increment feature available in Nvidia nForce 680i SLI chipset and 1066 MHz DDR II memory.

Any guesses about the scores? Well,

Scores

	Core 2 Duo E6700	Core 2 Extreme QX6700
Synthetic Scores		
SISOFT SANDRA 2007		
Processor arithmetic		
Dhrystones	24549 MIPS	49153 MIPS
Whetstones	17030 MFLOPS	32865 MFLOPS
Memory bandwidth	5765 MB/s	5763 MB/s
PCMARK 05		
Overall	7008	7357
Physic and 3D	249.87 fps	249.88 fps
File decryption	73.66 MB/s	73.60 MB/s
Multithreaded test		
Audio compression	2935.84 KB/s	3385.05 KB/s
Video encoding	493.32 KB/s	471.565 KB/s
CPU test suite	6818	8590
Memory test suite	5841	5832
3DMARK 06 - CPU TEST		
Real World Scores		
Time taken to encode 300 MB of WAV files to 256 kbps MP3 at high quality using Xilisoft WMA MP3 Encoder	70 secs	68 secs
Time taken to encode a 31 sec HD 1080p video to DivX using Xilisoft Video Encoder	52 secs	50 secs
Time taken to compress 200 MB multiple files to .rar format with best compression profile using Winrar	55 secs	53 secs
Time taken to compress 200 MB multiple files to .rar with POV-Ray benchmark and Super Pi (8M values) running in parallel	93 secs	88 secs
Time taken to compress 70 sec HD 720p video to 1128 kbps using Windows Media Encoder and 200 MB multiple files to .rar format, both running in parallel		
Video encoding	119 secs	93 secs
File compression	106 secs	85 secs
Torture test: Time taken to encode a 31 sec HD 1080p video to 1128 kbps using Windows Media Encoder with POV-Ray benchmark, Super Pi (8M values) and file compression (Winrar) running in parallel	153 secs	65 secs
Gaming		
Doom 3: 640x480 @ low	176.9 fps	211.4 fps
FEAR: 640x480 @ low	365	366

at 3.5 GHz, the overall score in PCMark shot way up to 8611 and the Dhrystones in SiSoft Sandra peaked 64534 MIPS!

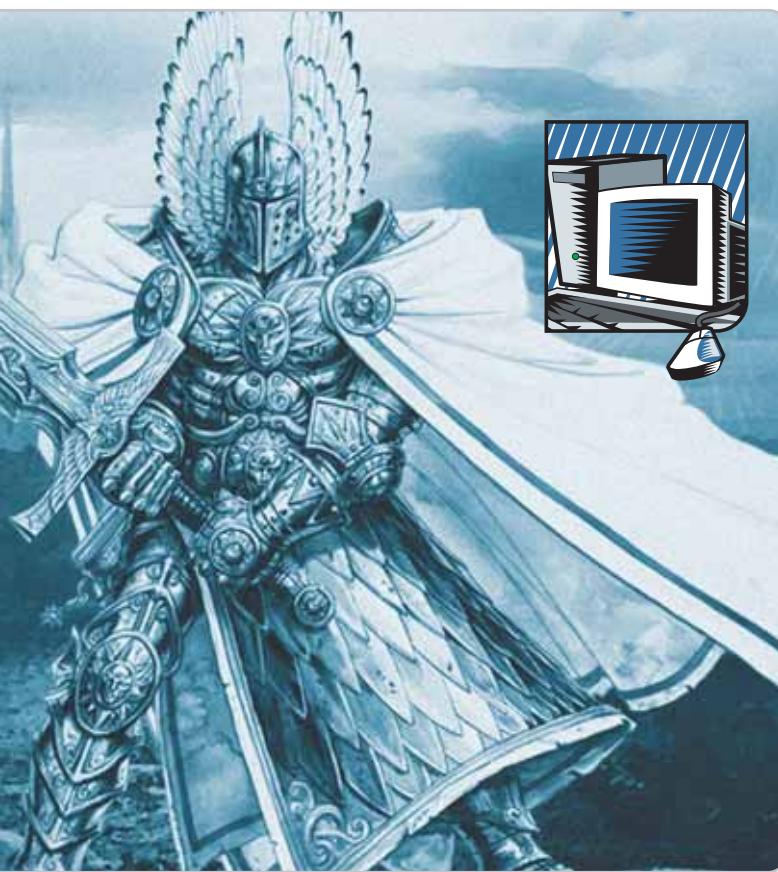
Last word

From the tests, it can be clearly seen that the quad-core QX6700 shines only when it is put to the grind with a good set of multiple tasks in parallel with four or more threads. When it comes to demanding applications like audio and video editing, 3D modeling, image processing and

complex calculations, the QX6700 is an ace. However, when underfed with a single or double threaded application, it is as good as the dual-core E6700. For an application to take advantage of multiple cores, it must be heavily multi-threaded. The multi-core era also calls for redesigning of game engines as currently none of them are optimized to use multiple cores. So unless you need to indulge in heavy multi-tasking, stay satisfied with Core 2 Duo. ■



CATEGORY	ENTRY-LEVEL	PRICE (Rs)	MID-RANGE	PRICE (Rs)
Processor	AMD Athlon 64 3200+ (Socket AM2)	5,500	AMD Athlon 64 X2 3600+ (Socket AM2)	6,800
Motherboard	ASRock AM2V890-VSTA	3,800	MSI K9N NeoF	4,900
RAM	512 MB Kingston DDR2 667 MHz	3,200	2x512 MB Kingston DDR2 667 MHz	6,400
Hard Disk	Samsung SpinPoint HD160JJ	3,350	Western Digital WD3200KS 320 GB	6,000
Graphics Card	Zebronics 7600GS PCI-E 256 MB	6,200	Zebronics 7600GT 256 MB	9,500
Optical Drive	Lite-On SHW-1635S Dual Layer DVD Writer	2,300	Lite-On SHW-1635S Dual Layer DVD Writer	2,300
Network Card	Onboard 10/100 Fast Ethernet	Nil	Onboard 10/100/1000 GbE	Nil
Monitor	Samsung SyncMaster 740N	11,250	ViewSonic VP920B	18,999
Keyboard	Microsoft Wired Desktop 500 - Combo	825	Microsoft Internet Keyboard	650
Mouse	—	Nil	Logitech MX518	2,500
Speakers 2.1	Logitech X-230	3,300	Altec Lansing MX5021	7,100
OR Speakers 5.1	Logitech X-530	5,900	Logitech Z-5300	11,000
Soundcard	Creative Sound Blaster Live 5.1	1,550	Creative Audigy 2 Value 24-bit	2,000
PC Case	Blues MF-421 Case and Power Supply	1,375	Cooler Master Elite 330	3,000
Power Supply	—	Nil	PowerSafe 400 Watts	1,600

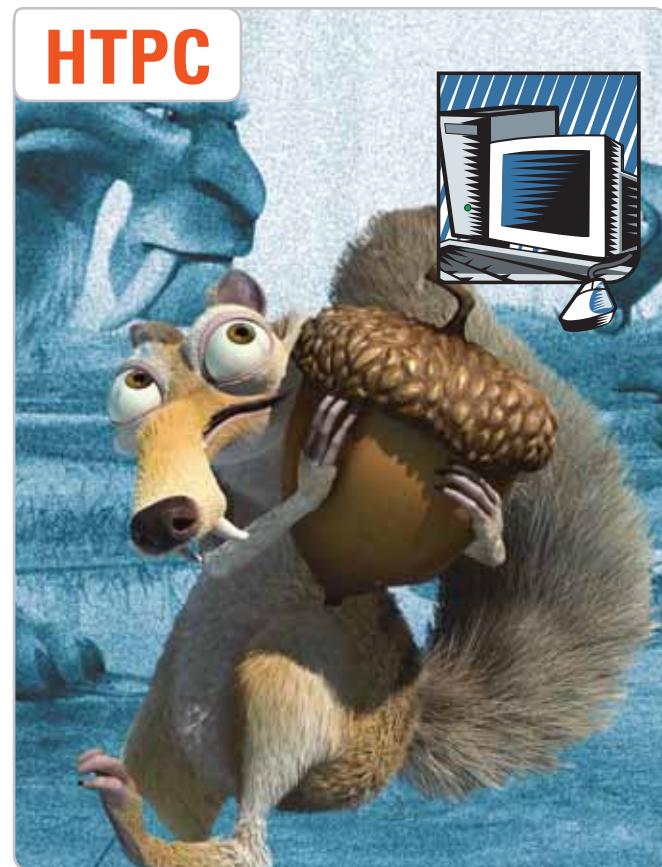
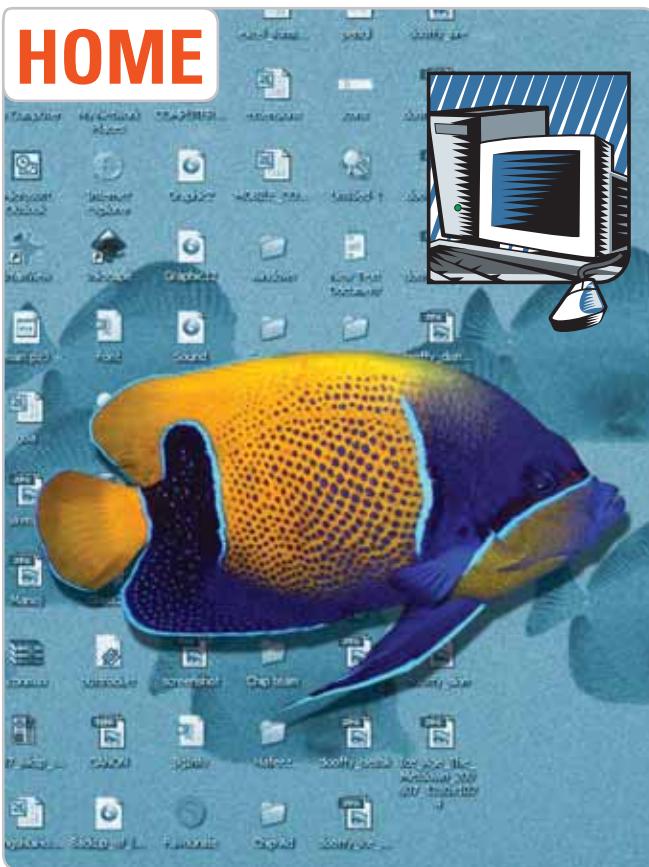


WORKSTATION



HIGH-END	PRICE (Rs)
AMD Athlon 64 X2 4200+ (Socket AM2)	13,700
Asus M2N32 SLI Deluxe	18,000
2 x 512 MB Kingston KHX6400D2K2/1G 800 MHz	14,500
Seagate ST3750640AS	23,200
XFX GeForce 8800 GTX	42,000
Lite-On SHW-1635S Dual Layer DVD Writer	2,300
On-board 10/100/1000 GbE	Nil
ViewSonic VX2235W	29,999
Logitech G-15 Gaming Keyboard	4,850
Logitech MX518	2,500
Klipsch Promedia GMX A-2.1	11,150
Logitech Z-5500 Digital	23,000
Creative Sound Blaster Audigy 4	5,800
Antec Super Lanboy	5,500
Cooler Master iGreen 500W	6,900

CATEGORY	PRODUCT	PRICE (Rs)
Processor	Intel Core 2 Duo E6700	5,750
Motherboard	Gigabyte GA-965P-DQ6	3,800
RAM	2x1 GB Kingston DDR2 667 MHz	3,100
Hard Disk	WD Raptor 1500ADFD 150 GB	3,350
Graphics Card	Leadtek Quadro FX 540 128 MB	6,200
Optical Drive	Lite-On SHW-1635S DVD Writer	2,300
Network Card	Onboard 10/100/1000 GbE	Nil
Monitor	Viewsonic P97F+	11,250
Keyboard	Microsoft Internet Keyboard	825
Mouse	Logitech MX518	Nil
Speakers 2.1	Logitech Z-5500 Digital	3,300
OR		
Speakers 5.1	Creative X-Fi Elite Pro	5,900
Soundcard	Antec Performance P180 Silver	1,550
PC Case	Cooler Master iGreen 500W	1,375
Power Supply	Wacom Graphire4 Tablet 6 x 8	Nil



CATEGORY	PRODUCT	PRICE (Rs)
Processor	AMD Sempron 64 2800+	3,100
Motherboard	ASRock AM2V890-VSTA	3,800
RAM	512 MB Kingston DDR2 667 MHz	3,200
Hard Disk	Hitachi DeskStar 7K80 80 GB	2,250
Graphics Card	Zebronics 7300 LE 128 MB	2,700
Optical Drive	Lite-On SHW-1635S DVD Writer	2,300
Network Card	Onboard 10/100 Fast Ethernet	Nil
Monitor	Samsung SyncMaster 793S CRT	5,000
Keyboard	Microsoft Wired Desktop 500 - Combo	825
Mouse	—	Nil
Speakers 2.1 OR Speakers 5.1	Creative SBS240	500
Speakers 5.1	Creative SBS370	1,250
Soundcard	Onboard	Nil
PC Case	Blues MF-421 Case and Power Supply	1,375
Power Supply	—	Nil

CATEGORY	PRODUCT	PRICE (Rs)
Processor	AMD Athlon 64 3200+ (Socket AM2)	5,500
Motherboard	MSI K9NGM2 with SPDIF In/Out	4,350
RAM	2x512 MB Kingston DDR2 667 MHz	6,400
Hard Disk	Western Digital WD2500KS 250 GB	4,650
Graphics Card	Onboard Graphics	Nil
Optical Drive	Lite-On SHW-1635S DVD Writer	2,300
Network Card	Onboard 10/100/1000 GbE	Nil
Monitor	ViewSonic VX2235WM	29,999
Keyboard	Microsoft Wireless Optical Desktop 1000 - Combo	1,600
Mouse	—	Nil
Speakers 5.1 (Entry-level, Mid-range, High-end)	Logitech X-530 Logitech Z-5300e Logitech Z-5500 Digital	5,900 11,000 12,000
Soundcard	Creative Audigy Value 24-bit	2,100
PC Case	Cooler Master Media 260	8,950
Power Supply	Cooler Master Extreme Power 350	2,100
TV Tuner	Compro VideoMate Gold Plus II	3,500

Multi-core processors

Multi-core processors represent a major evolution in computing technology. This important development is taking place at a time when businesses and consumers are beginning to require the benefits offered by these processors due to the exponential growth of digital data and the globalization of the Internet. Multi-core processors will eventually become the pervasive computing model because they offer performance and productivity benefits beyond the capabilities of today's single-core processors.

These processors will also play a central role in driving important advancements in PC security and virtualization technologies that are being developed to provide greater protection, resource utilization, and value for the commercial computing market. Consumers too will have access to greater performance than ever before, which will significantly expand the utility of their home PCs and digital media computing systems. Multi-core processors will also have the benefit of offering performance without having to increase power requirements, which will translate into greater performance per watt.

Placing two or more powerful computing cores on a single processor opens up a world of important new possibilities. The next-generation of software applications will likely be developed using multi-core processors because of the performance and efficiency they can deliver compared to single core processors. Whether these applications help professional animation companies produce more realistic movies faster for less money, or create breakthrough methods to make a PC more natural and intuitive, the widespread availability of hardware using multi-core processor technology will forever change the computing universe.

Computer processor design has evolved at a constant pace for the last 20 years. The proliferation of computers into the mass market and the tasks we demand from them continue to push the need for more powerful processors. The market requirement for higher performing processors is linked to the demand for more sophisticated software applications. E-mail, for instance, was only a limited and

expensive technology 10 years ago. Today, software applications span everything from helping large corporations better manage and protect their business-critical data and networks to allowing PCs in the home to edit home videos, manipulate digital photographs, and burn downloaded music to CDs. Tomorrow, software applications might create real-world simulations that are so vivid that it will be difficult for people to know if they are looking at a computer monitor or out the window. However, advancements like this will only come with significant performance increases from readily available and inexpensive computer technologies.

Multi-core computers have the ability to run today's applications as well as tomorrow's more complex applications, which means that the hardware will retain its value over time. The growing complexity of software, as well as the desire of users to run multiple applications at the same time, will accelerate widespread adoption of multi-core processor-based systems. Multi-core processors offer an immediate and cost-effective technology for solving today's processor design challenges—alleviating the by-products of heat and power consumption that exist when continually advancing single core processor frequency or 'clock speed'. Multi-core processors offer an ideal platform for enabling logical, incremental performance increases as market demands increase in the future.

The corporate computing environment has witnessed dramatic changes in the last few years. There has been a shift from rapid expansion of IT infrastructure in support of growing business needs to carefully managing existing assets and investing in new strategic technologies that provide specific competitive advantages. Information technology (IT) managers today are challenged with providing more services to more users. There is the demand to meet ever-increasing performance expectations, store and manage exponentially increasing amounts of data, better protect the network, and ensure system stability—all with limited possibility to expand data centers because of shrinking budgets. ■

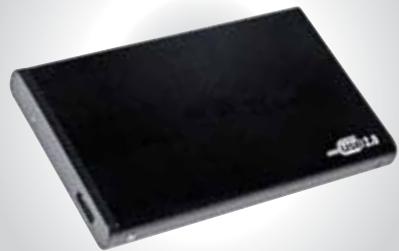


ALOK OHRIE
Managing Director, AMD India

Case Comfort

A guide to buying the perfect case for your external hard disk **BY ANAND TULIANI**

Entry-level



Suggested Brands

Zippys, Intex and unbranded models

Budget

Rs 200 - 700

External hard drive casings belonging to this category are meant for those who don't want to spend much to convert an internal hard drive to an external storage device. To get one, simply go to a hardware market and you will find plenty of these available at small roadside stalls selling computer accessories. A casing for a 2.5-inch drive should cost around Rs 300 and one for a 3.5-inch drive should cost Rs 700 or so.

The casings belonging to this category do a decent job—you will get transfer speeds between 25 MB/s to 35 MB/s. However, be warned that most of them suffer from poor build quality. The quality of the USB cable and the plastic used in construction are substandard. The life of the case depends on your luck! And God forbid if the case malfunctions, all your critical data may go down the drain.

Look out for a casing with an aluminum shell and at the same time, check the build quality. For 2.5-inch casings make sure the package includes a protective case. Most importantly make sure you don't settle for anything that comes without a year's warranty.

Mid-range



Suggested Brands

Zippys and Vantec models

Budget

Rs 500 - 1,200

If you want to strike a good balance among build quality, features and reliability, don't opt for entry-level hard drive casings. Instead, spend a little more and get a decent casing that not only looks good but also has a better build quality. Mid-range casings have a construction that leaves no room for any vibration as the drive is gripped firmly from within. This translates into better reliability and heat dissipation.

The performance of the casings belonging to this category is nearly the same as compared to the entry-level variants, but it's the reliability of the drive that's critical. Imagine losing hundreds of movies or thousands of songs in a shot. You don't want that, right?

Coming to features, you won't find anything extra in 2.5-inch casings. However, the 3.5-inch variants support both PATA and SATA interfaces, the latter delivering faster transfer speeds. The models you can choose from are mentioned above. Finally, you need not worry about warranty and support—all mid-range casings come with a warranty period of at least one year.

High-end



Suggested Brands

Vantec and Cooler Master models

Budget

Rs 1,000 - 3,500

The casings in this category are meant for those who want the best without compromising on features, performance and build quality. While the performance using the USB 2.0 interface remains more or less the same, additional features such as support for FireWire 400 and eSATA interfaces make these devices the fastest ones. However, these features are only available in the 3.5-inch casings. The FireWire 400 interface gives a performance boost of at least 10 MB/s. Casings which have support for eSATA deliver speeds as fast as the hard drive in your PC as it interfaces directly with the SATA port on the motherboard. The transfer speeds can go as high as blazing 65 MB/s! The best external hard drive casings come with multiple interfaces to give users a choice. There aren't many additional features that 2.5-inch casings offer. However, some of them feature one-touch backup and come bundled with a backup software.

Vantec and Cooler Master are the only brands that offer high-end external hard drive casings. Be ready with a generous budget to buy one!

Malware in your phone

If you own either a Windows Mobile or Symbian Series 60 smart phone, it will soon be hit by a virus. According to McAfee, a security solutions company, the number of malware programs created for mobile devices is expected to reach 726 by the end of 2006, a three-fold increase from 226 last year.

"Malware on handsets is following the same pattern that was observed on desktops," avers Kartik Shahani, Sales Director – India, McAfee. "But the days when people created viruses just for a kick, and to show off to peers, are long gone. Today, people create viruses for financial gain."

The first generation of viruses are really the proof-of-concept variety. Here are some examples.

In 2000, the Timifonica virus forced infected PCs to send harmless text messages to cell phones. That's about all it did. The Cabir worm (1994) spread between Symbian Series 60 phones through open Bluetooth connections. Cabir spreads as an infected SIS package called caribe.sis.

Commwarrior also spreads over Bluetooth via MMS, but spreads quite fast. It copies itself on to any memory card that is inserted into the infected phone. It will also infect SIS executable files in the phone or memory card. It just announces itself within the browser window.

SymbOS.Skulls is a Trojan horse that changes all the application icons on a Symbian phone to skull icons (see picture).

Commwarrior, Cabir, and Skulls are classified as "low-level" threats—harmless malware whose mission is to spread between phones and infect executable SIS files. But the next generation of mobile malware gets nastier.

The RedBrowser Trojan, which infects J2ME phones, promises to let you surf WAP-based web sites without a WAP connection. When active it sends SMS messages to premium rate numbers at the rate of \$5 - \$6 per SMS.

There are Trojans that steal address book information and send them to a hacker via SMS

or MMS. Some look for information such as stored passwords or sensitive information in spreadsheets. And some overwrite the system software in the phone, causing it to reset itself or behave strangely.

The next generation of viruses (or rather their authors) will target users who use their phones for financial transactions and mobile banking.

Protection

There are a couple of ways to protect handsets. Firstly, do turn off the Bluetooth mode and switch it on only when exchanging files. If you must have Bluetooth on, then switch it to the hidden mode. It is more difficult to write viruses

to penetrate phones that are in the hidden Bluetooth mode.

Most security software makers such as Symantec, McAfee, F-Secure, Trend Micro, and others offer mobile security solutions that self-update. I have witnessed how one of these solutions works on a Windows-enabled smartphone. The agent module running on the phone was able to find and quarantine viruses in real-time. It has

on-demand scanning too, and can update itself automatically.

At about \$40, the protection is well worth it. Think about how much you'd have to pay a service center to restore your phone after a virus attack. It would be more feasible if mobile operators offered this software on a subscription basis. No one would mind paying, say Rs 100 a month for malware protection.

"If you want to protect your handset, then don't just install an anti-virus solution," says Shahani. "Also remember to back up all your data, and do it often."

And you better do all this now, for it is only a matter of time before the big virus arrives. Remember how "I Love You" spread around the world in a few hours? Imagine something similar happening on mobile devices. It would be a lot faster and more lethal. ■

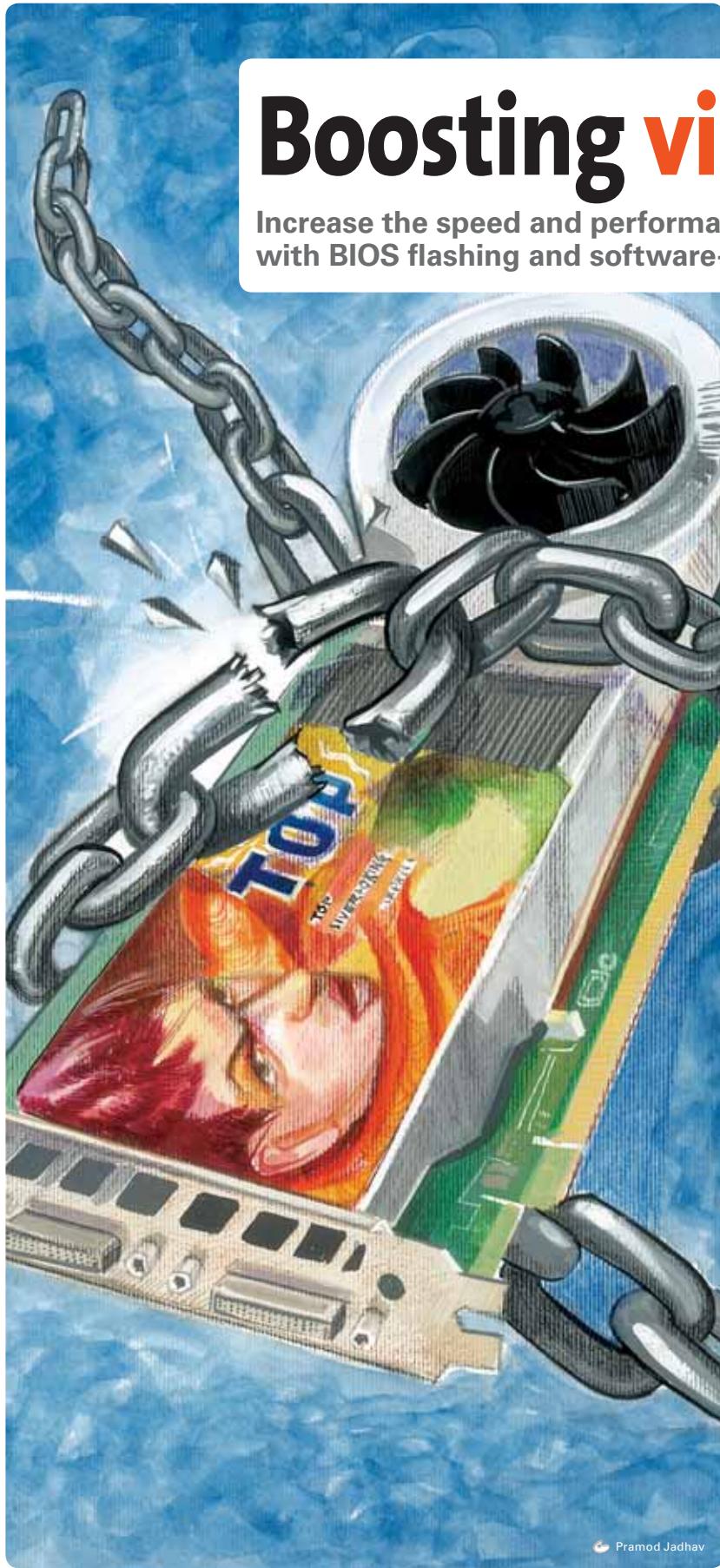
The writer has been tracking personal technology for the past 12 years.



BRIAN PEREIRA
brian.pereira@chip-india.com

The days when people created viruses for a kick, and to show off to peers, are long gone. Today, people create viruses for financial gain ■





Boosting video cards

Increase the speed and performance of your graphics cards with BIOS flashing and software-based overclocking **BY RAUNAK ROY**

Ardent gamers are always on the lookout to squeeze more performance out of their graphic hardware. New games release faster than you can upgrade. And there is always a limit to the amount of money you can shell out for graphic hardware that changes every two weeks. You buy a state-of-the-art Nvidia GeForce 8800 SLI graphics card today and in six months time there will be games in the market that don't support it. So the option is to turbo-boost your existing hardware—get familiar with video card overclocking. Overclocking allows you to surpass a processor's internal speed limits by increasing the frequency of its clock. In case of video cards, you can increase two kinds of clocks: the video processor (or graphic processing unit aka GPU) and/or the speed of the video memory on the card.

In this feature we tell you how to upgrade your video card's BIOS and push it to the extreme with intelligent overclocking. Remember that any form of BIOS flashing and manual overclocking will void any warranty provided on your card. Thus you will not get any support from anyone whatsoever if you end up with a nonfunctional card. Also, overclocking makes your hardware run at much higher levels than they were originally made for. This increases the chances of malfunction to the extent of irreparable damage. Proceed with caution and only if you are very sure of the risks.

Flash your graphics card's BIOS

The first step to begin overclocking is flashing your graphics card's BIOS. Flashing basically overwrites the existing data on the BIOS with new and improved information and instructions. Thus your card would be more stable, have fewer problems and can add some more features that were not there when you bought it from the store. Sometimes, a new BIOS increases performance as well. Another reason

Pramod Jadhav

is that manufacturers sometimes create multiple cards on the same processing platform with varying BIOS and memory to cater to customers preferring both high-end and low-end varieties. A case in example is ATI's Radeon 9800 PRO and Radeon XT cards. Many 256 MB 9800 PRO cards (and some 128 MB ones too) actually use the same graphics processor core as the 'faster' and more feature-heavy 9800 XT cards. A simple BIOS flash will increase the speed of the card and enable features that were not previously available in the 9800 Pro like temperature monitoring and the 'overdrive' driver overclocking option.

Originally, the video BIOS was stored in a ROM (Read Only Memory) and could not be replaced. Today it is located in a flash memory chip (thus the name flashing). The reason for this is that like every other piece of software, if the BIOS had programming errors, or an issue was detected in the hardware for which a workaround had to be found, the manufacturers provided an updated BIOS to a customer to fix the issue.

What you need

- One blank CD or DVD
- A copy of the relevant BIOS update utility: nVFlash for Nvidia cards available at <http://www.softpedia.com/progDownload/nVFlash-Download-16133.html> or ATI FLASHROM utility available at <http://www.radeon2.ru/bios/util/flashrom2.23.zip>.
- The relevant BIOS file with which you want to flash your existing BIOS. Remember to do your research on compatibility and stability of BIOS updates before you start flashing. Always make sure you have the correct BIOS file or else you may end up with an unusable card. <http://www.techpowerup.com/bios/> has a good collection of ATI BIOS files and http://www.mvktech.net/componentoption,com_repository/Itemid,26/func,selectfolder/cat,4/ has the same for Nvidia.
- Make sure you have the relevant video drivers for your card. You don't need to search for the appropriate one as both Nvidia and ATI have a single unified driver



Troubleshooting a bad flash

If you get an error message at any point during the flashing process, DO NOT restart your PC. If incorrect or corrupted information has been written over your video card's BIOS, you are likely to get garbled video, no video, or even an unusable card. Just reflash it with the backup that you created previously (backup.rom). Type the following from the A:\ prompt: 'nvflash -p -u -f backup.rom' for Nvidia video cards using nVFlash or 'flashrom -p 0 backup.rom' for ATI video cards using FLASHROM and press 'Enter'.

In case you restarted your PC and lost video, there is one last thing you can do. But for that you will need an old PCI video card. Use it to boot your system while your AGP card with the corrupted BIOS is still installed. Your system should initialize the PCI card first. If this does not happen, remove the AGP card and turn on the computer with only the PCI card, go to your BIOS setup and change the 'Init Display First' option to 'PCI'. Now reinstall the AGP card. Your system should boot normally with the PCI card as a primary display adapter. You can now re-flash the corrupted BIOS with the backup or use another one.

for all their cards.

BIOS flashing is a very low-level process. By low-level, I mean the hardware level of the actual BIOS-ROM chip. A complex operating system like Windows interferes with this. The hardware abstraction layer of Windows does not allow direct access to the hardware except for system drivers. Also, Windows' multitasking can be a problem. It can easily give preference to some other process and put your flashing on hold. This is unacceptable for the BIOS, it needs processing at one go. And lastly, Windows can hang any time without any reason whatsoever. You must have faced this in the past and crashing during flashing is obviously not welcome. For all these reasons and more, flashing should always be done in the DOS mode. Having said that, video card manufacturers have recently released utilities that can flash from within Windows also. But I strongly suggest that you stick to DOS-based flashing only.



Enter your system's BIOS setup, locate the 'First Boot Device' feature and set it to boot from CDROM

To boot into DOS, you require a boot disk. This is why you need the blank CD or DVD mentioned above. You could also use a 1.44 MB floppy disk, USB memory stick, a Windows partition with DOS on it or bypass startup files in Windows 95, 98 and ME. We stuck to a blank CD/DVD. Floppy disks are very unreliable. Do some research on how to use the others.

First, download a copy of the Dr DOS bootable image from <http://www.bootdisk.com/mexico/flashcd.zip>. The zip contains a file called flashcd.iso and a readme file. You need to add your flashing utility (nVFlash for Nvidia cards and FLASHROM for ATI) and the relevant BIOS file to the ISO image using an ISO editor like UltraISO (available as a free trial at www.ezbsystems.com). If you don't know what this means, the Readme file will make it very simple. Once your ISO is ready, burn it onto a blank CD or DVD. Your DOS bootdisk is ready. To boot using

Project Manager
 www.glc.in

"Wasn't I the only one with ample free time... Look's like with PostMaster, these IT guys are going to give me serious competition."

PostMaster

Complete peace-of-mind is just one of the many benefits of PostMaster.

For the complete list of productivity benefits of PostMaster, call: 022 - 4095 7766 / 0 93241 57700

```

NVIDIA Flash ROM utility
Version 04.41

Usage:
nvflash [commands] [rom filename]

Commands:
file      f <filename> Flash the ROM using <filename>
          then do compare and "CRC32".
          b <filename> Read ROM and save to <filename>
          k <filename> Read ROM and compare with <filename>
          x <filename> Transfer UV data from file to I/O
          v <filename> Display file version and "CRC32"
          (if no filename, acts on ROM)
erase     e             Erase the ROM.
display   d [bytes]    Display 256 the first bytes of
                      (default is 256 bytes)
check     c             Check for supported EEPROM.
nolight   l             Don't light keyboard LEDs.
overridetype p           Don't pause if file & chip PCI
overridedbus u           Don't pause if file & chip PCI
reboot    r             Reboot the PC after other tasks.
protecton m             Write protect ROM (only works
protectoff r             Remove ROM write protect. (only
strap     s <strap>    Change soft strap.

The nvFlash utility works from the DOS prompt.
Type A:/nvflash /? to get the usage details

```

your disk, locate an option called 'First Boot Device' in your motherboard's BIOS. Set this to CDROM, save and exit. Put the CD/DVD in your drive and restart your PC. You will get the familiar A: prompt of DOS. Now we are ready to flash the BIOS.

Flash your Nvidia card's BIOS

STEP 1: Create a backup of your Nvidia video card's BIOS. This is absolutely essential and will save the day should something go wrong with your flashing. At the 'A:' prompt, type 'nvflash.exe -b backup.rom' and press 'Enter'. The nVFlash utility will create a backup of your video card's BIOS (backup.rom) on the BIOS flash disk. This will be needed to restore your card's original BIOS if necessary.

STEP 2: From the 'A:' prompt, type 'nvflash.exe -p -u -f (name of the new BIOS file including the file extension)' and press 'Enter'. nVFlash will now overwrite your old BIOS information with the new values. If you see any error messages or odd results, DO NOT restart your system.

Flash your ATI card's BIOS

```

-----ATIFlash V1.9 Help-----
Format: ATIFLASH [command] [parameter1] [parameter2] [param
[command]
-i           Displays information of ATI PCI Ad
-cp <bus> <file> [c]  Write BIOS image in file <file> t
          chard. Reboot after write if le
-cpm <bus> <file> [c]  Write BIOS image for ROC
-cs <bus> <file> [Size]  Save BIOS image from adapter <bus>
          First 16KB bytes of ROM content
          is specified.
          Display VGA card model name and I
          D
-cs          Searches BIOS image from current
          first image found that matches #1
          ROM content, regardless of BIOS I
          Usage: -cp <bus> -loading
          Save function as "-loading" flag,
          specific P/N 112-595H1-102. Usage
          Force flashing regardless of size
          <bus> = adapter number, <file> = filename, [Size] = data
          Use command -i to see the adapter numbers in the system
-----ATIFlash -t -p 0 bios.rom

```

The Flashrom utility works from the DOS prompt.
Type A:/flashrom /? to get the usage details

STEP 1: Just like above, at the 'A:' prompt, type 'flashrom.exe -s 0 backup.rom' and press 'Enter'. The FLASHROM utility will create a backup of your video card's BIOS (backup.rom) on the BIOS flash disk.

STEP 2: Next, type 'flashrom -p 0 (the name of the new BIOS file you downloaded including the file extension)' and press 'Enter'. This will overwrite your current BIOS with the new one.

NOTE: In certain cases (such as if you are trying to replace your video card's BIOS with that of another card) the procedure may terminate if the BIOS types do not match. In this case, you can use a separate switch (-f) to force the flashing utility to continue the operation despite the mismatch. You should only do this if you are absolutely sure that the new BIOS file will work with your card.

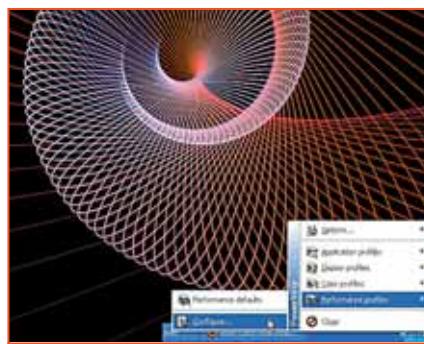
Thus the command would be:

FLASHROM -f -p 0 (the name of the BIOS file you downloaded including the file extension).

Overclocking your card

If you managed to flash your video card's BIOS successfully then it can run on optimum conditions and is ready to go to the overclocked zone. As mentioned earlier, you need to make changes to the factory-fitted clock that came with the card. To do this, you need an application to configure settings on the card. We will look at a generic program for all cards as well as specific programs for Nvidia and ATI cards: the two most popular graphic solutions in India.

Overclocking generates an awful lot of heat as the chips run above their specified factory settings. Thus cooling will provide



Powerstrip runs in the background. To activate the control panel, click on the system tray icon



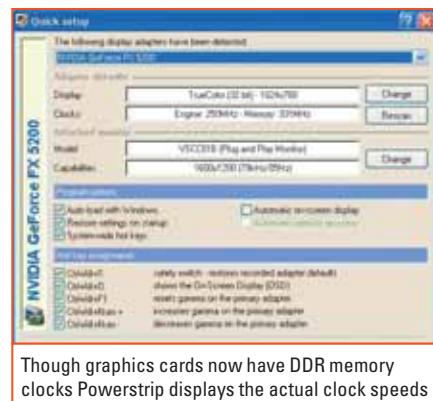
On the Performance Profiles screen, set the GPU and memory's clock with the sliding bars

performance benefits. If your graphics card has a passive heatsink, replace it with a fan. If it already has a fan, you may want to check out cooling fans inside the case specially made for graphic cards. Such hardware is rarely available in India, so you can perhaps ask your relatives or friends abroad to get your hands on one.

Powerstrip

First up is a generic program called Powerstrip. Available at <http://www.entechtaian.com/util/ps.shtml>, it is the mother of all video-card overclocking programs. It can be used to modify almost any graphic chip on the market including 3Dfx, 3Dlabs, ATI, Cirrus Logic, Intel, Matrox, NEC, Nvidia, Rendition, S3, SiS, Trident, and Tseng Labs even though some of these cannot be overclocked. Not to mention the fact that apart from SiS, Nvidia and ATI, none of these are available here in India. Besides adjusting the clock, this program also allows you to adjust the image quality.

After installing the program, it resides in the system tray next to the clock. Click on the icon, select 'Performance Profiles'



Though graphics cards now have DDR memory clocks Powerstrip displays the actual clock speeds

A new avatar of Pen Drives

Upto 16 GB of data files, Outlook e-mails on Credit Card size in your wallet!

Ultimate Security of Personal Data. Password protection with uncrackable 256 bit encryption.



Taiwan Excellence Gold Award 2006 Card Drive U510



PQI patented Intelligent Stick interface compatible with USB 2.0/1.1



Retractable and flexible metallic sheathed cable



Only 3mm thick



Holding up to 16GB of storage space

16GB



Safely kept in wallet, not easily lost



Pre-installed USB Notebook Professional Software – A security and personal file management software



Traveling Disk U230



Traveling Disk U260



Cool Drive U310



Cool Drive U320



Cool Drive U330



Cool Drive U339 Pro



Cool Drive U3395



Cool Drive U350

POWER QUOTIENT INTERNATIONAL CO., LTD.

Address : 14F, No. 16, Jian Ba Road, Chung Ho City, Taipei, Taiwan
Tel : +886-2-82265288 Fax : +886-2-82265288
Web : www.pqi.com.tw



Mediatech India Distribution Pvt Ltd
13-B,Laxmi Industrial Estate,New Link Rd, Andheri (W),
Mumbai -53 INDIA.
Tel: (+91)-22-26361111 Fax: (+91)-22-26312222
Web: www.mediatechindia.com

Bangalore

Tel : 080-3251-3212

Pune

Tel : 020-3254-1114

Kolkata

Tel : 033-3292-0003

Chennai

Tel : 044-3252-0777

Nagpur

Tel : 09370448881

Ahmedabad

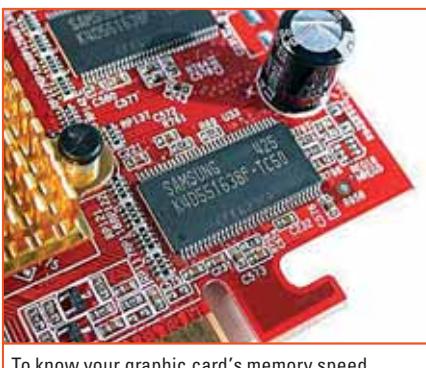
Tel : 09375560005

Delhi

Tel : 011-32578081

Hyderabad

Tel : 09332503536



To know your graphic card's memory speed, check the speed-grader on the memory chips

and click on 'Configure'. On this screen, you can see sliders that allow you to freely modify the two available clocks—video processor and video memory.

To change the memory clock, you must take into account that today's video memory uses DDR (Double Data Rate) that transfers two data bits per clock cycle, achieving double the performance of regular memory. Because of this, they are labeled—for example, a DDR memory running at 200 MHz is labeled as '400 MHz'. PowerStrip however shows you the real clock.

The 331 MHz shown on my Nvidia GeForce FX 5200, for instance, is actually 331 MHz but this video card would be labeled as having a 662 MHz memory (2x331 MHz). First find out the maximum clock speed supported by the memory chips on your graphics card. For this you need to physically inspect the card. It is marked on the memory chip's surface after a dash (such as -GC40, -TC50 or -KC5) as a number. This number is the memory clock in nanoseconds. To find out the maximum clock rate in MHz, divide one thousand by this number. In case of

a two-digit number like 40, 45, 50, use a decimal between the two digits. The resulting speed is the real memory clock and not its DDR speed, which is double the number as mentioned earlier.

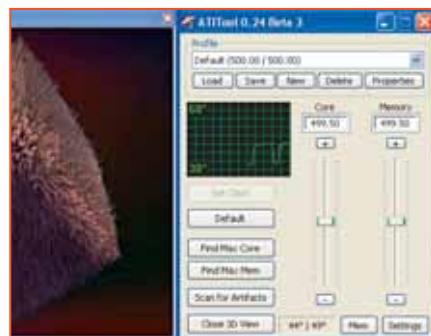
Let's take the example of my other AGP card. It sports Samsung chips with -TC50, thus the memory clock will run at a maximum speed of 200 MHz. (The only exceptions to this are memory chips from Samsung labeled as 2A which are 2.8 ns chips and not 2 ns chips.) Now check the current memory speed on Powerstrip. If it shows a significantly lower number, you have a potentially large overclocking window. Increase it in short bursts of 10 MHz.

If you have taken care of the cooling, you can now safely venture into overclocking the video processor or GPU (graphics processing unit) also. This is achieved by increasing the core voltage. To do this, check your motherboard's BIOS for something like 'AGP Voltage'. My FX5200 has three voltage options from +0.10V to +0.30V.

Once you have set new clock speeds, run a 3D game like *Quake 3* or *Unreal Tournament* to check for freezes or PC crashes. If this happens then your overclocking was not successful. Go back to the default settings. Remember changes made in Powerstrip to your clocks are not permanent. That's the beauty of Powerstrip—overclocking-on-demand. Restart or close Powerstrip and you are back to your factory-fitted graphics card.

Coolbits

Next, we have an overclocking program for Nvidia cards called Coolbits. It will

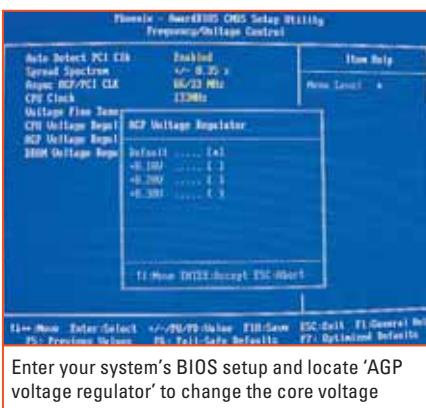


Change the frequency by dragging sliders or by entering numbers in the edit boxes

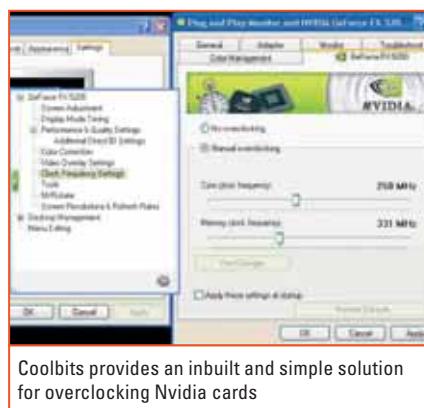
surprise you to know that this little program is already in there if you have a running Nvidia card in your PC. It is probably disabled, so you don't see it. Coolbits can be enabled by making a change in the Windows registry. Click on 'Start | Run', type 'Regedit' and press 'Enter'. Go to HKEY_LOCAL_MACHINE > SOFTWARE > Nvidia Corporation > Global > NVTweak. On the right pane, right click and create a new DWORD value. Call it 'coolbits' and press 'Enter'. Right click again to modify it. Set the value to '3' and exit the registry editor. To locate Coolbits, right click on your desktop to invoke the Display Properties. Go to 'Settings | Advanced | Select your card' and click on the 'Clock Frequency Settings' option. Just like Powerstrip, Coolbits also lets you play with the video processor as well as the memory clock. You can also test changes as you make modify the clock.

ATITool

Finally, let us look at a program specific to ATI cards—called the ATITool. Available at http://www.techpowerup.com/atitool/ATITool_0.24.exe, it is very simple and easy to use. The buttons 'Find Max Core' and 'Find Max Mem' allow you to automatically find the maximum clock speeds your card can handle without producing errors. Once you click on any of the two, the cube on the left starts rotating. The program increases the clock till any visual error is encountered. Once you reach the maximum possible speed, just click on 'Set Clocks'. As usual, play your favorite game to test the stability of the overclock. ■



Enter your system's BIOS setup and locate 'AGP voltage regulator' to change the core voltage



Coolbits provides an inbuilt and simple solution for overclocking Nvidia cards



**Tell us what you think and enter to win a
Powerful Cooler Master "Real Power Pro 850W"
SMPS or a "Centurion 534 with 380W SMPS" !**

**Simply answer these questions & you
can win Powerful Cooler Master Product**

1. Where did you hear about Cooler Master? (Check all that apply)

- PC Store Trade Show Magazine Review
- Website Review Friends/Family Website Banner
- Magazine AD

2. Have you ever bought Cooler Master products?

- Yes No (If No, please go to Question 5.)

**3. Which Cooler Master product(s) did you purchase?
(Check all that apply)**

- Chassis Cooler Power Supply Function Panel
- HDD External Enclosure Notebook Cooler
- Case Fan Thermal Grease

4. What make you prefer Cooler Master product(s)?

- Quality Price Function/Performance Promotion
- Package Brand Appearance

5. When purchasing computer products, what is most important to you? Please rank the following factors in the order of importance from 1 to 7 with 1=least important, 7=most important.

- Quality Price Function/Performance Promotion
- Package Brand Appearance

6. Where do you prefer to buy PC products?

- PC shop Chain Store On Line Shop
- Auction Website Others

7. What's your reference when you are making decision on buying PC components?

- Friend's Advice Dealer's Advice Magazine Review
- Website Review Magazine/Website AD PC Forum
- Brand Image



Name: _____

Address: _____

Age: Under 15 16-25 26-35 36-45 Over 45

City: _____ Occupation: _____

Tel: _____ E-mail : _____

Are you a CHIP subscriber ? YES NO

If yes, your subscription Order No. _____

Send your entries to

Intelligent Computing CHIP Contest

Infimedia India Ltd

Ruby House, 'A' Wing, 2nd Floor, J K Sawant Marg
Dadar (W), Mumbai 400 028, India

Tel: 91 22 24232323 Fax: 91 22 24302707

Thank you for your participation!

**Don't forget to fill out your information to enter in our drawing and have a chance to
be the new owner of one of our Newly Released Products!**

Notice: This survey runs from December 1st to December 31st, 2006

The prizes are 1pc Real Power Pro 850W and 2 pcs Centurion 534 (with 380W SMPS)

The winner list will be released in CHIP Magazine February 2006 Issue

The prize will be shipped out from SMC International to the Winner in February 2006.

Image Projectors

Projectors are not restricted to conference rooms anymore. A look inside to see what makes them tick **BY ASHUTOSH DESAI**

By definition, a projector is an optical device that projects an enlarged image onto a screen.

The projector is provided with an input signal—which could be video from a computer or a DVD player. This video signal is processed into an image that is projected onto the screen. Before understanding projectors treat a video signal to light up a screen with an image, let's simplify the process. A projector consists of a circuit that converts incoming video signal to digital—if the input is analog. The resulting digital signal is sent to another part of the projector known as the 'light engine'. This is where a light source directs a beam towards a color splitting component, goes through color filters and complex optical elements.

Different methods and technologies are used to transform this video signal into light.

There are two types of projectors that are used extensively today. They are either 'transmissive' or 'reflective'. From these names one can gain an understanding on the method used to treat light within a projector.

A transmissive projector contains components that allow light to pass through it. These components might use CRT or LCD technology to form the final image. Here only the LCD projector will be explained in detail as it has grown more popular due to its portable nature.

A reflective projector makes use of tiny movable, mirror-like components to reflect light in the device. The reflective projector usually uses DLP technology to form the final image. Projectors that use LCOS technology use both transmissive as well as reflective techniques to form an image on the screen.

LCD Projectors

Dichroic Mirrors

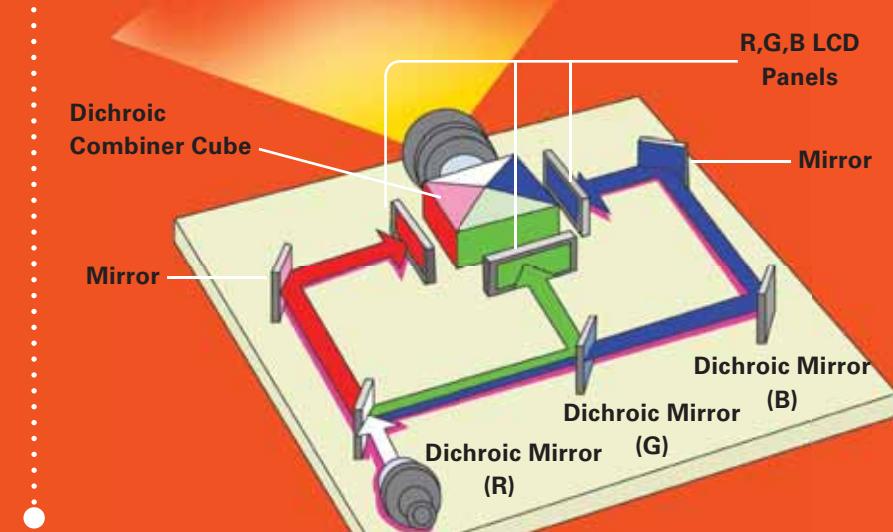
A lamp acts as the light source in the LCD projector. This light is split up into the primary colors – Red, Blue and Green. This is done with 'dichroic mirrors'. Dichroic mirrors selectively reflect certain wavelengths of light. This is because the mirrors are placed at an angle to the incident light. The Red dichroic mirror reflects Blue-Green wavelengths of light. In this manner, the mirrors reflect light and direct the RGB channels towards their respective LCD panels.

LCD Panels

Each LCD panel blocks differing amounts of light. An LCD panel measures 0.9-inch in size. Such a small area contains 786,000 pixels (for a regular XGA projector). There are three LCD panels. Therefore over 2 million pixels can be controlled to produce an output.

Microfine Grid

Since the pixels are packed so closely, there is bound to be some 'mixing'. To prevent this, a microfine grid is used to absorb some of the incident light to prevent the pixels from 'bleeding' light into their neighbors. This results in a good quality image but with lower intensity. The grid also produces a 'screen door effect'. When the image is sharpened, the pixels become more visible and appear to be within boxes.



Micro Lens Array

To prevent the screen door effect, a micro lens array is placed before the microfine grid. This lens array ensures that the light falling on the LCD panel is transmitted with almost the same intensity through the grid, reducing this effect.

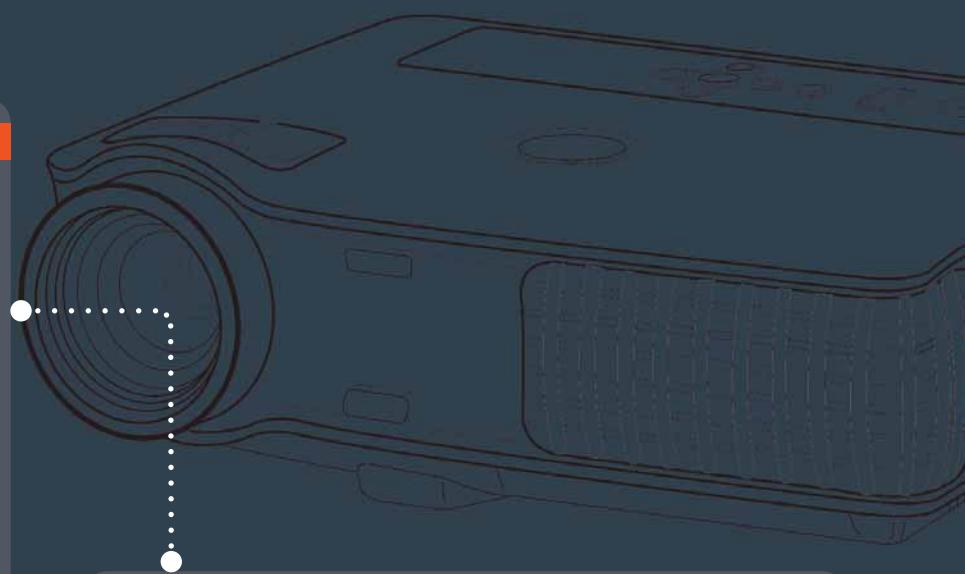
DLP Projectors:

INFOGRAPHICS **HARDWARE**

DLP Projectors

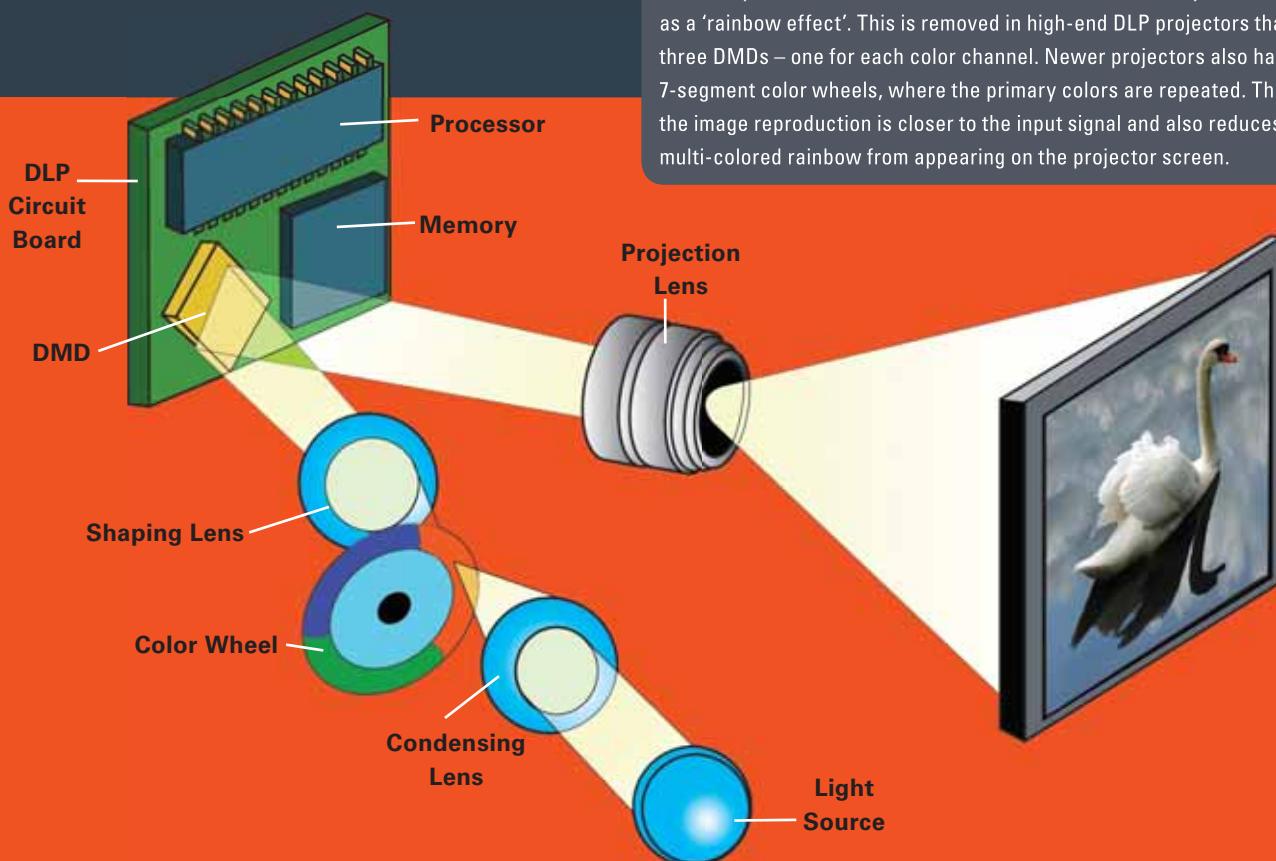
Digital Micromirror Device (DMD)

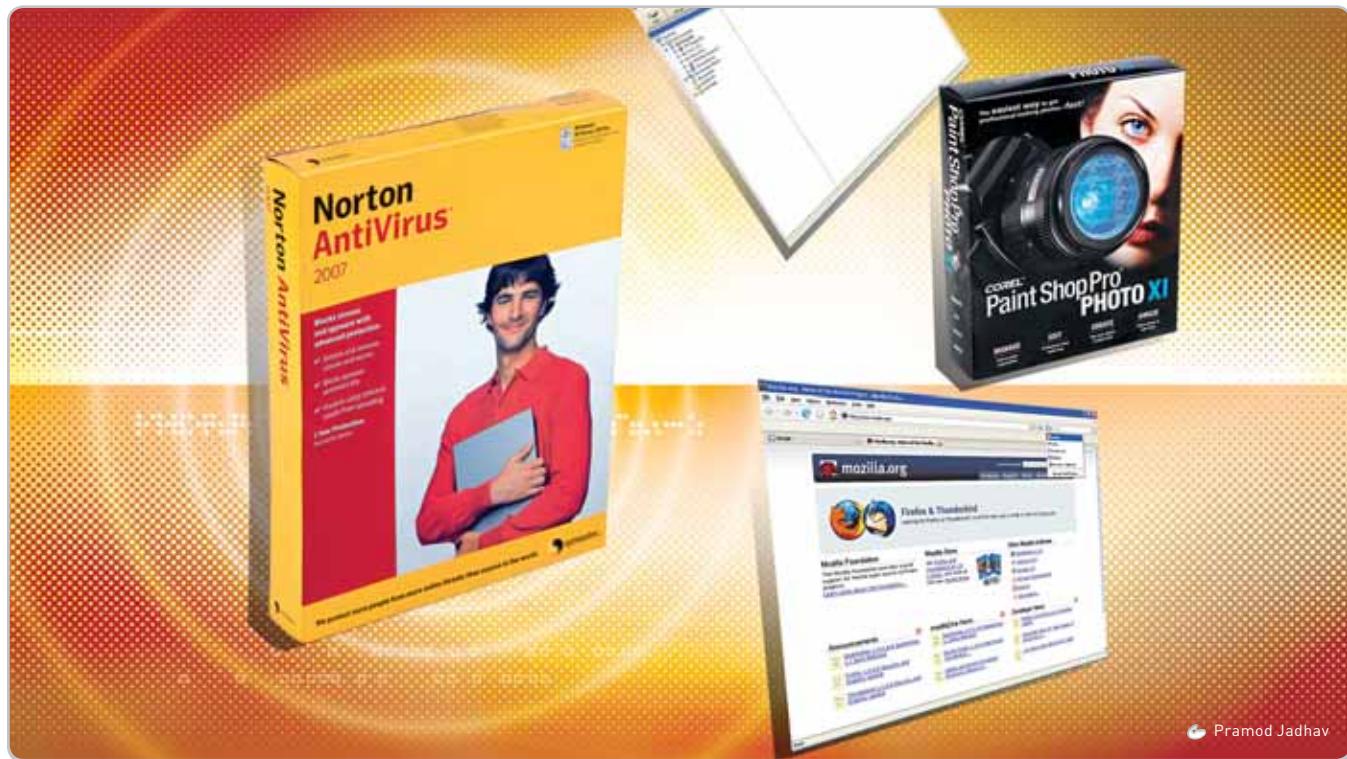
A Digital Light Processing projector uses some sophisticated electronics. It is fitted with a Digital Micromirror Device (DMD), which is a chip. A DMD is made up of tiny (microscopic) mirrors that can tilt in two directions so as to reflect light incident on it (devices that have microscopic mechanical systems built into them are known as micro-electromechanical systems). These tiny mirrors move in a particular direction to either allow light to reflect or not. This leads to the typical 'On/Off' situation. The DMD gets its instructions for positioning each mirror – there can be more than two million of them – from the digital video signal. Information relayed to each mirror changes over a thousand times every second. The light reflected by the mirror (depending on whether it is on or off) produces 1024 shades of gray.



Color Wheel

The light source in a DLP projector shines light through optical elements that converge a beam onto a spinning color wheel. The color wheel (usually made up of four segments – R, G, B and a clear portion) splits the beam into red, green and blue. The filtered light once again goes through another set of optics to finally reach the DMD chip. This filtering and the reflecting micro-mirrors are synchronized perfectly to produce the right shade. This setup does not produce the 'screen door effect' but is affected by something known as a 'rainbow effect'. This is removed in high-end DLP projectors that have three DMDs – one for each color channel. Newer projectors also have 6 or 7-segment color wheels, where the primary colors are repeated. This way the image reproduction is closer to the input signal and also reduces a faint multi-colored rainbow from appearing on the projector screen.





Pramod Jadhav

Software Center

Keeping in mind this is our anniversary issue; we present a perfect blend of price and performance in shareware. In the freeware space, we have tried to offer applications that are a class apart. The software of the month is none other than Norton Antivirus—one of the most trusted anti-virus applications worldwide. With its latest offering—the 2007 edition—Norton promises to give a tough fight to all the viruses that pose a threat against your computer. Next in line is Corel Paint Shop Pro Photo XI—a photo editor from the Corel stable. Using this application, you can rest assured that the look of your photographs will not be the same again—with its multiple tools, it allows you to experiment with the different aspects of photography.

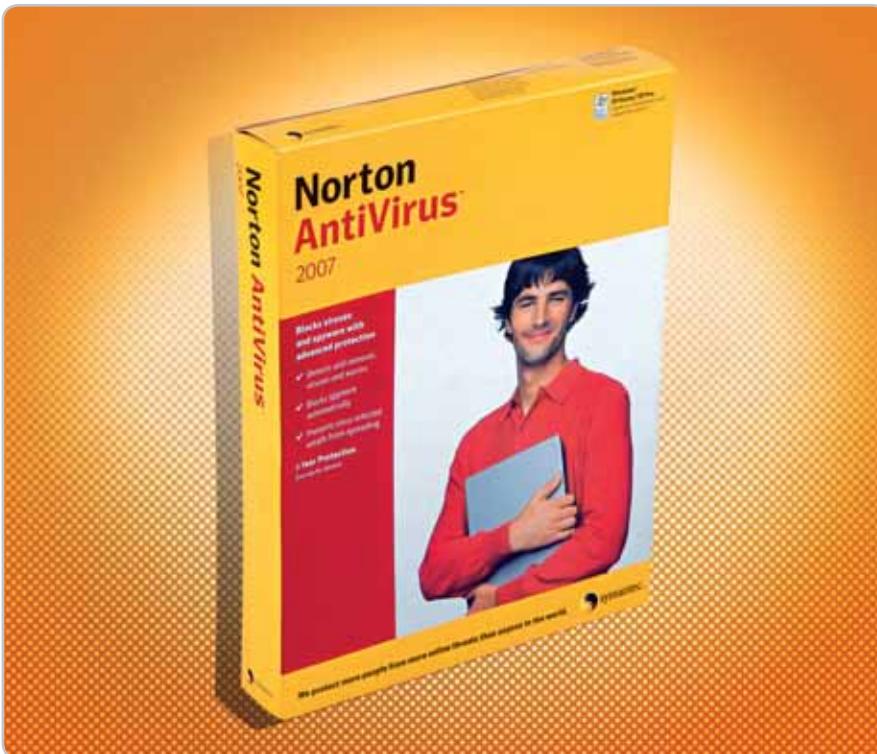
Music lovers don't be disheartened—we have Spider Player for you—a perfect replacement for Winamp that looks and behaves like it. On the Internet front, Firefox, one of the world's most loved web browsers makes an entry with its latest version 2, poised to change your surfing experience through enhanced security and extra features. Last but not the least, under system utilities you will find CryptoExpert 2006 Lite—a free encryption utility and Insofta Document Backup 3.6—an excellent backup utility. While we are still at this, we have not forgotten the primary usage of a computer which is word processing; hence we have included EditPad Light 6.1.2—an excellent free replacement for Windows notepad as it offers great functionality.

Ratings Explained

The parameters used for evaluating software are assigned a graphical rating out of a scale of 5. These measures include performance, features and ease of use. The overall rating shown in the reviews is based on all these factors.

In addition, there is a value for money rating for each application. This rating is obtained

by compiling the features and the utility of the application against its price. In case of freeware and shareware tools available for downloading from the Internet, we replace the price with the download size (and therefore, the time taken to download the application) for arriving at the value for money rating.



PLUG THE HOLES ▶ The more time you spend on the Internet, the chances of a virus infiltrating and creating a havoc on your system increase; therefore it's advisable to keep your computer safe by using an anti-virus. Norton Anti-virus has become virtually synonymous with anti-virus applications at large and with its latest 2007 avatar, boasts of a higher level of security.

The installation of the application is straightforward; once done the first difference you will notice is unlike the previous versions, there is no system tray icon. Instead, you will find the icon on the taskbar next to the system tray—an unnecessary change. The interface of the application appeals the eye; A huge brown exclamation mark on the extreme left, indicative of problems surely grabs your attention. Below the exclamation mark lies a 'Fix Now' option that automatically fixes the problem. The main window has two tabs on the top namely 'Norton protection center' and 'Norton Antivirus'. The former tab is further divided into three categories—the Basic PC Security option displays the status of the virus definitions, virus protection, Windows Automatic Updates, etc. The Connecting and Communicating Online option gives you

the status of e-mail scanning. The third option of Transaction Security is however disabled; you will have to purchase this feature from Symantec if you want to activate it. This option includes features like Phishing and Crimeware protection primarily targeted for those users who embark on online shopping sprees.

The other tab labeled Norton Antivirus contains all the tools required to configure the application. Fortunately, Norton Antivirus 2007 has default settings previously configured to provide your system with a hassle-free and adequate protection. In task and scans, you get Full, Quick and Custom scan options. Also, scheduling a scan at a latter date and time is possible. The settings option displays



The scanning window gives verbose, yet clear details of the scan

SYSTEM SECURITY

Norton Antivirus 2007

System Requirements

Windows XP, Pentium 300 MHz or greater, 256 MB RAM, 180 MB HDD space

Price Rs 1,899

Contact Symantec Corporation

Phone 1600-221-133

Website www.symantec.com/region/in

RATINGS

Ease of use

Features

Performance

Overall Rating

Value for Money

Find it on **CHIP DVD**

the status of all the scanners. The reports and statistics option is placed in the same window.

Symantec claims that Norton Antivirus 2007 is much lighter on system resources and we found it to be true. For instance, the memory utilization was stated to be between 10-15 MB. Our test results concluded the memory utilization during a full scan was 12 MB. Also, the scanning speeds are noticeably faster when compared to the previous versions—especially useful for large hard disks.

As in the case of the previous version of Norton Antivirus, uninstalling the application completely was not possible; you need the Norton Uninstaller tool to get rid of the application completely. Version 2007 lives up to the Norton brand. So if in the future you plan to upgrade your computer to the yet-to-be launched Windows Vista and are worried whether Norton Antivirus 2007 would have compatibility issues with it, Symantec assures that it will offer a free upgrade to current users.

FOR: Robust protection from viruses, low utilization of system resources.

AGAINST: The Transaction Security option is activated only after being purchased separately.

PHOTO EDITOR**Corel Paint Shop Pro Photo XI****System Requirements**

Windows 2000, XP (SP2), Pentium 466 MHz or higher, 256 MB RAM (512 MB recommended), 500 MB HDD space

Price Rs 5,150 (Full version)
Rs 2,999 (Upgrade version)

Contact Rajeev Nagar

Phone 09810375390

Email rajeev.nagar@corel.com

Website www.corel.com

RATINGS

Ease of use 

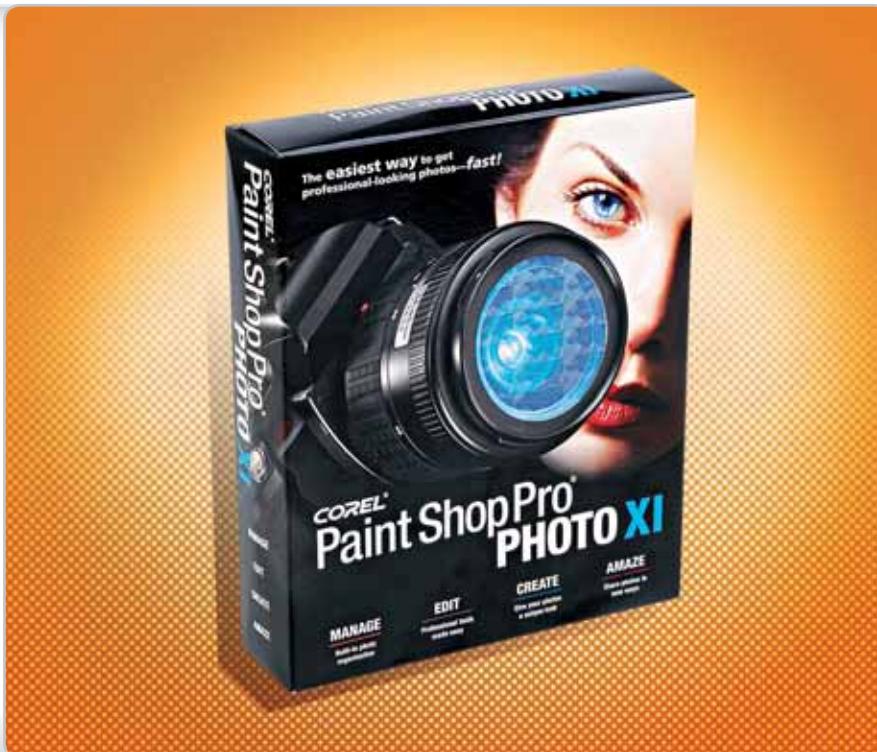
Features 

Performance 

Overall Rating 

Value for Money 

Find it on **CHIP DVD**

**ENHANCE YOUR PHOTOGRAPHS ▶**

The introduction of the digital camera has stirred profound creativity in the photography arena—you can do so much—editing your pictures, managing them, turning them into home movies and so on. But to do all of this, you need a capable application. Corel Paint Shop Pro Photo XI is one such application—an ideal choice for people who require a photo editor offering good performance at an affordable price.

The main interface of Corel Paint Shop Pro Photo XI has the in-built Learning Center on the extreme left side of the main window, aiding first time users to get started. The main options offered are Get photos, Adjust, Collage, Effects and more. The Organizer, a relatively new feature is a resizable area running across the bottom of the main window that can be unpinned and used as a separate window. It enables browsing through images and offers various tools. For instance, the zoom control can be used to adjust the size of the thumbnails. To rotate an image, the clockwise and anti-clockwise options do the needful. Using the Quick Review option, you can view a slideshow of the selected images, and then save them in Corel's Snapfire format before e-mailing

them to friends and family. The recipients can view the images provided they have Snapfire installed on their computers. It can be downloaded for free from Corel's web site.

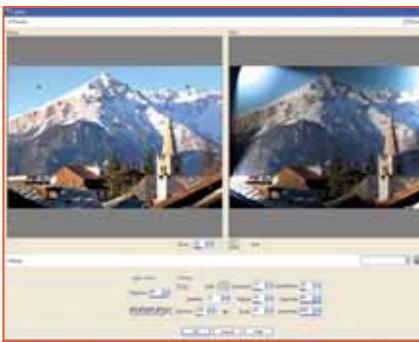
On the left side of Organizer a window similar to Windows Explorer is present. In this window the contents of My Pictures can be viewed. Images from the Organizer can be dragged into separate windows where various operations can be performed on the image. The Image information tool allows assigning of captions, ratings, descriptive tags etc; using these tags, you can view images grouped under a specific category regardless of where they are stored on the PC.

Corel Paint Shop Pro Photo XI can impart some cool effects on your photographs. Under the effects tab you will find some exciting options, for instance the Lights option allows you to change the way the a image is illuminated. The Time machine effect requires a special mention as it can modify photographs to give it an appearance similar to one of the seven different old-fashioned chemical processes used between 1839 and 1960.

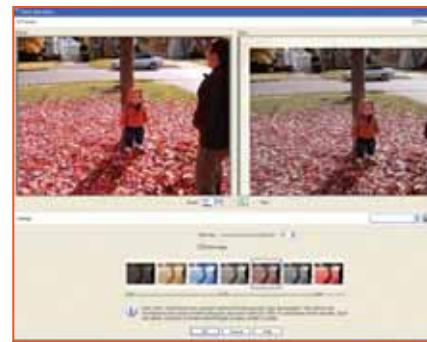
Another impressive tool is the skin smoothing that allows removal of a few years from your age (on your photograph course!). With all these juicy features at a low pricing, this application is a bargain.

FOR: Excellent features, inexpensive.

AGAINST: None.



With the Illumination effect you can induce a special lighting effect on an image



The Time Machine lets you apply chemical treatment effects to your image



Make Life a Snap with DS-3090S

The slim, flat body design of the DS-3090S allows it to be easily retrieved from pockets, bags, and cases. Its charming design includes not only a stylish casing, but also simplified interface.



SPECIFICATIONS

Model Name	DS-3090S		
Effective Pixels	3.2MP		
Sensor Type	CMOS		
Image Resolution	2560*1960(interpolation) 2304*1728(interpolation) 2048*1536 1280*960, 640*480	Shooting Modes	Single, Self-timer, Continuous 1.3MP, Continuous VGA
LCD Display	1.5" TFT LCD		
Optical Zoom	Fixed Focus	Flash	Auto, Off
Digital Zoom for preview	1X ~ 4X	Self-timer	10 sec delay
Digital Zoom for playback	NA	Still image format	JPEG
Focal Length	8.5mm	Movie format	AVI
35mm film equivalent	44mm	Voice format	NA
Focus distance(Normal)	1.5m ~ ∞	Movie Resolution	320 x 240, 15fps 640 x 480, 10fps
Focus distance(Macro)	0.4m ~ 0.6m	Movie Length	Storage base
Aperture Range	F 2.8	Storage Media	SD card (Up to 1GB) 16MB SDRAM(2MB for image storage)
Optical Viewfinder	NA	Video Output	NA
Shutter Speed	1/5000~0.15s	Digital Interface	USB1.1
Metering Mode	Average	Terminal	USB PORT
Exposure Compensation	NA	Power Source	AAA x 2 Batteries
Exposure Sensitivity	Auto	Dimensions	92mm x 55mm x 21.5mm
White Balance	Auto, Manual (Tungsten, Fluorescent, Day Light, Cloudy)	Weight (without battery / SD card)	71g

Specifications are subject to change without notice.



4X Digital Zoom

Digital zoom allows a closer shooting distance and prevents images from blur and twist. Digital zoom strengthens the zoom ability by its powerful digital imaging processing function.



Unlimited movie length

You can record a movie and studio continuously till the memory card is stored fully.



The brilliant 1.5" LCD

No matter in the outdoor, under the Sun, or in the gloomy indoor, DS-3090S 1.5" screen is always able to perform sharp and detailed images.

WEB BROWSER**Firefox 2****System Requirements**

Windows All, Intel Pentium class processor (233 MHz or faster recommended), 64 MB RAM, 100 MB of free hard disk space

Price

Free

Contact

Mozilla Foundation

Website

www.mozilla.org

RATINGS

Ease of use	
Features	
Performance	
Overall Rating	

Find it on **CHIP DVD**

ENCRYPTION UTILITY**CryptoExpert 2006 Lite****System Requirements**

NT/2000/XP, Intel Pentium class processor (500 MHz or faster recommended), 128 MB RAM, 50 MB of free hard disk space

Price

Free

Contact

SecureAction Research

Email

support@secureaction.com

Website

www.secureaction.com

RATINGS

Ease of use	
Features	
Performance	
Overall Rating	

Find it on **CHIP DVD**

FOX ON FIRE ▶

The Internet has changed many aspects of our lives such as the manner in which we communicate and gather information. Earlier Internet users were happy using Internet Explorer but now surfing has become a breeze thanks there to the host of web browsers out there. The most prominent one among these is Firefox and with the release of Firefox 2, Mozilla leaves no stone unturned to prove that Firefox is well equipped to take over Internet explorer. It is free and available on a variety of operating systems such as Windows, Mac, and Linux

The interface is pretty much the same as that of the older version, but has a sleeker look. There are a few visible changes—the popular tab-browsing option has the Close button on it, so you can directly shut any specified tab. Also, if many tabs are opened, it does not cramp the tab bar instead hides the surplus bar indicated by an arrow. You can also open a previously closed tab using the hot keys Ctrl+Shift+T. Other features included are anti-phishing protection, search engine

suggestions, session restore, inline spell-checking. Most of the extensions of the previous versions are not backward compatible with Firefox 2. This is a disadvantage as you would not be able to use your favorite extensions until they are developed for the newer version.

On the extreme right end of the Firefox toolbar is the search engine box, wherein you can keep a number of search engines such as Google, Wikipedia, Yahoo, etc. The session restore is a relatively new function introduced in Firefox 2—when Windows crashes and you have to re-launch Firefox, all the tabs opened previously will be launched—very handy. Firefox 2 allows you to correct your spelling mistakes online and incorrect words are underlined red.

Firefox 2 has many enhancements integrated into it, which makes it a must upgrade for all those who need a fast and capable Internet browser.

FOR: Feature-rich and easy usage.

AGAINST: Add-ons from previous versions incompatible.

for the container. The password can also be entered using the in-built virtual keyboard.

Once the container is created, you can mount it using the very application and your computer recognizes it as a drive. You can use this virtual drive like any another drive, storing documents, images and other files securely. Once you are done with the storing of data in the container, CryptoExpert Lite 2006 dismounts it, effectively ensuring your data cannot be read from or written to.

CryptoExpert Lite 2006 also provides additional features such as integration of e-mail files, allowing you to encrypt your emails. The secure file deletion feature allows you to delete files so that they cannot be recovered.

Replete with so many features, CryptoExpert is an excellent software for a first-time user as it provides basic features with good functionality. But it could do with providing more encryption methods to impart flexibility to power users.

FOR: User-friendly interface.

AGAINST: Limited features.

How to get the most out of your advertising budget

Show your ad to people
who want what you have.

Google Web Images Groups News more > Search Advanced Search Preferences

Laptops Search: the web pages from India

Results 1 - 10 of about 100,000,000 for Laptops [definition] (0.00 seconds)

Web

[HP Compaq nx320](#) Ideal Productivity & Security for Business Notebooks at Rs74,900

[Laptops Under Rs. 40,000](#) India's Top Laptops Under Rs. 40000 All In One Place For You To Choose!

[Laptops](#) Browse Computerworld for the Latest on Laptops, Articles & Much More!

[eBay India - Buy & Sell laptops, notebook, computer laptop india...](#) Buy and sell laptops, notebook, computer laptop india, dell inspiron, acer laptop, toshiba notebook, new used laptops items at low prices.

[Laptop - Wikipedia, the free encyclopedia](#) A laptop computer or simply laptop (also notebook computer or notebook) is a small ... As personal computers, laptops are capable of the same tasks as a ...

[Linux on Laptops](#) A resource about installing and running the Linux operating system on laptops and notebooks.

[Laptops & notebooks: Laptop computers, notebook computers - CNET](#)

Sponsored Links

[Dell Business Computing](#) Great deals for your business needs! Fabulous offers ending today! Dell India

[Who Has the Lowest Price?](#)

[Laptops Picwatch](#) Check prices before buying! Picwatch.com/laptops

[Compare cheap laptops](#) Looking for cheap laptops? Compare providers on our free site: www.comparelaptops.com

[Buy or sell laptops](#) New & used laptops and Notebooks. Register Free & Bid or buy now! www.ebay.com/india

[Downloadable Papers](#) Established site sells papers on Notebooks

Sign In

AdWords Ad

Your ads appear when potential customers are looking for what you have to offer.

Only pay when they click through to your site

With Google AdWords, you only reach people interested in your products and services. That's because your ad only gets displayed to people seeking information related to the keywords you've chosen. So instead of looking for an audience, you've got an audience that's looking for you. With Google AdWords, there is no wastage, you only pay when customers clicks on your ad. To get started, call us now.

INFOMEDIA
INDIA LIMITED

ADWORDS

AUTHORISED
RESELLER

Google

BURNING UTILITY**Easy DVD/CD Burner 3.0.85****System Requirements**

Windows All, Intel Pentium class processor (233 MHz or faster recommended), 32 MB RAM

Price \$29.95 (Approx Rs 1,345)

Contact EasyDVDCDBurner

Email support@easydvdcdburner.com

Website www.easydvdcdburner.com

RATINGS

Ease of use

Features

Performance

Overall Rating

Value for Money

Find it on **CHIP DVD**

EASY AND QUICK BURN! ▶

As optical media offers more storage space and reliability, burning CD/DVD is a common practice among PC users. But the burning software plays an important role for the type of compilation, speed of burning, etc. Most CD/DVD writers come with the bundled burning application but if you want a CD/DVD burning application with a difference then Easy DVD/CD Burner is a decent alternative. It supports almost all the CD and DVD discs and comes with an in-built ASPI layer. It supports buffer underrun protection technologies such as BURN-Proof, Just Link, etc.

Easy DVD/CD Burner is a simple DVD and CD burning software. The taskbar of the interface, which is easy to navigate, contains all options represented by their respective icons such as burning a disc and ISO image that allows you to burn an exact copy of the same CD/DVD again. Easy DVD/CD burner also allows you to create bootable discs and multi-session discs. However, burning of audio discs

is not possible with this application. So if your audio CD player does not support MP3, you will not be able to burn an audio CD for it. Erasing a rewritable media is also possible with the Quick and the Full options. Other features such as Settings, Eject and Disc info are also represented by their respective icons. Select the CD/DVD writer and click on the dropdown menu along with write speed for the burning job.

In order to write a CD/DVD you just need to drag and drop the files onto the compilation. The test write function allows you to write your disc compilation on to your hard disk before it is burnt on to a disc to ensure the burn process does not fail at all.

Though system requirements to run this application is low, it does not have any out-of-the-box features that would make a user shift to this shareware from the free burning utility provided by Nero, which has much more features and reliability.

FOR: Utilizes less system resources.

AGAINST: Low on features, does not support burning of audio discs.

AUDIO PLAYER**Spider Player 1.80****System Requirements**

Windows 2000/XP, Intel Pentium class processor (233 MHz or faster recommended), 64 MB RAM, 100 MB of free hard disk space

Price Free

Contact VIT Software

Email contact@spider-player.com

Website www.spider-player.com

RATINGS

Ease of use

Features

Performance

Overall Rating

Find it on **CHIP DVD**

THE MUSIC WEB ▶

If you want to break free from the ever-reigning Winamp then your search ends here. Spider Player 1.80 is a media player loaded with cool features and yes it is free and a perfect replacement for Winamp to play only your audio files (video files are not supported). It includes a CD ripper and audio format converter (MP3, WMA, OGG, WAV), Equalizer with presets, lyrics editor and much more. The main interface is quite similar to that of Winamp, with the three traditional windows—main, playlist and equalizer. All the three windows are compact giving the interface a clutter-free appearance. Basically, the user interface maintains a perfect balance between the functionality and simplicity. You have the scope to change its looks with a variety of fantastic skins downloadable off the Internet—you can adjust eye-candy settings like hue and opacity. The hue bar allows the player's window color to be set to any of the colors in Windows' palette. The buttons and bars are shaped perfectly with a polished metallic finish, making them look clean and easily readable.

The main window of Spider Player displays a scroll bar with information on the currently playing track along with the type of encoding used, the elapsed and remaining time. It also features a sleek volume and seek bars. The Playlist has a pretty neat and tidy look, the Equalizer features 10 bands plus a number of presets. Spider player more or less feels like Winamp as most of its features are similar. It has support for Winamp playlist; the keyboard shortcuts are also similar.

The in-built CD ripper is worth a mention as it's easy to use. It offers the ripped audio file to be saved in various audio formats and a range of bit rates. A really nice feature of Spider player is its sound effects window that includes speed alteration of the track along with echo effect and reverberation. You can also edit the lyrics of your favorite track with the in-built lyrics editor. It is a useful application and with no price tag attached to it, it's worth a try.

FOR: Easy to use, supports Winamp playlists.

AGAINST: Does not support video files.

NOT JUST ANY NOTEPAD ▶

Windows Notepad comes in handy when you want to quickly jot down notes. EditPad lite is an excellent replacement for Windows Notepad, with its compact design. It boasts of all the features required by a full-fledged text editor.

The striking feature of EditPad Lite is that no matter how many text files you open, it does not cramp your taskbar; all the files are represented by a tab in a single window. Hence you can switch between files with a click on their respective tabs. Also once you have finished working on all the files you can save them simultaneously, without having to go to each individually. This is helpful if you require working with multiple text files simultaneously, saving you from the hassles of overlapping windows. When you close the application, it still remains active and is visible in the system tray.

EditPad Lite offers some advanced features like Search and Replace which you would only find in a full-fledged word processor like Microsoft Word. The

unlimited undo and redo function proves to be a boon for writers who have a hard time deciding on a perfect quote! The block option requires a special mention as it allows you to save parts of the text to your computer and insert a file in the current text. In case you are constantly on the move and have to work on different computers then you will not miss this application as you can install it on a removable drive.

Other features offered by EditPad Lite are: you can convert and edit ASCII, ANSI and Unicode files, and work with files from various platforms such Windows, Unix and Macintosh. The Print option gives you a preview of the text file before you print it. Hence it's possible to do as many changes you want such as changing the fonts, inserting headers or footers. If you want a free word processor with the capability to surpass Windows Notepad's functionality, then EditPad Lite certainly fits the bill.

FOR: Ability to switch between files using tabs.

AGAINST: None.

INSTANT BACKUP ▶ Several reasons could lead to massive data loss on your hard drive. The culprit could either be a hacker, a malware or it could be failure of your storage device. And God forbid if you lose your critical data! To follow the 'better safe than sorry' principle, you need to have a good backup strategy in place. But backing up data manually is a weary task; hence an automated backup utility becomes an absolute necessity.

Insofta Document Backup 3.6 is an excellent data backup tool, offering abundant features. Not only does it support local and network backup destinations, it also has support CD and DVD backup. The installation procedure is extremely simple. Once the installation is done, a step-by-step wizard window appears. This wizard guide is extremely instrumental as it guides you through the process of creating a backup item under which you can select the files or folders that you require to backup. After this, you need to select the destination folder and finally you can schedule the program for the automated backup.

To reduce the space utilized by the backup, Insofta Document Backup allows you to store the backup in the compressed zip format. You can also specify the compression quality from normal to fast to super fast. In case there are compressed files in your data and you don't want to recompress them further, you can specify them for exclusion. The compressed files can also be split, should you need to.

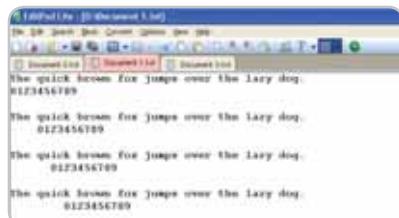
Insofta Document Backup offers full and incremental backups. The additional advantage here is that incremental backups save time. To ensure your data is backed up regularly, the scheduler runs your backups automatically at specified times. There are numerous security features available such as password protection and data encryption. The software supports the AES encryption method with a key length of either 128 or 256 bits. A beginner will not find this backup software difficult to operate. It is ideally suited to home or office users who want to protect their data against casualties.

FOR: Excellent features, easy usability.

AGAINST: A tad expensive.

WORD PROCESSOR

EditPad Lite 6.1.2



System Requirements

Windows All, Pentium class processor 500 MHz or higher, 64 MB RAM, 10 MB free hard disk space

Price Free

Contact JGsoft

Email sales@editpadpro.com

Website www.editpadpro.com

RATINGS

Ease of use

Features

Performance

Overall Rating

Find it on **CHIP DVD**

BACKUP TOOL

Insofta Document Backup 3.6



System Requirements

Windows All, Pentium class processor 500 MHz or higher, 128 MB RAM, 10 MB free hard disk space.

Price \$29 (Approx Rs 1,300)

Contact Insofta development

Email support@insofta.com

Website www.insofta.com

RATINGS

Ease of use

Features

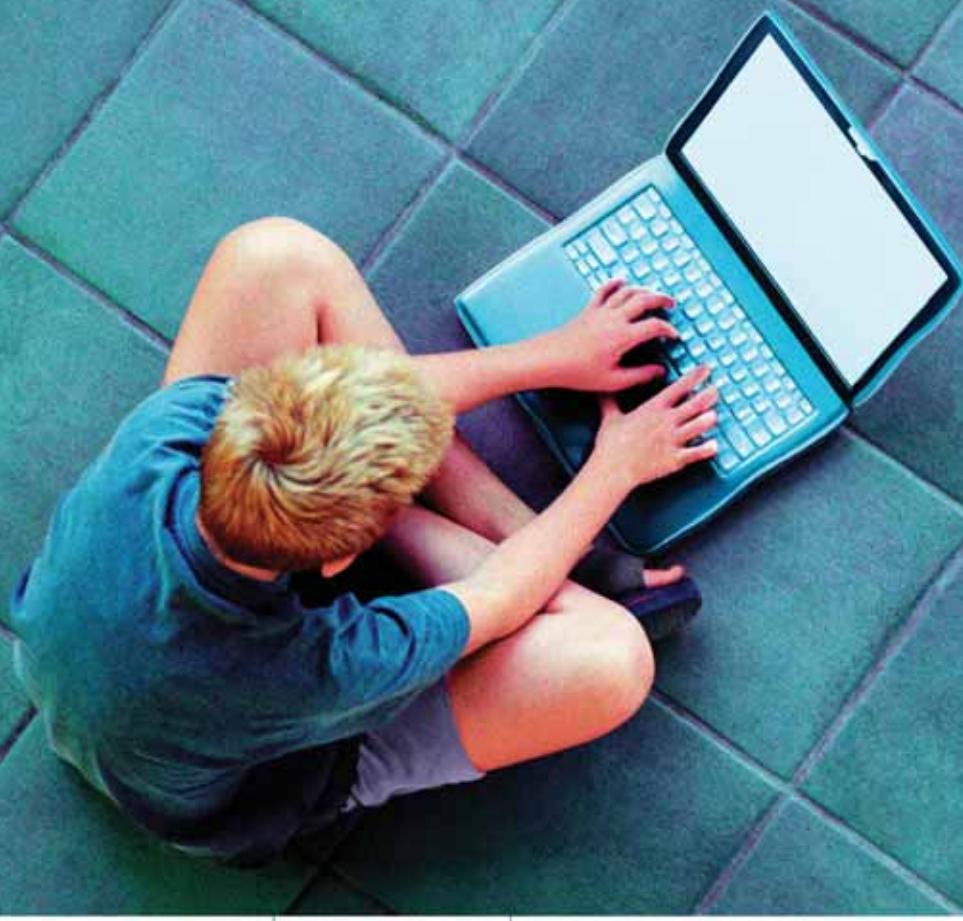
Performance

Overall Rating

Value for Money

Find it on **CHIP DVD**

COME I GREAT MIND GREAT TH FOR HIM &



International Media Partner:



Official Banker:



Associate Sponsors:



Official Airlines:



NFOCOM 2006, S WILL MAKE INGS HAPPEN YOUR BRAND.

INFOCOM 2006 is India's largest ICT exposition organised by Businessworld, India's largest selling and most read business magazine and NASSCOM, India's apex ICT body. A place where the best minds in IT from around the world will be sharing the latest advancements in the field of ICT. This year, INFOCOM 2006 is being held in exclusive partnership with CeBIT, the world's largest IT and telecommunication solutions trade fair organisers. It's the perfect opportunity for you and your brand to shine. If you have anything to do with IT, you just can't afford to miss INFOCOM 2006.

INFOCOM 2006

Conference & Exhibition

Businessworld

NASSCOM

December 6-10, 2006 • Calcutta • India

In exclusive
partnership with

CeBIT
Join the vision

GREAT THINGS HAPPEN WHEN GREAT MINDS MEET.

To participate as a Sponsor, Exhibitor or Delegate wire up with: **Bangalore & Hyderabad** - Raja Mitra (098860 19111),
Calcutta - Rudrashish Nag (098313 10118), **Chennai** - Rajiv Reddy (098410 33442), **Delhi** - Anita Mazumdar (098103 31309),
Mumbai - Anusuya Roy (098209 99280) or e-mail us at infocom2006@abpmail.com. For online registrations visit www.indiainfocom.com

Conference: ITC Sonar Bangla & The Oberoi Grand. **Exhibition:** Salt Lake Stadium Grounds, Calcutta, India.

TATA
indicom
ENTERPRISE BUSINESS SOLUTIONS



SAP

PRESIDENT
The first name in enclosure systems

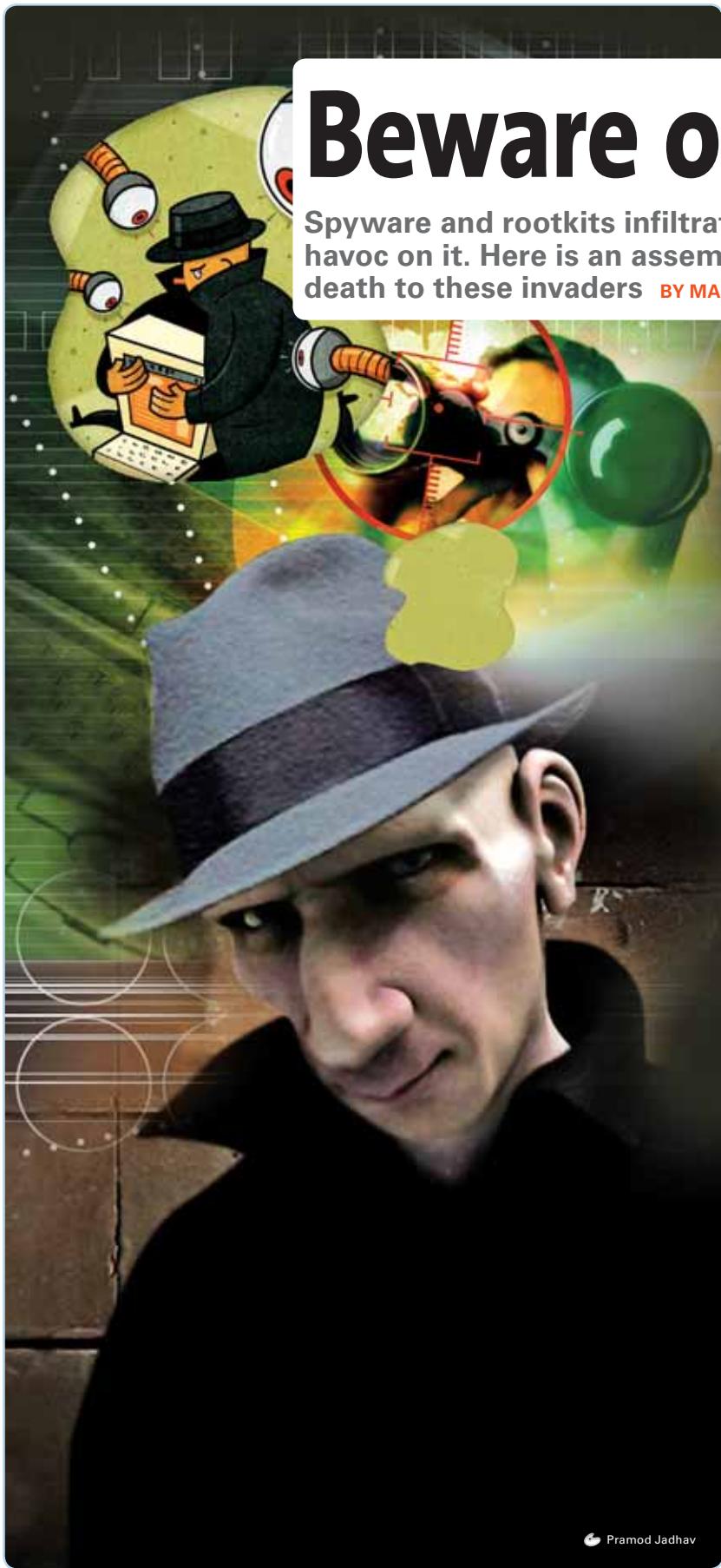
SIEMENS
Siemens Information Systems Ltd.



tyco
Electronics

AVAYA
GLOBAL CONNECT

Seagram's
BLONDERS PRIDE
Taste that speaks for itself.



Beware of Spyware

Spyware and rootkits infiltrate your system and wreak havoc on it. Here is an assembly of tips and tools that spell death to these invaders **BY MANFRED FLOHR**

The most extraordinary and complex part of the human body is the brain. It is the center point of human consciousness and therefore paves the way for every thought process to translate into action by sense of purpose, passion and emotion. According to Professor Peter, director at the Max Planck Institute (MPI) of Biochemistry in Munich, we have not succeeded in decoding even the fundamentals of our thoughts. If one knew exactly how our grey cells work, it would cut the first turf for many a fantastic applications.

There is no reason for your system to be infiltrated by spyware and rootkits if you protect it with anti-spyware programs and update it regularly, right? Wrong. If you think these programs provide sufficient protection, you are mistaken. Spyware like SpyFalcon and Cool Web Search do more damage to your system than you could perhaps imagine. So the trick is to learn how to protect your system efficiently.

A hot topic of discussion in the hacker community has been the super-rootkit created by Microsoft, defined as a new dimension of malware. At Michigan University, scientists along with researchers from Microsoft bred the Trojan 'Subvirt'. Its deception technique is so good that even its creator had difficulties unmasking it.

'Subvirt' loads the operating system in a controlled virtual environment. While the computer boots, the Trojan is first secretly loaded and only then is the operating system loaded. And when an unsuspecting person works in his seemingly undamaged Windows-world, the Trojan becomes active inconspicuously. Anti-spyware programs loaded in Windows thus do not stand a chance to fulfil their objectives.

Although Microsoft has kept the super rootkit under lock and key, it will be just a matter of time till shrewd hackers have their variant ready.

It is almost impossible to recognize or delete the current spyware and Trojans with rootkit technology. Thus, if the PC is infected, users are left with only one option: formatting the hard disk and re-installing Windows.

There is another way to solve this problem, which we will show you here. However, the following instructions are only examples as registry and file paths change almost everyday. But with our tools and tips you can not only detect but also remove unknown spyware.

SpyFalcon

Right on top of the list of nastiest invaders is SpyFalcon—a professed anti-spyware but a spyware itself. Dubious web sites, for example with illegal serial numbers, offer the user to check his computer for spyware. To start the check, the user needs to start the free scanner, SpyFalcon. Once he starts the scanner, he receives a message that says his computer is infected. And the allegedly identified spyware is not the infiltrator but SpyFalcon itself. This pest has the cheek to sell its completely useless anti-spyware software even as it takes over the control of the computer.

IDENTIFYING SPYWARE: The first and the most important step to remove any malware is to deactivate the process in the working memory. As Windows Task Manager does not necessarily show all the processes, we recommend 'Process Explorer' that is suggested in all tips. Through it you can hunt down spyware. Right-click on the file name and click on the 'Google' option to find out the purpose



'SpyFalcon', allegedly an anti-spyware is actually a data spy

of the file. In SpyFalcon 'Profile', you will see the 'exe' files behind which it hides.

Note: As the Trojan changes constantly, several new ones can come along in due course of time. The lists of latest spyware and Trojan file names will be available in virus lexicons like www.2-spyware.com and also with all anti-virus manufacturers.

ENDING THE PROCESSES: The best and simplest way to put a spyware process out of action is to boot the computer using a bootable CD and then to remove the file and registry entries. If you don't have any such disc, first stop all spyware processes from 'Process Explorer' by right-clicking on 'Suspend'. Then eliminate all spyware processes by right-clicking on the 'Kill Process Tree' command. Without this detour via 'Suspend', it is possible that as



Extended Task Manager: 'Process Explorer' clearly offers more information and functions than Windows Task Manager

soon as you eliminate the first process, a second spyware process may revive it. Even though the process is brought to a standstill in the 'Suspend' mode, it cannot be considered as deactivated.

DELETING FILES: If all spyware processes have disappeared from the working memory, the next step is to delete all SpyFalcon files. You thus prevent the processes from restarting. You will generally find these files under 'C:\Program Files\SpyFalcon' and 'C:\Windows\System32'. However, to be on the safer side, you should thoroughly check the hard disk for spyware DLL files. Apart from that, delete the DLL files as well so that the spyware disappears from the computer completely. To prevent the missing DLLs from causing any problems later, you must first close the files in Windows before deleting them.

Profile | Spyfalcon

PATH OF INVASION: Downloads

DAMAGE CAUSED: Crashes and Data theft

FILE PSEUDONYM: atmclk.exe, domcfg.exe,

dfrgsrv.exe, mscornet.exe, mssearchnet.

exe, nvctrl.exe and spyfalcon.exe

AIDING DLL'S: bolnzy.dll, dxmpp.dll, fyhhxw.dll, ginuerp.dll, higjxe.dll, htey.dll, iqzv.dll, oerucu.dll, oqipt.dll, reglogs.dll, sbnudh.dll, twain32.dll, ulztc.dll

REGISTRY HIDEOUTS:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run\SpyFalcon

HKEY_LOCAL_MACHINESOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\SharedTaskScheduler\{D1A2E7CD-F5C1-21A8-CA2C-13D0AC72D19D}

HKEY_CURRENT_USER\Software\Classes\CLSID\{D1A2E7CD-F5C1-21A8-CA2C-13D0AC72D19D}

HKEY_LOCAL_MACHINE\Software\Classes\Type Lib\{244B730E-D899-4E38-9428-03D1143242E0}

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\AppManagement\ARP-Cache\SpyFalcon

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall\SpyFalcon

For example, to close the file 'C:\Windows\System32\appmagr.dll', stop the process of this file through 'Process Explorer'. Then open a DOS box with 'Start | Run | cmd' and go to the directory 'c:\windows\system32'. Using "del appmagr.dll" you can delete the file. This can also be done using the Windows Explorer. Other INI and temporary SpyFalcon files, which are not dangerous but occupy hard-disk space, contain 'Id****.tmp', 'hp****.tmp' and 'sf.ini' in their name. In which "****" is for any desired combination of four characters.

CLEANING THE REGISTRY: Finally, you only need to delete the registry entries of SpyFalcon. Open the registry editor with 'Start | Run | regedit' and delete the entries that you find in our SpyFalcon 'Profile' by right-clicking on 'Delete'.

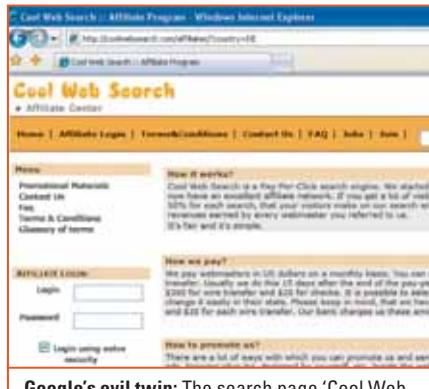
Profile | Cool Web Search

PATH OF INVASION: Internet Explorer
DAMAGE CAUSED: Pop-ups and spying
FILE PSEUDONYM: services.exe,
 DownloaderEXE.exe, tmksrvu.exe
OTHER FILES: update911.js, DNLDC.ocx,
 SexDownloader.cab
AIDING DLL'S: iekp32.dll, image.dll, msfp.
 dll, msdq32.dll, ms-search.dll, xplugin.dll
REGISTRY HIDEOUTS:
 HKEY_LOCAL_MACHINE\SOFTWARE\
 Microsoft\Windows\CurrentVersion\
 Policies\Explorer\Run\Image
 HKEY_LOCAL_MACHINESOFTWARE\
 Microsoft\Windows\CurrentVersion\
 RunServices\Image

Cool Web Search

One wrong click on a hacker's web site is enough to hand over your browser to a Trojan. The most well-known browser hijackers are the Cool Web Search Trojans that nest in the system through Internet Explorer. Once there, the home page of the browser changes and pornographic pop-ups are loaded and the Favorites are manipulated. The usual search queries become a torture, when instead of Google or Yahoo, the user always lands up with Cool Web Search.

The search engine Cool Web Search offers money to anyone, who lures new users into this page. Here, the user is bombarded with spam links from which Cool Web Search earns its money. Hackers, who want to make money with Cool Web Search, have therefore developed innumerable Trojans using which they get as many surfers as



Google's evil twin: The search page 'Cool Web Search' is the reason behind some really nasty Trojans

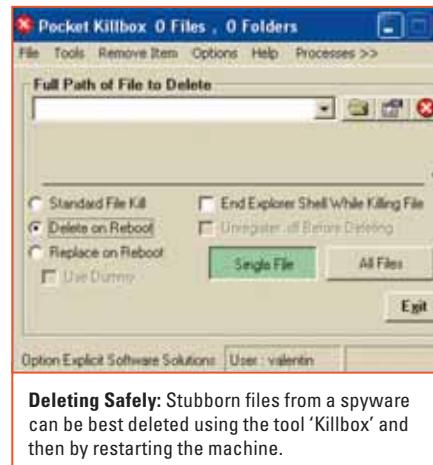
possible to visit these web sites.

IDENTIFYING HIJACKERS: Like SpyFalcon, the best defence against Cool Web Search is fast identification and deletion of such active processes. The problem here is Cool Web Search uses all possible means to defend itself against deactivation. The 'Process Explorer' gets you nowhere by itself. What you need here is a trick—the tool 'Killbox' does not delete the stubborn files immediately but the next time the computer is started. The files that should be deleted using 'Killbox' are given in the Cool Web Search profile and you also know them with the help of 'Process Explorer'. You should first close as many applications as possible to prevent unnecessary checking of excess processes. This is also applicable for programs that are hidden in the Windows Tray-bar.

Then list all the spyware files. For that, open the process 'Process Explorer' and check all installed programs with a right-click on 'Properties'. Note: Do not be deceived by the 'Description' and the 'Company Name' as hackers often fake these. Check the file using the 'Verify' button. If the certificate is valid, 'Verified' appears near the file icon with a description of the manufacturer. Unfortunately, the message 'Unable to verify' does not state that a malicious program is actually involved but only that it has not been verified. This is the case with almost every harmless freeware.

More information about the origin of the file is available with the 'Process Explorer' through 'Path'. You must particularly pay attention to the files in the directory 'C:\Windows\System32'. This location contains several system-critical files—a good hiding place for spyware of any kind. If you are not sure about a particular file, search the file name in Google or at www.whatisthatfile.com to check if it's a spyware.

DELETING: After you have made a list of the spyware files, 'Killbox' comes into action. Select 'Delete on Reboot' and 'All Files' and specify the file including its complete path in the field 'Full Path of File to Delete'. However, the user needs to get used to the operation of the tool.



Deleting Safely: Stubborn files from a spyware can be best deleted using the tool 'Killbox' and then by restarting the machine.

We therefore recommend using the folder symbol of the program to add files. If you inadvertently add a file in the list of files to be deleted, the delete key suffices to cancel this action.

Now, to delete the files, click on the icon with the red 'Delete' symbol. If you have deleted all Cool Web Search files, it means you have also deactivated the spyware and all that remains to do now is to sort out and delete the junk data. 'Killbox' automatically reboots the computer.

CLEANING THE REST: Similar to SpyFalcon, in this case too, after deleting the process files only DLLs and registry entries are left, which should also be deleted as they unnecessarily waste space. However, the DLL files need to be closed first. Using the command 'regsvr32 /u datei.dll', you can delete DLLs through the Explorer. In the profile, you will find three more files created by Cool Web Search that can be deleted without any extra efforts.

After ending the spyware processes, the registry entries are harmless. Delete them using the registry editor.

Vanquish

There are web sites wherein hackers legally and openly exchange rootkits and tricks with the help of which they smuggle their way into the security programs in the form of spyware. 'Vanquish' is particularly a favorite with hackers. We show you how to get rid of this malware sluice.

IDENTIFYING ROOTKITS: Rootkits take control of the systems functions, manipulate the operating system and feed queries with

SOUTH ASIA'S **LARGEST** ICT EVENT

15th
**Convergence
India 2007**

International Exhibition & Conference

Pragati Maidan, New Delhi, India

20-22 March 2007

SHOWCASE Your Technology...

Certified by



CETMA

COFI

ELGINA



ISPAI

MRIT

SNIA INDIA

TEMA

VSAI

Co-organiser



Department of Information Technology
Ministry of Communication & Information Technology
Government of India



**Cellular Operators
Association of India**

www.coai.in



Exhibitions India Pvt. Ltd.
(An ISO 9001:2000 Certified Company)
www.exhibitionsindia.com

Organisers

217-B (2nd Floor) Okhla Industrial Estate, Phase III, New Delhi 110 020, India

Tel: +91 11 4279 5000 Fax: +91 11 4279 5098 / 99 exhibitionsindia@vsnl.com

Ctc: Pankaj Jain, GM & Head ICT, (M): +91 98101 72077 Bunny Sidhu, GM, (M): +91 98733 43925

Surajit Bit, Sr. Project Manager, (M): +91 98734 45423

Mumbai: Tel: +91 22 2859 4043 / 44

mumbai@exhibitionsindia.com

Chennai: Tel: +91 44 4500 0051 / 52 / 53

chennai@exhibitionsindia.com

Bangalore: Tel: +91 80 4132 1421 / 22

bangalore@exhibitionsindia.com

Hyderabad: +91 98662 87974

hyderabad@exhibitionsindia.com

www.convergenceindia.org

The super security packet

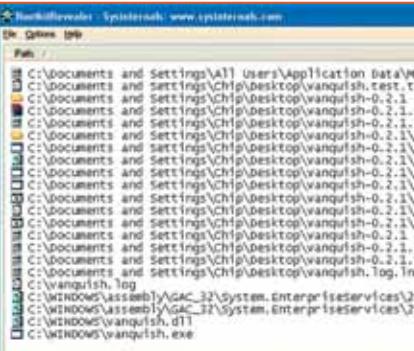
Once Windows is free of malware, it should remain secure to prevent further attacks. These eight selected tools (included in CHIP Tools CD) will never again give the super rootkit another chance to infect your system.

	F-SECURE ANTIVIRUS: Identifies spyware along with viruses. The guard promptly checks each new file and blocks rootkits as well.
	KERIO FIREWALL: Even if a firewall is not an impenetrable shield, you should install it. The free Keiro-firewall counters the common attacks better than almost any other firewall.
	SPAMHILATOR: The Internet Mafia tries to get hold of your data through e-mail. Spamihilator is independent of any e-mail program, knows all protocols and works even better with plug-ins.
	PRIVOXY: Although advertisement pop-ups are not dangerous, they are very irritating. Despite the blockers available in the browser, the operators always seem to find new ways. The blocker gets rid of even the most stubborn pop-ups.
	ADBLOCK: The spyware's favorite point of attack is Internet Explorer. It is therefore better if you use Firefox. Adblock prevents the malware from being loaded in the first place. Download from http://adblock.mozdev.org .
	PROCESS EXPLORER: The options provided by Windows XP Board are not enough to find and kill spyware processes. Process Explorer is the solution.
	KILLBOX: Spyware methods are becoming more and more savage. Before you close one process, another one starts. Killbox puts an end to all of that.
	ROOTKITEREVEALER: The Windows Task Manager is incapable of detecting rootkits whereas RootkitRevealer performs the task perfectly well.

wrong information. Therefore, programs like Task Manager, Process Explorer or Windows workplace cannot identify rootkit-protected malware. Special tools like 'RootkitRevealer' use completely independent functions for the search. They compare their search results with the Windows output. Those files that are not displayed by Windows are the rootkit files. For example, 'Vanquish' hides each file

that contains the word 'vanquish' in the standard settings.

DELETING: 'RootkitRevealer' shows hidden files and registry entries. Since the active rootkit processes cannot be ended, use 'Killbox' as in the case of Cool Web Search Trojan. Apart from that, close all rootkit DLLs from the operating system using the command 'regsvr32 /u' before you delete the files permanently.



```

Path: C:\Documents and Settings\All users\Application Data\Microsoft\Windows\CurrentVersion\Run\Vanquish, test.txt
C:\Documents and Settings\Chiru\Desktop\vanquish-0.2.1.z
C:\Windows\assembly\GAC_32\System.EnterpriseServices\2.0.0.0__b03f5f7f1d339d4c\Vanquish, d1
C:\Windows\Vanquish, d1
C:\Windows\Vanquish.exe

```

Invisible: RootkitRevealer reveals rootkits unlike the 'Windows Task Manager'.

VERIFYING: Rootkit and malware act independently. Deleting 'Vanquish' does not mean the sluiced Trojan or the spyware will also automatically disappear. Therefore, after deleting the rootkit, scan your computer once again using an anti-virus and then proceed with 'Process Explorer' to search for abnormal files.

Subvirt

Super rootkit 'Subvirt' is still locked away safely in the laboratory. But since the idea has been published, hackers are working on emulating this technology. And it will be a matter of time before it raises its ugly head. However, measures to prevent this are being discussed by programmers.

IDENTIFYING SUPER ROOTKITS: The biggest challenge is identifying these rootkits. Thanks to its special functioning, 'Subvirt' leaves no option of booting the computer with an alternative operating system, for example, Windows PE or Knoppix. Hence for a safe and clean system, check the hard disk with different virus scanners and professional tools like Disk Editor. Installation over, does the Bootmanager actually load the NT-Bootloader and thus also Windows XP, or is another Boot-Routine called? If yes then the laborious task begins—such as finding what data has been loaded by the invader and where it is saved. Find checksums of each file with the help of a clean system while checking for the rootkit. Later, when you start looking for the rootkit, compare the saved checksum with the current version. If the rootkit changes a file, it can be identified using this trick. However, it does not help in case of files that have been added subsequently.

REMOVING: Once all dangerous files have been identified, simply delete them like any other file. The exception being, you must repair the boot sector if it's a case of boot virus. But that is easily manageable with the automatic repair-function in the XP installation.

Spyware and rootkits will be around and could be even more deadly than their present avatars. But by taking the necessary precautions, you can be assured your computer will remain unharmed by these invaders. ■

Feel free to ogle.

With more than 20 international editions, T3 is the definitive bible for gadgetheads around the world. Featuring the hottest, the best and the latest from the world of gadgets, T3 has set standards with its stunning photography, cutting-edge design and incisive writing. All this and more with the Indian edition, launching this month.

To subscribe, sms GIZMO to 4646.



T3 The World's No.1 Gadget Magazine



17-Second Globe Span

A test mail from our German CHIP lab took a world tour in the time it takes to stir a mug of coffee. But it's not always this good—why do mails sometimes disappear? Why are some downloads unbearably slow? BY ANDREAS HENSCHEL

One of the reasons why the world has become a smaller place is the Internet. In this Global Village, stockbrokers in New York philosophize with dropouts in Helsinki. Web servers in Asia are no further than one's own hard disk, and holiday photos take less time to travel from Seychelles back to your home than cocktails take to slide over to you at the beach bar.

At least in theory, before a person actually receives a photo or the HTML code powering a web page, the bits and bytes have to go through several trials and tribulations—they have to cross thousands of kilometers, take a dip in the deep sea and squeeze through bottlenecks along the way. Let's hitch a ride with an e-mail and flit through the global Internet maze as we follow it on a round-trip across the world. Our message is simple; it contains the text "A small greeting travels the

world". Its file size is barely 400 Bytes. By the end of this journey, you will have taken a whirlwind tour of the worldwide web and figure out some of the mechanisms that enable it to hum along at a speed of about a terabyte per hour. All aboard!

Cables and more cables

There are about 60 million Indians connected as on September 2006—with our population touching 1.35 billion, that's a penetration level of just about 5.6 percent. Compare this with a country like South Korea (with a population of about 50 million people) where 71 percent have access to the Internet! The good news here at home is that there are about 10 million new Indian Internet users each year (according to the Internet And Mobile Association of India). Sixty percent of Indian netizens log in each day from the 10,000 cybercafes scattered across the

country. Also, broadband usage is growing at about 20 percent every month. Indian Internet users comprise a healthy 18 percent of more than one billion internet-users all over the world. The remaining 82 percent is made up of users at the end of a tightly bound network of cables reaching the remotest corners of the continents. Glass fiber cables on the ocean floor and communication satellites all over the world transfer terabytes of data and even carry telephone calls, television and radio signals. For each country, this inter-continental data flood first hits the receiving stations owned by major ISPs. Connections are then directed to the sub centers, where they are split once again and distributed across provinces and states as an overhead (or underground) maze of copper wires much like your phone cable. In countries like Japan and Korea, the lines coming to homes and

offices are fiber optic, resulting in true broadband connectivity. Apart from that, they are also distributed as underground cables, e.g. in most European countries. The map on the opening page will give you an idea of how Internet connectivity is distributed across the globe—from red in the densest areas all the way to white in regions with no Internet connectivity.

50 MBit/s: Copper data-highway

In India, we still have a long way to go before we can experience the exhilaration of true broadband (which, by the way, is defined as a 3 Mbps Internet connection in most parts of the world). Therefore, we had our colleagues in the International CHIP Test Center at Munich track our traveling e-mail as it made its way across the globe. They logged on via a DSL connection from T-Com (a popular broadband service provider in Germany). They dispatched the test greeting around the world and simply measured the time taken to circumnavigate and reach back—from T-Online to the Google Mail service in California and back!

Before any e-mail actually embarks on its journey, the PC has to attend to a few things first. On clicking the 'Send' button in your e-mail client, the mail program converts the mail's text content to 7-Bit-ASCII-Code. This is necessary to conform to an international standard called Simple Mail Transfer Protocol (SMTP). The mail exits the computer via the LAN-interface to your modem. The modem plays interpreter and prepares the digital data from the PC for the telephone line (in case of a dialup Internet connection). If you have a DSL modem, it encodes the bits and bytes at 255 carrier frequencies and sends the data to adjacent carriers simultaneously. DSL is really very fast when compared to an analog modem, resulting in a higher data transfer bandwidth.

From the DSL modem, the cable takes a slight detour over the Splitter (the little box that divides the data signal from the telephone signal) and disappears into the telephone connector. Every house has a separate cable or a separate wire for every telephone connection. The individual

double-core copper wires are so thin that apartment or office blocks are provided a cable with the diameter of a garden hose to handle several connections.

The copper wires wriggle their way from the telephone box in the house directly to the junctions of the telecom—they are generally the grey boxes that you often see stuck on pillars at the roadside. Some of the copper cables have been underground for almost half a century, but are still good enough to be used for the DSL technology: Even VDSL with broadband of up to 50 Mbit per second can be used with the help of copper double-cores. The maximum permissible distance for ADSL is four kilometers. It is however only 300 meters for VDSL as



The central ocean cable: The Internet is held together essentially by a dense deep-sea cable network. This is one such cable being landed

the effective speed can be maintained for that distance only. As our mail reaches the junction box, there are several other signals and threads of data entering the box simultaneously—hundreds of mails from other users, telephone calls from your neighbors, your young next door neighbor downloading a new program, etc. This leg of the Internet journey is termed as the 'Last mile'—it is the route between your computer and the junction box on the street outside.



The last mile: The two-core copper cable runs from the telephone booth, goes underground and into the junction box of your telecome service provider. An subterranean Internet line is laid with the help of machinery (left) and a network junction box is shown on the right.

Web networks instead of radial ones: failsafe networks

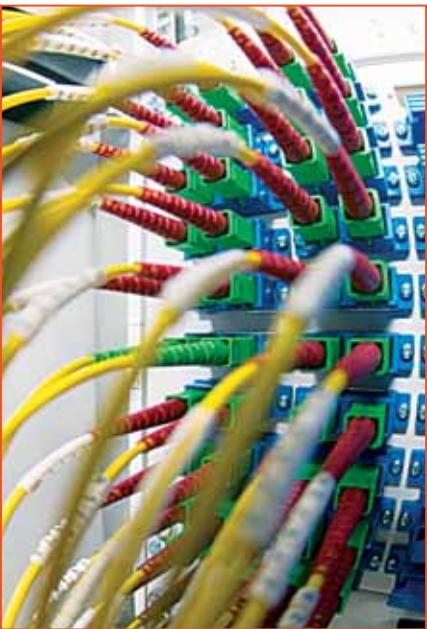
The last mile of the journey is often the most vulnerable in the long chain of worldwide connections. The danger here is the radial structure of the connections up to this stage. A telephone connection just goes dead if a wire is cut between the cable branch and the connection in a house—in such cases, it is impossible for mails to even traverse across the road, let alone reach its destination across a continent! Till the 60s, the nature of the entire communication network was radial all over the world. The center of this radial network was formed by the big telephone operators that were connected using cables. A breakdown in one of the telephone centers resulted in a collapse of the entire network connected to it. Cutting even one cable could suddenly cut short international conversations.

These shortcomings caught the eye of an American engineer, Paul Baran back in the Sixties. He came up with the brilliant idea of web networks, whereby each and every individual network would be connected to the immediately adjacent one. By introducing this kind of redundancy, the network would not collapse even if individual cable sections were affected. In the 70s, all networks in important industrial nations were modified and restructured on this principle.

This new-age redundant structure was initially introduced into telephone networks only to connect distribution stations—the points at which several connection wires from those grey junction boxes converge.

Coming back to our e-mail, the digitally processed message is now transferred to the Backbone, which is the central





Cable meshes with system: All telephone wires of a city meet at distribution stations. The data is now either assimilated into the high-speed backbone of the telecom or is distributed.

nervous system of your service provider's information network. This is where the local telecom network ends and the journey of our mail now becomes truly chaotic from here on.

It is true that telecom operators have their own network backbones, but not without competition. The distribution stations also have cables of service providers such as VSNL or Airtel. No matter what, every form of communication gathers in the backbone—telephone calls from the landline and mobile network

voice-over-IP-conversations, the data to and from dedicated lines, and so on and so forth.

The information is then sorted out at the so-called service level with the help of various carrier frequencies. In today's backbone networks, you will not find any copper wires—everything is now glass fiber. This is because the metal cannot keep pace with transfer capacities of hundreds of Gigabytes per second and beyond. By using modulated light signals to carry information, an entire city's Internet requirements can be met with a single fiber-optic cable about as wide as your little finger! It gets better—unlike electrical signals that have the tendency to lose power over a given distance (due to the metal's resistance toward electricity), light can travel up to 10 times the distance before it needs to be amplified.

Nodes: Mini networks form the World Wide Web

Apart from these physical connection paths, our e-mail wanders through hundreds of networks across other service providers as it makes its way across countries. Depending on the size and financial setup, the provider operates its own respective backbone networks or rents the traffic of other backbone operators. Only at the nodes do these mini-networks interface with the Internet. There are 108 Internet nodes all over the world, out of which 60 are in Europe.

So in case there is network failure, there is no need to worry. The accumulated traffic simply needs to be re-routed to another node thanks to the redundant backbone structure. Such a switchover requires hardly more than a fraction of a second—virtually transparent to the end user.

To America, at light speed

Back to our intrepid e-mail, it would only have to travel a few kilometers until it actually enters a backbone. But it has really speeded up now: Thanks to the glass fiber cable, it now travels at the speed of light to a mail server through the ISP's backbone. From here, the servers ascertain whether the person receiving the mail is on the same service provider or not. In this case, since the mail was sent to a Gmail account, the mail server asks for the IP address of the gmail.com domain and the Root Server of the Domain Name System (DNS) before forwarding it further. This DNS is nothing but an address book of sorts, which maps IP addresses (those series of four numbers separated by dots) to actual web site names. These Root Servers accept Domain requests from computers all across the world and assigns IP addresses to them. There are 13 Root Servers all over the world (named A through M) that are connected to each other. Internet access servers belonging to ISPs across the world are connected to these Root Servers through other networks with the



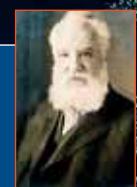
5600 BC
Carrier pigeon (In Egypt)

From carrier pigeon to telephone

1861: Phillip Reiss developed the first telephone. A skeptic contemporary is supposed to have said the words "A horse does not eat cucumber salad" through the device during the presentation.



7 March 1876: Alexander Graham Bell obtained the patent for a telephone that he had developed along with Thomas A Watson.



1800

1837: The US-American Samuel Finley Morse built the Morse telegraphs and transferred signals through electrical impulses for the very first time.

1850

1858: The first Atlantic submarine cable was laid between Ireland and Newfoundland.

1900

1823: The first automatic long-distance exchange office for connections to other places

1881: In Germany, the first local exchange networks were laid—for example, in Munich, Berlin and Frankfurt/Main. The exchange was executed manually by the operator.



Good-bye telecom network!: In the so-called collocation rooms, data and telephone calls from the telecom network are transferred to the networks of other suppliers.

shortest possible routing. If a particular server is not responding, a special protocol called the Anycast protocol automatically forwards the request to the next available server until it receives a response. The contest of these servers are synchronized twice a day to keep up with the latest information.

Now, our mail in North Germany takes a dip in the Atlantic ocean. Here, at the Netherlands border is TAT 14—a transatlantic deep sea cable that connects Germany to America. More than a dozen glass fiber cables lie at the bottom of the sea between North America and Europe alone. Their capacity is gigantic: TAT-14 transfers approximately up to 1.28 Terabits per second, which is more than 20 times the total German Internet traffic!

The path of our greeting mail is determined by the Transmission Control Protocol (TCP), which forms the

foundation of the entire data exchange of the Internet. Simply put, TCP functions as follows: any data to be sent is divided into small packages of around 1,500 bytes—one e-mail with a big attachment will be divided into several parts. TCP tags each package with serial numbers, the IP address of the sender-server as well as that of the recipient's server. TCP then searches for the most favorable route for every package during data transfer. The most favorable does not imply the shortest connection, but the fastest. By doing this, load is distributed and data bottlenecks are avoided. Mail servers themselves are invariably responsible for any delay here: if they are overloaded, service might be delayed for hours and in some cases, for a long long time!

Snapped cables

Even the ocean cable networks are redundant. When TAT-14 between France and the Netherlands crashed in November 2003, the data stream was redistributed in a jiffy. This did not lead to a complete breakdown, but did result in slow connections. In Icelanders, they had an even worse time once as they were completely disconnected from the world for 9 whole hours! Again a deep sea cable defect: CANTAT-3 crashed between the Faroe islands and England. As it was the only connection that Iceland had, it was impossible to make any international call or to log on to any international web

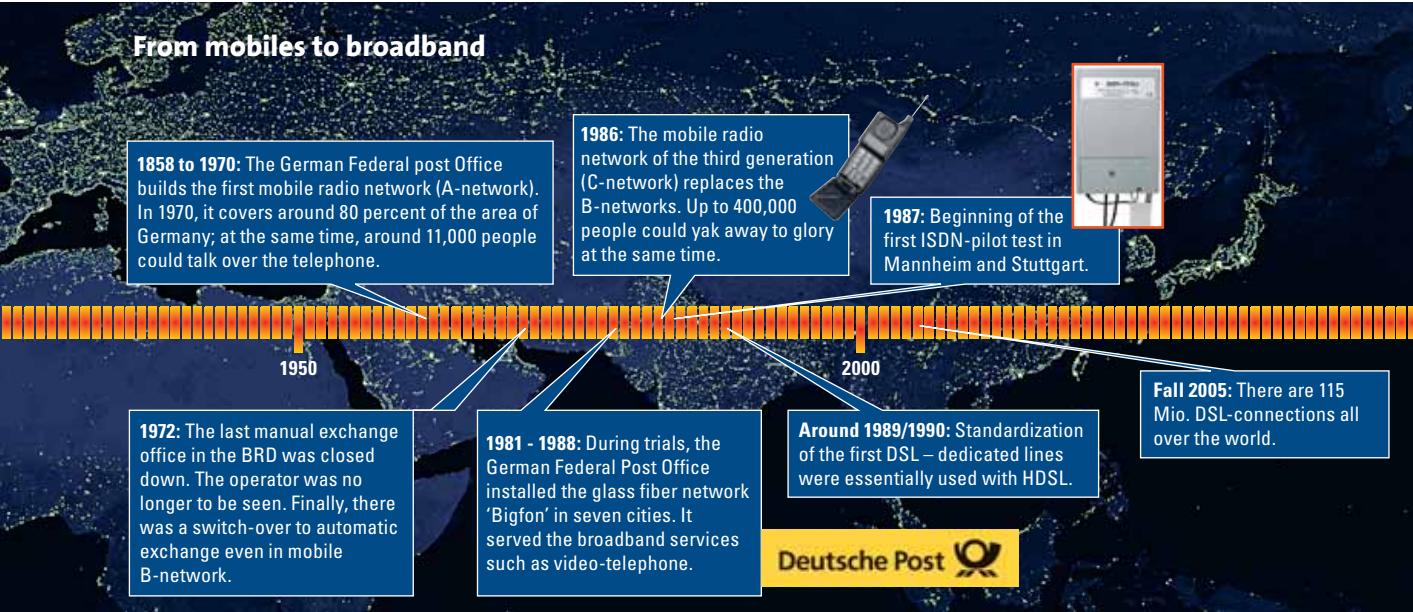


Webmaster node mazes: In 108 networks all over the world – here the DE-CIX in Frankfurt – the small local networks are connected to the Internet.

page. Finally, after nine hours, a satellite-connection was set up for data diversion.

Beneath the oceans of the world lie fiber glass networks totaling more than one million kilometers. Our greeting mail exits Europe through one of these cables and reaches North America via a deep sea cable. It then travels further by land to Mountain View, California and finally reaches its destination—the Gmail box. Our colleagues then reply to this greeting via web mail and send it all the way back to Munich. So it enters the backbone network and the nodes in the US through one of the Atlantic deep sea cables. Then it enters the European backbone network through the telecom-backbone and a distribution station in Munich over the neighboring cable branch. Ultimately it reaches the basement up to the third floor of the house through the DSL modem in the LAN port of the PC and finally onto the screen! Total trip time? 17 seconds. ■

From mobiles to broadband





Save time and reduce operation cost with the Dual-Core Intel® Xeon®

Edge™ Premier™ 2700 Server

- Dual-Core Intel® Xeon® Processor 5050 (3.0 GHz, 667 Mhz FSB, 2 × 2 MB L2 cache)
- Intel® 5000V chipset, Dual Processor capable
- 1 GB Fully Buffered DIMM PC5300, Max 8GB
- 160 GB Serial ATA 3Gb/s HDD
- Max Six Channels supporting up to six SATA devices (3Gbps) with support for RAID 0,1, and 10
- Dual Intel® Gigabit Ethernet connections
- ATI ESI 1000 with 16MB SDRAM memory
- Intel® System Management Software and Intel® Remote management Utilities
- Three Years Limited warranty

Rs.
51,900/-*

Edge™ Premier™ 2900 Workstation

- Dual-Core Intel® Xeon® Processor 5130 (4 MB L2 Cache, 2.0 GHz(65W), 1333 MHz FSB)
- Intel® 5000X chipset, Dual Processor capable
- 1 GB Fully Buffered DIMM PC5300, Max 32GB
- 160 GB Serial ATA 3Gb/s HDD
- Max Six Channels supporting up to six SATA devices (3Gbps) with support for RAID 0,1, and 10 with optional module for RAID 5
- PCI Express x16 NVIDIA Quadro Fx560 Graphics
- Dual Intel® Gigabit Ethernet connections
- 2 Channel High Definition Audio
- Intel® System Management Software 1.0
- Intel® Remote management Utilities
- Three Years Limited warranty

Rs.
79,800/-*



SERVERS THAT WORK SMART

processor in your Edge™ Premier™ 2750 server

Edge™ Premier™ 2750 Server

- 2U Server Chassis with 6 Hot Plug SAS Bays
- Dual-Core Intel® Xeon® Processor 5110 (4 MB L2 cache, 1.6 GHz(65W), 1066 FSB)
- Intel® 5000V chipset, Dual Processor capable
- 1 GB Fully Buffered DIMM Pc5300, Max 16 GB
- 73 GB SAS Drive 15k rpm Hot Plug
- 4 Port SAS with Intel Embedded Server RAID technology II providing RAID 1, 0 & 10 and optional module for RAID 5.
- Dual Intel® Gigabit Ethernet connections
- ATI ESI 1000 with 16MB SDRAM memory
- Intel® System Management Software and Intel® Remote management Utilities
- Option for Redundant Power Supply
- Three Years Limited warranty



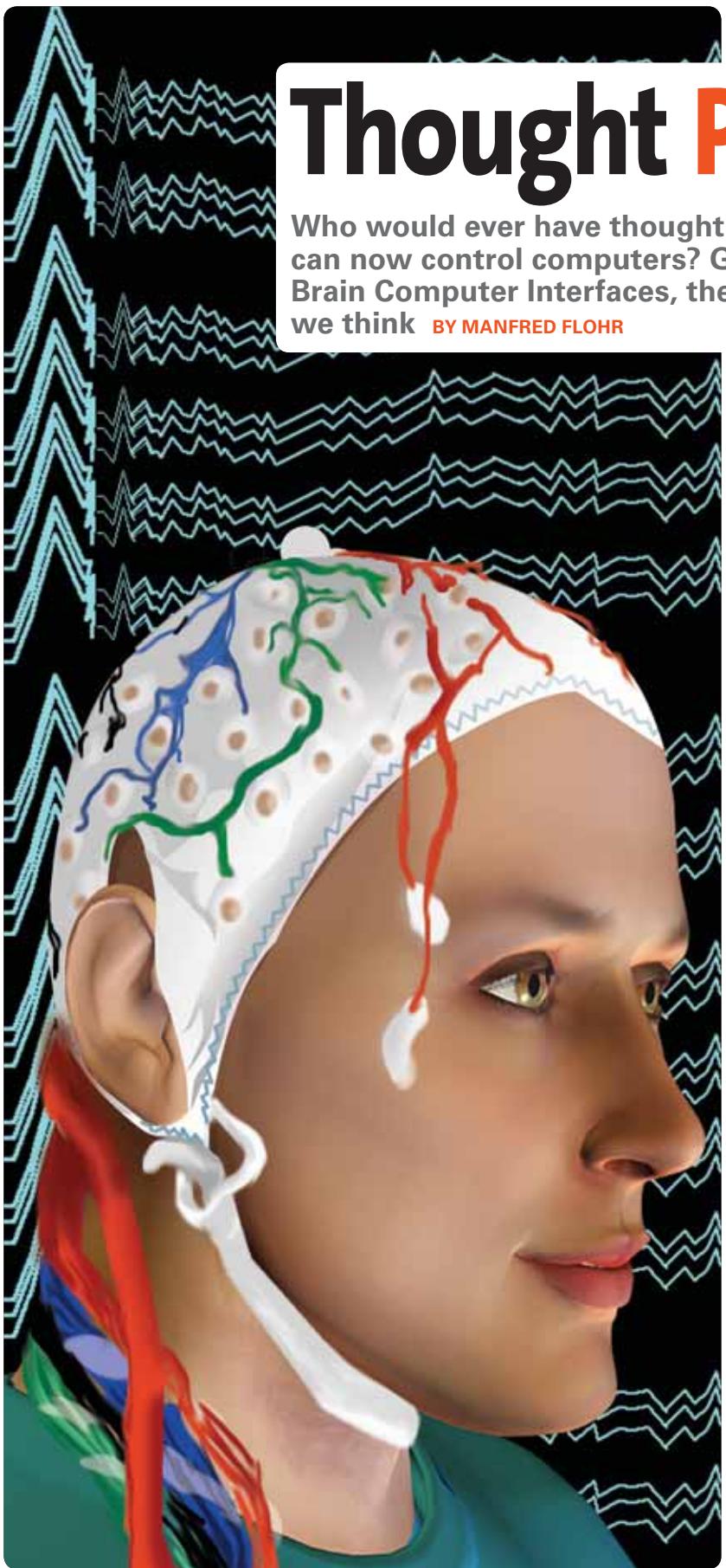
Rs.

93,000/-*

Call: +91-9811204645, +91-9811168724



Sales & other levies extra as applicable. Delivery charges Rs. 1900/-extra*. Actual product may vary from the one show in the picture. Errors & omissions accepted.
Intel, the Intel logo, Intel Inside logo, Intel Xeon and Pentium are trademarks or registered trademark of Intel Corporation or its subsidiaries in the United States and other Countries



Thought Processing

Who would ever have thought that the very act of thinking can now control computers? Going by the strides in field of Brain Computer Interfaces, the future is closer to today than we think

BY MANFRED FLOHR

Professor Peter Fromherz utters the statement twice and stresses every word he says as if it were the most heartfelt confession a scientist could ever make. "We do not know how the brain functions." Clearly, he speaks on behalf of several other brilliant minds in the field when he states that they have not succeeded in decoding even the fundamentals of how our grey matter functions. Fromherz is the director at the Max Planck Institute (MPI) of Biochemistry in Martinsried in Munich and also a man with vision: he believes that if one knew exactly how our grey cells work, it would spawn a multitude of truly fantastic applications.

Reading thoughts with a bathing cap

But even when one considers the possibilities present today, they are nothing but a scratch on the surface. Initial breakthroughs have already been achieved as scientists have demonstrated the ability to control rudimentary tasks on a computer (such as moving a cursor around a screen) using sheer thought. This is achieved by measuring activity in relevant sections of the brain and mapping this feedback to electronic systems. Sounds fantastic, but a wedge has certainly been cracked in this strange and fascinating science that marries the human brain with the digital world.

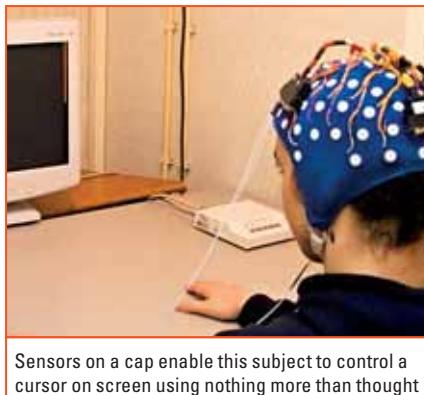
On their quest to making this happen, researchers at the Fraunhofer Institute of Computer Architecture and Software Technology (FIRST) in Berlin used a cap (very much like a bathing cap) studded with 128 sensors. A Brain Computer-Interface (BCI) then converts the thoughts of the subjects into control commands that interface with the PC. When the group with Professor Klaus-Robert Müller started with the experiments a few years ago, he knew it would be a very uphill task. The subjects had to practice for a long time till something moved on the computer screen.

The first spark of success came when after more than 100 hours of practice, the cursor moved slightly. They have come a long way since—today, it takes not more than 20 minutes to start and researchers no longer speak of training the subjects, but instead of calibrating the system. After a short settling-in phase, two third of the subjects manage to move the cursor at will using their thoughts and even play simple video games like the classic bouncing ball and paddles game ‘Pong’. Also, the initial transfer rate clocked by the system (a mere 5 bits per minute) has increased by more than 10 times.

The next hurdle was crossed when researchers from Berlin figured out a way to transfer the learning process of the subject on to the machine. Now the subject no longer needs to think in a specific way for the computer to understand—they created algorithms that enable the computer to decipher the meaning of various thought patterns.

The shower cap device worn by subjects contains electrodes that pick up voltages on the scalp at the rate of 1,000 times per second. These voltages are passed on to the computer for further interpretation. For a split-second, the researchers see everything and yet nothing—it appears to be a grainy signal that not only reflects the attempts by the subject to move the cursor but picks up other brain activity as well. “There are hundreds of sensory perceptions picked up by the device consisting of brain activity generated by involuntary physiological functions like eye-blinking, breathing, slight muscle movements etc”, explains Müller. Supported by doctors from the Berliner Charité, the researchers at Fraunhofer then succeeded in isolating the characteristic features of ‘thought’ signals—signals that are intentionally generated by the subject.

Researchers are applying theories of artificial intelligence, which are based on neural networks to interpret these neurophysiological signals. For example, these devices can synthesize signals generated by movement on the left hand or the right hand. After the subject has alternately typed with both the hands on the keyboard for 20 minutes, a



Sensors on a cap enable this subject to control a cursor on screen using nothing more than thought

function from the EEG data sorts the data according to ‘left’ and ‘right’ and uses this information for further processing. The measurements also indicate how activity in the brain precedes motor responses (muscle movement). Researchers have found that the brain pre-empts any muscular movement by generating neural signals almost half a second in advance, whether the subject plans to move his right hand or left hand. From the diagrams, the researchers recognize all signals that pass through the cerebral cortex. “We collect blueprints of ‘want’”, says Müller.

He also points out the limitations of tapping into thoughts—a telephone number thought up by the subject, for instance, does not show up in the signals. However, the researchers at Berlin did come up with another incredible experiment. They played a few melodies for a number of subjects, who comprised professional musicians along with musically-inclined non-professionals. They had to recognize if the notes played were in the major or minor scale. As expected, the musicians were better at doing that as observed in practice. However, the brain waves gave away something different altogether: the feedback stated that non-professionals were just as good as the professionals in recognizing notes. Clearly, there was a lot more work remaining in deciphering brain signals towards a useful end.

Thoughts accelerate the computer

Scientists at America’s Columbia University already use these theories to enhance interaction between man and computer. They discovered that picture databases can be rummaged through

much faster if the characteristic electrical impulse of the brain is understood. For instance, while analyzing mug shots, if a police officer comes across an interesting picture, it gets registered approximately ten times faster when compared to traditional process of computer image recognition. Even the X-ray checking of baggage at airports can be improved using this application: as soon as the human brain identifies something as suspicious, it will immediately trigger an impulse. This signal can then be used to aid the process of identifying banned articles in baggage.

Experiments conducted by researchers at Berlin show that Brain Computer Interfaces (BCI) also work well in computer gaming. Two startups in Silicon Valley are already working on creating relevant devices. On similar grounds, the company (Cyber Learning) is already providing EEG-enabled helmets to doctors who treat children with attention deficiencies and other neurological disorders. Although Professor Müller wants to improve the man-machine interface by applying BCI, he believes that the time is not yet ripe for commercial games. “It is no use if one-third of the customers return the game package because they are unable to establish a mental link with the PC”.

In another development by Honda on controlling robots, they have created a working prototype, but it does, however, lack practicability. In this Brain Machine Interface, a subject moves his hand and a robot connected to the subject mimics the movement. In this system too, the subject’s thoughts generate control commands. However, compared to the previous electrode-enabled shower cap system, there is a difference in this one—brain activities are measured using magnetic resonance imaging, requiring the subject to lie within a tube, much like what happens when patients get a brain scan. Here, nerve impulses are not measured, instead, the movement of blood in the brain’s blood vessels is monitored. Obviously, this system is anything but portable, and there is also the greater lag time compared to the system of recording electrical impulses. Experiments have

shown that the robotic hand in this system responds only after a couple of seconds of the subject moving his hand.

Within the next five to 10 years, Honda hopes to effect control over a larger range of functions using interface robots like their popular 'Asimo'. Perhaps by then, it might just be possible to control a couple of functions in cars using the power of thought. More than the aspect of controlling a car, Klaus-Robert Müller believe that initial applications of this system would be centered around monitoring subjects. Such a system could be used to identify the fatigue in a driver in real time. At least when it comes to such fields, Müller hopes for interfaces other than the "bathing cap" from neurology—perhaps something akin to a baseball cap with contact-free sensors. This would be a welcome improvement from his current system where his subjects are required to

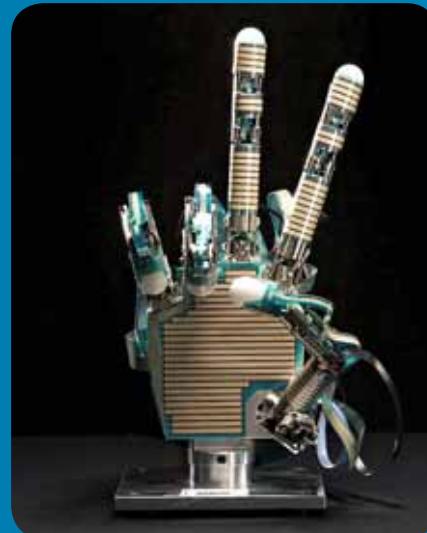
laboratory would remind you of a modern day Frankenstein: Twenty-five-year-old Matthew Nagle sits motionless on a chair. He has a plug connected to his scalp, from which a cable as thick as a finger winds out. Next to him is a robotic arm, which suddenly starts to move. Nagle, who is paraplegic for the last three years, moves the robotic arm using his thoughts in this spectacular attempt. Over 100 gold wires connect a four-square-millimeter chip, sitting snugly within his cortex through a small hole in his cranium. Aptly termed the 'Brain Gate', this impressive little piece of hardware goes further than just recognizing individual motor intentions and can instead execute larger tasks like moving groups of fingers and grasping.

Despite immense implications behind this demonstration, Professor Müller from the Fraunhofer Institute is skeptical about the invasive contact method. He believes

For Professor Peter Fromherz, who is also on the trail of establishing fundamental connections between the human brain and the digital world, it is still a challenge to be able to yield practical results in BCI, when the method collects average values from small regions of the brain. "What really passes in there is not visible", insists the professor. He and his team of researchers are working on changing exactly this. Biophysicist Armin Lambacher peers intently at his monitor, studying a cloud of tiny blue dots that spread to form an arch. "Here we can, to a certain extent, peer into the brain as it is functioning", says the biophysicist as he explains the process. He is talking of an experiment involving a razor thin slice of the hippocampus of a rat. Information, which is received by the brain of mammals, is initially stored in this region before it is permanently stored in other regions of the brain.



Honda has created a Brain Control Interface that studies the haemodynamic (movement of blood in the brain) readouts and translates these signals into controls that move the robotic hand.



Unlike the EEG-based sensors in Honda's system, the robotic hand responds only a couple of seconds after the subject moves his fingers.

wash off the conductivity gel from their hair after each test!

Moving up from shower caps, there are other experiments in other parts of the world that are significantly more intrusive on the subjects' physiology. Neurologists in America's Brown University have conducted several experiments consisting of a microchip being planted in the subjects brain—the field certainly enters Frankenstein's realm here.

Inside Frankenstein's lab

Scenes from Professor John Donoghue's

that such an intervention involves the risk of infection or damage to the brain without any significant advantage when compared to non-invasive technology using EEG-based brain signal mapping.

Chip with a brain

Across the ocean from America, the 'neurochip' developed at MPI in Martinsried has hardly anything in common with the American Brain Gate.



Brain activity is captured by a machine that resembles a CAT scanner. The flow of blood in sections of the brain generates readings that are translated into control instructions for the robot.

The scientist hopes to understand the data-processing that takes place in the hippocampus, which could lead to the key to understanding the human brain.

Images moving in slow motion are displayed on the monitor, they show what goes on in real time within milliseconds—these are representations of electrical signal in a particular area of the brain. The cultivated part of the rat brain is placed on a neurochip barely one square millimetre in area, consisting of a sensor array of about 16,000 transistors that pick up signals generated by the brain

Scientists at MPI created a Neurochip (right) that can sense or stimulate a sliver of brain tissue. This has led to breakthrough discoveries in how the brain transmits information. The test subject was a rat.



slice. These sensors not only measure the signals of individual cells, but can also selectively stimulate them (see image). Observing a specific part of the tissue is a critical waypoint in attempting to get two different systems together: in silicon, electrons are the charge carriers; while ions transport the charges in the liquid inside living cells. Fromherz first succeeded in creating a contact between the individual neurons and chips, which

processing of information in the brain is attributed to individual cells or groups of cells. Do neighboring cells work in tandem or are they busy working with their own sets of data or are they dependent on each other?

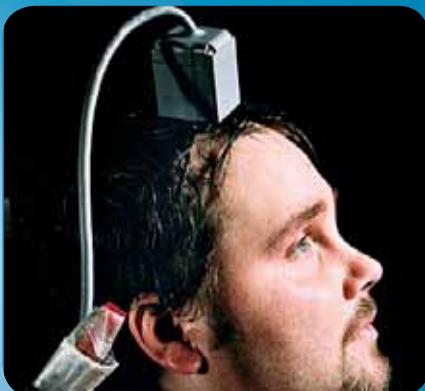
Peter Fromherz believes that studying all this would be 'irritatingly boring'. The good news is that a device is now available to systematically research all these aspects. In the figure, the computer can now

the effect of pre-release drugs by studying the responses they trigger in the brain. Even the physically challenged could profit from this development. However, we are still a while away from the time artificial limbs can be controlled by neurochips.

Besides the field of neurology, Professor Fromherz has also started experimenting with the retina of the eye. Similar to the quest for mapping the human brain, he aims to understand the nature of the electrical stimuli that convey the sense of vision to the brain—the first step in creating an artificial retina.

However, his boldest vision is that of an entirely new computer. This new breed of computing that could one day connect digital computing with neuro-dynamics and could eventually function like the human brain.

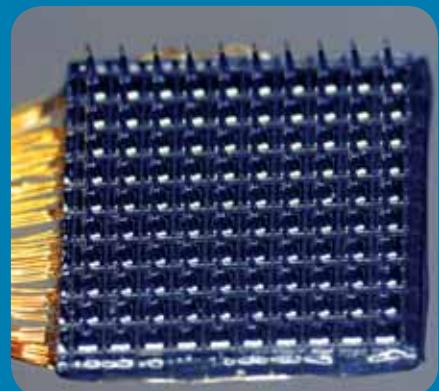
As Fromherz sees it, this neuro-computer would be faster than a quantum



Matthew Nagle, a 25-year old paraplegic is fitted with a device called the 'Brain Gate'. Implanted in his cerebral cortex, it picks up brain activity that is used to control a machine.



The Brain Gate is a breakthrough development in Brain Computer Interface. This processor can translate brain activity into complex signals for machine control.



The Brain Gate consists of sensors that are implanted into the subject's brain. Signals are transmitted via the gold wires on the left to machines that can be controlled with thought.

was created in the clean room of the institute. In the mean time, this gave rise to a neurochip produced by Infineon which transfers signals in both directions. "We are now finally beginning to understand the biophysics involved in stimulation", says Fromherz as he comments on the progress made. Brain slices and conductive liquid in living cells—all very gory, but the implications certainly are fascinating!

Researchers are now searching for answers to several obvious questions: for instance, it is still not clear whether the

reveal the 'wiring' in the brain and makes biological networks visible. Using different controls, the researchers now want to stimulate different regions of the brain to study its response. Riding this wave of advancement, the next generation neurochip is poised to have twice the processing power of its predecessor. In the mean time, a handful of practical applications are slowly emerging—scientists are exploring the possibility of using the neurochip to test the effects of new psychiatric drugs, for example. Here, doctors could tangibly prove (or disprove)

computer. If the neuro-computer really sees the light of day, one would no longer have to see cells in glass containers and chips with bio-coverings. Fromherz however believes that the idea is not to transfer the human brain to the computer but to technically imitate its functionality. He estimates this should be possible within the next 50 years. In about 200 years, while most of us might not be around (unless there are similar strides in human life expectancy!), people using neuro-computers are sure to make fun of the computers used today. ■



INTELLIGENT COMPUTING
CHIP
At the heart of technology
www.chip-india.com

CONTEST

Learn the skills of e-business





- SHEIKH RAZAUL ISLAM
- BARBHAJ AJINKYA TULSIDAS
- A.NARAYANAN
- VIBHAWARI NIKHIL KHOT
- SAURABH GUPTA
- SHARAT CHANDRAN NAIR
- MANOJ KR. SHRIVASTAVA
- NEELKANTH KESHAV BHAT
- KIRAN PRAKASH VAIDYA
- ARINDOM GHOSH
- P.S.REDDY
- HARISH GOYAL
- KARANSINH H. KAMREJA
- NIKHIL D.
- NARAYANAN K.
- M.MEIYAZHAGAN
- SHIVANI SUCHITRA SAHU
- SURAJ SHASHIKANT SHIRKE
- PUJA SHUKLA
- VIVEK KEDIA

WILEY INDIA QUIZ

1. Who is the founder of Yahoo?

- Tom & Harry
- Jerry & Ham
- Jerry Yang & David Filo

2. With which popular site is Ajit Balakrishnan associated?

- Rediff
- Kidff
- Budiff

3. Which company has taken over Baazee?

- Kbay
- Mbay
- Ebay

4. Which site was founded by Sergey Brin & Larry Page

- Boogle
- Google
- Joggle

5. Which mail service is Sabeer Bhatia associated?

- Hotmail
- Fmail
- Bmail

Name : _____

Address : _____

City : _____ State : _____

Pin : _____

Tel No. _____ Mobile _____

E-mail : _____

Are you a CHIP subscriber ? YES NO

If yes, your Subscription Order No. _____

*The first 20
correct entries
will win this book
worth Rs. 199

Please post your answers in the envelope provided.

The winner list will be released in CHIP Magazine February 2006 Issue
Rules and regulations: Your entries should reach us before 31st December 2006.
Duplicate or photocopies of this page will not be accepted.



Fedora Core 6

After Ubuntu and SLED 10, this time we review Fedora 6. Let us find out if it lives up to expectations **BY KUNAL RUPERA**

In our past issues, we have reviewed many of the popular Linux distributions like Ubuntu and SUSE that have taken Linux as a desktop operating system to a new level. The Fedora project finally launched Fedora Core 6, code named Zod on October 24, 2006. This distribution has been designed as a general purpose desktop Linux distribution containing only free and open source software. For those who are not aware of the Fedora project, it is an operating system that is sponsored by Redhat, if not officially supported.

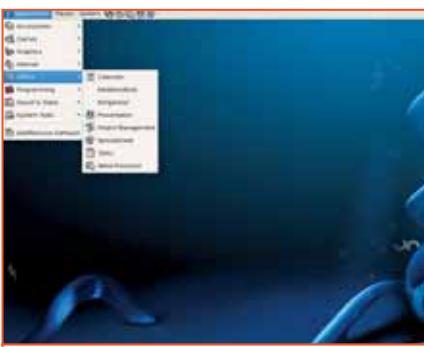
Fedora's latest release can be downloaded from the web site <http://fedora.redhat.com/Download>.

The entire distribution consists of five CDs or one DVD. You can find the five-CD ISO images of this distribution on this month's CHIP DVD. You will need to burn these ISOs on the five CDs using image burning software like Nero. Since we were anxious to get our hands on this distribution, we put in the first CD to have a first-hand experience of Fedora Core 6.

Installation

After booting from the first CD of Fedora Core 6, the first thing that catches your eye is the artwork on the splash screen. This new and improved artwork looks appealing with its shades of blue and white with the Fedora logo. Like the previous versions, the first option you get is to perform a CD check to ensure that the files have been downloaded and burnt properly so that you do not run into errors during installation. Although this feature takes up a lot of time, it is recommended to run this check to ensure that your CD or DVD is scratch free which saves you from any installation glitches.

We were quite pleased to notice the improvements made to the default installer Anaconda. At install-time, a user can specify third-party repositories, and if the install is Internet-aware, Fedora can download additional packages from these third-party repositories during install time. Although this is a great feature, we have to say that it simply doesn't work. We tried installing on multiple systems,



Office productivity applications include OpenOffice 2.0, KAddressBook and KOrganizer

under different environments, hardware, etc. We even double-checked to make sure we did not download the beta release. After checking out all possible options, we had to conclude that there was a bug in the installation system. The installation went smoothly when we selected the default package install options. This bug can be circumvented by choosing to install in the Text mode. When we chose to install in the Text mode we were able to choose and install all the packages and the installation queried all five discs. Only the first three discs are needed to install the basic system. The rest of the discs contain additional packages. However, there is a flip side to installing in the Text mode—the system defaults to runlevel 3, which is the multi-user text mode. This means that you don't get any form of the post-install configuration like when you see it in the GUI installer. Also, you are not prompted to set up additional users, test sound and so on. While it is nice to know that the network configuration now supports IPV6, it is not available in India yet. The partition manager in FC6 is the same as that of the previous versions. We noticed that FC6



You can sync files with your favorite Bluetooth enabled phones and PDAs

does not support formatting the system using ReiserFS, XFS or JFS. Only ext2 and ext3 are currently supported. This does not have a deep impact on many applications as the performance of Fedora's default ext3 file system has been boosted in recent versions of the 2.6 Linux kernels. Other installation options are pretty much standard where the system asks you to provide for a root password, time zone, etc. The entire installation process took about 40 minutes on a Pentium 4 system.

Hardware support

We tried to install Fedora Core 6 on a top-of-the-line Asus motherboard featuring the Intel 975X chipset but Anaconda did not seem to support it and stalled. What was surprising was that FC6 worked perfectly on an Intel motherboard that



Audio and video conferencing can be easy using the in-built software

featured the same chipset. While FC6 perfectly detected the top notch Nvidia 8800 GTX graphics card, it failed to detect the ATI Radeon X1950XTX. However, it worked like a charm on an Intel Pentium 4 system running 845 chipset with onboard graphics and network card. Also, we could not get the system running on a motherboard that featured the ATI chipset. This is a standard problem for all Linux distributions and FC6 is no exception to the rule. To sum it up, Fedora supports almost all except some of the current generation cutting edge hardware. If you have a fairly old system, FC6 is bound to work on it like a charm. The system had trouble in display when the high-end ATI GPU was used, which was not the case with Nvidia cards. Other chipsets like VIA are widely supported and should work out of the box.



The administration screen allows you setup or change hardware configuration or settings

The Desktop

After the system boot up process is over, you clearly notice the default desktop background. Not only is it attractive but it also has a professional look. We must say, we liked the default theme of Fedora much better than that of Ubuntu. The new theme is designed by the Fedora Artwork project. Another thing we must mention is that Fedora does not come by default with a desktop switching tool. So having KDE to boot as the default window manager can be a task that is cumbersome and not meant for one and all. Also, you can only install KDE through the Text mode installation as the GUI installation is buggy. The default font has also been changed in a way that it supports languages that use the Latin, Greek and Cyrillic alphabets much better.

Like SUSE, Fedora also comes with the Compiz window manager that provides better visuals and a variety of desktop effects, using the AIGLX framework. The heart of this Linux distribution is the latest stable 2.6.18 Linux kernel. The new

www qlc.in

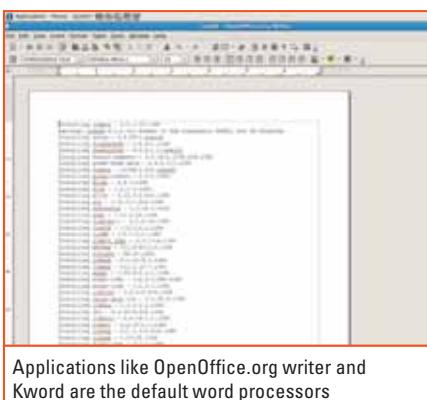
Account Executive

+ "Is this freedom?
All resumes being
emailed can now
be tracked with
PostMaster".

Comprehensive email archiving
is just one of the many benefits of
PostMaster.

PostMaster

For the complete list of productivity benefits of
PostMaster, call: 022 - 4095 7766 / 0 93241 57700



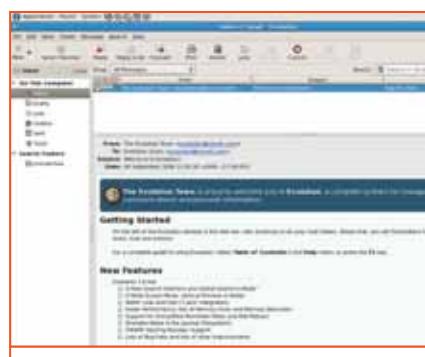
Applications like OpenOffice.org writer and Kword are the default word processors

feature of this kernel is that you no longer need separate kernels for multi-processor and single-processor architecture. A single kernel now automatically detects multiple processors. FC6 features GNOME 2.16 and KDE 3.5.4 as the window managers and also includes a good mix of applications like Firefox, Thunderbird, IM client, VoIP client, etc. Office productivity includes OpenOffice.org 2.0 and image-editing software like gimp. Totem has replaced Helix Player as the default media player in Fedora Core 6. The Graphical User Interface is provided by X.org 7.1, which dynamically configures monitor resolution and refresh rates to limit the amount of required user configuration. This release has improved i18n language support using the default SCIM input method, including more languages such as Sinhalase (Sri Lanka) and Oriya, Kannada, and Malayalam (India). Fedora Core now provides an easy interface to switch the input methods using im-chooser.

Another ace that FC6 has up its sleeve is SELinux. Although the use and the very existence of SELinux was threatened

at one point of time, it has now been advanced to an extent that it supports more applications.

Further modifications to SELinux allow you to set a lot more options while making a policy under the Security Level Configuration Tool. The system-config-printer tool has been rewritten with new features such as detection of new devices on demand, support for per user queues, etc. Also worth mentioning is the Pirut application that uses Yum repositories for package updates and management. The OS also features an integrated search mechanism powered by Beagle.



Connecting to POP3, IMAP as well as Microsoft exchange servers is a breeze with Evolution

Usability

As far the system performance is concerned, we felt that this operating system is a tad slow. Even on a Quad Core system, the OS was not very responsive. There are certain quirks that exist in the newly installed system. Also, even though the soundcard is detected and works fine, you cannot play any sort of proprietary audio format including MP3 and WMA because the necessary codes are not installed by default due to licensing issues. Video also toes the line, as you cannot play your favorite movies, which are usually in DivX, AVI, MOV or XviD formats using the default install. A quick search at Google, however, allows you to use these features. All you need to do is install the proper packages for media playing. You may try download and install packages like XMMS or RHYTHMBOX or VLC, etc, to name a few. Similar quirks exist in the web browser with no support for Flash or Java. This can be added later. The OS detected our HP network printer out of the box using CUPS. This was



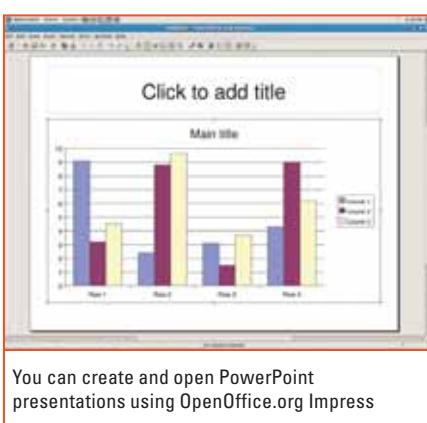
Share and browse windows network shares (including hidden shares) using Samba

not the case for the Xerox Phaser 6250 colour laser printer. Although an alternate window manager is provided, there is no option to shift to an alternate window manager from GNOME to KDE using a tool like switch-desk.

Setting up the Nvidia drivers was way more difficult than it should have been to get AIGLX to work. Enhancements in package management by way of Pirut and Yum updates, which combine to provide a notification applet, alert the user when there is availability of updated software. This means that you can upgrade and install packages at the single click of a button. All you will require is a live Internet connection. The application load times are significantly reduced, making the system more responsive. This is because all Fedora Core applications have been rebuilt using DT_GNU_HASH, which provides a significant performance boost during start-up for applications using dynamic linking of libraries. This release shows improvement in package management and dependency solving by making them as modular as possible. Packages rebuilt in this manner include Beagle, Evince, Gnome-utils, and Network Manager.

Verdict

Fedora Core 6 does have some quirks that show up during installation and which needs to be rectified soon. The system is not as stable as we had expected it to be (the GNOME manager crashed several times). It provides good eye candy and is also functional with a decent set of features and applications. However, it does not match up to the standards set by Ubuntu or SUSE. ■



You can create and open PowerPoint presentations using OpenOffice.org Impress

CHIP-COREL CONTEST

Simply answer these questions
and you can win **Corel Painter IX.5**.

1. Which of these cloning tools enable the tracing paper option?

- Quick Clone Clone Trace Clone

2. Which of these is not a Brush Variant of the liquid ink Brush?

- Depth bristle Dry Camel Fine Camel

3. Which of these files are not supported by Corel Painter 9.5?

- Psd Indd Ai

4. Which of these is an option under the Esoterica effects?

- Auto Van Gogh Auto Picaso Auto Da Vinci

5. Which of these is an option under the Library Palettes?

- Show Pens Show Canvas Show Papers

Name: _____

Address: _____

Age: Under 15 16-25 26-35 36-45 Over 45

City: _____ Occupation: _____

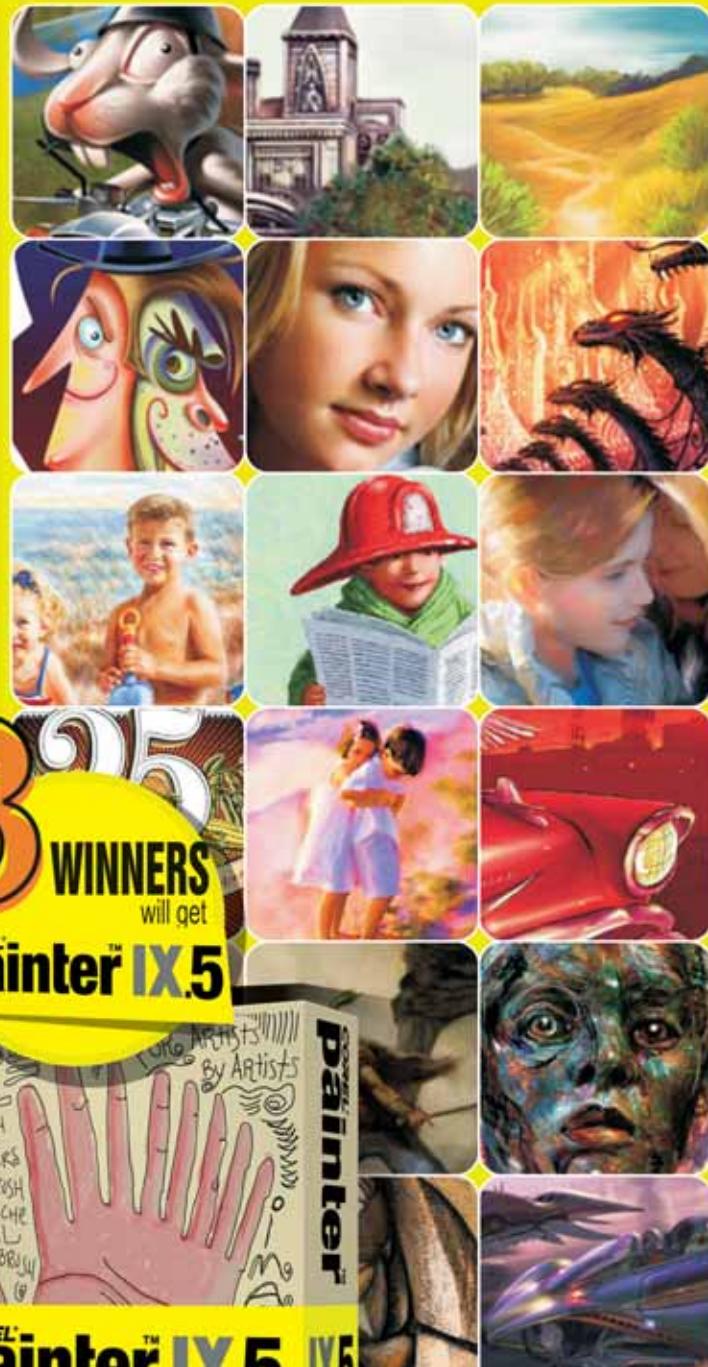
Tel: _____ E-mail : _____

Are you a CHIP subscriber ? YES NO

If yes, your subscription Order No. _____

Send your entries to

Intelligent Computing CHIP Contest
Infimedia India Ltd
Ruby House, 'A' Wing, 2nd Floor, J K Sawant Marg
Dadar (W) Mumbai 400 028, India
Tel: 91 22 24232323 Fax: 91 22 24302707



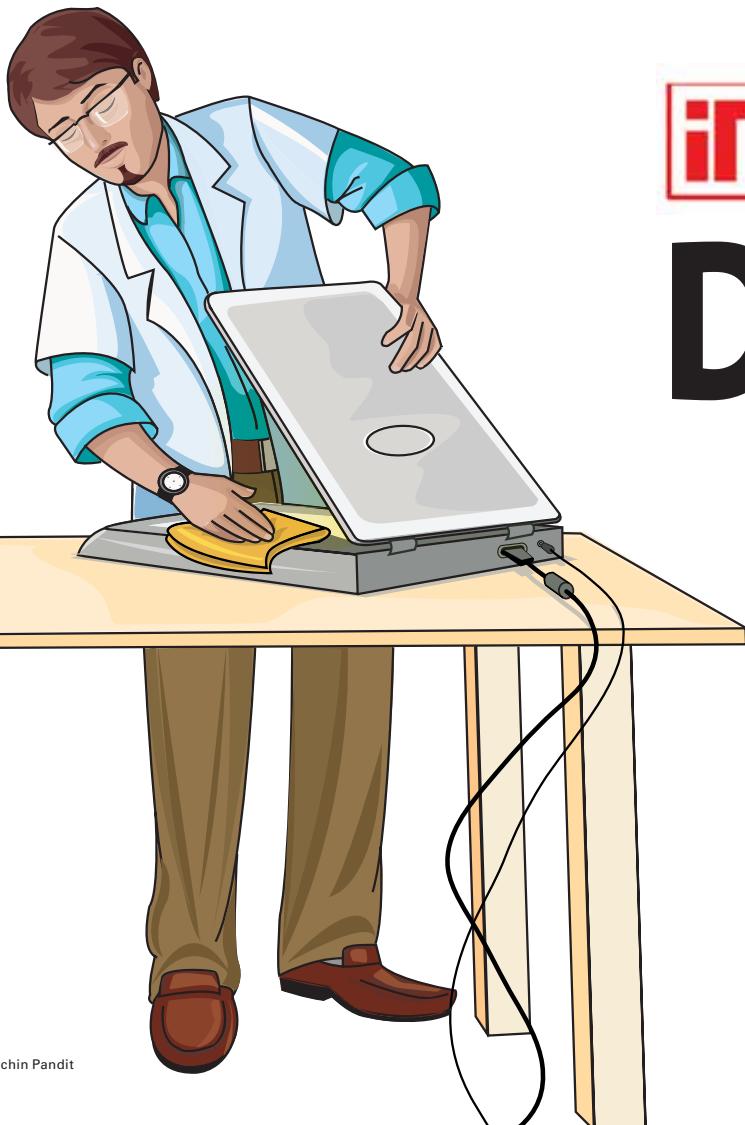
3
305
WINNERS
will get
**COREL
painter™ IX.5**



Worth
Rs. 19,950
each

The winner list will be released in CHIP Magazine February 2006 Issue For more Information log on to - <http://www.corel.com/>

Rules and regulations: Your entries should reach us before 31st December 2006. Duplicate or photocopies of this page will not be accepted.



INTEX

Dr CHIP

It would be a waste of bandwidth if I have to delete these files.

— Anil

CHIP TIP

Bitcomet renames the files to ".bc!" until the download is complete. There is a way you can make Azureus pick these files up because it does not add any of its own extensions. This makes it easier to preview the downloaded file too. First you will have to make the extension visible. Open Windows Explorer and click on 'Tools | Folder Options'. Click on the 'View' tab and uncheck 'Hide extensions for known file types'. Click on 'Apply' and 'OK'. Now the file names in the "Downloads" folder (default folder where Bitcomet) downloads all files to) will show their extensions. For example, a file will look like 'OpenSUSE_DVD.iso.bc!'.

Just select the file, right click and select 'Rename' (or press [F2]). Remove the '.bc!' extension and press [Enter]. Just copy this file into the default download directory used by Azureus. If you have many files that you need to rename, you can cut down your work by using the command line. Click on 'Start | Run', type 'cmd' and click on 'OK'. Type the following and press [Enter] after each command,

```
C:\Documents and Settings\Username>cd C:\Program Files\Bitcomet\Downloads
C:\Program Files\BitComet\Downloads>ren *.bc! *.
C:\Program Files\BitComet\Downloads>dir
Volume in drive C is FATHER
Volume Serial Number is 309F-46AB
```

Directory of C:\Program Files\BitComet\Downloads

04/13/2005 03:10 PM <DIR>	.
04/13/2005 03:10 PM <DIR>	.
06/02/2006 03:01 AM 445,866,736 Elephants_Dream_1024.avi	
11/25/2006 04:32 PM <DIR> test	
10/20/2006 10:19 PM <DIR> HoFD	
1 File(s) 445,866,736 bytes	

Rename multiple Bitcomet files to rename its proprietary extension

The '.bc!' extension will be removed from all the partially downloaded files. Now, add the torrent files (.torrent) to the 'Torrents' folder (in Azureus) and direct it to save the file in Bitcomet's 'Downloads' folder. The download should pick up from where you left off in Bitcomet.

Reinstall Nokia 6600

[Q] I use a Nokia 6600 phone. It is about a year old. I have been experiencing some strange problems with it. My call log does not show recently dialed or received numbers. Only when I restart it, does it update the list. This I can live with but there is another problem. I use the Wallet application to store my account information. Unfortunately, I have forgotten the code to access it. Is it possible to get it back or reset it?

– Navrang

CHIP TIP To resolve the problem with the call log updates, you could try reinstalling the phone's operating system. This involves the use of some special keys on the Nokia 6600 and will remove all data from your phone. You should back up all your contacts and data saved on your phone's memory and MMC card. If this also does not work then you will have to take it to an authorized service center or to a reliable service shop. After you have made the backup and charged the phone, type '*'#7370#* – without the quotes – and press the green button. Do not switch the phone off or remove the battery while the reinstallation is in progress.

You can retrieve the Wallet code unless



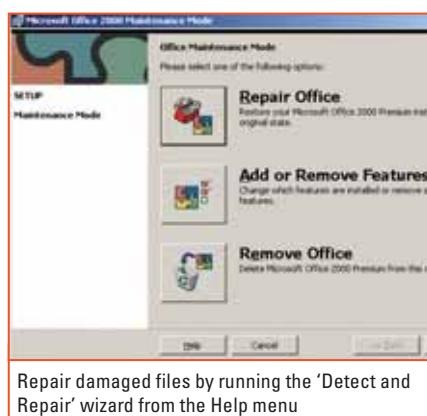
you recall what it was. You can reset it but that will wipe out whatever you have stored in the profile. Enter the following symbols and numbers - *#7370925538#. This will delete the existing profile and create a new one.

Oleaut32.dll error

[Q] Every time I open Outlook 2000 on my Windows XP machine, I get an error in the file 'Oleaut32.dll'. What can I do to get rid of this error? Should I try and replace this file?

– Craig

CHIP TIP You can try to repair the Microsoft Office 2000 installation on your machine. Click on 'Start | Help' and select 'Detect and Repair'. After the 'Detect and Repair' dialog box appears, click on the check box next to 'Restore my shortcuts while repairing'. (For those who are experiencing the same problem with newer versions of Office 2000 – also check the box 'Discard my customized settings and restore default settings').



Click on 'Start' and the repair wizard begins to update and rectify damaged files.

You can also run the repair from the Add\Remove Programs option in the Control Panel. Select 'Office 2000' from the list and click on 'Change'. Then click on 'Repair Office' to begin the wizard.

If this does not solve the problem, run a search for 'Oleaut32.dll' and rename it to 'Oleaut32.old'. Now run the Office setup again to repair the installation. If you want to save some time, you can directly get hold of a fresh copy of the DLL file from Office installation CD and place it in the 'Windows\System' folder. You will

find the 'Oleaut32.dll' file in the '\CD1\System' folder.

Error 25090 in Word

[Q] I have OpenOffice as well as Office 2003 installed on my machine. But I made Office 2003 as my default suite for all my word, spreadsheet, and presentation files. Of late I keep getting the error "Error 25090: Office Setup encountered a problem with the Office source engine....Please open C:\Program Files\Microsoft Office\Office11\1033\Setup\Setup.chm" and look for 'Office Source Engine'....". It also launches the Windows Installer and begins installation some additional components for Office. I cannot work on my documents because of this problem. How can I get Office 2003 to work again?

– Gauri

CHIP TIP This sort of a problem usually occurs if someone has installed the Office suite twice on your computer – probably in different user accounts and set it to be



If Microsoft Office has been installed twice on your computer, you might get this sort of an error

used by all users. It can also be that the setup files were not removed after the installation. Usually the user is asked if



the setup files should be removed after installation – if not then this error might occur. The solution is quite simple – all you need to do is begin the Office installation once again. You will need your Office installation CD for this. As soon as the installation begins, click on 'Cancel'. The dialog box will ask you to confirm your action to exit the Setup. Exit it and the Office installation will close. This small procedure will solve your problem.

MS Paint error

[Q] I use an old computer, which still runs on Windows 98. My kids use MS Paint to scribble and have fun. Now every time they try to make changes or add anything to a picture, an error message is displayed. It says, "Mspaint caused an invalid page fault in module Mspaint.exe at 015f:010259e2." What does this mean? Can I reinstall MS Paint?

– Vishal

CHIP TIP This sort of a problem might occur if there is some sort of corruption in the registry values of a key in the Windows Registry. You will need to edit the Registry Editor in order to get rid of this error. Click on 'Start | Run', type 'regedit' and click on 'OK'. The Registry Editor will open. Then follow the instructions carefully as a mistake might do more damage than good. In the left hand side of the Registry Editor, navigate to the following key,

[HKEY_CURRENT_USER\Software\Microsoft\Windows\Current Version\Applets\Paint]

Right click on it and delete it. Close the



CHIP → KNOW-HOW

Cannot read 4 GB file

[Q] After defragmenting my FAT32 hard drive I am unable to read image files anymore. The image files can be loaded using Daemon Tools or Alcohol, or any other tool for that matter. But on double clicking the file I get a message saying the content is corrupted. These image files are over 4 GB and are saved as '.nrg' files. I really want to load these images and read their content. Can you help me out?

– c0de_r3aPer

CHIP TIP

You have just answered your own question. The image files you have are over 4 GB and your file system is FAT32. The maximum size of a single file

on a FAT32 partition should be less than 4GB. You can check the Wikipedia link too to confirm this. http://en.wikipedia.org/wiki/File_Allocation_Table

So the only way you will be able to read them is by putting them on an NTFS drive. If you have multiple partitions on your hard drive then you can choose one of the partitions to format to NTFS. (You can use the 'convert.exe' command to convert a FAT32 partition to NTFS without the loss of data.) Then copy the image file to that partition. It is not necessary that all your partitions should be formatted to NTFS. Only the partition in which your image file is located should be NTFS.

– vpraveenis

Registry Editor and restart your computer. The key will be rebuilt when you use Paint again.

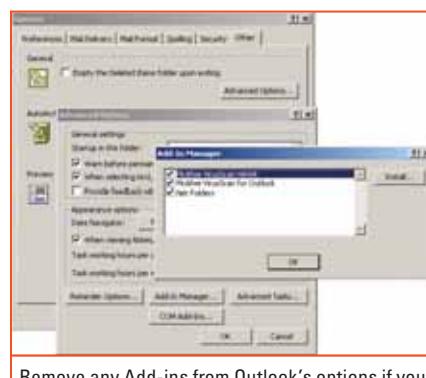
Error in Ntdll.dll

[Q] I use Outlook as my e-mail client. Each time I try sending anyone a mail, it crashes. I tried repairing the installation also but it does not help. The Event Viewer gives a whole lot of numbers and mentions a file called 'Ntdll.dll'. I use Windows XP Professional as my operating system.

– Yogesh

CHIP TIP

You will need to reset the Outlook toolbar template. To be able to do this, close Outlook and open up a search box. First open Windows Explorer to set it to show hidden files. Click on 'Tools| Folder' options, then click on the 'View' tab and on the radio button against 'Show hidden files and folders'. Also uncheck 'Hide extensions...' Next, click on 'Apply' and 'OK'. Now click on 'Start | Search', and then on 'Files and Folders' and enter the file 'outcmd.dat' in the search field. You should find it in 'C:\Documents and Settings\<user>\Application Data\Microsoft\Outlook folder'. Select the file and press [F2], rename the file from 'outcmd.dat' to 'outcmd.old'. Now click on 'Start | Run', type the following and click



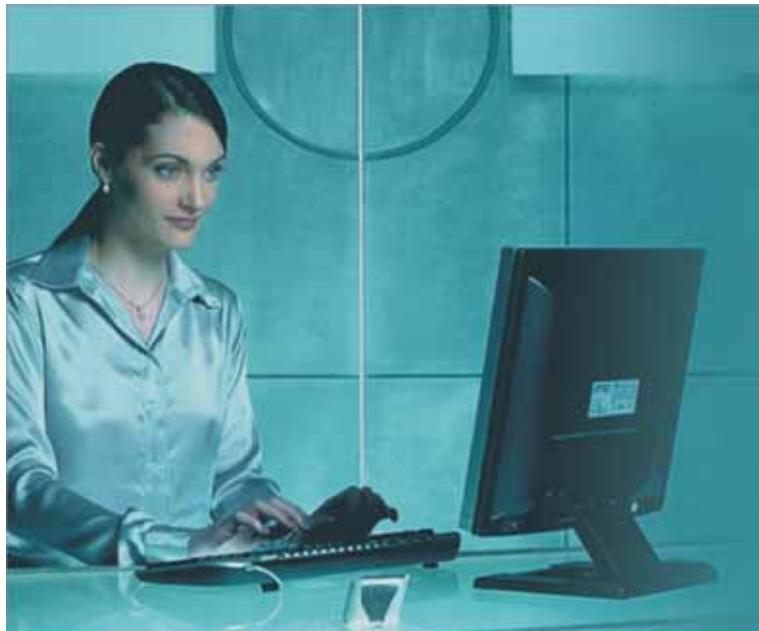
on 'OK' each time to register the files,

`regsvr32 ole32.dll`

`regsvr32 inetcomm.dll`

After each entry, you will get a prompt saying the file has been registered. Now





Now your eyes
can see more.

Your mind
can do more.

TFT Monitor
with



1901 - 48cm (19)



1501 - 38cm (15)

- Power Saving Function
- Auto Adjustment Key Function
- Wide Viewing Angle (H 170° V170°)
- High Color Performance (16.7 M)
- In-built 2 watt x 2 (Stereo) Speaker
- Warranty 3 years

(Wide screen Models also available in: 14"/15"/17")

Also Available



Personal Computer
(Platinum, Gold & Silver Series)



Notebook Challenger 012CD



Demand More

Toll Free No. 1800116789 27 Branches 51 Service Centres

Corp. Off.: Intex Technologies (India) Ltd., D-18/2, Okhla Industrial Area, Phase-II, New Delhi-20. Visit us at www.intextechnologies.com

- Ahmedabad: 9327154503.
- Bangalore: 9342054600.
- Bhubneshwar: 9338154502.
- Chandigarh: 9316036099.
- Chennai: 9444048449.
- Cochin: 9349126429.
- Coimbatore: 9363229874.

- Dehradun: 9358127080.
- Delhi: 9312477215.
- Ghaziabad: 9311354502.
- Gurgaon: 9350690484.
- Guwahati: 9954044533.
- Indore: 9301554502.
- Jaipur: 9312477215/9414408440.

- Jamshedpur: 9334115417.
- Jammu: 9419186002.
- Kolkata: 9339654502.
- Lucknow: 9335914501.
- Ludhiana: 9888082460.
- Mumbai: 9324675601.
- Patna: 9334311385.

- Pune: 9371054502.
- Raipur: 9329121949.
- Secunderabad: 9866394281.
- Surat: 9327154503.
- Siliguri: 9330516902.
- Vishakhapatnam: 9866394283.

open Outlook and click on 'Tools | Options | Other | Advanced Options | Add-In Manager' or on 'COM/Add-Ins'. Disable the Add-Ins that are listed there. Click on 'OK' to confirm and close all the windows. Other programs like a firewall or anti-virus/anti-spyware application might also be hindering the process. You will have to disable each one by one to narrow down to the problem area.

W32.Mixor.I@mm

[Q] I think a virus has infected my computer. This is because my friends have started receiving some strange mails from me. They are usually related to some news update and have an executable file as an attachment. Their names are like 'CNN latest news.exe' or 'news reader.exe'. How do I remove this virus?

— Gaurav

CHIP TIP It seems your machine has been infected by the mass mailing worm called 'W32.Mixor.I@mm'. You will have to download a removal tool from another computer as this infection will not allow you to visit any anti-virus website. You can also try removing the infection manually. First you will have to disable Windows XP's System Restore feature. You can do this by right clicking on 'My Computer', select 'Properties', click on the 'System Restore' tab and check the 'Disable System Restore on all drives' option. Download the latest virus update from the Net from another computer, install it and run a scan on your computer. If you

are connected to a network, remove the network cable prior to running the scan. You will also have to remove certain registry entries. Click on 'Start | Run', type 'regedit' and click on 'OK'. Navigate to the following key in the Registry Editor, [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run] In the right hand pane, locate and delete the value,

"UpdateService = %System%\wservice.exe"

Now navigate to,

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SharedAccess]

Delete the value, 'Start = 4' from the right hand pane. Close the Registry Editor.

Open the Control Panel and then 'Security Center'. Make sure the firewall is on; if not, enable it. If you use another firewall software, enable it. Close Security Center.

Disable Windows Live Messenger

[Q] I have installed Windows Live Messenger on my computer. There is one thing that is annoying me. Everytime I visit Hotmail to check mail or open Internet Explorer, Windows Live Messenger starts. I disabled this messenger from startup but I cannot figure out to stop it from activating itself every time I open IE.

— Roshan

CHIP TIP You can try disabling Windows Live Messenger from opening up every time you start Internet Explorer with the following steps. Open Internet Explorer, click on 'Tools | Manage Add-ons'. In the list of add-ons, look for 'Windows Live Sign-In Helper'. Select it and click on the 'Disable' radio button. Click on 'OK' and restart your computer. This add-on is usually installed because a component called 'Windows Live Sign-In Assistant' is usually installed during the initial setup. Disabling this should solve your problem.

Unread mail notification

[Q] Whenever my computer starts or is at the Welcome screen it displays a weird notification saying I have '8 unread messages'. This is there even if I

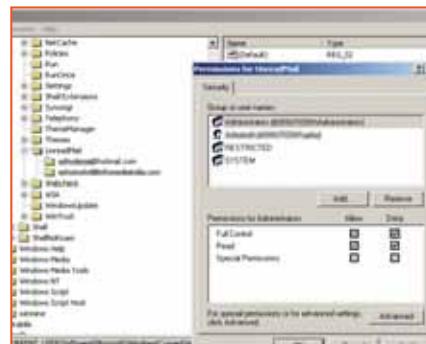
am not connected to the Internet. How do I get rid of this silly feature?

— Rehman

CHIP TIP

You will need to disable this feature from the Registry Editor. This is because there is no option in the User Accounts to disable this. Windows automatically takes the e-mail ids configured in your e-mail clients and tries to update it each time. Here is how you can disable it. Click on 'Start | Run', type 'regedit' and click on 'OK'. Navigate to the following key,

[HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\UnreadMail]

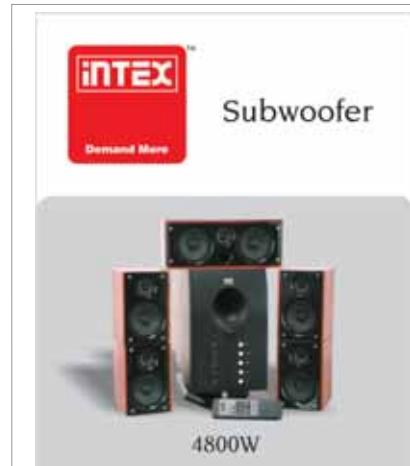


Disable the mail notification at the Welcome screen by editing the permissions in the registry

Right click on 'UnreadMail' and select 'Permissions'. 'Permissions for UnreadMail' will appear. Select 'System' from the usernames listed, check the box against 'Full Control' under the 'Deny' column. Click on 'Apply' and 'OK'. Close the Registry Editor and restart the computer. This will disable the update of the unread messages that is linked to any ids configured in your e-mail clients. ■



Subwoofer



January | 2007

01 MONDAY

JANUARY 2007

S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	8	9	10	11	12	13	
14	15	16	17	18	19	20	21	22	23	24	25	26	27
28	29	30	31										

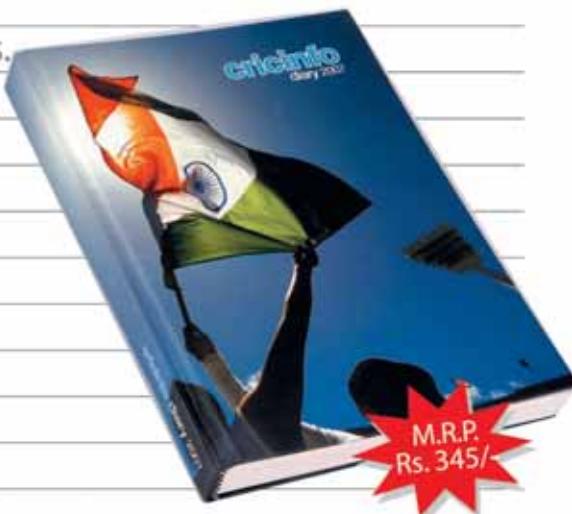
**Touchstone presents Cricinfo Diary 2007, a coffee-table diary
that's also a cricket collectible!**

Voted one of the best diaries of 2006

Day-a-page ready reckoner - 396 pages

CONTENTS

- ❖ A cricket trivia cache & cricket glossary
- ❖ Never-seen-before photographs.
- ❖ Test & ODI matches records
- ❖ 2007 cricket matches schedule
- ❖ ICC world cup 2007 schedule
- ❖ The world's test grounds
- ❖ The fielding positions



Size : 7 x 9.5 inches

This day in cricket

1908 One of the greatest of all Test careers begins. The MCG holds no terrors for Jack Hobbs, who scores 83 in his first Test knock. He went on to become the first batsman to score 5000 Test runs, and his other feats would take forever to list. Try virtually any page in the first-class batting section of the *Wisden Almanack*.

- **Born this day**
- **in 1980**
- **Mushfiqur Rahman (Bangladesh)**
- **Batting style** Right-hand bat
- **Bowling style** Right-arm fast-medium
-

Available at select outlets or please call

Ahmedabad - Hemang (9824133770), Bangalore - Gurudutt (9448018910), Chennai - John (9884291291), Delhi - Subhankar (9811471182), Kolkatta - Debnarayan (9331090077), Hyderabad - Vasudevan (9866022422), Mumbai - Snehal (24232658/60/61), Pune - Shyam(9225526292)

• Visit: <http://eshop.infomediaindia.com> • Email: touchstone@infomediaindia.com

Thumb drive lockdown

USB pen drives have successfully slayed the floppy disk with their unmatched convenience and increasing storage capacity. But are your files safe? They aren't if you don't take adequate precautions. Here's how... BY MARCO D'SOUZA



Pramod Jadhav

Coming in at a little under 1,500 bucks for a 1 gigabyte stick no larger than your pinky finger, USB drives are fast becoming a must-have on everyone's personal technology list. From carrying around fun videos to favorite MP3s to photos, many of us also use them to store personal information like CVs, contact details and the like. Being so convenient, it takes nothing to drag and drop any file to these hot-pluggable devices. But then, we seldom overlook the quantity of sensitive information that is out there for the picking—an inherent disadvantage of being so small is the fact that it can be easily lifted from right beneath your eyes! Short of wearing the USB drive around your neck or tying it to yourself, there's little that can be done to prevent physical theft. And very often, the content of your drive is often more precious than the drive itself. In this case, the best option is to go ahead and encrypt the contents of your drive.

By using one of several powerful (yet free) applications available on the Internet, you can convert all of your precious data

into what appears to be indecipherable junk to anyone who isn't authorized to view it. Everything from text documents, multimedia files, contact information and even passwords to online and banking resources can comfortably be stored as encrypted files, safe from even the most persistent of thieves and hackers.

For this workshop, we used TrueCrypt—a small, free (yet immensely powerful) utility that enables you to encrypt data on virtually any storage device, including your USB drive. Best of all, it is convenient and fast to use, making it suited to even daily application without the need to access confusing settings. It works on the principle of creating 'containers' that hold all of your sensitive information within a single encrypted file. This file can be created or copied onto any device and can only be opened using the TrueCrypt application along with the unique password you've set. Using industrial-strength algorithms, there is virtually no way the contents can be viewed even with a hacker forcibly dissecting the file.

Safe, yet portable

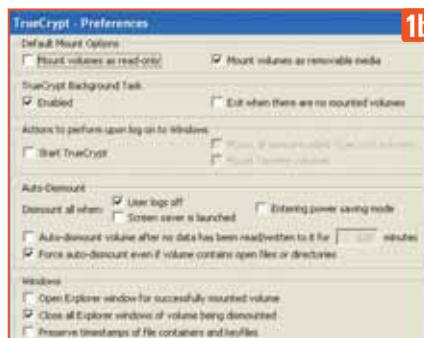
With thumb drives increasingly being used to carry sensitive information between computers, it becomes important to secure it to prevent unauthorized viewing. The levels of security implemented vary in terms of the technologies used to lock the data contained in it. Some manufacturers use a simple hardware switch that works in a similar way to the switch found on 3.5-inch floppy disks—it simply disables writing to the drive. There are more advanced methods like incorporating fingerprint recognition sensors on the thumb drive, which only allow authorized users to access its data (for example,

the Sandisk Cruzer Profile). The much-hyped U3 initiative allows USB stick owners to carry portable versions of their favorite applications, so they can be run off the drive itself—handy if you're not sure if the destination computer has the applications to view your files. To keep your data safe, this standard also password-protects personal data. There are hundreds of U3-compatible applications for download, out of which some are commercial while others are freely downloadable. Also, this standard does not leave behind any traces on the computer you use the drive on—ideal for use on computers in cybercafes.

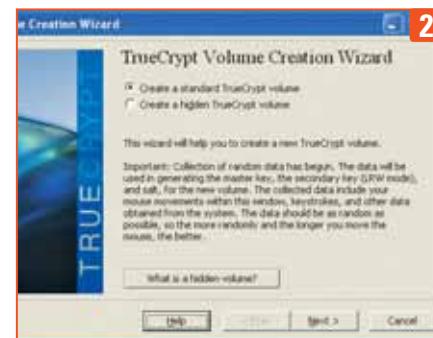
How to encrypt data on a storage device



1a



1b



2

INSTALL & SET PREFERENCES ▶ After installing the application, you will see the main screen which represents drive letters that you can choose to assign to the encrypted volumes you create. To view the encrypted files, mount them using this window. The lower half of the interface lets you create, mount and dismount these volumes. Set a few default Preferences by clicking on ‘Settings | Preferences’. Next, create the container (volume) into which you can dump your sensitive files to be encrypted.

CREATE THE VOLUME ▶ Click on the ‘Create Volume’ button. You will now see a step-by-step interface that leads you through creating the container. In the first screen, select ‘Create a standard TrueCrypt volume’ and click on ‘Next’.



3

SELECT LOCATION ▶ Select to encrypt either an entire device (USB drive) or a single file where you will drop your files. Choose ‘Select File’ to create a single encrypted file and select the location where you want this file to be created.



4

CHOOSE ENCRYPTION METHOD ▶ Based on what you select, you can balance between the strength of the volume’s encryption and the speed of data transfer in the volume. We suggest selecting AES encryption. Click on ‘Next’.



5

VOLUME SIZE ▶ Now set the size of your encryption volume. This will depend on the amount of free space on the drive you are creating the file on. Click on ‘Next’ after entering the volume size in KB or MB.



6

ENTER PASSWORD ▶ Enter a password and click ‘Next’. The program grabs random data from your mouse movement to generate the encryption keys. Next, click ‘Format’. You can now click ‘Exit’ or create more volumes.



7a



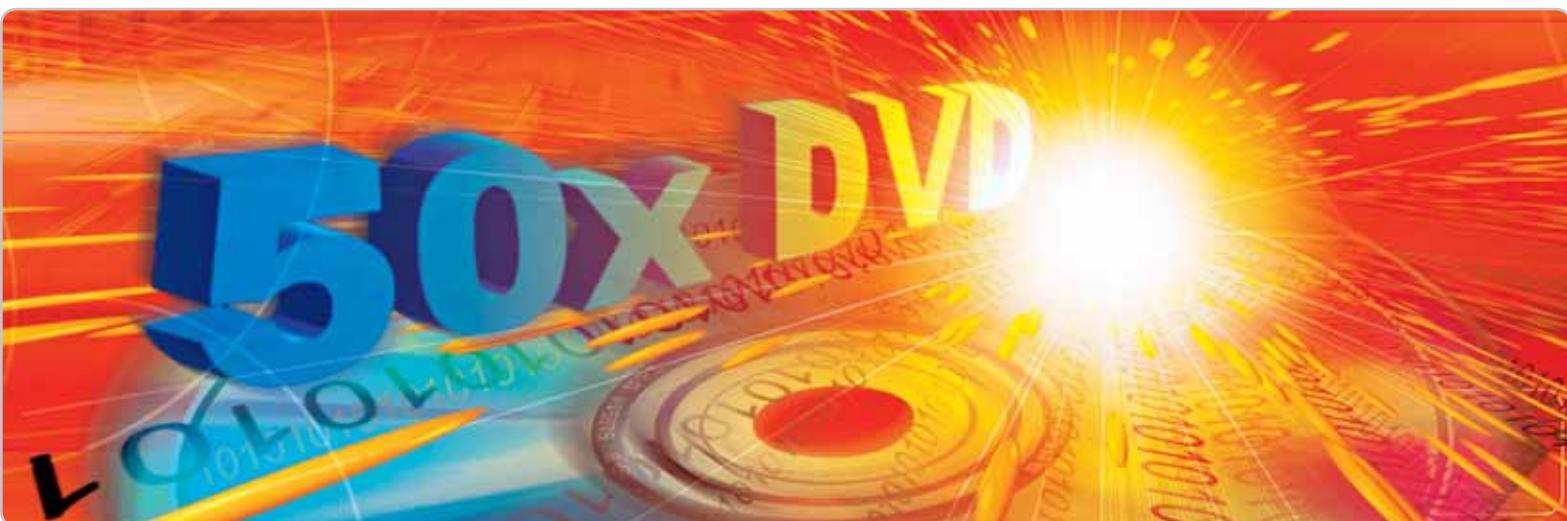
7b

MOUNT IT AND COPY FILES ▶ Mount the volume you created. From the main TrueCrypt interface, click ‘Select File...’ and load the encrypted file on the USB drive. Now click on a drive letter in the main window so that it is selected. Then click the ‘Mount’ button below. Enter the password here. The program will then mount the encrypted file and assign it to a letter, making it a standard Windows drive. Note: Be warned—if you forget your password, your data is lost forever!

Ultra Fast DVD-ROM

Using a virtual DVD drive, data transfer speeds can be increased by 200 percent

BY SHARON LOBO



Optical storage devices have revolutionized the way we transfer, share and store data. These devices are known for their reliability and storage capacity. But due to mechanical limitations, they lose out on transfer speeds. But as it is said, every dark cloud has a silver lining—so by creating a virtual optical drive on your hard disk—you can have an optical drive capable of providing blazingly fast transfer speeds!

As DVDs are fast replacing CDs and becoming the next de facto standard in optical storage, we will focus on DVDs here. The speed of the fastest available DVD-ROM drives is 16x, read speeds are up to 22 MB/s. But then again this is the ideal speed; the actual figure could be 13 MB/s. PC components are undergoing a

transformation at a fast pace—multi core processors, SATA 3.0 Gb/s capable hard disks and SLI enabled graphics cards, for example. The only component that has not seen any change is the optical drive. This is because the disc spin speed cannot be increased tremendously or else the media may end up being damaged. But don't be disheartened because even if there is no practical solution, you have the alternative of creating a virtual DVD-ROM drive.

Data transfer speeds in hard disks have reached 300 MB/s though practically you get about 70 MB/s (50x speed) which is still faster compared to that of a DVD-ROM drive. There are two aspects in the utilization of a DVD-ROM drive. The first being the creation of an ISO file of the DVD and the other is the mounting of the

ISO file. We will show you how you can do this step by step, using two freeware. But before that let us check out the various benefits you can reap out of a virtual DVD-ROM drive.

Need for going virtual

The primary need for a virtual optical drive is speed. But apart from that there are other advantages linked to it. For instance, if you are required to work with a fairly large number of DVDs simultaneously, it becomes tedious to keep the DVDs stacked together and also insert the media in the DVD drive frequently when required. And to add to your woes, due to the low read speeds of your drive, you end up complaining more than actually doing the job. So if you create ISO files of all the DVDs, you can mount all of them simultaneously on all the virtual DVD drives you create (it is possible to create as many virtual DVD drives you want), thereby increasing your work efficiency.

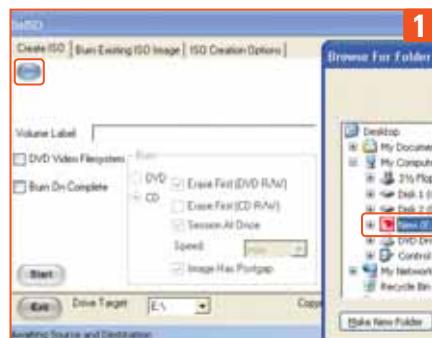
Working with ISO files help you in preserving your precious DVDs as once the ISO file is created you would not require the DVD again (unless of course you plan to format your hard disk containing the ISO files). Also, the life of your DVD drive is increased as it would be



Mission Impossible: Reading multiple DVD's simultaneously on a single physical DVD-ROM drive is absolutely impossible, but for a virtual DVD-ROM drive this task is a cakewalk.

used less often and this indirectly leads to low power consumption, hence you save on your power bills!

Watching high quality DVD movies from an ISO file is fun as you will not encounter any glitches while the movie is being played due to high transfer speeds. Also, while playing PC games, the need for you to manually insert the DVD is eliminated as with a click of a button, the ISO file is used, hence simplifying the task to a great extent. ISO files are tamper proof unlike in the case of DVD disks as they are on your hard disk. You are understood to create and use ISO files, provided you hold the copyright to the contents or have purchased the original DVD and use it only for your personal use.

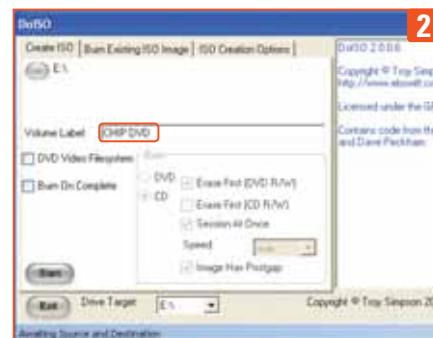


STEP 1: To create an ISO file, open the DoISO application after inserting the DVD. Under the create ISO tab, click on the button just below it and select the contents of the DVD. It is advisable to select the entire DVD so that the ISO file is an exact replica of the DVD.

Creating an ISO file

The first procedure in using a virtual DVD-ROM drive is the creation of an ISO file. To do this, using the correct application is important. Some of these applications are Alcohol 120%, Clone DVD, DiscJuggler and so on. But for our purpose, as used only a freeware application that solely creates ISO files and another that mounts them.

In order to create an ISO file, we used DoISO (download it for free from www.opensource.ebswift.com/DoISO). Installing DoISO is an extremely simple task and creating an ISO file using it is a cakewalk as mentioned in the steps below. DoISO has also an in-built CD/DVD burning utility.

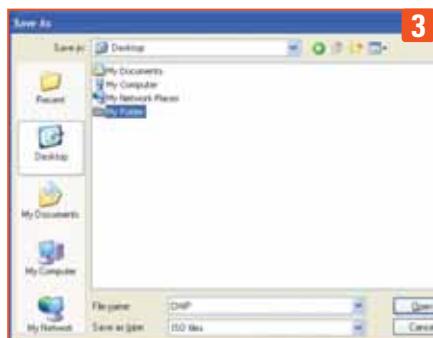


STEP 2: Once you select the files, check the option 'DVD Video Filesystem' if the ISO file being created is of a video DVD or else keep it unchecked with 'Burn on' option. The latter option is used if the ISO needs to be burned on to a DVD. Also specify a Volume Label for the ISO file.

Mounting an ISO file

Now we move to the process of mounting the ISO file. There is no one application better than Daemon Tools for mounting ISO files (you can download for free from www.daemon-tools.cc). This application creates a virtual DVD drive on your PC (maximum of four drives) and mounts the ISO file enabling you to use it as a normal DVD drive with high transfer speeds.

Daemon Tools has a special feature—in case the DVD whose ISO file you created has some protection system embedded into it, and an application accessing the ISO file searches for it, then Daemon Tools can emulate the protection system incorporated into the orginal DVD, enabling the application to run absolutely fine.



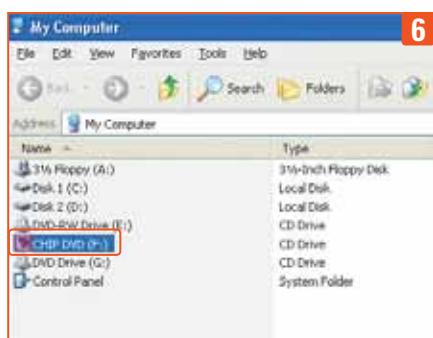
STEP 3: Next click on the start button and immediately a window will appear, wherein you select the destination folder for the created ISO file to be saved. In there give a name for the ISO file and click on 'Save'. Do not click on the other tabs as the default options need not be changed.



STEP 4: The moment you click on 'Save', the process of creating the ISO file takes place. Also, a window appears displaying the status of the image creation and the time remaining for the process to be completed. It gives detailed information of the entire process.



STEP 5: Once the ISO file is created, it needs to be mounted in order for it to be used as a DVD-ROM drive. For this you need to right click on the Daemon Tools icon in the system tray and click on Virtual CD/DVD-ROM > Device 0: > Mount image and select the ISO image.



STEP 6: The DVD gets mounted onto a virtual DVD drive created by Daemon Tools. With the mounting of the ISO, you are ready to use your super-fast 50x DVD-ROM drive. In case you want to unmount the ISO file, just right click the DVD-ROM drive entry and then click 'Eject'. ■



Pramod Jadhav

Webcomics on a PSP

A daily dose of comics on the go is possible if you import online comic strips onto your PSP. You can do it using free downloadable applications **BY RAUNAK ROY**

Comic books are fast moving from their printed form to the Web. Also called webcomics, some of these are exclusively published online while others are available both in the printed format and on the Web. Online comics have come a long way since Shatter—the first digital comic in 1985. Gradually, comics started incorporating animation such as King BlastitALL (www.comicimation.com); some others used hyperlinks to guide newcomers to previous strips such as Framed! (www.damonk.com).

If you are an online comic fan there is no reason why you should not read comics on your ride home from work; it should be available to you on the move as well. In this workshop, we tell you how to import online comics onto a PSP especially because the PSP has become a popular portable device not only for gaming but also for music, images and video. Before we begin we need three kinds of software:

1. HTTrack from www.httrack.com: HTTrack is a free and easy-to-use offline browser utility. You can copy the contents of entire web sites from the Internet to a local directory for offline

viewing. Open a page of the mirrored web site in your browser and browse the site link by link. HTTrack can also update existing mirrored sites and resume interrupted site downloads. The program is fully configurable and can copy MP3 and ZIP files also.

2. FastStone Image Viewer from www.faststone.org:

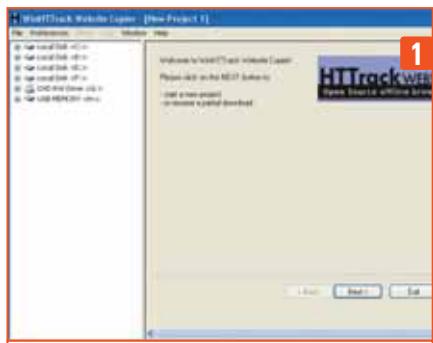
FastStone Image Viewer is a Windows-based image viewer similar to ACDSee. It has all the features you need and the best thing is that it is free. We have used FastStone Image Viewer to batch modify the images to JPEG format.

3. PSP sync applications like iPSP from

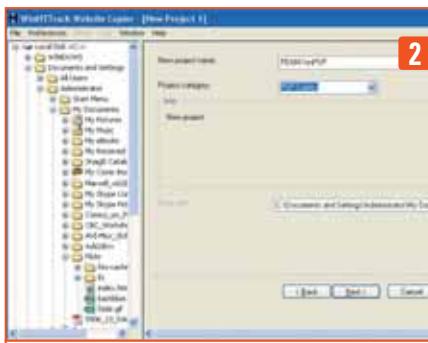
<http://ipsp.kaisakura.com> or PSPWare from www.nullriver.com/pspware. We liked the PSPWare as it can also encode ripped DVDs to the PSP MP4 format. While the first two are free applications, the latter needs to be bought. But you can do without them also.

Since most online comics are basically image files, we first copied them in bulk from the parent web sites and converted them to a PSP compatible format, and then imported them.

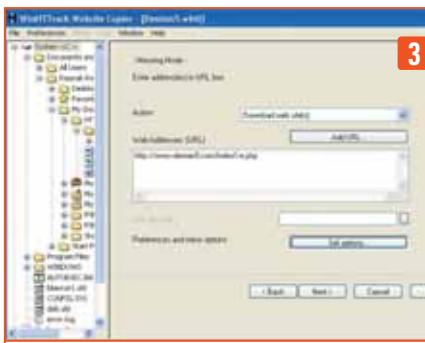
How to import online comics onto the PSP



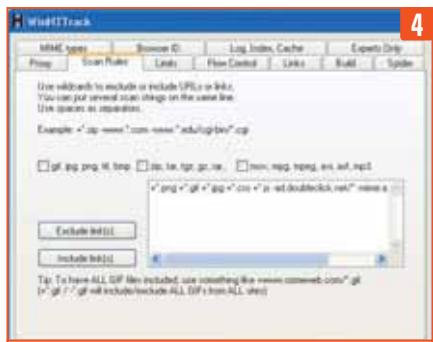
As you can see, the HTTrack interface comprises two panels. The left panel displays the drives on your system. The right panel is the wizard that will copy the required content from web sites. Now just click on 'Next'.



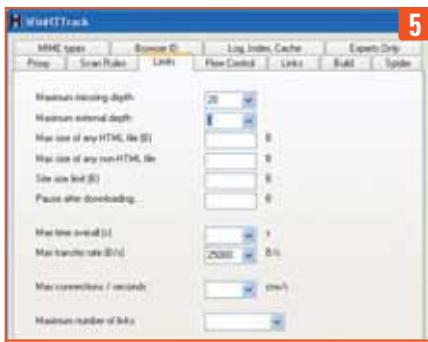
First, give your project a name like *PENNYonPSP* for Penny Arcade and a project category like 'PSP Comics'. Select the 'Base Path' as the location on your system where you want HTTrack to copy the images.



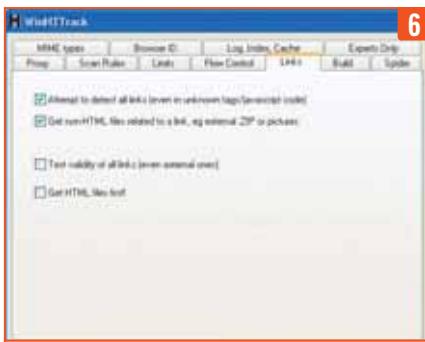
Next, select 'Download Web site(s)' as the action and provide the URL that you wish to copy from. Browse the web site and get the most obvious link. For example: <http://www.pvponline.com/archive.php?year=2005>.



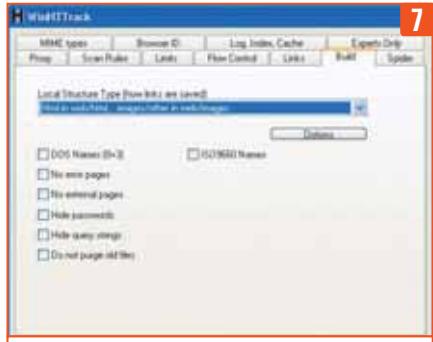
After you are through with browsing, click on 'Set Options' in the previous screen. In the 'Scan Rules' tab, tick on the first check box to scan every possible type of image file such as gif, jpg, png, tif and bmp.



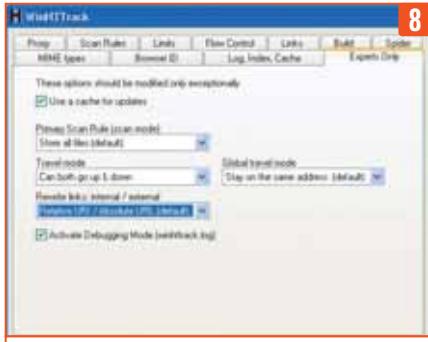
In the 'Limits' tab, set 'Maximum Mirroring Depth' to 20 and 'Maximum External Depth' to 3. Also specify the 'Max Transfer Rate' as your connection speed and 'Max Connections/Second' as 10.



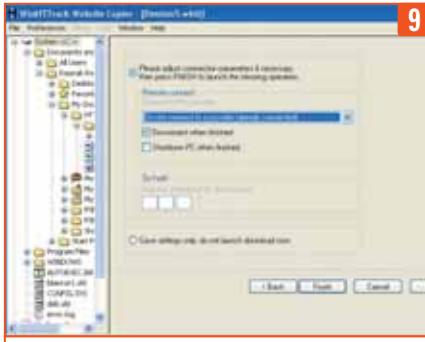
In the 'Links' tab, tick on the second option saying 'Get non-HTML files related to a link'. This will make sure all images are copied no matter where they are stored within the web site structure.



Next, click on the 'Build' tab and specify the Local Structure Type as 'Html in web/html, Images/Other in web/images'. All images will be stored in one folder thus making the process of locating them easier.

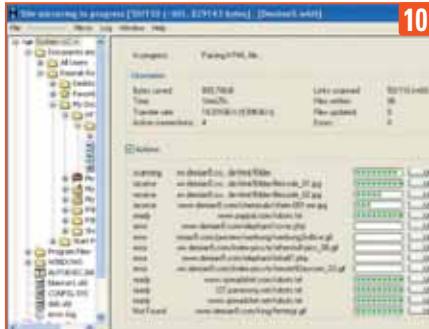


Next, go to the 'Experts Only' tab. Make sure the Primary Scan Rule is 'Store all files', the Travel mode is 'Can both go up & down' and the Global travel mode is 'Stay on the same address'.



Select 'Do not connect to provider (already connected)' if you've an always-on connection. HTTrack can also invoke your connection by starting your connection wizard. Click on 'Finish' and HTTrack will start copying.





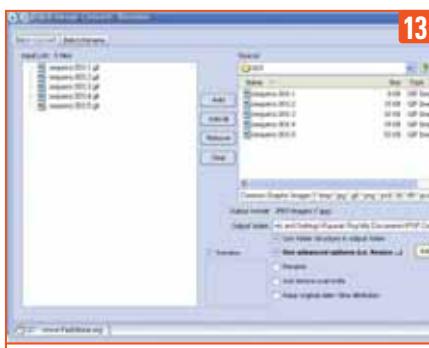
HTTrack downloads each artifact from the URL specified. Since we only need the images, skip large or unwanted files on this screen. This will help speed up the process or else you will waste time over the entire download.



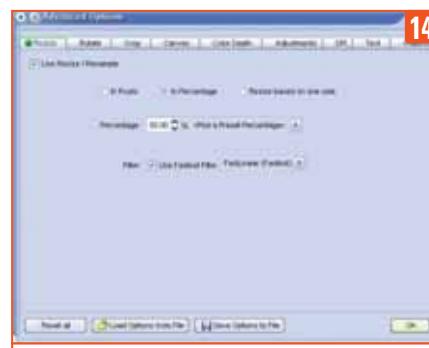
When finished, locate the archived comics images on your disk. Conduct an image file search in the primary HTTrack folder if you do not find them. Collect all required images in one folder.



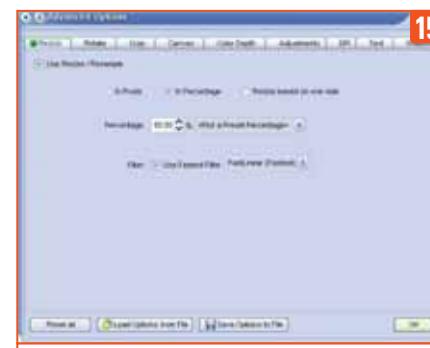
The PSP accepts image files in JPEG format only. But you will find images in all other formats like GIF, PNG, BMP, etc. We used 'FastStone Image Viewer' (FIV) to convert all such files to the JPEG format.



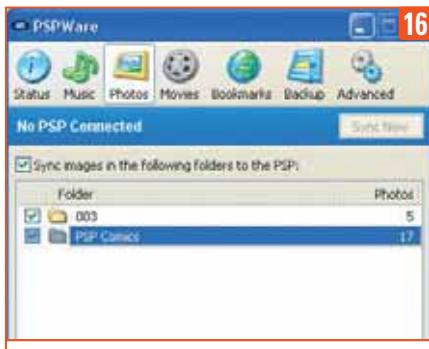
Select all the images in the folder and press 'F3' to start the Batch Image Convert/ Rename wizard. Select the output format as 'JPEG Images' (*.jpg). Specify the output folder to store the converted images.



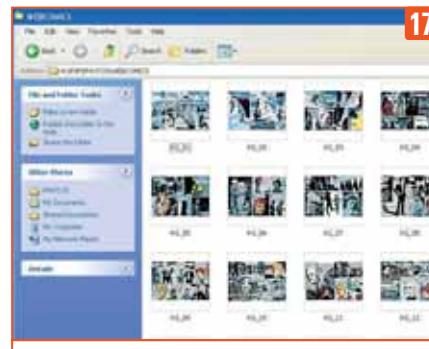
Check 'Use advanced options' and click on 'Advanced Options' in the previous screen. This will bring up the 'Resize tab' that allows you to resize the image. Use the percentage option to bring it down by 50 percent.



Go back to the previous screen and click on 'Start'. This will begin the conversion process. Depending on the number of images you have and your system's capability, this will take some amount of time.



The images are now ready to be imported onto your PSP. Use your favorite PSP file manager like iPSp or PSPWare for the job. Click on 'Photos', add the folder with your images and click on 'Sync Now'.



In case you do not have the sync software, just manually copy the images to the '/PSP/PHOTOS/WEBCOMICS/' folder on your memory stick. Sync applications are for the nerds anyway.



Now select 'Photo | Memory Stick' on your PSP, browse to the folder of your favorite comic and start reading. In the PSP image viewer make sure you are set at 100 percent and use the analog stick to pan around the image.

New & Refreshing Diaries and Calendars

from

Touchstone®



Complete range available at www.eshop.infomediaindia.com

Special Edition
Cricinfo Diary
2007

INFOMEDIA INDIA LIMITED

CORPORATE OFFICE - MUMBAI : 'A' wing, Ruby House, 4th floor, J.K. Sawant Marg, Dadar (W), MUMBAI-28.
Tel: 91-22-2423 2658 / 660 / 661 Fax: 91-22-2421 0152 / 91-22-2430 2707 • e-mail: touchstone@infomediaindia.com

• Visit us at : www.infomediaindia.com

BRANCH OFFICES

- AHMEDABAD: • Tel : (079) 2754 4242 / 43 / 44 / 45 / 46
- BANGALORE: • Tel : (080) 5597 282 / 83 / 84
- CHENNAI: • Tel : (044) 2829 5050 / 51 / 52 / 53
- DELHI: • Tel : (011) 5530 3278 / 79 / 80 / 81 / 82
- HYDERABAD: • Tel : (040) 2339 7164 / 66 / 67
- KOLKATA: • Tel : (033) 2246 2965 / 66 / 67
- PUNE: • Tel : (020) 2582 0446 / 6603 1234

- Fax : 27541427 • E-mail: ahmedabad@infomediaindia.com
- Fax : 25597285 • E-mail: bangalore@infomediaindia.com
- Fax : 28295060 • E-mail: chennai@infomediaindia.com
- Fax : 23327884 • E-mail: tsbs.delhi@infomediaindia.com
- Fax : 23393488 • E-mail: tsbs.hyderabad@infomediaindia.com
- Fax : 22462964 • E-mail: kolkata@infomediaindia.com
- Fax : 66010486 • E-mail: ps.pune@infomediaindia.com



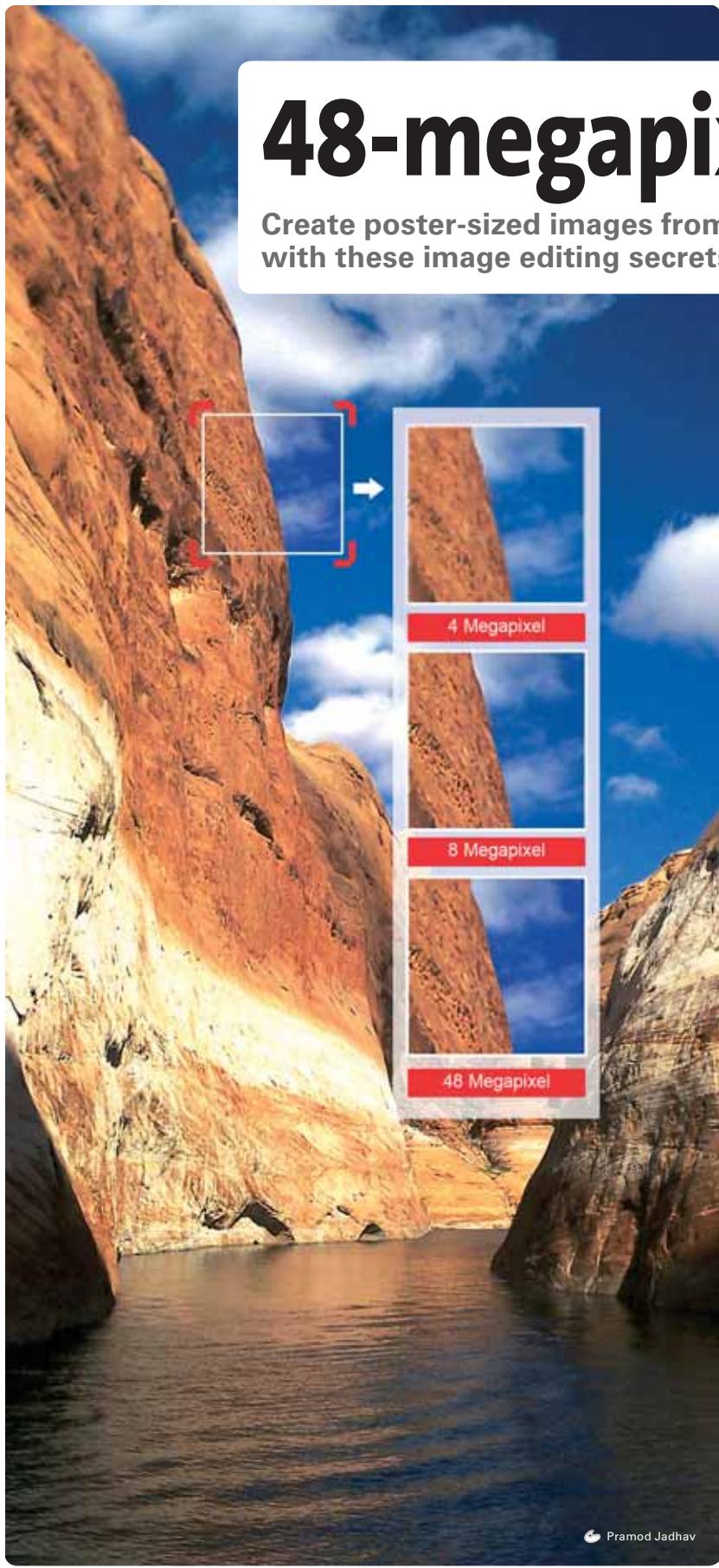
DIARIES

CALENDARS

ORGANISERS

TELEPHONE/
ADDRESS BOOK

LEATHER
PRODUCTS



48-megapixel photos

Create poster-sized images from your very own digital camera with these image editing secrets **BY MARCO D'SOUZA**

The subject is perfect—orange-red hues cast upon a sheer rock face in the glow of the setting sun, teamed up with a gorgeous azure sky in the background. Long shadows streak the landscape, forming awe-inspiring patterns across its chiseled features. With a natural phenomenon like the Grand Canyon, it is often challenging for even the most seasoned photographers to capture its magnificence. While this panorama would look stunning on a large poster, most photo enthusiasts would never be able to do justice to this panorama with their humble digital cameras. Limited by resolution and optics, the size of the final image would be restricted by the capabilities of your camera—for example, a typical 3-megapixel camera would not be able to deliver a quality print over 20 x 30 centimeters. This would make it way too small to reveal the details and the expanse of such a scene. And if you stretch the picture to print larger, it would result in blurring. But fear not—there are ways round this, where you can do justice to that picturesque scene!

The techniques

There are two methods with which you can increase the net number of pixels captured by your digital camera. Note that we are not referring to interpolation (a feature present in some digital cameras that enable them to stretch the image to a larger size, sacrificing detail and quality).

The tips described here are often used in professional environments for developing high-resolution images using specialized equipment like drum scanners. In these high-end scenarios, the drum scanners scan images at a very high resolution resulting in image sizes of 24 megapixels or more. This is often done by combining individual photographs of the same subject taken in rapid succession. After aligning the images to a precise degree, special software is then used to combine the details

from each of the images into a single, composite, high-resolution image. Since this process is achieved using specialized equipment, it is known as hardware interpolation. Obviously, such devices are very expensive, putting them well beyond the reach of most amateur photographers and enthusiasts. Additionally, there are other issues that crop up while taking high-resolution images—primary among them being inflated file sizes.

For instance, 1,000 photos taken with a 3-megapixel fit in high quality JPEG mode would fit on a 1 GB memory card. With an 8-megapixel camera, the same memory card would be full after just 250 images. Next, in the image editing stage, even the most powerful of desktop computers can be brought to their knees when working on large image files. This happens because image editing software work on uncompressed images—the RAM and hard disk space used when editing images is far greater than the file size itself. For example, with a color image having 8-bits for each of three primary colors (Red, Green and Blue), a 3-megapixel photo will occupy around 9 MB of RAM while a 24-megapixel image would eat up a whopping 72 MB! And this only increases as you spend more time editing an image.

Shooting great panoramas

Even with larger prints, what counts are the details in the final output. They can be effectively captured only if a few prerequisites are fulfilled.

Our photo tips are based on the assumption that you have a good tripod with three stable legs. Method 1, as described here, absolutely cannot be achieved without a stable support. In the absence of a tripod, it is a good idea to prop your camera on a stable, horizontal surface (like a table or a shelf), but this method obviously cannot be used everywhere.

WATER LEVEL: This is a simple, yet effective tool to help maintain a horizontal line of travel which is so critical to shooting panoramas. Make sure the horizon in your image is perfectly horizontal and not dynamically slanting as you move across the scenery because

This slows things down enormously. A good way to keep things in check is to take high-resolution images only if you require large prints and not if you are going to upload them to a web site.

Below are two methods to supercharge your photograph's resolutions:

Method 1: Hardware interpolation

This technique is ideal if you require poster-sized prints. First, you need a standard digital camera (either compact or SLR), mounted on a stable tripod. The trick is to take exactly identical shots of a subject—similar in all respects. Therefore, you will have to ensure that the camera does not shake while shooting the subject, the exposure settings and white balance need to be exactly the same, and the lighting conditions have to be kept constant for each shot.

Since all the photos need to be matched within even a few pixels, it would not work with fast moving subjects. This technique is ideal for still life, architecture and landscape photography.

Method 2: Image stitching

Here, you can 'stitch' individual images of parts of a subject to create a larger image. This feature is also seen in some

cameras in the form of the 'Panorama' mode. After taking staggered images of a subject, a special software is used to join each image at the edges resulting in a much larger image. For example, eight photographs taken with a 6-megapixel camera would result in an image almost 48 megapixels in size. We say almost because some pixels are lost in the overlap between successive images.

The principle behind this technique is to take several shots of parts of the subject such that you shoot them in slightly overlapping quadrants. Each part needs to overlap with the adjacent one to help the software detect edges and merge them into one big image. This will become clearer later on in the steps. It helps to use a tripod while shooting each part of the subject as it would aid in aligning the photographs—this helps in creating a good quality output. The software used for stitching is 'AutoStitch'. Created by three students from the University of Cambridge, it is based on advanced AI and image processing techniques and is virtually effortless to use. Plus, it's free! You will find it on our cover disk this month. Other utilities like Photomerge (part of Adobe Photoshop CS) help accomplish a similar result.

this makes it difficult for the stitching software later on. Some tripods feature an integrated water level, but you can also retrofit a commercially available water level to your existing tripod.

USE MANUAL MODE: To maintain optimum color and balance settings between your panorama images, do not use the



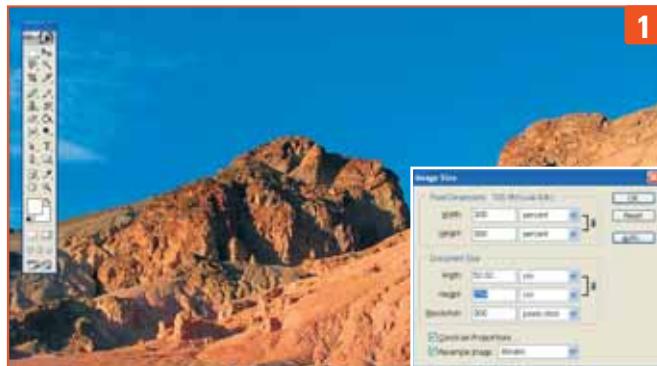
Use a spirit level to ensure that your camera panning is perfectly horizontal

Auto mode in your digital camera. This is because Auto mode causes the camera to re-calculate the color and brightness values of each image taken. This could result in perceptible differences in color and brightness between photos. To solve this, use the Manual mode and explicitly set parameters like the aperture, shutter speed, ISO, etc. Then use the same setting for all images. Tip: Check these values as selected by the camera in the Auto mode and then use them in the Manual mode.

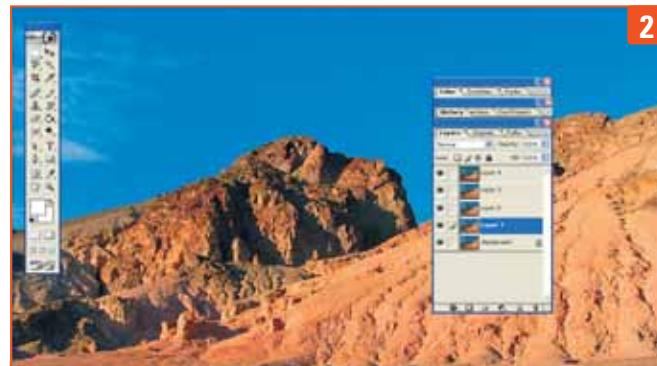
USE TELEPHOTO: If possible, use an optical zoom of at least 50 mm or more. Even though a wide angle setting would cover a greater part of the image, it inherently causes distortion in the edges of your photos—this can adversely affect the stitching process later. These distortions are difficult to correct in the final output.

Method 1: More pixels, step by step

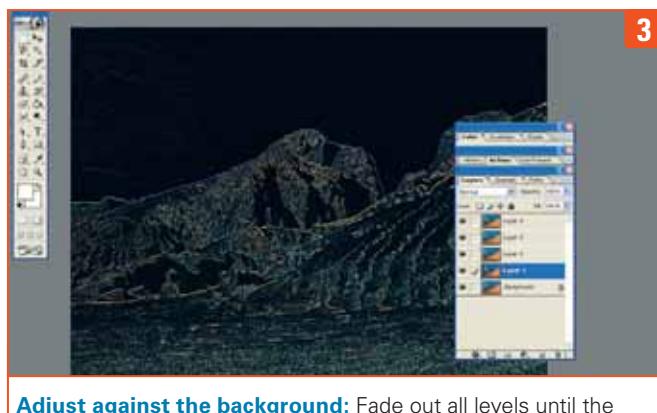
Stack three or four almost identical, high-scaled photos from a picture series and combine these in Photoshop to make one large-format photo. The reward for these efforts—more details.



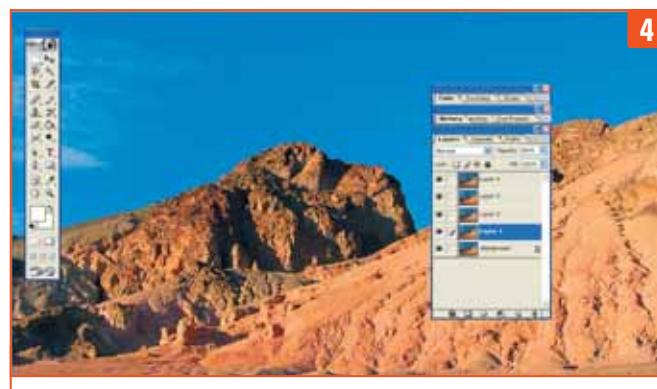
Set picture size: Open the pictures and scale them to a larger size using the 'Bicubic' method. Next, you will need to slightly increase the sharpness using the 'Unsharp Mask' filter. Set the radius at 0.3 and the intensity to 100%. Now on to the corrections...



Copy levels: Stack all photos one above the other. Choose one photo as the target image. Click 'Select | Select all', 'Edit | Copy', change to the target picture and select 'Edit | Insert'. Photoshop automatically creates a new level for each copied picture. Copy and paste each of the separate images onto the target image.



Adjust against the background: Fade out all levels until the lowest two. For 'Level 1' set it to the 'Difference' mode. Move the picture with the arrow key, while aligning the pixels to reduce the difference between images. Set the mode back to 'Normal'. Adjust the remaining levels against the background image.



Adjust level opacity: Fade in all levels and set the opacity such that it corresponds to the level's corresponding position in the stack: For level 1, set this to 50% ($100/2$), for level 2, 33% ($100/3$), for level 3 it should be 25% ($100/4$) etc. This enables all levels to contribute the same amount to the original image.



Combining the photos: The final photo now contains all the details of each individual picture. Compare this to any one of the original images and you will now find a better texture, sharper edges and considerably less noise. Click on 'Level | Flatten image' and slightly increase the sharpness again if required.



Adjusting color, brightness and sharpness: First, increase the image size to a large extent. Then work on the color, brightness, levels and filters. After you are through, reduce the image to its original size and slightly increase the sharpness. This minimizes the detrimental effects of your image editing.

Method 2: Creating panoramas

A panorama-creation application such as AutoStitch can join sections of an image like a jigsaw puzzle, resulting in a much larger composite photograph—fit for poster-sized printouts!



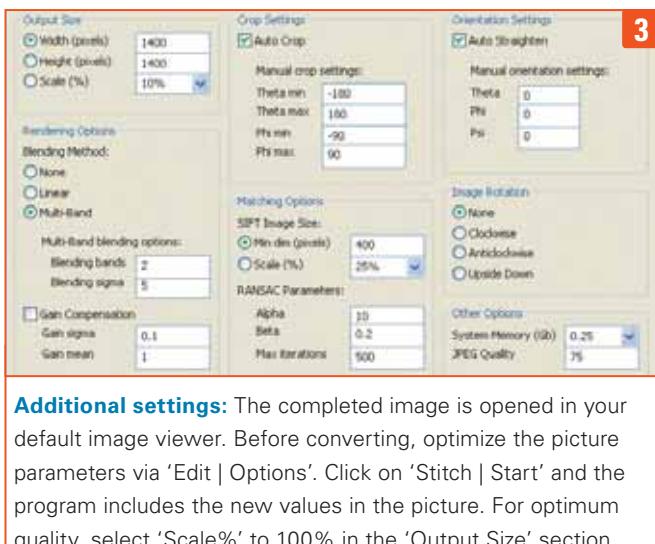
1



2

Shooting the photos: Take several individual shots of the same subject, making sure they overlap liberally. After running them through AutoStitch, the individual photos are converted into the panorama picture (shown below). AutoStitch can only edit JPEG photos—so convert your TIFF/RAW images to JPEG first.

Load the image files: Load the relevant parts of the picture by clicking on 'File | Open' in AutoStitch. You can select several files in the dialog using the [Shift] or [Ctrl] key. Here, the sequence of how you select the images does not matter. Click on 'Open' and AutoStitch starts the process of joining the photos.



3

Additional settings: The completed image is opened in your default image viewer. Before converting, optimize the picture parameters via 'Edit | Options'. Click on 'Stitch | Start' and the program includes the new values in the picture. For optimum quality, select 'Scale%' to 100% in the 'Output Size' section.



4

Adjust more details in picture editing: Crop the image to size as AutoStitch leaves it with frayed edges. Correct the tonal values, colors, brightness, contrast and sharpness. Iron out any crease in the image with the copy stamp in the image editor. Check the properties of the image and verify how large it is. ■

💡

Support your photography

A tripod is often overlooked during course of buying a camera. While it isn't absolutely essential to your photography, it certainly does help in elevating your photos to a higher level. Especially in situations where with insufficient lighting or in the case of panoramas as described earlier in this article, using a tripod makes the critical difference between a botched photo and a great one.

The good news is that there are several options available if you are in the market for a tripod. Depending upon your particular application and budget, you can opt for ones of varying heights, weights, axes of movement for the panning head and even those with integrated spirit levels.

For example, if you are an avid outdoor photographer, it makes sense to go in for a light, yet sturdy tripod that can be folded to a small, portable size. By using a tripod in landscape photography, for example, you can ensure that the framing of the subject is perfectly horizontal between successive frames. This results in a significantly more accurate result after using a photo-stitch software.

A decent tripod like this Velbon CX-300 is available for not more than Rs 2,000

Your own Photo Mosaic

Here's another unique way to present your favorite digital photos. All it takes is a collection of photos and lots of patience. If you like the result, print it and frame it on the wall. **BY BRIAN PEREIRA**

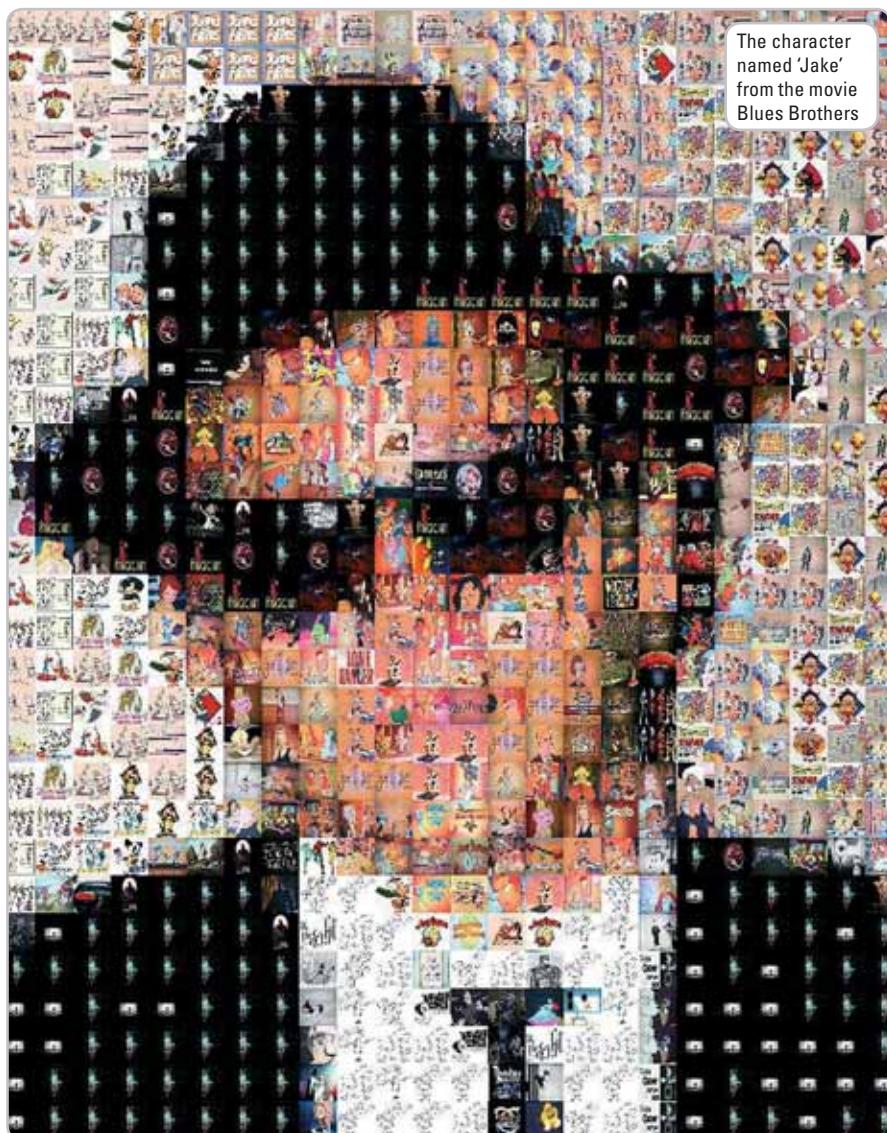
Photo mosaic isn't a new concept. Somebody once made a photo mosaic of Bill Gates using all the logos of companies that Microsoft sued over the years! There was one of US vice president Dick Cheney too. Even Mona Lisa got her self-portrait converted to a photo mosaic. Some corporations have used photo mosaics for their logos.

A photo mosaic is a large image, typically a self-portrait, made up of hundreds of tiny images called 'tiles'. Have you seen a terrace floor of broken white tiles? Some are decorated with fancy mosaic patterns. But a photo mosaic is a lot more complex than that. The tiny images or tiles are carefully selected and placed depending on the overall shape, brightness, and texture of the whole image.

For instance, to make the eyes, you need a set of dark images. To construct the brighter sections of the image you need a series of bright images. Colors and textures must also be considered. There has to be some image manipulation too because you can never get the exact result using the set of available images that constitute the big picture.

It's a lot easier to create a photo mosaic now, thanks to photo mosaic software. All you need are 500 images (you'll get average results with fewer images) and the patience to download the software. These images must be kept together in a common folder. Remember the more images you have, the more well defined the mosaic will be.

A plethora of photo mosaic software is available. We chose Andrea Mosaic for its simplicity and the small size of its installer file (1.86 MB). It's a free download, that is actually donationware. Download this software from <http://www.andreaplanet.com/andreamosaic/>.



Before you begin, remember to copy a set of digital images in a new folder. And if you don't have that many images, you can get these from photo sharing sites like Flickr or Yahoo Photos. If you've got a broadband connection then you can download the Andrea Mosaic bundle with 500 photos (8 MB installer file).

This web site offers tutorials; you can participate in a photo mosaic contest too.

The rendering of the mosaic requires memory space and takes up much time. To improve performance we suggest you close all other programs. Also disable your screensaver (it disrupts rendering). Avoid too many dark images; have a healthy mix of bright and dark images that will be used as tiles for the main mosaic picture. Also experiment with various settings before rendering.

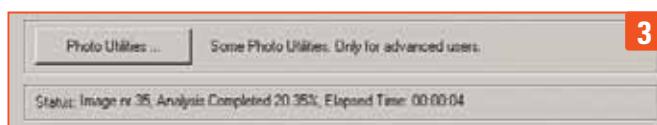
How to create a photo mosaic



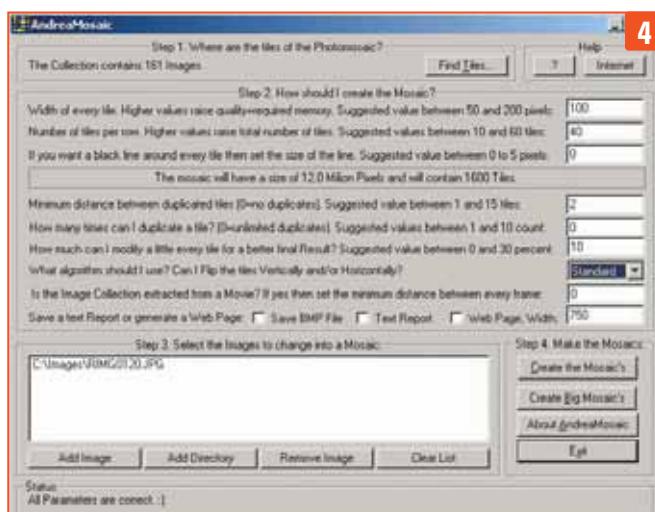
- After installing Andrea Mosaic create a new folder called 'Images' or equivalent. Copy all the images here. They should be in the JPEG format. Use an image editing software and correct the rotation angle for certain images. Ensure there are at least 200 images of differing brightness and shapes.



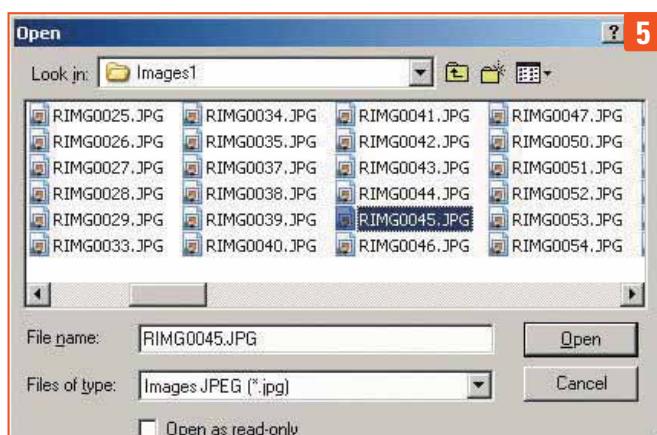
- Click on the 'Find Tiles' button, then click on 'Create Collection'. Navigate to the folder where you saved the images. Define a name for your collection before it creates a .AMC file (Andrea Mosaic Collection). Then click on the 'Save' button.



- The program will analyze all images and the result will be stored in a .AMC file. This file contains basic details for each image (like the name of the image, the size, in which folder/subfolder it is stored). Click on the 'Close' button once the analysis is 100% completed.

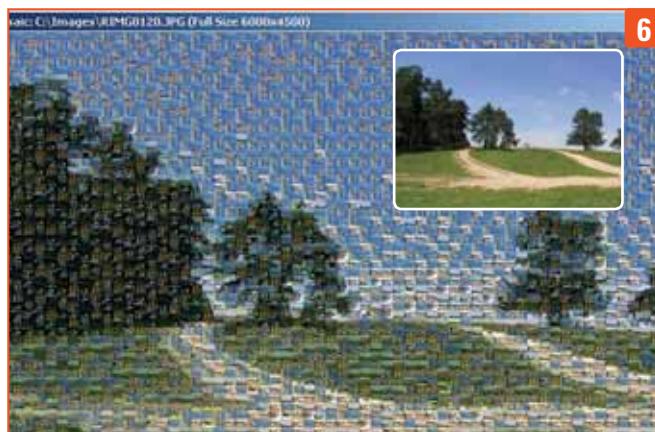


- Next, specify a few settings to get a better result. You will have to experiment with various values. If you have fewer than 200 images then specify 60 tiles per row. You will notice that the file size increases as more number of tiles are used. Also opt for the Standard algorithm the first time.



- Next, you need to specify what the main image is. A matrix of tiles is used to build the main image. Click on the 'Add Image' button. Navigate to the folder where your images are stored and click on the image name and then on 'Open'. It's a good idea to decide this in advance.

You'll have to wait while the image is being processed. The more the images, longer the wait. So go ahead and click on the 'Create the Mosaic's' button. The original image will first appear in the program. Later, a mosaic appears and its JPEG image file is created. For best results we suggest you view the new mosaic JPEG file in a photo browsing or photo-editing software. ■



Link your TV to your PC

Connect your television to your computer and you won't need a DVD or DivX player any more. Plus, you can surf the Internet or play games directly on your television screen in large screen wonder. Here's how... **BY MARCO D'SOUZA**



With most desktop computers being the center of digital information and entertainment, there's every chance that you use it to watch DivX movies and DVDs. Since you presumably have a truck-load of media files on your computer, how about hooking it up to your TV and giving your movies a large-screen canvas? If your TV is located near your PC, this is a fairly simple task. Just connect the two together using one of the various video methods.

The methods

On the PC's side, you're probably familiar with the VGA output—the connector used to provide a display to your CRT or LCD monitor. This is a 15-pin blue socket that you will find either on your motherboard (if you have integrated graphics) or on your graphics card. This is the de facto standard for connecting computers to display devices. Most graphics cards have one or two additional outputs besides their VGA connector—these are generally the DVI output and the S-Video output (see photographs). DVI (Digital Visual Interface) is a relatively new standard that provides a very high-quality video signal used to drive digital displays such as TFTs, plasma screens, etc. S-Video is a video standard that is used to deliver an analog video signal to devices like VCRs and televisions.

Unlike your computer monitor where you can change the video frequency and run it at various resolutions, your TV is only able to operate at a fixed video frequency. Also, unlike your monitor that operates using analog signals from the VGA port of the graphics card, your TV doesn't have a VGA input port. Due to these reasons, there is no way you can directly connect your VGA card to your TV. However, most graphics cards now come with at least one additional analog output (the S-Video port mentioned earlier). If your TV has such a connector, all you need to do is go down to your local TV repair store and pick up an S-Video cable (with a male and female plug at each end). If your TV does not have an S-Video port (some of the

older ones don't), look for a composite port. The composite video standard is the lowest in quality since the video signal is delivered over one single line as opposed to using multiple conductors. The cable for composite video is the lowest priced compared to that of other video standards. Since graphics cards generally don't have a composite output port, you can pick up an S-Video to composite converter and use it to connect your TV with the standard composite cable mentioned earlier.

Some of the newer 29-inch televisions also support component video (not to be confused with composite video). This standard uses three separate lines for transmitting the video signal to the TV resulting in significantly superior video



You will require special cables to connect your computer to your TV



S-Video (center socket) is commonly available on most graphics cards



Focal Electronics

Your chance to Win



GENESIS 18

2.1 Active Speaker

**Simply answer these questions &
3 winners will get Genesis 18 Speakers**

RMS is an abbreviation for:

- Rated Matrix Sound
- Reverb Mode System
- Root Mean Square

The real output of speakers is measured in:

- RMS
- SNR
- PMPO

Which of the following is a stereo speaker system?

- 2.1
- 7.1
- 5.1

Pick the odd man out:

- Lows
- Mids
- Riffs

Which of the following frequencies would you adjust to enhance vocals?

- Lows
- Mids
- Highs

Name: _____

Address: _____

Age: Under 15 16-25 26-35 36-45 Over 45

City: _____ Occupation: _____

Tel: _____ E-mail: _____

Are you a CHIP subscriber? YES NO

If yes, your subscription Order No. _____

Send your entries to
 Intelligent Computing CHIP Contest
 Infimedia India Ltd

Ruby House, 'A' Wing, 2nd Floor, J K Sawant Marg

Dadar (W), Mumbai 400 028, India

Tel: 91 22 24232323 Fax: 91 22 24302707

The winner list will be released in CHIP Magazine February 2006 Issue

Rules and regulations: Your entries should reach us before 31st December 2006. Duplicate or photocopies of this page will not be accepted.

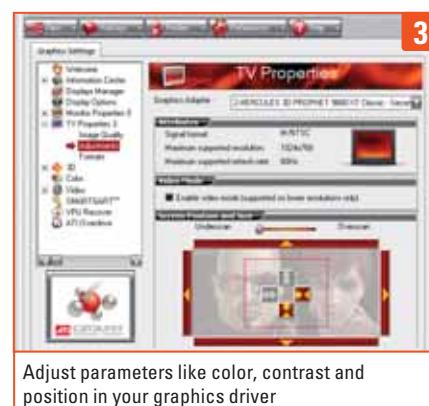
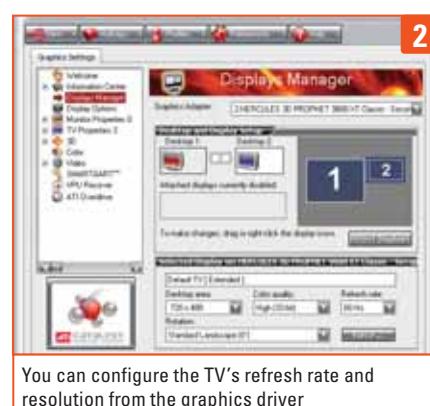
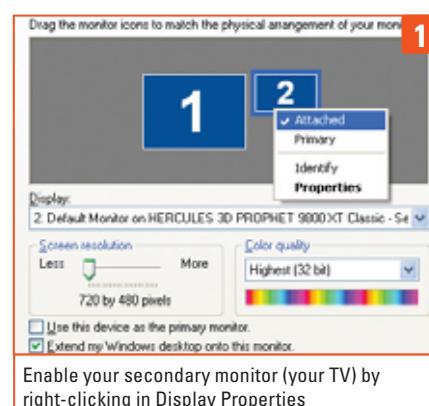
quality along with greater resolutions. Component video also supports the HDTV standards, where video quality and resolution is higher even than that of DVD. You cannot connect your computer to your TV using component video inputs directly as there are very few graphics cards that natively output a component video signal. So you need a device called a Scan Converter. This is a box that translates one type of video signal to another—in this case, a VGA input to component output. Don't be fooled into using VGA-to-component cables: these will not work as VGA and component signals are based upon completely different standards.

So you have four options to connect—in terms of increasing quality, these are composite, S-Video, component and DVI. Once you decide on which to use, connect your computer to your TV with the appropriate cable. After you power up your PC, turn on your TV and select the input through which it is connected (it should be AUX for composite or S-Video and COMP for component video). Next, you'll need to correctly enable your TV from your graphics card's driver.

Driver configuration

We used an ATI Radeon 9800XT graphics card; while the exact screens will not be the same as your particular graphics driver, look out for similar settings in your graphics card driver while making these configurations. The driver we used for our graphics card is the ATI Catalyst v6.8.

STEP 1: First, you need to enable your TV as a secondary display device from your



graphics card's Display Properties—right-click on the desktop and select Properties. Now go to the Settings tab. Here you will see the outlines of two monitors—the one on the right is shaded, implying that it is disconnected. This is your connected TV. Click on it and first set its resolution to 720x480. Make sure the 'Extend my Windows desktop onto this monitor' is enabled. Then, right-click on the display on the right (the shaded one), and select 'Enable'. If your connections are proper, you will see your desktop on your TV.

STEP 2: Optimize your display—in the ATI card for example, open the Catalyst Control Center. Access this by opening the Display Properties and click on the 'CATALYST(R) Control Center' tab. Click on the button here. Next, navigate to the Display Manager from the listing on the left. Make sure the display in the 'Desktop 2' box is your TV. Ensure the desktop area is 720x480 and the refresh rate is 60 Hz. If your TV is not detected, click on the 'Detect Displays' button.

STEP 3: Next, click on the TV Properties. Here, you can tweak image quality (color, contrast, brightness) and you can also

position the display horizontally or vertically on your TV. The color and brightness adjustments you make here will only be applicable to the content shown from your PC, so using this is a better option.

STEP 4: Finally, go to the Video section and expand the 'Theater Mode' entry. In the 'Overlay Display Mode' section, select the 'Extended display shows overlay' in Theater Mode (full screen). By enabling this, all overlay video (your DVDs and DivX movies) will automatically play in full screen on your TV after you start them from Windows Media Player or WinDVD. In the Theater Mode Settings, make sure the 'Set the video aspect ratio to:' is configured to 'Match the source video'. This will ensure the aspect ratio of your movies is correctly maintained.

This should get you up and running to watch movies on your TV. Tweak the video quality further by using specialized tools like PowerStrip if you want to hook up plasma displays and widescreen TFTs to your PC. With these, you would be able to run them at higher resolutions if they are supported. Subsequently, you can use your TV to display games or surf the Net. ■



Show it now

YMP929



MP3/MPEG4 Players



YMP18



YMP28



YMP35

Personal Media Player

20GB
PMP 9



Pocket Theater

Ultra Slim Multimedia Player
Music/Movie/Photos On The Go



YMP930

Portable DVD Players



PDV7 & PDV10



MEMORIES of
a lifetime

National Distributor:
Thakral Computers Pvt. Ltd.
Phone: +91-11- 4103 8604

E-mail - yesproduct@thakralind.com





Tips & Tricks

DECEMBER 2006

WINDOWS

1. Windows XP	Displaying icons on the desktop without labels	167
2. Windows XP	Setting a transparent background for the icon labels on the desktop	167
3. Windows XP	Securing and restoring Firewall settings	167
4. Windows XP	Ending processes using the command line	168
5. Windows XP	Displaying all system information clearly	168
6. Windows XP	Identifying network errors quickly	168
7. Windows XP	Preventing process saving with Windows Media Player	169
8. Windows XP	Extending the period for system activation	169
9. Windows XP	Displaying hidden EXIF information	169
10. Windows XP	Search pictures quickly by indexing	170

APPLICATIONS

11. Microsoft Office	Displaying an icon in the taskbar for each application	170
12. Microsoft Office	Moving table rows quickly and easily	170
13. Word Viewer 2003	Viewing documents without Word	170
14. Microsoft Excel 2003	Entering formulae more comfortably	170
15. Microsoft Outlook 2003	Not displaying completed tasks for a prolonged period	171
16. Microsoft Outlook 2003	Providing forms with instructions for filling them	171

INTERNET & COMMUNICATION

17. Mozilla Thunderbird	Transferring filter rules to other computers	171
18. Mozilla Thunderbird	Finding right e-mail folders quickly and safely	172
19. Google	Finding information faster	172
20. Mozilla Firefox	Allowing specific JavaScript	172
21. Internet Explorer 6	Displaying active contents without any errors	173

HARDWARE

22. Notebook	Improving readability of characters on the TFT display	173
23. Play station Portable	Increasing the efficiency of PSP	173



Tip of the month → Hardware

Double current from the USB socket!

[Q] I connected an external 2.5-inch hard disk to my PC without an additional power supply. However, the mass storage does not function reliably as the USB port does not supply sufficient current. I also purchased an extra USB Y-cable to integrate the energy of two USB connections but even that failed to improve the situation.

CHIP TIP In notebooks or PCs, the USB ports are mostly located in pairs above each other at the back of the device. Each of these socket pairs is connected with an independent voltage stabilizer on the mainboard, which is supposed to supply 500 mA per USB port as per specifications. With the help of a Y-cable, you can draw twice the amount of current from the USB connections, but only if you plug both connectors into two different USB ports with independent power supplies and not in the socket pairs lying above each other.

The length of the Y-cable normally suffices if all of the USB ports are attached to the back side of the notebook's chassis.

WINDOWS**Windows XP****1 Displaying icons on the desktop without labels**

[Q] Some of the icons on the desktop do not require any label at all. The icon is indicative enough. How do I remove the labels?

CHIP TIP Unfortunately, Windows does not allow deleting the label directly. The operating system rejects empty strings or labels consisting space characters by displaying the message 'Enter a file name'. However, the following trick will help you.

- Right-click on the desired icon and select the context command 'Rename' or simply press [F2].
- Keep the key [Alt] pressed and enter the number combination '0160' on the numeric pad of the keyboard.
- Let go of the [Alt] key and confirm it by pressing [Enter]. The label now disappears.



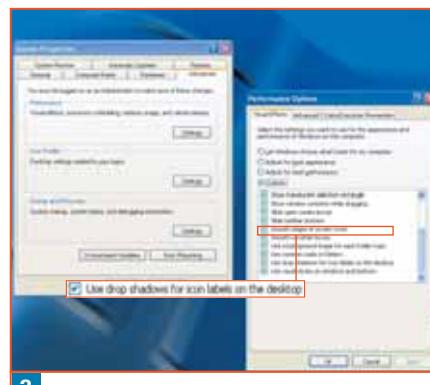
1 By using the above method, you can have a desktop with nameless icons

You can thus remove labels of desktop links one after the other in Windows XP. Older versions of the operating system require more effort from the second icon onwards. Proceed as described above and after you let go of the [Alt] key, press it again. Then enter '0160' again. In case of the third link, you need to repeat this procedure thrice. You can remove a maximum of 255 labels from desktop links using this method.

NOTE: When using Windows XP, you should also set the label background to transparent otherwise a small bar is always visible. Older versions of Windows do not offer this option.

2 Windows XP**Setting a transparent background for the icon labels on the desktop**

[Q] In Windows the desktop icons are labelled within a colored bar which hides the desktop pictures. How do I get the operating system to display a transparent background for the icon labels?



2 With this option you can have transparent labels for your icons on the desktop

CHIP TIP To display a transparent background,

- First open 'Start | Control panel' and click on 'Performance and Maintenance'.
- Then click on 'System'. If you are using the classic view of the control panel, you can directly open this dialog via 'System'.
- Open the dialog 'Performance Options' by clicking on 'Advanced' under 'Performance' and then on 'Settings'.
- Activate the effect 'Use drop shadow for icon labels on the desktop' by selecting the check box. As soon as you change an option, Windows automatically selects the setting 'Custom'. Then, close all dialog boxes by clicking on 'OK'. Now Windows will display the icon labels with a transparent background on your desktop.

However, if the described setting does not give the desired effect or the above mentioned option is already activated on your system, then execute the following additional steps:

Click on 'Appearance and Themes' in the control panel, and then on 'Display'. In case of classic view in the control panel, directly click on 'Display'. In the 'Display properties' dialog, open the 'Desktop items' in the 'Desktop' tab via 'Customize Desktop'. Deactivate the option 'Lock desktop items' in the 'Web' tab.

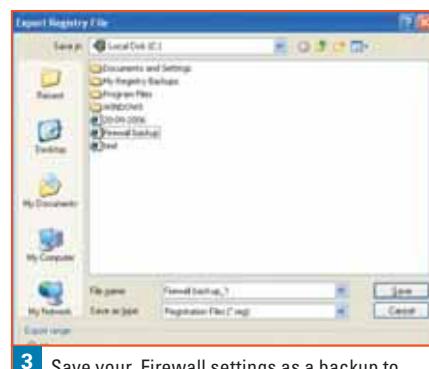
Finally, close the dialog box by clicking on 'OK'.

3 Windows XP SP2**Securing and restoring Firewall settings**

[Q] Microsoft does not provide an option for exporting a configuration to another system or providing a backup for a new installation. How do I take backups?

CHIP TIP XP Firewall administers all standard settings as well as customized settings in two keys of the registration database—separately as per secret programs and opened ports. As, normally there is no feature for securing the Firewall profile, only the exported data from the registry remains as a backup option. To get a backup, click on 'Start | Run', then on 'regedit' and confirm with 'OK' in the Registry editor.

All applications for which a Firewall exception is defined are under 'HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\StandardProfile\AuthorizedApplications\List'. Select the key entry and open 'File | Export'. In the ensuing dialog, enter a name, for example 'Firewall program'. Check whether the option 'Selected Branch' is set in the export range and the selected key is specified there. Click on 'Save' and you have now created the first REG file for backup! Now navigate further to the key 'StandardProfile\Globally-OpenPorts\List'. Export the key in a REG file as described above to provide a backup to the settings for the additionally opened ports.



3 Save your Firewall settings as a backup to restore it after reinstallation

In future, if you want to import the settings again, you simply need to double click on the desired file entry in Explorer.

In case of a new installation of a system, you can now easily restore your own Firewall configuration or transfer it to another computer with this backup copy. This saves a lot of your work and effort if you have a notebook with a similar set up or if you must configure several computers of a workgroup. Using this method, you can also easily define various Firewall profiles on one system for different application cases, which you can later put into operation as per your requirement.

4 Windows XP

Ending processes using the command line

[Q] Some programs tend to set their work superficially and use further resources in the Task Manager as a process. Despite that, after a system crash and in the absence of an alternative, I have to eventually fall back on these programs and end the process laboriously via the Task Manager. Is there an easy alternative?

CHIP TIP The ‘taskkill’ command can perform the same functions as that of the Task Manager. This feature is however available only with Windows XP Professional.

This command can be called through a command prompt. You can even program a batch file if you frequently 'End' a useful but unstable program regularly. By just double clicking, the rather difficult process disappears into thin air!

- Use 'taskkill /IM msaccess. exe' to end the access process with 'taskkill' on the basis of its map name 'msaccess.exe'. But be careful: If several processes exist with the same map name, the command ends all processes without any inquiry. Proceed accurately with the parameter '/FI'. This parameter offers the option of describing the process you are looking for by specifying a special filter, 'Windows title'. With its help you can identify a process based on its Windows title.

- Example: If you want to end the 'notepad.exe' process with the Windows title 'alex.txt – Notepad', then use:

```

C:\>C:\Windows\system32\cmd.exe
C:\Windows\cmd>

YASSIELL-LP:~ C:\> yassiekill /?
YASSIELL-LP:~ C:\> yassiekill /? YASSIELL-LP:~ C:\> YASSIELL-LP:~ C:\>

Description:
This command line tool can be used to end one or more processes,
processes can be ended by the process ID or image name.

Process list:
-# button      Specifies the remote system to connect to.
-# Identifier    Specifies the user context under which
                 the command should execute.
-# (password)   Specifies the password for the given
                 user context. Prompt for input if omitted.
-#              Specifies to forcefully terminate
                 processes.
-# Filter       Displays a set of tasks that match a
                 given criteria specified by the filter.
-# PID process id  Specifies the PID of the process that
                 has to be terminated.
-# Image name   Specifies the image name of the process
                 that has to be terminated. Wildcards
                 can be used to specify all image names.
-#              Sets kill1 terminates the specified process
                 and any child processes which were started by
                 it.
-#              Displays this helpmenu.

```

4 Use the 'Taskkill' command from the command prompt to end a process in Windows.

```
'taskkill /FI "WINDOWTITLE" eq  
alex.txt - notepad'.
```

Windows delivers further parameters and information regarding the killer command with 'taskkill /?'.

5 Windows XP

Displaying all system information clearly

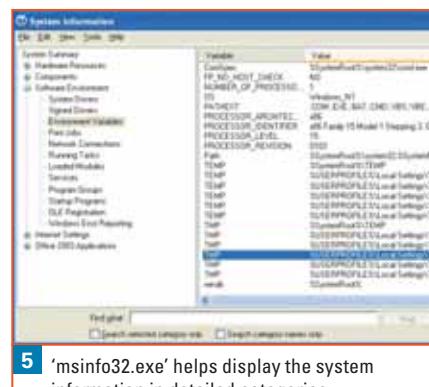
[Q] Windows reveals information about its own configuration. However, this information is scattered at various locations. How can all the information be displayed in one window ?

CHIP TIP There is a hidden central collection point for Windows System and Microsoft Office information. This is how you can find it:

- Open the tool 'System Information' via 'Start | Run' and then enter 'msinfo32.exe'. On the left side, various categories are displayed in a tree structure, in which Windows divides the collected details. The main categories are 'Hardware Resources', 'Components', 'Software environment', 'Internet settings' and Office, for example 'Office 2003 applications'.

- As soon as you select one of these categories or subcategories, you will see the available information on the right side. For instance, to obtain information about the set environment variables, select the category 'System Summary | Software Environment | Environment Variables'.

- In the lower margin, you have an option of searching for specific information. Simply enter a word or phrase under 'Find what' and click on 'Find'. To save time, you can restrict the information you are searching for with 'Search selected'



5 ‘msinfo32.exe’ helps display the system information in detailed categories

'category only' and 'Search category names only'.

- With 'File | Save', you can save the System Information in a NFO file. The information can be displayed again later with 'File | Open'. You can thus identify changes in your system.
 - Click 'File | Export' to save the information of the selected category in a text file. In the following dialog, decide the saving location as well as a name and click on 'Save'. To export all available information, select the category 'System Summary'.

6 Windows XP

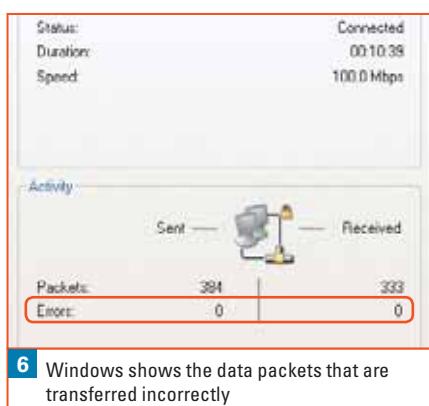
Identifying network errors quickly

[Q] The dialog ‘Status’ for network connections provides information about the number of received and sent packets. However, while doing so, Windows does not specify whether errors have occurred while transferring data. How do I find out if errors occur during the transfer?

CHIP TIP An entry in the Registry helps in displaying important information for the error search. This is how you go about it:

- Start the Registry Editor and navigate to the 'HKEY_LOCAL_MACHINE\SYSTEM'

- Next, create a sub key 'StatMon' via 'Edit | New | Key' and in that create another entry 'ShowLanErrors' via 'Edit | New | DWORD value'. Now double click on it and set its 'Value Data' to '1'. Now close the registry.
- Then open 'Network Connections' in the control panel and double click on



'Local Area Connection'. A status dialog appears where you will see 'Errors' in the 'Activity' area under 'Packets' with details about incorrect TCP/IP packets that were sent or received.

7 Windows XP

Preventing process saving with Windows Media Player

[Q] Windows Media player maintains a history of files that have already been played. This way other PC users can copy my playlists. How can I prevent it?

CHIP TIP The process is quite simple:

- To prevent the Media Player from re-collecting information regarding playlists and displaying it to others who have access to the same PC, follow the steps mentioned below:
- Go to 'Tools | Options' in Media Player and switch to the 'Privacy' tab and then click on 'Clear History'.
- Next, deactivate the option 'Save file and URL history in the player' and confirm by clicking on 'Apply' and 'OK'.

This prevents creation of previously played file/URL lists in future within Media Player. Now, what remains is the list saved in the Windows start menu Documents section.

- Clear that by right-clicking on the 'Start' button and selecting the context option 'Properties'.
- Now click the 'Start menu radio button' and then on the 'Customize' option. In the next dialog window, click on 'Advanced' and then on the 'Clear List' option under 'Recent documents'.
- You may also choose to deactivate the option 'List my most recently opened documents' and confirm with 'OK'. This

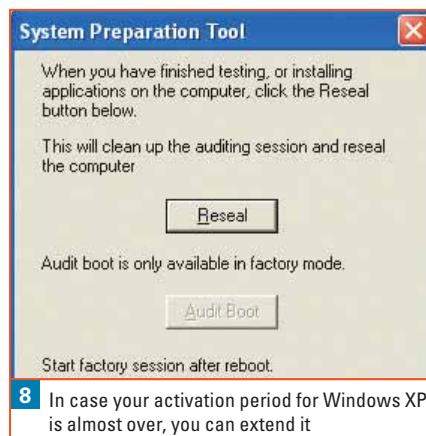
option will set the system to not list your recently opened files or documents.

8 Windows XP

Extending the period for system activation

[Q] After installing Windows, I had put off the activation. Now the 30-day period is almost over. What do I do?

CHIP TIP The 'Sysprep' tool will help you to reset the activation status. The license key of your original Windows CD is the prerequisite to use it because the modified system starts only after this key is entered.



XP WITHOUT SP2: In the Windows XP setup CD, browse to 'Support\Tools\' and double-click on 'deploy.cab'.

- Select all the files of the archive and then select 'File | Extract'. In the next dialog box, confirm the target folder and click on 'OK'.
- Finally, from the target folder, start 'sysprep.exe' via the windows explorer. Caution: Do not forget to activate the option 'NoSIDGen' in the 'Flags' area so that the tool does not create any new safety identification. Otherwise, Windows later refuses access to previously encoded files.
- In the combination field 'Shutdown', select 'Reboot' and click on 'Reseal'. The computer will now restart automatically. Before the login, the system asks the license key of the Windows CD to be entered. Then you can skip the question 'Would you like to activate Windows now' again with 'No, remind me later' or activate within the given new period.
- Register with your old user name. For a

new name, Windows creates an additional user account; the old account is however retained.

XP SP2: For the current XP-version, Microsoft offers the latest 'SP2 Provision Tools'. They contain the new Sysprep 2.0. To download use the url <http://www.microsoft.com/downloads/details.aspx?FamilyID=7a83123d-507b-4095-9d9d-0a195f7b5f69&DisplayLang=en> and extract the cab file.

- Start Sysprep.exe from there. In the program, activate the checkbox, 'Don't regenerate security identifiers' and select 'Reboot' as the 'Shutdown mode'. The option 'Don't reset the grace period for activation' must be deactivated.
- Finally, click 'Reseal'.

9 Windows XP

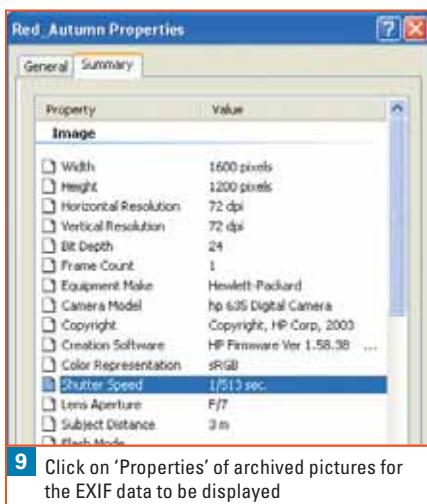
Displaying hidden EXIF information

[Q] In addition to picture information, a digital camera also types EXIF data on the memory card after the trigger is pressed. How can this data be displaced by Win XP?

CHIP TIP For Windows XP to display this data, installing a separate EXIF viewer program is not necessary.

- In Windows Explorer, right-click on the file name and select 'Properties' in the context menu.
- Click on 'Summary' and then on 'Advanced'. The page then displays the EXIF data you are looking for. All pictures that have been shot from a particular camera can be found using information from this EXIF data.

For the complete list of productivity benefits of PostMaster, call: 022 - 4095 7766 / 0 93241 57700



9 Click on 'Properties' of archived pictures for the EXIF data to be displayed

- Click on 'Search' in Windows start menu and select 'Pictures, music or video'. Toggle to the 'Advanced' settings and enter the name of the camera in the field 'A word or phrase in the file'.

10 Windows XP

Search pictures quickly by indexing

[Q] How do I index my picture archive without the help of any program?

CHIP TIP

To index your picture archive, right-click on the picture file and click on 'Properties'. In 'Summary', enter information like title, subject, author, keywords and comments. The Windows system search finds this data exactly as it is described by the model of your camera.

APPLICATIONS

11 Microsoft Office

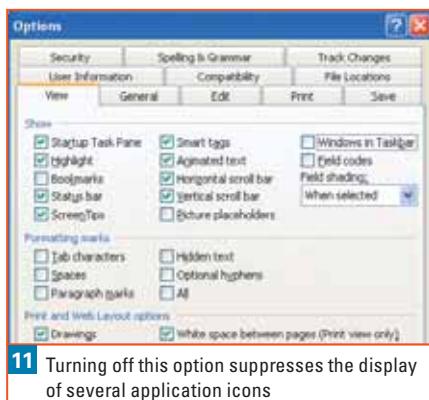
Displaying an icon in the taskbar for each application

[Q] When several documents are opened in Excel or Powerpoint, an additional document icon shows in the taskbar and it appears while toggling using the shortcut key [Alt]+[Tab]. How do I get rid of this feature?

CHIP TIP

You can change this feature in the concerned Office applications by doing the following:

- Click on 'Tools | Options' and deactivate the option 'Window in taskbar' in the 'View' tab in the 'Show' section. After that, Windows displays a single icon for each application in the task bar. However,



with this configuration, toggling between several documents is possible only from the menu command 'Window', and no longer with [Alt]+[Tab].

This setting is not applicable to the entire Office applications. If required, repeat this method for other programs of the packet. However in Word 2000, the developers have not integrated this option.

NOTE: If you open several applications in Windows, the taskbar becomes crowded. To add to that, the Microsoft Office applications from Version 2000 onwards (except Microsoft Outlook) place an extra icon in the taskbar for each opened window. You open three documents in Excel or Powerpoint and four icons are displayed in the taskbar. The additional icon represents the application window of the last active document, which can be very irritating while toggling between opened files.

12 Microsoft Office

Moving table rows quickly and easily

[Q] While using the table function in Word, I need to cut a few rows and paste them elsewhere while updating the contents which is cumbersome. How do I tackle it?

CHIP TIP

Using the table function is easy:

- Position the cursor in the table line that you want to shift. Now use the keyboard shortcut [Alt]+[Shift] and keep both the keys pressed. You can then shift the entire row within the table using both the arrow keys [up] and [down]. As soon as the row is in the desired position, let go of the keys [Alt]+[Shift] and voila the rows stay in its new position.

13 Word Viewer 2003

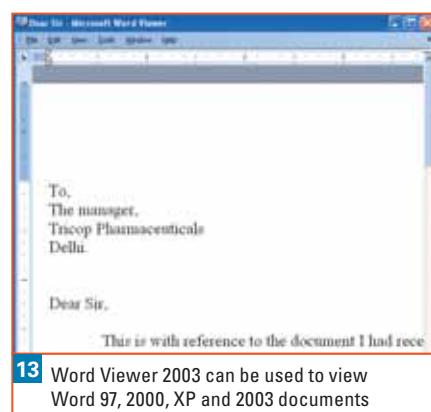
Viewing documents without Word

[Q] I don't want to spend money on a licensed version of Microsoft Word. I am looking for a legal option to display and read the documents. Is there any?

CHIP TIP

Use the free Word Viewer 2003 tool by Microsoft.

- Download it from the Microsoft web site by keying in 'Word Viewer 2003'. Save the approximately 12 MB 'wvdviewer.exe' file in any folder on your system and start it. A wizard assists you through the installation and asks you to finish the installation by restarting the computer.
- Open the Word Viewer 2003 program by clicking on 'Start'. The 'Open' dialog box in which you select the desired document is automatically displayed. Word Viewer



13 Word Viewer 2003 can be used to view Word 97, 2000, XP and 2003 documents

2003 displays Word documents of versions 97, 2000, XP and 2003; it also supports some other formats like HTML and Rich Text Format (RTF). The program not only displays the files but the file content can also be printed or copied in other Windows applications via the clipboard.

NOTE: On the Microsoft web site, suitable display tools are available for Excel as well as Powerpoint. They are called Excel Viewer 2003 and Powerpoint Viewer 2003 respectively.

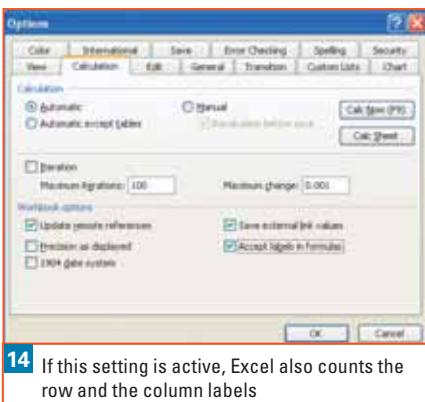
14 Microsoft Excel 2003

Entering formulae more comfortably

[Q] Excel is a formula expert. However, working with design instructions is not often instinctive and I end up struggling with cryptic cell names. What do I do?

CHIP TIP

There is a simpler way for this:



For example, a direct reference to existing column titles is possible in case of formulae. Not once do you need to explicitly define names as arguments for the formula.

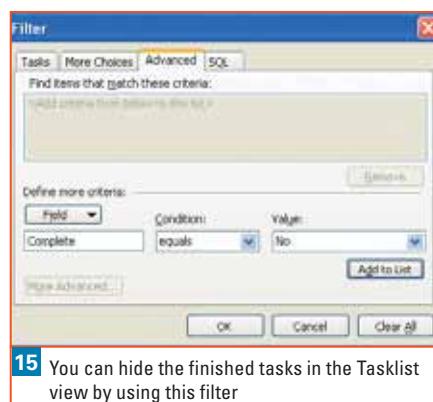
○ To start with, check whether the concerned function is active. For this, open 'Tools | Options', activate the option 'Accept labels in formulae' in the 'Calculation' tab and confirm with 'OK'. The changed setting affects only newly entered formulae. If it is not active, Excel displays an error value as soon as you use column labels in the formulae. But do not worry, you can open such formulae easily by pressing [F2]. Next edit and confirm by pressing 'Enter'.

The following example clarifies the context: You have named column 'A' as 'Number of units' in the first row and column 'B' as 'unit price'. For calculating the 'Total price' in column 'C', instead of normally typing the formula '=A2*B2' in row 'C2', enter =number of units*unit price. You can drag down the selected cells; Excel establishes the correct connection automatically. This method is also suitable to add up the total price in column C. In fact, Excel automatically finds the correct section of a column. For instance, if you enter the formula =SUM (total price) in the cell 'C20', Excel will correctly calculate the sum of the cells 'C2' to 'C19'.

Microsoft Outlook 2003

15 Not displaying completed tasks for a prolonged period

[Q] All completed tasks that are deleted in the task view continue to appear in the list. How do I get Outlook to not



display the entries at all?

CHIP TIP With the help of a filter, you can adjust the task display.

○ Open the task list, then on the left hand side click on the link 'Customize Current View' to set the filter. ○ Click on 'Filter' and switch to the 'Advanced' tab. Now click on 'Field' in the dialog box and select 'All task fields | Complete'. Do not confuse the entry with similar fields like 'Date completed' or '% Complete'. Leave the setting in the combination field 'Condition' as 'Equals'.

○ Next to that, set the value to 'No', click on 'Add to list' and then click on 'OK'.

Once you do that, your task list is cleared of all tasks that have been completed and as a result it appears more organized.

NOTE: If configured in such a way, you no longer need to delete completed entries to remove them from the display. If you need these items again in future, for example, for accounting purposes, Outlook displays all elements again, you have to click on 'Current view | Detailed List' on the left hand side icon of the panel.

16 Microsoft Outlook 2003 Providing forms with instructions for filling them

[Q] Survey forms are rarely self-explanatory and I often end up filling them incorrectly. How do I create space for detailed instructions in the forms created in Excel?

CHIP TIP Excel offers you the option to allocate a message to each field. This text appears as soon as the user selects the

concerned cell.

- Select the desired cell and open 'Data | Validation' to add such a note.
- Activate the option 'Show input message when cell is selected' in the 'Input Message' tab. Enter any type of text in both 'Title' as well as 'Input Message'. It does not matter whether you write in one or both the fields. Excel first displays the text from the field 'Title' in bold but allows only a few characters for that. Enter longer text in the 'Input Message' field. The note becomes active after clicking on 'OK'.

INTERNET & COMMUNICATION

Mozilla Thunderbird

17 Transferring filter rules to other computers

[Q] It takes time to set e-mail filter rules for Thunderbird. If one has to set more than one computer, then it is irritating to repeat the same steps for configuring the filter. What is the easier way out?

CHIP TIP Thunderbird saves all filter rules together in the file 'msgfilterrules.dat' in your profile folder. You can take a backup this file. Your rules, for instance, are then immediately available again after reinstallation. Besides, you can transfer the file to another computer and after a small adjustment even set it for other mail accounts.

○ First close Thunderbird for all file operations. Then start the Windows Explorer and enter 'C:\Documents and Settings\{User-Name}\Application Data' in the address bar so that you toggle to the folder of your application data.

```

msgFilterRules - Notepad
File Edit Format View Help
version="8"
logging="yes"
name="Junk"
enabled="yes"
type="1"
action="Move to folder"
actionvalue="mailbox://nobody@Local%20
condition="OR (subject,contains,free)"
name="Unsol"
enabled="yes"
type="1"
action="Move to folder"
actionvalue="mailbox://nobody@Local%20
condition="OR (subject,contains,Doctor"
name="spam"
enabled="yes"
type="1"
action="Move to folder"
actionvalue="mailbox://nobody@Local%20
condition="OR (subject,contains,Viag)"

```

17 The file 'msgfilterrules.dat' contains the filter rules for Thunderbird

Now navigate further in the profile folder 'Thunderbird\Profiles\Profile name\Mail' and then in the sub folder of the desired mail account. Take a backup of the file 'msgfilterrules.dat'. Naturally, this file will only exist if you have actually created rules. Then, copy/overwrite the file again in the concerned folder either after reinstalling or on another computer.

Thunderbird returns to that folder from the next start onwards.

To check, open 'Tools | Message Filters' and check whether your rules are actually listed in the dialog box that appears.

You can transfer the rules even to other mail accounts in this manner. To do that, you have to first adjust all references in the file to the respective mail account with an editor.

Next, open the file 'msgfilterrules.dat' in notepad. In each case, the entries to be changed are the arguments of 'actionValue'.

As long as the assigned character string begins with 'mailbox://', adjust the following reference to the desired mail account.

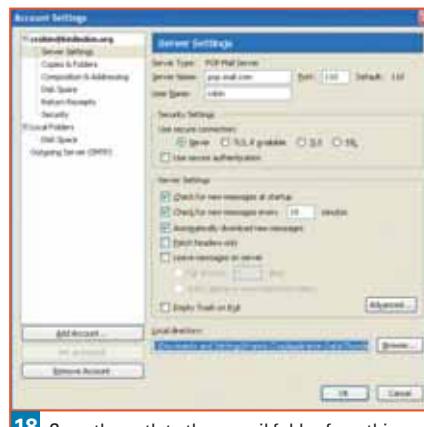
18 Mozilla Thunderbird

Finding right e-mail folders quickly and safely

[Q] By opening the mail folder of one's account, a backup can be provided to the configuration files or the messages can be accessed directly. But navigating through the application data and profile is very difficult. How can this process be made easier?

CHIP TIP First copy the path directly from the application onto the address bar of the Windows Explorer for the required email folder. This goes really fast:

- First click on 'Tools | Account Settings' and then on the category 'Server settings' left in the tree structure below the e-mail account. In the field 'local directory' on the right, you will see the current memory location of the e-mail folder. As expected,



18 Copy the path to the e-mail folder from this dialog box onto the Explorer's address bar

the path is shown in the interlocked depth of the file system. Right click on it and select the context command 'Select All'.

- To get the content in the clipboard, use the keyboard shortcut **[Ctrl]+[C]**. Then open Windows Explorer and copy the path from the clipboard in the address bar by using the keyboard shortcut **[Ctrl]+[V]**. After pressing 'Enter', you reach the folder you are looking for in a second.

The advantage of this method is that it rules out the possibility of opening the e-mail folder of another set account by mistake and changing the configuration.

19 Google

Finding information faster

[Q] How do I make my search more efficient to find the information I am looking for?

CHIP TIP The Google search engine limits only to the first ten words entered in the search bar. So keep your search phrases as short as possible because Google searches words in the order they are typed, so 'slow train' would get you a different result than 'train slow'. Here are some tips that you can follow:

19 Search for information much faster by using search phrases

● INURL: looks only in URLs of web pages, e.g., 'inurl:Cricket' .

● INTITLE: Tells the Google search engine to find words only in web page titles, for example, 'intitle:Hard disk'.

● INTEXT: searches only in the body text of web pages (not in links, URLs or titles), for example, 'intext:loose wiring'.

● FILETYPE: A lot of file types searched by Google in addition to standard HTML-formatted ones, for example, typing 'filetype:doc drive backup' brings back only Word documents on the subject of drive backup.

Note that only files created with the corresponding programs are returned. They are :- Lotus 1-2-3 (.wk1, .wk2, .etc), Rich Text Format (.rtf),Adobe Acrobat(.pdf),Shockwave Flash (.swf), Text (.ans, .txt),Microsoft Excel(.xls), PowerPoint (.ppt).

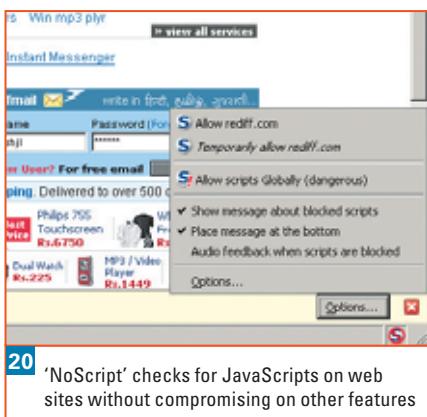
20 Mozilla Firefox

Allowing specific JavaScript

[Q] Many a times important web sites are dependent on JavaScripts even though it's safe to surf without these scripts in the browser. But continuously adjusting the browser is painful. How do I avoid it?

CHIP TIP Specify the web sites, for which the browser can use JavaScript. All the other unknown scripts should be automatically blocked. As the basic equipment of the surfing program does not provide a corresponding configuration option, use the plug-in 'NoScript' (you can get it free). You can find it on <https://addons.mozilla.org/firefox/722/>.

INSTALLATION: Open the web site in the



browser and click on the installation link. Give the necessary installation permission by clicking on 'Install now'. To complete the installation, close Firefox and restart it.

PRESETTING: Take care that JavaScript is generally allowed in the browser otherwise all the scripts are blocked irrespective of the settings in NoScript. You can control this via 'Tools | Options'. Click on the category 'Content' and select 'Enable JavaScript'.

CONFIGURATION: The extension 'NoScript' immediately blocks all JavaScripts and sends a notification regarding the same at the lower right margin of the window. Besides, a symbol in the status bar of the browser continuously shows you the current settings for the opened web site. To change this configuration, click on the icon that further shows hidden icons at the bottom window corner. Now the menu asks you about all individual scripts and also whether you would want to allow the current domain permanently or only temporarily for the current session. This menu also facilitates access to other settings on 'NoScript'. In the 'General' tab, you will see the list of authorized domains and you can process these manually. Using the 'Export' button, save your own configuration in a text file which can be later imported, for example, after re-installation or on a new computer. You can easily reconstruct your script installation in this manner.

21 Internet Explorer 6

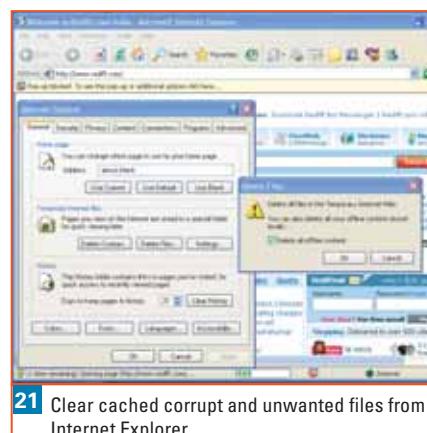
Displaying active contents without any errors

[Q] While browsing a web site with active contents like activeX-objects or

java programs, images are not displayed or it becomes impossible to send any form. How do I solve this problem?

CHIP TIP Such problems can arise when the web site contains compressed scripts. The Internet Explorer can only partially decompress the script after it has been downloaded. The possible reason for this is there is very little storage space in the folder for temporary internet files as a result of which the corrupted script does not run correctly. To solve this problem:

- First update the web site completely using the key-combination [Ctrl]+[F5]. If the problem still persists, open Internet Explorer and go to 'Tools | Internet



Options'. Next click on 'Delete files' in the 'Temporary Internet files' tab. Then activate the option 'Delete all offline contents' and then click on 'OK'. Now if you surf your desired web sites, it should show all the active contents correctly.

HARDWARE

Notebook

22 Improving readability of characters on the TFT display

[Q] The display on my TFT screen blurs the characters on it. A couple of hours in front of the screen and my eyes start hurting. How should I correct this?

CHIP TIP Displaying sharp characters requires the screen to be operated in the local resolution. None of the notebook manufacturers display the characters on the TFT display optimally as the edge smoothing in the display driver is set to 'ClearType'. According to the

manufacturers, this is what the customers demand. The characters can be read better only when you disable 'ClearType'. This is how you can do it:

- Right click on the desktop and then on 'Properties'. Then click on 'Appearance | Effects'.
- Tick the box in front of 'Use the following method to smooth edges of screen fonts:' and select 'Standard' from the scroll down menu.
- Now click on 'OK' and then on 'Apply'. The characters will now be clearer and you can work on your notebook without feeling any strain on your eyes.

23 PlayStation Portable

Increasing the efficiency of PSP

[Q] How do I use the mobile console for office programs?

CHIP TIP 'PSPortal' (a web site that you can load on your PSP and make it available offline) lets you enhance the efficiency of your PSP. The current version is 2.2. Download it from <http://www.psportal.orrentdesign.com>.

Different Java applications, which are embedded into this site, enhance the scope of functionality of your PSP. You can access a text editor, a link manager, a calendar, a calculator, a stopwatch and a quick text browser. Different desktop themes are also available. There are 10 new games available on the site. Furthermore, PSPortal provides the option of storing and managing favorites from Messenger links, e-mail links or media links. ■

What's in a Game?

The titles showcased at the 'EA Experience' gaming event promise to change your gaming experience completely. More on how these games were developed

BY KUNAL RUPERA



Pramod Jadhav

India and China are emerging markets in the gaming arena. While gaming in India is still not as big as it is in North America, Europe or Japan, the recent sales figures of the XBox 360 and PlayStation 2 consoles indicate that gaming is on the surge. The PC gaming platform in India is already getting stronger with single and multiplayer games becoming more popular; the increase in sales of graphics cards also indicate this. Mobile gaming is the highest in India compared to any other country in the world with a growth rate of about 66 percent.

Last month, we were invited to the launch of a dedicated gaming facility in Hong Kong by Electronic Arts. Aptly called the EA Experience, they showcased some of their latest and next-generation game titles.

The EA Experience facility in Hong Kong is basically an entertainment center located at Peak Tower. Peak Tower is one of Hong Kong's leading tourist destinations with a terrace that facilitates a 360-degree panoramic view of the city. The facility consists of game spaces for playing several of EA's leading game titles such as *Need for Speed: Carbon*, *NBA*, *Burnout: Revenge*, *Battlefield 2142*, a demo of *Crysis*, *FIFA 2007*, *Sims 2: Pets*, etc on a variety of platforms like PC, PS2 and the XBox 360. The event was a good opportunity to talk to leading game designers and developers—EA provided

a platform for a personal interaction with them where they provided inputs on the trends, tools and technologies used by game developers today. Here we give you an insight into what EA has done so far and what we can expect from them in future.

Need for Speed: Carbon

Need for Speed: Carbon revolves primarily around your driving skills. The laps are to be known perfectly in advance. The art of timing your brakes and the accelerator have to be mastered in order to stay ahead of others in this game. The highlight of this game is the Canyon duel. It is a two-legged race where you start behind your opponent in the first race and follow him as close as possible even if you are not able to overtake him. You lose points if you hit your opponent and in case you happen to fall over the cliff, you lose the game. So you have

'Every year we take a look at the gaming trend in vogue, which prompts us to include it in the subsequent versions of the games we create'

STEVE ANTHONY

SMS us! Story code: UFE (See Page 20 for details)



The motion blur effect in Need For Speed: Carbon makes driving look more realistic

to be spot on in your moves in order to win this game. The other modes in this game are Drift, Drag and a CTF kind of pursuit. Cop chases are part of the game too wherein the last person in the race becomes another cop car. This retains the cop chase legend of the previous versions. The game also provides lots of customizations—now you can practically build your own car. In terms of graphics, the motion blur effect is very realistic—while driving the car at high speeds, the movement of vision when the car moves through different points in a game is fantastic. The game is based on real-life events that can possibly take place during racing, which is what makes it so unique.

Battlefield 2142

Battlefield 2142 or *BF 2142* as it is popularly known is a team-based strategic shooter that uses a modified engine of *Battlefield 2* set in the 22nd century—during the new ice age. It is primarily a multi-player game like *Counterstrike* and includes different kinds of vehicles that can be used to attack an enemy. As this is a team-based game, gamers have to play a particular role. It entirely depends on how you want to play it—for instance, you can shift from being an attacker to playing defence, etc. Winning the game largely depends on team play. This game helps gamers perform better as a team—the

'The catch here is to destroy your enemy's titan—Titan being the new mode in this game.'

chief reason why *BF 2142* has been such a massive success in the online gaming community. Like any other multi-player game, the real challenge here is to play with another real human being. There is a certain amount of unpredictability in the game which makes gameplay more fun and exciting. With the increased



Your titan needs to be defended heavily. Destroying the enemy's titan means victory

penetration of broadband connections in India, there is every possibility for games like *BF 2142* gaining more popularity among gamers here.

FIFA 2007

FIFA 2007 has been designed to deliver the best football experience on the XBox 360 and the PlayStation 3. The *FIFA* franchise is one of the most popular game titles in India. The Manager mode in the game lets you create your own team. The players not only look real but their movements and gameplay have also been made to look and feel as close as possible to their original counterparts. For example, here Ronaldinho dribbles the ball similar to how he does it in real life. Eto is a little

"FIFA 2007 features player evolution with which we aimed to take a gamer to a point where his focus can be on an individual player at a time and not on the team as a whole."

ANDREW WILSON

bit smaller and runs with his shoulders high up—essentially all the players in *FIFA 2007* look more believable and individual. With the increased number crunching power of hardware like the XBox 360 and the PlayStation 3, newer features in terms of physics as well as gameplay and statistics have been added. The ball is now completely physics driven—if a player stops, the ball still continues to



The movement of the ball is more realistic as its physics are no longer attached to players

move. In the past, the ball was always attached to the player's animation and as a result, one sensed an 'elastic band' feel between the player and the ball. In *FIFA 2007*, the ability to control the ball is based on the attributes of the player. Players can be differentiated on the basis of 45 different attributes and traits. Attributes of a player include his running speed, height, the type of boot he uses and so on, whereas the traits of a player include what a player is likely to do in a particular game; for example, Wayne Rooney in an attack runs right on the outside line. The new system remembers the statistics of games like passes and gives you feedback on short passes, long passes, successful passes, failed



Players act according to their real-world counterparts displaying their trademark moves

passes, all of which can help you make strategic decisions about what kind of players should be included in the team, their performance, statistics and so on. Similar to World Cup football matches, here you get a statistical analysis of low passes, dribbles, etc that helps you devise a strategy for a particular game. All of this helps your team win and thereby also lets you consolidate its strengths. Players who are continuously passing the ball experience fatigue and their posture makes them visibly tired. The types of goals and the way the goals are scored also depend on the attributes of a player. In *FIFA 2007*, the number of variables that affect the ball have increased five fold. The ball's direction can be controlled by the manner you hit the ball with your foot. All these great features make *FIFA 2007* an excellent game.

Crysis

The developers of *Crysis* have tried to push its graphics to the limits. *Crysis* has been built on the CryEngine 2—one of the most advanced engines available today delivering breathtaking graphics and stunning gameplay. Until now the graphics in *FarCry* has been considered better than what most games available today have. Crytek, instead, decided to create *Crysis* from scratch instead of using the *FarCry* engine.

CryEngine 2 has been designed keeping in mind the features that the latest hardware supports. It can run on single, dual and quad graphical processor units. CryEngine2 makes optimum use of the newer graphics cards with more pixel shading support. The programmers



Clouds are rendered in real time in *Crysis*. Observe the translucence of the clouds above

"While *FarCry* is a benchmark in graphics till today, *Crysis* is poised to be the next-generation game. We've made the graphics in *Crysis* as photo-realistic as possible."

JACK MAMAIIS

conducted experiments to figure out a whole new way to impart realism to the lighting effects. Their efforts have in fact resulted in the real-time lighting effects that the game displays. The shadow and particle effects are also improved in this game. CryEngine2 eliminates most limitations seen in CryEngine1.

This game is being targeted for high-end gamers who indulge in power gaming. A high-end system is needed to enjoy *Crysis* to the fullest. For those who have already spent the money, you can be pretty sure that you will get your money's worth when you play *Crysis* on your computers with absolutely high-end



This DirectX 10 game makes characters look as photo-realistic as possible



The picture on the left is a live photograph of a particular place while the picture on the right is a rendered version. Observe the similarity between the original and the rendered image

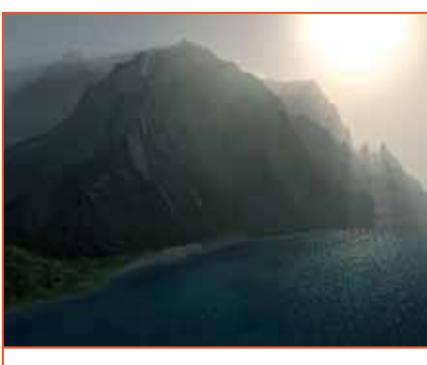
and cutting edge graphics. The developers of *Crysis* have a large research and development team who develop their own tools for game optimization and testing. To cite an example of what the new graphics look like, the clouds in most games are usually painted. It did not make sense to make real clouds since they are not interactive. But the developers of *Crysis* figured out a way to make the clouds look more photo-realistic. There is also the scope to add other visual eye candy to these clouds. The clouds are translucent, so you can actually see through them and they also cast shadows on the ground. That is not all, even sun rays can pass

through the clouds—all of this is a visual treat for the gamer.

Gameplay in *Crysis* has also improved. In *FarCry*, every object such as the trees, boxes and other objects looked like stone. They could not be broken or manipulated. In *Crysis*, trees, boxes, doors, windows, can be manipulated, thereby making the world livelier. Objects as well as people can be picked up and thrown; people can also be punched and kicked. There is a wide variety of vehicles in *Crysis*. With the addition of tanks that destroy the environment, there are helicopters, VTOL aircraft jets, speed boats, etc. The multi-player version is also enhanced. With so many technical as well as graphic advances in the game, it is no wonder *Crysis* is the most anticipated game of the coming year.



Depending on the time of the day, the lights and the colours in the game will look different



The shadows of the mountains and the sparkle of the sun in the sea are rendered in real time



Teaching your pet some tricks can be fun provided you have enough patience

leaves room for them to interpret it the way they want to. You start a family from scratch in this game and are practically broke (just like it is in real life!) Your lifestyle is also similar to your earnings. You work hard and get promotions by building your personal skills, thus making your lifestyle better. This game is essentially the story of your life.

While games like *Civilization 4* focuses on the macro view of life, *Sims 2* is more focused on aspects like the family structure and interaction with humans and animals, etc.

"The general objective of Sims 2 is to build your family life"

JO ANNA LIO

In the Pets expansion pack, you have both the joy of owning a pet where it becomes an integrated and inseparable part of your family. You share the joys as well as the sorrows of life with your pet by bringing it up, teaching it tricks, playing with it and taking care of it. This game lets you share the key moments of building a family life—you are offered a virtual experience of what it feels like having a family and a pet.

We found the EA Experience event to be a great platform for the media and game developers from EA to come together and interact about what the gaming industry worldwide is going to look like in the next few years.

Such developments positively point toward the fact that gaming is a serious business worldwide and is already picking up in India. Watch this space to know about further news in this sphere. ■

RIDGE RACER™

Look out for good graphics and sound in this casual racing game **BY BERTRAND D'SOUZA**

The first PSP version of *Ridge Racer* has retained the smooth gameplay of its PC counterpart. Although I still think that in case of the ability to drift cars, *Need for Speed U2* has no equal—the latest iteration titled *Carbon* has generated a lot of hype. If it's pure racing, F1 rocks and if it's about variety, GT4 is boundless. *Ridge Racer 2* for the PSP is nowhere close to the above two.

The game has novelty value for first timers but once you immerse yourself in it, there is little to hold your attention. The World Tour Mode is the best to race in. You get to choose a car but make sure you get the drift type right. There are a host of cars you get to unlock as you progress through the game. Purely arcade-like, these cars do little to challenge your senses. They aren't very competitive either. At the highest level, you do get some interesting cars to race in like the Angelus concept or the baby Angelus. Insanely fast, they help retain some interest though they come in too late in the game. Eventually you get left with the feeling that the game was not designed well enough. But the rendering is top notch and so is the quality of graphics and sound. Even the environment looks stunning with some startling renditions of the Japanese landscape.

Gameplay is no different from what you had seen earlier and initially the AI hardly offers any challenge. You have to get past the first few levels of the game to get excited. Once past several levels, the AI gets smarter and the racing tougher—cars ahead of you will just not let you get past easily. It is then left up to you how you develop your skill as a driver to get better in the game. Only drifting does not help, you have to find a mix between drifting through a corner, yet maintain optimal speeds so that you don't get left behind.

The game simply does not encourage show-boaters—one of the aspects that



Backed by stunning graphics, Ridge Racer lets you participate in high-speed action

I really liked. However, the grid is too widely spaced. So frontrunners start nearly a mile ahead of you and in the later stages it gets more and more difficult to catch up with or even overtake them. And what further infuriates you is that you have to finish first, second or third to move on to the next level. The game does not have a point system—so if you do not perform well in the earlier race in the set, you get the opportunity to do better in the latter and then overall find yourself somewhere on the podium. You simply have to conquer every milestone one step at a time and this needlessly stretches the duration of the game.

The game gives you the opportunity of participating in casual racing involving high-speed action simply to have fun. The game has good visual appeal and is one that will suit Japanese sensibilities more than the average Joe.

Those who have played the earlier version and several iterations of *Ridge Racer* will not find much that is new. A few new tracks have been added both for racing and in the background score.

If you ask me, look for better means to pass your time during the holiday season. Fly kites! ■

RATINGS

5/10

For: Stunning graphics and sound.

Against: No improvement in the gameplay.

■ Price: Rs 2,499 ■ Publisher: Namco ■ Distributor: Milestone Interactive ■ Phone: 022-28203319 ■ e-mail: sales@milestoneinteractive.com ■ Platform: PSP

Pramod Jadhav

Congratulations

Winners

CASIO WATCH
worth Rs.10,500/-



Winner

Ashank Alva M.

Ankit R.Doshi

Narendranath Panigrahi

Svansh Singhal

Sanjay S.

Dr. Y. Srinivasa Rao

Kinetic
Blaze



Contact: CHIP Contest

INFOMEDIA INDIA LIMITED :

2nd Floor, 'A' Wing,
Ruby House, J. K. Sawant Marg,
Dadar (W), Mumbai - 400 028. INDIA

Tel: 022-24232323

Fax: 022-2430 2707

Website: [www\(chip-india.com](http://www(chip-india.com))



FIFA 07

Score goals, make tactical decisions and steer your team to victory in this season's FIFA 07 BY ASHUTOSH DESAI

EA Sports provides enough avenues to keep football fans happy. The objective is very simple—defeat competing clubs to win a particular football league. There are 27 leagues (across 20 countries).

If you're not interested in fighting your way through the French Ligues then stick to the popular F.A. Premier League to get a feel of the game controls. Depending on the 'config' you choose, the basic controls are easy to master. Initial play is a little frustrating as player interaction and ball handling is different. The ball will bounce off a player depending on how he is positioned and the kind of move he makes. You can keep possession of the ball after first-touch or he can just head the ball out of danger. Each time the player reacts to the ball differently. For example, if the player chests the ball awkwardly, he will fall over, allowing an opponent to gain possession once again. Even when the ball is in the air, you can wrestle your way around to head the ball. This is where the special maneuvers, fake moves and precision shots come into play.

Licensed players in the game are modeled realistically. Their moves and their reactions are well recreated. Their antics on the field are identical but the 3D renderings are not up to the mark on the PS2. Ball physics has

also been altered to some extent in this FIFA iteration. It is most apparent whilst making crosses from the wings. Earlier versions made it possible for a player to make a cross from the corner to a player in the box area. This is not possible when the player has to swivel and kick the ball back into play. Here, depending on the player's abilities, the ball either loops towards the goal area or goes out of play. Unlike in previous versions where the goalie refused to come out of the box, this time, he has been given more controls.

Apart from the Practice and the Tournament modes, the Manager Mode lets you take control of your team, the player's contracts, control staff pay and keep your management happy. It is not as detailed as the full-fledged football manager titles but it does throw up enough challenges. For example, it might be enough to enter a deal with a sponsor, win a few games and improve your medical staff. As a Manager you can opt to just watch match commentary and make tactical decisions. If you want, you can even switch over to playing the game.

FIFA 07 does have significant changes in terms of ball movement and player interaction. Chanting crowds, jeers and fluent commentary make the game come alive. Don't miss out on the league action this season. ■

RATINGS

7.5/10

For: Realistic player-to-player and player-ball interaction. Great spectator ambience. Online mode for competition and player transfer updates.

Against: Learning the special moves can get a bit tedious.

■ Price: 2,499 ■ Publisher: EA Sports ■ Distributor: Milestone Interactive ■ Phone: 022-28203319 ■ e-mail: sales@milestoneinteractive.com ■ Platform: PS2 ■ Requirement: Memory Card

Pramod Jadhav



What are you looking at?



Stop me if you can!



Destination: Back of the net

X'citing stories, coolest games,
mind-twisting puzzles,
side-splitting comics,
the gotta-have-it mag for kids.

**Subscribe
today and get all
these cool gifts
absolutely free!**



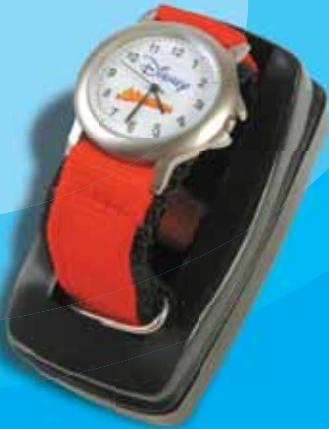
Cool labels



Funky pen



Freaky notepad



Wacky watch



Yes! I would like to subscribe to Disney Adventures

12 issues + wacky watch + freaky notepad + funky pen + cool labels

Annual Subscription: Rs 480/-

Name :

Address :

..... City: State:

Pin :

Tel.: Email :

Date of Birth :

Terms & Conditions: Your subscription will start from the next available issue. No cancellation will be entertained after the commencement of the subscription and/or after the gift despatch. Infimedia India Ltd. reserves the right to extend, cancel or discontinue the offer without giving any reason or prior notice. Color of the gift may vary from what is shown in the picture. Please allow 6-8 weeks or delivery of your subscription gifts. The signatory hereby authorises Infimedia Limited to use the information contained herein for maintaining their database as well as for any other purpose that Infimedia India Limited may deem fit.

Name of Parent / Guardian :

Occupation of Parent / Guardian :

Please find enclosed cheque/DD no

Drawn on (name of bank)

Dated : For Rs

favouring **Infimedia India Limited** payable at Mumbai (Add Rs.30 for cheques drawn outside Mumbai)

OR charge my Visa Mastercard American Express

Card No. :

Card Expiry Date : /

Date : Signature :

SEND THE COMPLETED FORM TO: Disney Adventures, Subscription Department, Infimedia India Ltd., A Wing, 1st floor, Ruby House, J.K. Sawant Marg, Dadar (W), Mumbai 400 028.

Tel. No.022 24232804/5/10 FAX No.: 24302707 Email: subscription@infomediaindia.com

To subscribe online log on to <http://eshop.infomedia.com>

INFOMEDIA

NEED FOR SPEED™ CARBON

Test your spirit on the road by participating in this game full of high-speed action **BY BERTRAND D'SOUZA**

The last three titles from *NFS* have all revolved around the tuner movement. *NFS Underground* was the first title in the series to bring to light all that happens in the tuner world. The highly illegal street racing that included drags, drifts, circuits etc only added to the excitement. However, it paled in comparison to *NFS U2*, which took the same theme several rungs up the ladder. Superb graphics fueled with fantastic gameplay, it stunned gamers who went on to make it one of the best selling racing titles of all time. *U2* was followed by *NFS Most Wanted*, yet another winner from EA that brought back the Hot Pursuit action amidst cars, tuning, babes, racing (of course) and cops! The game was tightly woven around a story that gave the racing genre a whole new dimension.

NFS Carbon takes off from *Most Wanted* where you have just left Rockport and entered Palmont City. There are three basic play modes—the Career mode, the most important and obvious choice to be in as it retains elements from the Hot Pursuit series.

The Single race mode and the Challenge series are just value add-ons. You play a racer in the game, who skipped town one evening when the cops came and busted up a race. The problem is that you have been framed as the snitch who slipped off with a lot of cash. In the bargain you leave a lot of people, including your girlfriend, feeling sore about the whole episode. All this is entertainingly conveyed by way of flashbacks. So there you are back in the city that is now split into four territories. You have to clear your name, beat rival crews and also win your girl. Achieve all this and you will have the entire city under your control.

Just as every new title from EA Games, there are a couple of new features unique to *Carbon* too. The Autosculpt feature simply rocks. It takes visual modification to a whole new level. You can modify a part of your car and then resculpt it further to your liking. As you beat rival crew, you also race with your own crew that is supposed to help you in races. These jokers have their own job roles in the racing food chain. There are blockers,

drafters. I preferred enlisting the help of 'drafters'—they create slipstreams for you, reducing drag, so that you can increase your speed and slingshot your way past rival racers.

The whole concept of *Carbon* revolves around the Boss races at Carbon Canyon. There are four of these races. However, three of the four hardly offer any challenge while the fourth big boss race takes a while to crack. There are different drift maps in *Carbon*. You can either drift your way to victory on a flat track or fight it out down the Canyon. Drifting down the Canyon is challenging—a slight oversteer might send you hurtling off the cliff.

The police pursuits are weak—evading the red and blues is simpler than snatching candy from a baby. It just does not have the same appeal as *Most Wanted* where one could really tease the cops and wreak havoc.

Carbon falls short on providing that thrill whilst playing a hardcore racing game. A lot of effort has gone into making the game visually impressive—it is clearly made for newer generation gaming hardware. ■

RATINGS

7/10

For: Great graphics, the Autosculpt feature rocks!
Against: Nothing new in the gameplay.

■ Price: Rs 2,499 ■ Publisher: EA Games ■ Distributor: Milestone Interactive ■ Phone: 022-28203319 ■ e-mail: sales@milestoneinteractive.com ■ Platform: PS2 ■ Requirements: Memory Card

Pramod Jadhav

SUBSCRIBE !



Better
Interiors

IDEAS AND DESIGN FOR BETTER LIVING



3 years

(36 issues) at Rs. 1260

(Get 30% Discount on Cover Price of Rs. 1800)

1 year

(12 issues) at Rs. 480

(Get 20% Discount on Cover Price of Rs. 1600)



Yes! I would like to subscribe to Better Interiors for

3 years (36 issues) - Rs. 1260

1 year (12 issues) - Rs. 480

Fill all the details in capital letters

Name* : Mr/ Ms. : _____

Organisation : _____

(Do not mention the organisation in case of residential address)

Mailing Address : _____

City : _____ State : _____

Pin* :

Telephone : (O) _____ (R) _____ Mobile : _____

E-mail : _____

Please find enclosed cheque/DD no _____

Drawn on (name of bank) _____

Dated _____ For Rs. _____

favouring Infomedia India Limited payable at Mumbai.(Add Rs. 30 for cheques drawn outside Mumbai)

OR charge my VISA Mastercard American Express

Card No. :

Card Expiry Date :

Date : _____ Signature : _____

Your subscription will start from the next available issue. For more information call 91-22-2423 2804/5/10. You can fax us your credit card orders at 91-22-2430 2707. No cancellation will be entertained after the commencement of subscription. IIL reserves the right to extend, cancel or discontinue the offer without giving any reason or prior notice.

INFOMEDIA

Better Interiors, Subscription Department, Infomedia India Ltd, A Wing, 3rd floor, Ruby House, JK Sawant Marg, Dadar (W), Mumbai 400 028. TEL No: 022 24232804/5/10 FAX No: 24302707 Email: subscriptions@infomediaindia.com

To subscribe online log on to <http://eshop.infomediaindia.com>

RAILROADS!

Bend to those boyhood fantasies of laying out tracks and setting trains on them. Sid Meier's Railroads is the ticket for hours of train-controlling glee BY MARCO D'SOUZA

Coming from the car sheds of Firaxis and the mind of the legendary game designer Sid Meier (of *Civilization* fame), *Railroads* delivers a pure, unbridled pleasure of setting up virtual trains and shuttling them between cities.

The premise of the game is simple: build rail networks between cities and architect them to deliver raw materials to factories that deliver finished goods to consumer, and rake in the moolah as you do so. The user interface is simple and well formulated. The tutorial is set in the vast 19th century American wilderness (complete with yokel soundtrack to match!), you start off with a handy 99 million dollars. We found the track laying method very intuitive—just click on the start city and the end city and it figures out the routing automatically, also factoring

in the terrain by creating over-bridges or tunnels according to the situation.

Being a simulation where the prime objective is to earn money from your rail network, you need to adhere to basic laws of supply and demand by figuring out the location of raw materials (like sawmills, metal mining, coal etc) and feed them to other locations having processing factories for converting them into finished goods. The efficiency of your rail network is determined by the speed of your trains which in turn is affected by the number of cars attached, the terrain and the distance. Throughout gameplay, it thankfully steers clear of the minutiae of economical and financial aspects of a simulation, making it easy for potential players to pick up and master. You start off a game by selecting one of over 15 different historical or fictional scenarios spread across various regions of the globe like North America, Germany, England etc. Enhancing the authenticity to the era, the trains, economic

situations, terrain and the environment will change depending on the year and location of your game. The situations also have goals that need to be achieved—ranging from something as mundane as connecting Denver to New York or could be something more involving like hitting a revenue target of \$20 million. Since all of these are time bound, you will need to complete them in time. Your wealth at the end of the goal will determine your ranking and status in the game.

Contributing significantly to the playability of the game are several nuances like the authentic whoosh of the various train models as they pull into stations, the happy sounds of local music emanating from towns as you zoom into them and the tiny animation of factories buzzing and townsfolk going about their business. However, to experience all this eye candy, you need significantly higher system configuration over the minimum specifications listed. ■

RATINGS

8/10

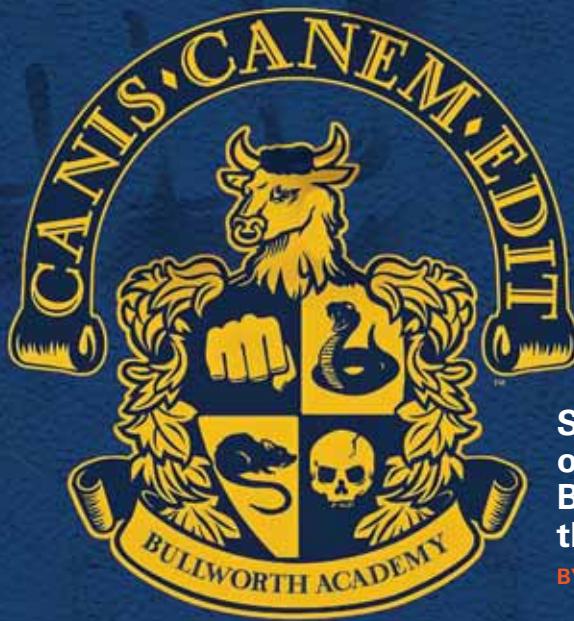
For: Shallow learning curve, engaging scenarios.

Against: Stiff system requirements, track layout sometimes spotty.

■ **Price:** To be announced ■ **Publisher:** Rockstar Games ■ **Distributor:** e-xpress Interactive ■ **Phone:** 022-28843736 ■ **e-mail:** info@e-xpressindia.com

■ **System:** Windows 2000/XP, P4 1.4 GHz/AMD Athlon equivalent, 512 MB RAM, 2GB free space, DirectX 9.0c-compatible 64 MB video card with hardware pixel shader

● Pramod Jadhav



Stand up for yourself or get busted. At Bullworth, you will learn things the hard way

BY ASHUTOSH DESAI

The story begins with an adolescent, Jimmy Hopkins being unceremoniously deposited by his parents at the gates of Bullworth Academy. This 'institute'—which has a fist, snake, rat, skull and 'Canis Canem Edit' (Latin for 'dog eat dog') emblazoned on its coat of arms—is a reform school. With a motto like that one can gauge the kind of reception that awaits Jimmy. The game primarily revolves around him—a troublemaker in his own right. As Jimmy Hopkins, you have to overcome obstacles, complete missions and obtain rewards in order to survive this 'dog eat dog' school.

Right at the outset, Jimmy is warned by the principal to 'keep his nose clean'. Well, that is easier said than done. As Jimmy moves around the campus grounds, he finds himself confronted with school bullies trying to intimidate him. You can take them on—that is what is expected of you in order to accomplish certain missions. Punch, kick, push and grapple the school toughies in order to get to your destination. But beware of the school prefects. They are big and can overpower you easily. If you get into a fight or trouble young students inside the school then you are sure to get busted by more than one prefect. Even though it might seem you can do just about anything in the school, there are certain rules you have to live by. You have to make sure Jimmy attends class when he is required to. That not only means being

present in class but passing the tests as well.

The story is nicely interspersed with these tests and missions. Jimmy makes friends with Gary who explains the Bullworth ecosystem to him. There are different groups you need to be aware of—preppies, nerds, jocks, greasers, bullies and townies. Jimmy cannot fight all of them. The preppies can be beaten but the jocks are not to be needled at all. He has to eat the humble pie if the situation requires it. This way you either make a friend or just get out of a situation by the skin of your teeth. If it means apologizing to a bully and coughing up some money, so be it. Later, you can go steal some lockers.

As I mentioned earlier, you have to attend class as you fight your way around the school bullies. Passing tests increases your arsenal. If you make the grade in Chemistry class then you can make your own firecrackers. If you pass English then you can weasel your way out of situations with the gift of gab. However, if you fail or if you get caught playing hooky you will find yourself in the principal's office. You will either be let off with a warning or serve detention by mowing lawns and such. Hitting innocent students, using the girl's toilets will only invite prefects to bust you. But if you do a girl a favor, you might gain a friend or be rewarded with a kiss. If it weren't for some of the disciplinary rules, this game comes across as a juvenile version of GTA. ■

RATINGS

7/10

For: Thankfully the violence is not grotesque.

Against: Average graphics. Cheesy dialogs.

■ Price: 2,999 ■ Publisher: Rockstar Games ■ Distributor: e-xpress interactive ■ Phone: 022-28843736 ■ e-mail: info@e-xpressindia.com ■ Platform: PlayStation 2 ■ Requirements: Memory Card

SMS us! Story code: URB (See Page 20 for details)

DECEMBER 2006 | INTELLIGENT COMPUTING CHIP | 185

PramodJadhav

Post: Sr. Software Engineer

Company: Trigent Software Ltd.

Profile: The incumbent should be a Graduate with thorough knowledge of .NET Technologies. Should be well versed with other aspects of Programming and Design.

Exp.: 4-7

Location: India

Email: vinod_s@trigent.com

Post: Test Manager

Company: HCL Technology Ltd.

Profile: Should have experience in manual testing, unit testing, integration testing, functional, performance testing for embedded products, code coverage analysis, code quality, software test tools.

Exp.: 8-13

Location: Chennai

Email: arunn@hcl.in

Post: Project leader- Java/J2EE

Company: Wipro Infotech

Profile: Candidate should have work experience as Project Leads in Java/J2EE, shall have experience of struts, EJB, servlets, UML, Rational Rose

Exp.: 4-7

Location: Delhi/NCR

Email: anilkumar.guda@wipro.com

Post: Project Leader- .net technology

Company: Financial Technologies

Profile: Should have relevant experience in .net technology, project implementation, banking or insurance or capital market. Should be technically sound.

Exp.: 5-9

Location: Mumbai

Email: hr@ftindia.com

Post: Data warehousing Manager

Company: Xavient Information Services

Profile: Must have ability to focus strategically & tactically to achieve business goals. Should be flexible and have leadership quality.

Exp.: 8-10

Location: Delhi/NCR

Email: humanresource@xavient.com

Post: Project Manager

Company: CMM5 Level

Profile: Candidate should be a Graduate with experience in handling a team of team leaders in java,j2ee technologies.Must be able to fix team targets and drive the team to achieve the same.

Exp.: 8-13

Location: Delhi

Email: srana@servicesats.com

Post: Senior Manager- Delivery

Company: Answer think India Ltd.

Profile: Candidate should have work experience in software. Work experience in US would be preferred especially in the capacity of a Project Manager.

Exp.: 10-15

Location: Hyderabad

Email: vvavilikolanu@answertthink.com

Post: Leader- .Net Technology

Company: Kris Staffing Solutions Pvt. Ltd.

Profile: The Candidate should have worked extensively on asp.net with C#. Shall have rich experience of .net.

Exp.: 5-9

Location: Mumbai

Email: vinitaa@krisstaffing.com

Post: Manager- DBA

Company: IP Soft India Pvt. Ltd.

Profile: Candidate should have experience in People management & shall have leadership skills & good communication skills

Exp.: 7-12

Location: Bangalore

Email: ubhaskar@ip-soft.net

Post: Test Lead

Company: Vedam Infotech Pvt. Ltd.

Profile: Candidate should be strong in Testing fundamentals and processes, & must have experience in Test Automation, performance testing and knowledge of Financial domain.

Exp.: 5-10

Location: Delhi/NCR

Email: careers@vedamtech.com

Post: Developer

Company: Espire Infolabs Pvt. Ltd.

Profile: The ideal shall have experience in application development in Oracle D2K technologies, should be software professional with expert command in Developer 2000, Forms 6i, Reports 6i and Oracle PL/SQL.

Exp.: 4-7

Location: Delhi

Email: deepti.joshi@espireinfo.com

Post: Technical Leader- J2ee

Company: CEI India Pvt. Ltd.

Profile: The incumbent shall have Bachelor's degree in Computer Science. Should have experience in Java, J2EE, EJB 2.0, CMP 1.1 or 2.0 & architecture experience.

Exp.: 5-10

Location: Chennai

Email: nmadhavan@ceiindia.com

Post: Technical Architect- .Net

Company: Photon Infotech

Profile: Required a candidate who is Masters in engineering with experience as an Architect. Work experience of development with complete knowledge of SDLC.

Exp.: 8-12

Location: Chennai

Email: hrd@photoninfotech.com

Post: Software Engineer- Senior

Company: Bahwan Cyber Tek

Profile: Shall have experience of Java/J2EE programming, EJB technology based application design and development, troubleshooting of multi-tier applications in an environment consisting of Java /J2EE, XML , JBoss web Server or other web server.

Exp.: 4-7

Location: Chennai

Email: vikramk@bahwancybertek.com

Post: Manager- OS Development

Company: Score Information Technologies Ltd.

Profile: Candidate should have M.Tech / B.Tech / B.E (CS/E&C) degree with excellent communication and presentation skills

Exp.: 5-8

Location: Delhi/NCR
Email: mohammed@score.co.in
Post: Test Lead
Company: Sopra Group India
Profile: The applicant shall have experience in using the requirement and design specifications to define the test strategy and plans, & should be proficient in all aspects of software testing .
Exp.: 5-7
Location: Noida
Email: ayadav@in.sopragroup.com

Post: Project Leader- Oracle
Company: Corbus India Pvt. Ltd.
Profile: Candidate should have experience of development using Oracle,PL/SQL, designing, PL SDLC. Shall have experience of working on various application & In-depth knowledge of software quality practices.
Exp.: 6-8
Location: Delhi/NCR
Email: rkapoor@corbus.com

Post: Senior- QA Engineer
Company: Ness Technologies India Ltd.
Profile: Must have worked in QA Testing roles, excellent trouble shooting/problem solving/analytical skills. Should be proficient working with multiple OS (Unix / Windows) and Databases, VB/.Net or Java/J2EE technology.
Exp.: 4-7
Location: Bangalore
Email: akshatha.rao@in.ness.com

Post: Developer- Dot Net
Company: Pyramid IT Consulting Pvt. Ltd.
Profile: The ideal shall have relevant qualifications & should have work experince of C#, Oracle 9i or 10G, ASP.NET, ADO.NET & SQL Server
Exp.: 5-8
Location: Pune
Email: hr@pyramidconsultinginc.com

Post: Manager- NSS
Company: Tanla Solutions Ltd.
Profile: Candidate should have experience in Windows ADS / Exchange, SMS and other Microsoft Technologies and should have experience in Network management,

configurations.
Exp.: 6-11
Location: Hyderabad
Email: rohini.kaveti@tanlasolutions.com

Post: Engineering Manager
Company: CoreObjects India Pvt. Ltd.
Profile: Candidate should be Engineer in Computer Science with rich work experience. Should have good technical knowledge with work experience of project.

Exp.: 8-13
Location: Pune
Email: punam.kulkarni@coreobjects.com

Post: Technical Architect- JAVA
Company: Target Services India Pvt. Ltd.
Profile: Candidate should have experience in IT industry with good knowledge in J2EE, Web Services, Java Enterprise solutions XML, XSLT, Java Server Pages, EJBs & Servlets

Exp.: 6-8
Location: Bangalore
Email: roopa.rangaprasad@target.com

Post: Senior Developer- Oracle
Company: Kogent Solutions
Profile: Candidate should have experience in Oracle Applications, Oracle D2K technologies. Should be expertise in Forms & Reports (Version: 6i, 8i, 9i and 10g) and good command of PL/SQL, Database:

Exp.: 4-8
Location: Delhi/NCR
Email: jobs@kogent-india.com

Post: Manager- Software Engineer
Company: Edgenet Development Corporation
Profile: Will have to manage the complete software development life cycle for a market segment, developing software architecture, defining project scope using the latest technologies.

Exp.: 6-11
Location: Hyderabad
Email: hrindia@edgenet.com

Post: Project Manager
Company: Renovau Ltd.
Profile: Must have worked as a team leader

for atleast two successful implementation of VoIP based Telecom products. Should have experience of C, C++, Linux Kernel Programming, Linux Device.

Exp.: 4-7
Location: Ahmedabad
Email: ks@renovau.com

Post: Automated Testing Engineer
Company: Kring Technologies India Pvt. Ltd.
Profile: Required a applicant who is experienced in Testing using tools like WinRunner, LoadRunner, Test Director, Silk test, QTP test, Automated Testing, Manual Testing, Quick Test Professional , .Net, C# projects.

Exp.: 4-5
Location: Gurgaon
Email: mas@kring.com

Post: Technical Manager
Company: Persistent Systems Pvt. Ltd.
Profile: Applicant should have Pror exposure in ECommerce Application, Web Applications Engineering Management, customer interaction

Exp.: 5-8
Location: Nagpur
Email: nagpur_careers@persistent.co.in

Post: Manager- QA
Company: Juriscape Legal Research Pvt. Ltd
Profile: The candidate should have QA experience of web based applications and possess sound database knowledge. Candidate would be ultimately responsible for QC documentations, final QC & Test cases.

Exp.: 4-7
Location: Ahmedabad
Email: jobsindia@juriscape.com

Post: Firmware Development
Company: Infineon technologies Pvt. Ltd.
Profile: The candidate should have experience in xDSL technologies, testing, debugging of firmware and knowledge of Ethernet, C, C++, Assembly language coding on RISC/DSP processors

Exp.: 4-7
Location: Bangalore
Email: hr-bangalore@infineon.com

AUDIO/VISUAL/MULTIMEDIA INTERFACE & CONNECTIVITY PRODUCTS

(VGA / AUDIO & VIDEO)

**Milestone Electronics Pvt. Ltd**

Mumbai - Tel - 022 - 2596 4120 / 6798 7577

Fax - 022- 2596 1328 | www.milestone.co.in

- Northern Region : New Delhi - Gigatronics : 011 - 26484449 / 9891677000
- Western Region : Ahmedabad - Interface Products Info - 09825350221
- Nashik : Kasturi Informatique - 0253-574881
- Southern Region : Bangalore - Perinet Multimedia - 080 - 22998432
- Pune Region : 9890 333 822
- Eastern Region : Sardana & company - 0657 - 2423223 / 2428979

**"Original" Replacement lamps for
"EVERY LCD-DLP Projector ever made"**

Hi-Quality Lamps
from
OEM company only



Lamps also
available for
"Projection TV"

Gemini Traders

52, Bagchi Madhodass, Opp.Lajpat Rai Electronics Mkt.
Near Red Fort Parking, Delhi-110006,
Ph : 011-23866526 Mobile : 9311155528,
Email : info@geminitraders.com



A trusted name in business since 1978.



ATX Computer Cases



ATX Power Supply

Imported & Marketed by:
AGGARWAL BROS.

302, Shalimar Building, 50, Nehru Place, New Delhi-110019 Ph. : 30881118, 30631547 M: 9810636794
Head Office : 128, B.D. Chamber, 54/10, D.B. Gupta Road, Kacholi Bagh, N. Delhi-110005 Tel: 011-2546253, 25531685
Fax: 91-11-2546253 • E-mail: zinx@runbox.com • Website: <http://www.zinx.com>



**ONE STOP SOLUTION FOR
all your IT needs !**

The Complete Call Center Solution

- IP Phones.
- VoIP Minutes.
- Routers and Switches.
- Predictive Dialers.
- Complete installation and Maintenance.
- In-house Portal development.
- State of the art infrastructure.
- Round the clock support.



**Call us now for free demo and
attractive discounts.**

**Call Center space also available
Excellent Location**

Wizie.com India Pvt Ltd.

462, Udyog Vihar Phase V,
Gurgaon - 122001 Haryana.
Ph: 0124 - 4110900, 4309100
Cell: 9871995552, 9871995553
E-Mail: sales@wizie.com

* Distributors and resellers enquiries solicited.



SSD-6001R

Speakers & Home Theater Systems

- 5.1 ch multimedia Speaker system
- Output power RMS : 30w+10w x 5
- S/N ratio > 60db
- Frequency Response : 20Hz - 20khz
- Separation > 40db
- Control: Power, Volume, Bass, Treble



SSD-4001R

Web Camera

Night Vision 300 K Pixel
With 4 Light



SSD-642K

Night Vision 300 K Pixel
With 8 Light



SSD-643K

New



LINE INTERACTIVE UPS 600 VA UPS

- Night / Off mode charging
- Automatic voltage regulation (AVR) 145-280V
- Over voltage and under voltage protection
- High efficiency using Line-interactive circuit technology

LASER MOUSE

- The laser mouse can work on most the transparent (glasses) or mirrored surfaces
- With the powerful module provides amazing tracking ability
- Enjoy ultra precise and smooth operation
- Unique shape fits in your comfortable operation
- Easily scroll through documents browse



SSD-LM-524

* Local Sales Tax & Octroi Extra

SHREE SAGARMATHA DISTRIBUTORS PVT. LTD.

202, Mansarovar Building, 90, Nehru Place, New Delhi-110019 Tel. : 011 - 26428541 / 42, 41618544 / 45, Fax : 011-26428540,
e-mail : dlh@techcomindia.com, techcom@airtelbroadband.in

TECH-COM TM

Digital Camera With Optical Zoom (Large 2.4" Color LCD)



Rs.7,490/-

DSC-524X PLUS

- 5.3 Mega Pixel Digital Camera (Max 7 Mega by Interpolation)
- Large 2.4" Color LCD
- 15 x Zoom (3x Optical, 5x Digital)
- Internal Memory 32 MB
- Movie Clip 30 FPS / Voice Record
- Photo Frame, 9 Options
- ISO Equivalent : Auto, 100, 200, 400
- Histogram support, Pict Bridge Function
- Photo Editing On Camera It Self
- Built in Games, TV-out
- Date Imprint on Photograph
- Supports SD/MMC Card
- Batteries 2 x AA

New



Rs.5,190/-

DSC-601

Digital Camera (Large 2.0" Color LCD)

- 6.18 Mega Pixel Digital Camera (Max 8 Mega by Interpolation)
- Large 2.0" Color LCD
- 5x Digital Zoom
- Internal Memory 32 MB
- Movie Clip 24 FPS / Voice Record
- Photo Editing On Camera It Self
- Photo Frame, 9 Options
- Built in Games, TV-out
- Pict Bridge Function
- Date Imprint on Photograph
- Supports SD/MMC Card
- Batteries 2 x AA



GRAPHIC CARD



NVIDIA SERIES

New PCI-E GF 7100 GS 256 MB DDR2 / TV OUT / DVI / PORT (FORSA)

Ex PCI-E GF 7300 GS 256 MB DDR2 / TV OUT / DVI / DUAL LINK (FORSA)

Ex PCI-E GF 7600 GT 256 MB GDDR3 / TV OUT / DVI / DUAL LINK (PALIT)

New PCI-E GF 7900 GS 256 MB DDR3 / TV OUT / DVI / DUAL LINK / 256 BIT (PALIT)

ATI SERIES

Ex PCI-E 550 256 MB TV OUT / DVI (PALIT)

New PCI-E X 800 GTO 256 MB TV OUT / DVI (PALIT)

Ex AGP ATI X 1300 PRO 256 MB DDR2 / TV OUT / DVI (PALIT)

Ex PCI-E ATI X 1300 PRO 256 MB DDR2 / TV OUT / DVI (PALIT)



SSD-TV-715

External TV Tuner Box

- No Software required
- Simple plug & play
- With remote control
- Built in Speaker, S-Video Terminal Interface
- Connect to VCD & TV Games

Web: www.techcomindia.com

BANGALORE
080-22297633/34, 9845025240
sagarmatha_bng@airtelbroadband.in

CHENNAI
044-28594801/02, 9381040497
sagarmatha_chn@airtelbroadband.in

SECUNDERABAD
040-66324260/61, 9391035322
sagarmatha_hyd@sify.com

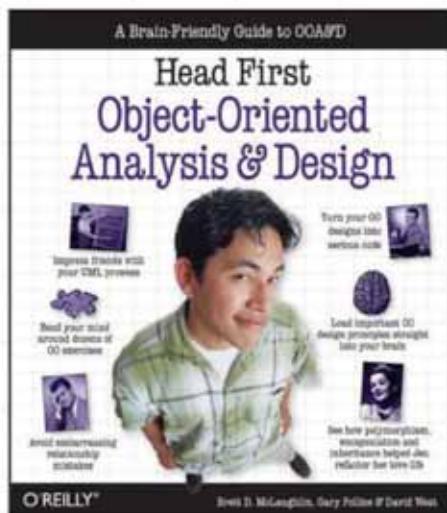
CHANDIGARH
0172-3062776, 9876067989
chandigarh@techcomindia.com

KOLKATA
033-22129331/32, 9830031487
kolkata@techcomindia.com

MUMBAI
022-23065114/23000232, 9820566104
sagarmatha_mumbai@mtnl.net.in

Great Careers Begin with Good Books

Books From O'Reilly Head First Series



Head First Object-Oriented Analysis & Design

by Brett D. McLaughlin

ISBN: 81-8404-325-2

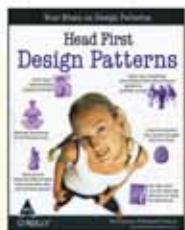
2006, Pages: 752

Price : Rs. 675.00

Description

Tired of reading object oriented analysis and design books that only make sense after you're an expert? Try our Head First book. Packed with more graphics, illustrations, cartoons, and photos than any other technical book, this witty and entertaining tutorial shows you how to analyze, design, and write great software that makes your boss happy and your customers satisfied.

Despite its playful appearance, *Head First Object-Oriented Analysis and Design* is serious stuff: it shows you to solve real problems, regardless of their size and complexity, by applying good design principles and practices. The result is software that's easy to reuse, maintain, and extend -- software that doesn't hurt your head, software that lets you add new features without breaking the old ones.



Rs. 500.00



Rs. 450.00



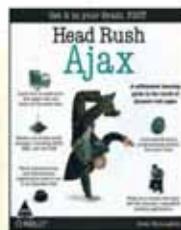
Rs. 500.00



Rs. 450.00

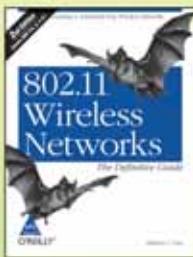


Rs. 600.00

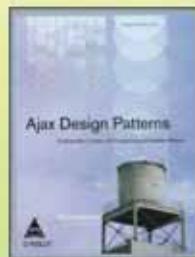


Rs. 375.00

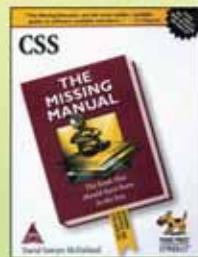
O'Reilly New Arrivals



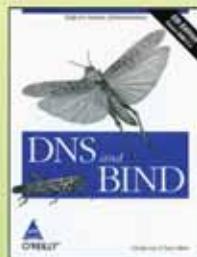
Rs. 550.00



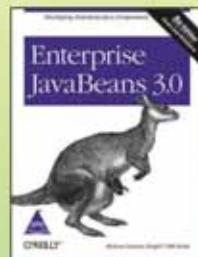
Rs. 500.00



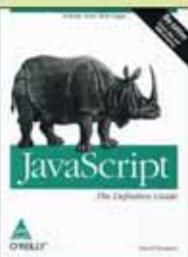
Rs. 450.00



Rs. 500.00



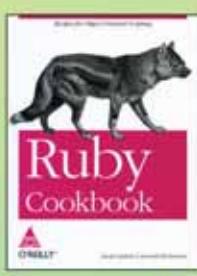
Rs. 500.00



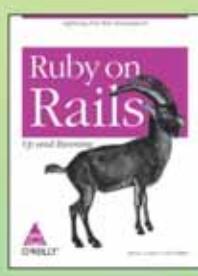
Rs. 750.00



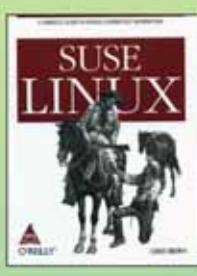
Rs. 650.00



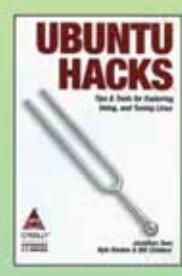
Rs. 650.00



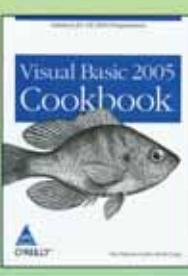
Rs. 225.00



Rs. 400.00



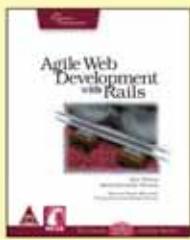
Rs. 350.00



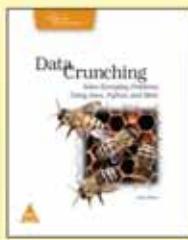
Rs. 575.00

E-Mail: spdorders@shroffpublishers.com

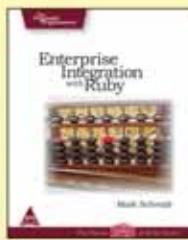
Books from Pragmatic Bookshelf



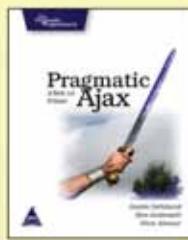
Agile Web Development
with Rails



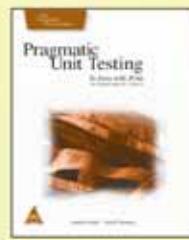
Data Crunching
Using Python, Perl, and Java



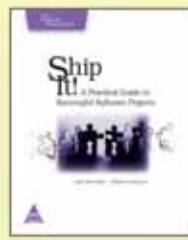
Enterprise
Integration with Ruby



Pragmatic
Ajax



Pragmatic
Unit Testing



Ship
It!
A Practical Guide to
Successful Software Projects

Rs. 500.00

Rs. 250.00

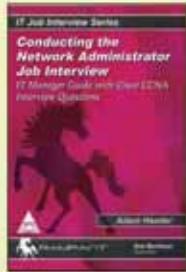
Rs. 375.00

Rs. 350.00

Rs. 200.00

Rs. 250.00

Books From Rampant



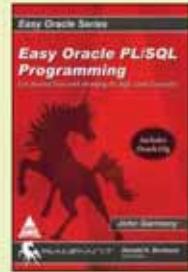
Conducting the
Network Administrator
Job Interview
12 Manager Guide with Clear CDNA
Interview Questions

Rs. 150.00



Easy Oracle Series
Easy Oracle HTML-DB
Learn Oracle DB Right First Time

Rs. 375.00



Easy Oracle Series
Easy Oracle PL/SQL
Programming

Rs. 150.00



Oracle In-Pieces
Oracle Data Guard
Readily Deployed Parallel Standby

Rs. 325.00



Oracle In-Pieces
Oracle RAC & Grid Tuning
with Solid State Disk

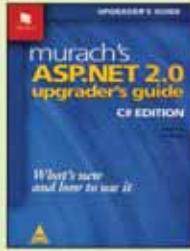
Rs. 225.00



Oracle In-Pieces
Oracle Tuning
The Definitive Reference

Rs. 600.00

Books From Mike Murach



murach's
ASP.NET 2.0
upgrader's guide
C# EDITION

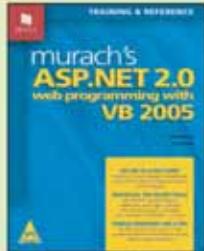
What's new
and how to use it.

Rs. 400.00



murach's
ASP.NET 2.0
web programming with
C# 2005

Rs. 550.00



murach's
ASP.NET 2.0
web programming with
VB 2005

Rs. 550.00



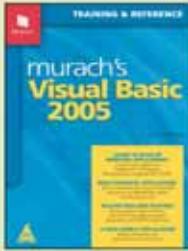
murach's
beginning
Java 2
JDK 5

Rs. 450.00



murach's
C# 2005

Rs. 575.00



murach's
Visual Basic
2005

Rs. 600.00

Available at a bookstore near you, in case of difficulty contact:



SHROFF PUBLISHERS & DISTRIBUTORS PVT. LTD.



C-103, TTC Industrial Area, MIDC, Pawane, Navi Mumbai - 400 701.

Tel: (91 22) 2763 4290 • Fax: (91 22) 2768 3337

E-mail: spdorders@shroffpublishers.com

-: Branches :-

Bangalore

7, Sharada Colony, Basaveshwaramagar, 8th Main, Bangalore - 560 079.

Tel: (91 80) 4128 7393 • Fax: 4128 7392

E-mail: spdbl@shroffpublishers.com

Delhi

Basement, 2/11 Ansari Road, Daryaganj, New Delhi - 110 002.

Tel: (91 11) 2324 3337 / 3338 • Fax: 2324 3339

E-mail: spddel@shroffpublishers.com

Chennai

23, Damodharan Street, (Old No. 12) T. Nagar, Chennai - 600 017.

Tel: (91 44) 2431 5343 • Fax: 2431 5342

E-mail: spdchennai@shroffpublishers.com

Kolkata

7B Haati Bagan Road, CIT Paddapukur, Kolkata - 700 014.

Tel: (91 33) 2284 9329, 2284 7954 • Fax: 2835 0795

E-mail: spdcal@vsnl.com

Hyderabad Resident Representative: Srikanth Vennu Mobile : 09885059050

Pune Resident Representative: Devendra Shinde Mobile : 09823953174



Aim higher

We can take you there!

Hardware & basic networking training can get you jobs in the industry but to reach the top, you need higher end courses and the right mix of international certifications in networking & its specializations (not hardware and electronics certifications, which aren't very useful for top level networking careers)

We have trained & placed our students in some of the world's largest companies & many of India's top networking companies and service providers, we know what you need to get the best (and highest paying) jobs!

Whether its training an existing networking professional to reach greater heights in his career or a fresher straight out of college who wants to make a career in this industry, you can be sure we have the right set of high-end courses and career packages for you!

Our world class internetworking infrastructure (by far the largest in India) comprises of modern equipment that you will find in your networking jobs. We use multiple sets of equipment in every internetworking lab, thus ensuring that you get enough hands-on experience on the latest technologies.

We assist in providing low priced accommodation to outstation students who come to us for training from different cities in India and all over the world.

Our commitment to offer the best value for your money also ensures that our courses are affordable to everyone who is serious about quality training!

**India's largest internetworking (Cisco) training Infrastructure:
100 + Routers & Switches**

Certification courses:

Cisco: CCNA, CCNP (New syllabus),

CCIP (incl. MPLS), CCIE (R&S Lab)

Red Hat Linux: RHCT, RHCE

Microsoft: MCSA, MCSE,

CheckPoint CCSA & CCSE.

Career Courses:

ICNT: IPsolutions Certified Network Technician
Covers Hardware & Networking, Wireless
Networking, VoIP (Voice over IP), MCP, CCNA,
Red Hat Linux essentials & RHCT

ICNS: IPsolutions Certified Network Specialist
Covers Hardware & Networking, Wireless
Networking, VoIP (Voice over IP), MCP, MCSA
MCSE, CCNA, Red Hat Linux essentials,
RHCT, RHCE, CheckPoint CCSA

CCIE training @ IPsolutions

Fully equipped labs as per new lab format

Highly experienced CCIE trainer

100% hands-on training

Post training support and pod access

India's fastest growing list of CCIEs

 **IPsolutions™**
**NETWORKING &
INTERNETWORKING
TRAINING EXPERTS**



redhat
CERTIFIED
TRAINING PARTNER



**100%
JOB & PASSING
GUARANTEED!***

conditions apply

Transcend

Exceeding Your Expectations

Digital Album



Features

- 2.5" High Resolution, True Colour LCD Panel (294* 28 Pixel)
- 20 GB 1.8" Micro Hard Drive
- USB 2.0 Hi-Speed, Up to 480 Mbits/sec data transfer rate
- Support Compact Flash Card Type I/II, Micro Drive, Smart Media, Multi Media Card(MMC), Secure Digital (SD), mini SD (With Adapter) and RS-MMC (With Adapter)

StoreJet OTG



Features

- Hi-speed USB 2.0 Compliant And USB 1.0 Backwards Compatible
- Hi-speed Data Transfer Rates Up To 480Mbits (60 MB) per second
- 20/40GB 1.8" Micro Hard Disk Drive
- Supports the direct input of many types of Memory Cards

StoreJet 2.5



Features

- Hi-Speed USB 2.0 compliant and USB1.1 backwards compatible.
- Easy Plug and Play installation.
- 1.8" Hard Disk Drive (20/30/40/60/120GB versions)
- Ultra-portability.
- Powered via the USB port.No external power or battery needed.
- Hi-Speed data transfer rates up to 480Mbits (60MB) per second.

Experience
nirvana



FingerPrint
Recognition Technology



1 GB to 2 GB



1 GB to 4 GB



512 MB to 4 GB



512 MB to 4 GB

Jet Flash Pen Drive

Memory cards for Mobile & PDA's



128 MB to 512 MB



128 MB to 1 GB



128 MB to 1 GB



128MB TO 2 GB



512 MB to 2 GB

MP3 Player, Digital Voice Recorder & Fm New Stream Lined Design,
Vibrant Colour Schemes & A Self Luminous, Olde LCD Panel Display

Memory cards for Digital Camera



128 MB to 8 GB



128 MB to 4 GB



128 MB to 2 GB



256 MB to 2 GB



256 MB to 1 GB

High Standard Memories

FB - DIMM



Server Memory

Laptop Memory

Desktop Memory

Proprietary Memory



Authorised Distributor for India

Vidyaarthi Bhavan, 2nd Floor, Tribhuvan Road, Mumbai - 400 004. Tel: (022) 2382 8100/ 8200/ 3100/ 3200 Fax : 022 - 2387 7418 E-mail : sales@mediamangroup.com

Ahmedabad	: 079 - 26841905 / 40031905	Bangalore	: 080 - 22998106	Bhuneshwar	: 0674 - 2595693 / 642	Chennai	: 044 - 26613145 / 3126
Chandigarh	: 0172 - 5089935 / 36	Cochin	: 0484 - 2356 142 / 4029142	Coimbatore	: 0422 - 2499541 / 2497316	Dehradun	: 0135 - 2710336
Gurgaon	: 0124 - 4146551 / 4146552	Guwahati	: 0361 - 2632949 / 2634339	Goa	: 0832 - 2424134 / 2430882	HUBLI Dharwar	: 0836 - 2213731 / 3214435
Indore	: 0731 - 4092855 / 4091455	Jaipur	: 0141 - 5117196 / 3214435	Jamshedpur	: 0657 - 2432617	Kolkatta	: 09831106991
Lucknow	: 0522 - 2635217 / 18	Ludhiana	: 0161 - 2404800 / 02	New Delhi	: 011 - 26436349 / 51608136	Panwanoo	: 01792 - 234388
Pondicherry	: 0413 - 4308242	Pune	: 020 - 64001815	Secunderabad	: 040 - 2772068 / 27894145	Trivendrum	: 0471-2339200 / 01
Here & Now (Retail) : 022 - 2382 45 60 / 61							

New Introductions from...

DIGITAL PRIDE.
COWON
www.cowonglobal.com

**0.85 begins.****0.85" HDD MP3**
The world's first
MP3 with the
smallest submicro HDD**Swing Touch**
Intuitive and easy
controls with
sensitive touch
control pad**USB Host
Function (DTG)**
Connect and
transfer files
directly from
digital cameras
or other mass
storage devices.**BUY IT!
active**

COWON U2 (Sept.06) India

CNET's Best
Digital Media PlayerIDigital
Digital**** COWON U2
(Sept.06) IndiaCHIP
Best ProductCOWON X3L&U3
(May06) India

Simple & Ultra Compact Design

Long Battery Life
Tiny and light,
Lithium polymer battery
provides upto 20 hrs.
of playback.
Unit can be charged
from AC adaptor or
your computer through
USB connection**Simple & Ultra Compact Design****COWON A2 Advanced Wide PMP****4 Inch Wide TFT LCD**

16:9 Wide Screen for the best Movie view. Record TV, VTR & DVD to MPEG4 & MP3

USB Host Function (DTG)
Store your photos to A2 directly
from digital camera.**Video Record**

Record TV, VTR & DVD to MPEG4 & MP3

TV OutEnjoy movie contents from any external display.
Works in NTSC and PAL format**30GB + 35hrs.
PLAYBACK!****iAUDIO XSL****Best Music Device****TEST OF****Video Playback**
Play MPEG-4 files on the 1.8" LCD**Various Music Format Support**

MP3, OGG, WMA, FLAC, WAV.

iAUDIO is first player that supports FLAC
(Free Lossless Audio Codec) in the world**Text viewer, Image viewer and Wallpaper.**

Organize photo in thumbnail view and wallpaper it.

USB Hot Function (DTG)

Store your photos to A2 directly from digital camera.

iAUDIO U3**mini Movie MP3****Movie Player, Image &
Text Viewer****Video Record Vivid**
260,000 Color TFT LCD**Powerful Sound of**
60mW Output**20 Hours of
Continuous
Playback****iAUDIO G3****JetShell****Revolutionary Playback Time**

Continuous playback upto 50 hrs.

with single AA batter.

Enjoy your music for

2 weeks (4 hrs. per day)

without any concern of battery life.

We welcome trade inquiries for resale & sub-distribution.National Distributor : **LIPAP SYSTEMS PVT.LTD.**

Tel No.: 022 - 28743457 / 28759382 Fax No.: 022 - 28743916

Email : lipap@vsnl.com, iaudio@lipap.com Website : www.cowonglobal.com

...now FEEL THE SOUND

GET YOUR WEAPONS BEFORE THE WAR, GET THE ULTIMATE GAMING PC.



Mnemonic™ Systems

Shop No. 4, Natasha Manor-B, Opp. Indian Bank, Borivali (West), Mumbai 400 092.
Tel: 98200 63585 / 32931561 / 98673 63585 • e-mail: mnemonic@vsnl.com

Also available Graphic workstations and Home Theatre Computers.



**Western
Digital**



The Portable Headquarters for your **DIGITAL** Life



My Book Premium Edition
250 to 500 GB

- Dual interface - Firewire 400 and USB 2.0.
- Backup & Recovery Software



Passport Portable Hard Disk
80 GB, 120 GB, 160 GB

- Powered by the USB
- With WD synchronization and encryption software

It Holds

- Up to 142,000 digital photos
- Up to 125,000 songs (MP3)
- Up to 12,000 songs (uncompressed CD quality)
- Up to 38 hours of Digital Video (DV)
- Up to 200 hours of DVD quality video
- Up to 60 hours of HD video

It Holds

- Up to 34,000 digital photos
- Up to 30,000 songs (MP3)
- Up to 3,000 songs (uncompressed CD quality)
- Up to 9 hours of Digital Video (DV)
- Up to 53 hours of DVD quality video
- Up to 14 hours of HD video

Also Available



**Network Storage Drives
NetCenter**
250 to 500 GB



**Passport® Pocket
Drives**
6 GB



**My Book Essential
Edition**
250 to 500 GB



Media Center
320 GB



**Western
Digital**

Just Call Us

- 1) Generate RMA (Return Material Authorization) through web/call/email
- 2) Confirm your pickup address with 1800-11-93-93
- 3) WD designated Counter pack up faulty drive from your place
- 4) Drive checked and replacement drive issued
- 5) Drive delivered to your doorstep

India's First door to door Hard Disk Warranty Service

Replacement for End Customer, Assemblers & Reseller

Mediaman
Sole Distributors for India
www.mediamangroup.com

2nd Floor, Vidhyarthi Bhavan, Tribhuvan Road, Near Deamland Cinema, Grant Road (E), Mumbai - 400 004.

Tel. : (022) 2382 8100 / 8200 / 3100 / 3200 • Email : sales@mediamangroup.com

Ahmedabad	: 2684 1905,	Dehradun	: 2710336,	Kolkata	: 09831106991,
Delhi	: 2643649/51/51608136,	Jamshedpur	: 2432617,	Ludhiana	: 2404800/02,
Bangalore	: 22998106,	Goa	: 2229903/2424134,	Lucknow	: 2635218/19,
Bhubaneshwar	: 2595693/042,	Gurgaon	: 098891158332,	Chennai	: 26613145/3126,
Guwahati	: 2632949/2634339,	Pune	: 64001815,	Chandigarh	: 5089935/36,
Hubli Dharwar	: 2213731/236228,	Parwanoo	: 234388	Cochin	: 2356142/4029142,
Indore	: 4092855/4091455,	Secunderabad	: 27722068/27894145,	Coimbatore	: 2499541/2497316,
Jaipur	: 2366862/9829013546,	Here & Now (Retail)	: 23824560/61,	Thiruvananthapuram	: 2339200/01
Pondicherry	: 4308242				

www.wdc.com

Chat. Listen. Enjoy.

Just connect yourself with our sleek headphones.



**Dealers
Enquiries
Solicited**



Specifications:

- Drive Unit: Ø 40 mm
- Microphone Sensitivity: 58db ± 2db
- Speaker Impedance: 32 ohm ± 15%
- Speaker Sensitivity: 105db ± 3db
- Speaker Frequency Response: 20-20000Hz
- Maximum Power Input: 100mw
- Cord Length: 2-3 metres

More attractive models available.

Blues IT Innovations India Pvt. Ltd.

Shop No. 1 & 2, A-Wing, Shyam Sadan, 232/246,
Raja Ram Mohan Roy Road, Charni Road,
Mumbai - 400 004, India. Tel.: 2384 1590, 2384 1592
Mob.: 9320064767 e-mail: info@bluesindia.com



www.bluesindia.com

Embedded & Wireless
Training means



*R&D *CONSULTANCY *TRAINING

EMBEDDED SYSTEM

- PIC, 8051, AVR, Power PC, ARM, DSP
- TCP/IP, Bluetooth, GPRS, I2C, CAN, GPS, GSM, CDMA
- Adv. C, VC++, Emb. C, EC++, Keil uV2, Device Drivers
- RTOS, VxWorks, Win CE, Linux Int., RT Linux



WIRELESS TECHNOLOGY

- WiMax, CDMA2000, GSM, GPRS, EDGE, UMTS
- BlueTooth, VoIP, SDR, WAP, SS7, CAMEL, EDGE
- UTRAN, 1xEV-DV, 1xEV-DO, 3G, 4G, IMS, GPS
- EC++, J2ME, ARM, PowerPC, Emb. Linux, WINCE, DSP

- Licensed VxWorks, Win CE, Emb. Linux
- Industrial Projects
- ARM, PPC, AVR, PIC, 8051 Target Boards
- Wireless trainer kits
- Short Term courses
- Week-End Batches
- Soft Skills

Premier Embedded training centre in Asia



178-1/4, 76th cross, 6th Block, Rajajinagar,
Opp. To Prasanna Theatre, Bangalore - 560010.
Ph: 23357682, 23500614, 23110267, 23500654.
Learn@ismbangalore.com

For Corporate Training contact 9448474282

LAPTOP ACCESORIES

WHOLE SALE SUPPLIER

acer

COMPAQ

DELL

HEWLETT PACKARD



IBM
LENOVO
TOSHIBA
SONY



BAG



BATTERY



ADAPTER



LAPTOP STAND



HARD DISK



OPTICAL DRIVE

SKY GATE
MULTI TECHNOLOGIES

No. 317/A, Paheli Bldg., Lamington Road, Grant Road (E), Mumbai - 400 007, INDIA • Phone : +91-22-2384 0303 / 2384 0404
• Fax : +91-22-2384 0505 • E-mail : j2p2@vsnl.net

Continuous **POWER** during long power cuts



Mega Power Gas Generator

- Starts Directly on Gas
- Reduce 50% Fuel Cost
- Easy Availability of Fuel
- Easy to operate & safe
- Eco-friendly, Non Polluting,
- Low Noise Level
- Low Maintenance
- Portable, Compact & Light Weight

Ideal & Reliable Power

Solution for Shops, Showrooms, Offices, Hotels, Hospitals, Institutes, Cybercafes, Xerox Machines, Photo Labs, Home

Megapower Engg. Co.

MUMBAI : A-4, Datey Bhavan, Ground Floor, Akshikar Road, Dadar (W), Mumbai - 400 028. Tel.: 022-6539 1695 / 6450 9291
Cell: 09969 33511 • E-mail: megapower_engineers@yahoo.com

DELHI : E-94/1, Road No. 6, Shaheen Bagh, Abul Fazal Enclave-II, Jamia Nagar, Okhla, New Delhi - 110 025
Tel.: 011-29943052/53, 64152672 • Cell: 98180 82533
E-mail: megapower_engineers@yahoo.com

The only Testing provider
in India accredited by:



International Software Testing Qualifications Board
<http://india.istqb.org>



Be the chosen one...
rise to the top.



SQTL, the undisputed leader offers
Diploma & Certificate Course in

Invites application from aspiring candidates
for Training cum Placement Programme
for various IT MNC companies.

Software Testing

DST

Diploma in Software Testing

.net

JAVA/J2EE

Our Achievements :

- 2550 - Students placed in 230+ IT Companies
- Accredited for ISTQB -Training & Certification

100% Placement Assistance

Eligibility : BE / MCA / MCM / BCS or 1 year IT experience preferable.

Corporate Office :

SQTL Integrated Solutions Pvt. Ltd.
Dayaprabha House, ITI Road,
Aundh, Pune - 411 007
Tel.: +91 20 25882201, 25889236
Mob.: 9881207631, 9822964600
Email : info@sqtl.com, jayant@sqtl.com

Pune:

Aundh	: T.: 020 - 25880911, 25882201
D. P. Road	: T.: 020 - 30520249, 56214812
Kothrud	: T.: 020 - 65262536, 65234216
Swargate	: T.: 020 - 65236701, 24210896
Pimpri	: T.: 020 - 65350717



Centers at : Mumbai - Bangalore - Indore - Delhi

Host Your Website



Space2Host™

www.space2host.com

| Web Hosting | Domain Name Registration | FTP Services |

Space2host Web Services Pvt Ltd

New No.13/1 First Avenue, Ashok Nagar, Chennai - 600 083
Tel : 2471 0934 Fax : 2474 0953 Email : sales@space2host.com

Aladdin is the #1 vendor in the software licensing authentication tokens market for 2002 and 2003 - IDC Buflin #31432, 2004.



HASP
Intelligent Software Protection

The Professional Software Protection System

- Strong software protection based on AES & RSA algorithms.
- Innovative licensing models implemented independently of protection.
- Single & multi-user license management.
- Intuitive, easy-to-use tools & API integration.



eToken
Your Key To Aladdin

Strong Authentication and Password Management

eToken PRO offers strong authentication and guaranteed non-repudiation for sensitive applications such as eBanking, stock trading, eCommerce and financial transactions. eToken PRO can generate and store users' personal credentials, such as private keys, passwords and digital certificates, inside the protected environment of the smartcard chip itself.



Other Security Softwares

Digital Certificate [MCA 21]



Data Protection Content protection like your music files, HTML files, Judgements, Visual Effects etc.



eMail Encryption



Solution Infotech (India) Pvt. Ltd.

714, Vikas Deep Building, 18, Lakshmi Nagar District Center, Delhi - 110 092.
Fax : (011) 2244 9826
eMail : sales@solutioninfotech.com
Website : www.solutioninfotech.com

Now in Bangalore (080 4152 0966)

For more information & updates on any of the products, call us at: 011 4244 8166



WORLD CLASS




EMERSON AWARD WINNER
for India's Best Service Provider & Business Development

PowerSol
SOLUTION UP TO LOAD POINT
Exhilarated with



PRASA
SALES PVT.LTD.

001, Casablanca, Sangam Press Road, Kothrud, Pune-411038. Ph. : 25420712, 25434958
Fax : 25468388. Email : business@prasa-pl.com
Branch :: jaysingpur (02322)-227639 Email : prasajsp@prasa-pl.com

CAUTION!

HIGH - SPEED TRAFFIC ZONE. BROWSE CAREFULLY.



www.overdrive.co.in

Exfinity presents the ultimate machine for Gaming & Visual FX

For the ultimate gaming experience

Extreme I

Extreme Z

Binary



Model - Exfinity Extreme I3676GS

Processor

AMD® Athlon™ 64 X2 3600+ Dual Core Processor

Mainboard - nForce® 570 Ultra

Memory - 512 MB Dual Channel DDR2

Hard Drive - 80GB SATA II

Optical Drive - DVD Re-Writer

Graphics Processor

NVIDIA GeForce™ 7600GS 256MB

Chassis - Cooler Master Case

Operating System

Microsoft® Windows® XP Home Edition

Price

Rs. 39,990/-

Special offer on CHIP's Anniversary: Free upgrade to 1GB Ram & 160GB Hard Drive

fusion

Relive the experience

All the entertainment. All the time



- Pause and record live TV, with full program listing
- Inbuilt DVD player, and even DVD writer
- Burn home videos on CD/DVD
- Connect to a normal TV and also to an LCD, Plasma or Computer Monitor
- Directly connect MP3 player, Digital Camera or Video camcorder
- Powerful computer with Microsoft Windows XP® for Internet and Gaming
- All this from the convenience of your sofa with a remote control
- 5.1 home theater Audio, DVI connection, 25-in one card reader, FM Radio and much more

Price - Rs. 49,990/-

Special offer on CHIP's Anniversary: 17" LCD free with Fusion

x exfinity
High Performance Computers

Exfinity, D/13, 5th floor, Tardeo road, Mumbai 400034, p: 2352 45 75 e: info@exfinity.in w: http://exfinity.in

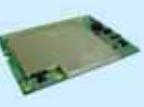
All logos and trademarks are property of their respective owners.

BUSINESS CLASS HIGH POWER WIRELESS



SENAO
Wireless Solution Provider

2 Year Warranty

				
Wireless Outdoor Client Bridge / AP / WDS SOC-3220	Wireless Multi-Client Bridge / AP / WDS SL-2611CB3 PLUS	Wireless Multi-Client Bridge / AP / WDS SCB-3220	Wireless Dual Band Multi-Client Bridge / AP / WDS SCB-8610	Atheros Wireless USB 2.0 Adapter with External Antenna SUB-362(EXT)
				
Zydas Wireless USB 2.0 Adapter SUB-8301	Atheros 6thG Wireless Mini-PCI Adapter (26dBm) SMP8602	Power over Ethernet Adapter SPE-4818	Atheros Wireless USB 2.0 Adapter SUB-862	Ralink Wireless USB 2.0 Adapter SUB-3701

KRAUSS COMMUNICATION

Contact : Mr. Mankomal Singh : Mob. 9910416231

702 Madhuban Building, 55 Nehru Place, New Delhi - 110019
 Contact : Mr. Mankomal Singh : Mob. 9910416231
 PH: (011) 41606603 / 26210739 , Fax: (011) 41395427 / 41606604
 email: kcommunication@eth.net / kcomm@airtelbroadband.in

WISP India
Wireless Internet Solution Provider
Authorised Distributors for MIKROTIK in India

ROUTING THE WORLD



Point-to-Point Links

Point-to-MultiPoint Link upto 200 Clients

- The only routers which can give 10 MB bandwidth and point to point upto 70 km • The best solution for ISP & Bandwidth reseller.

WISP INDIA

HEAD OFFICE : # 1601, 16th Floor, Babu Khan Estates, Basheer Bagh, Hyderabad-500 001, A.P., India.
 Phone : +91-040-50070141/2, Fax : +91-040-23297696, Mobile : +91-93464 33666,
 Website : www.wispindia.in, Email: info@wispindia.in,

DELHI OFFICE: B1/5 Jyoti Building, 66 Nehru Place, New Delhi - 110019, Phone : +91-11-66320220/1
 Mobile : 09811686026, E-mail : kb@wispindia.in

DEALERS ENQUIRY SOLICITED ACROSS INDIA



Complete peace of mind !



TOUCH-ME



FEEL



KARMA



GLORY

Superb looks and a strong power supply make NAV-TECH cabinets your perfect desktop partner !



HIMALAYAN TIMES PVT. LTD.

412-A, Fourth Floor, Chiranjiv Tower, 43, Nehru Place, New Delhi-110019
Tel.: 41639744 Fax : 41436036 E-mail : info@navtech.org

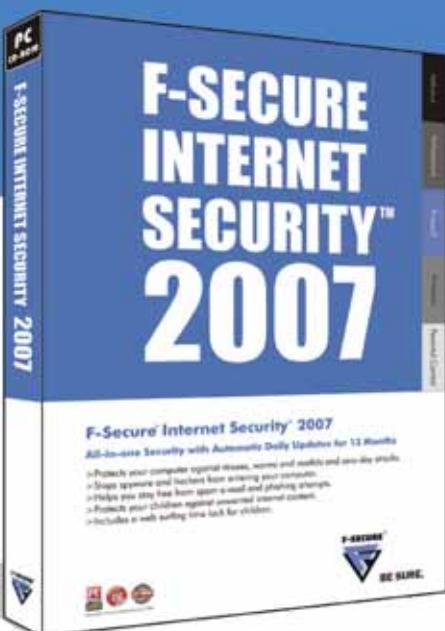
Copyright © 2006, Himalayan Times Pvt. Ltd.

www.navtech.org
e-mail: info@navtech.org

NAV/TECH is the registered trademark of Himalayan Times Pvt. Ltd. in India & abroad

Specifications are subject to change without prior notice.

Are you playing safe on the internet ?



SEEK AND DESTROY VIRUSES AT THE HEART OF YOUR COMPUTER

Standard Internet security programs block virtually all known viruses before they can get into your computer. But what you really need to worry about is a new breed of virus specially designed to fool your defences and set to work, undetected, deep in the heart of your computer.

Normal antivirus programs are helpless against these invaders. They stop your computer working properly. And they can also enable hackers to steal and misuse your credit card details, passwords, and even personal information - with disastrous consequences.

Here's the difference with F-Secure® Internet Security™ 2007: it can see beneath the surface, inside your computer, and act against the hidden intruders. All that, plus comprehensive, automatically updated protection for your email, downloads, online banking, shopping and games. F-Secure Internet Security 2007 protects it all.

National Distributor

ALADDIN MULTIMEDIA PVT. LTD.

E-mail: rajiv@aladdinindia.com

Mob: +91 9820233816 / +91 9820052502

Address: 4, Mahaprabhu Apartments, Marve Road, Malad (W),
Mumbai - 400 064. Mah. India. Ph.: 022 6693 6795/96.



Performance One P180B



A case without compromise.

The P180B is truly a revolutionary breakthrough in case design. Dual chambers isolate the power supply and CPU into separate cooling zones with up to 5 configurable fans. Three-layer sound-deadening panels dampen noise even in very high-performance systems. Ease-of-use, sleek design and Antec's reputation for quality make the P180B worthy of being the first in a new category we call the Advanced Super Mid Tower.



Special Features:

- Unique upper and lower chamber structure: The power supply resides in a separate chamber to isolate heat from the system and lower system noise
- Innovative three-layer side panels and front door (aluminum, plastic, aluminum) dampen system noise, making this one of the quietest cases available
- Cooling System:
 - 1 rear (standard) 120mm TriCool™ Fan with 3-speed switch control
 - 1 top (standard) 120mm TriCool™ Fan
 - 1 lower chamber (standard) 120mm TriCool™ Fan
 - 1 front (optional) 120mm fan
 - 1 middle (optional) 120mm fan to cool graphics cards
 - Upper drive cage can be used as a duct to provide fresh air to graphics cards
- Maximum expandability with 11 Drive Bays
 - External 4 x 5.25"; 1 x 3.5"
 - Internal 6 x 3.5" for HDD
- Motherboard: Fits micro ATX and standard ATX
- Double hinge front door designed to open up to 270°
- 7 Expansion Slots
- Front Ports
 - 2 x USB 2.0
 - 1 x IEEE 1394 (FireWire®, i.Link®)
 - Audio In and Out
- Material: 0.8mm cold rolled steel for durability through the majority of chassis, 1.0mm cold rolled steel around the 4x HDD area
- To optimize performance of your P180 the choice of your power supply is crucial. Antec strongly recommends choosing from our Phantom, Neo or TruePower series
- Silicone grommets in the hard drive cages absorb vibrations and reduce noise
- Built in washable air-filter
- Dimensions: 54cm (H) x 20.5cm (W) x 50.7cm (D)
21.3"(H) x 8.1"(W) x 19.9"(D)

TruePower Trio 650

650 Watt PSU



One, Two, Trio!

The new generation of power supplies has arrived with Antec's TruePower Trio series. The three +12V rails allow you to distribute your power more evenly, which will result in a more stable system. Available in three models: 430 Watt, 550 Watt and a 650 Watt that gives you serious power for even the most cutting edge components. TruePower Trio perfectly handles dual processors, dual graphics cards, and just about anything else you can throw at it.

Antec
The Power of You

Cyber Space Abacus Pvt. Ltd.

"Gokulam " No 9 , Sri Ram Nagar,
Thiruvannmiyur , Chennai - 600 041 Tamilnadu
Tel.: +91-44-24521193 / 24521288.
e-mail: sales@antecindia.com
www.antecindia.com

MUMBAI: Samer Qureshi, Mob: 9819446628. PUNE: Bupesh, Mob: 9822197227. NASIK: Arvind, Mob: 9822875129. NAGPUR: Navneet, 9822875128. AHMEDABAD: Pankaj Vyas, Mob: 9924100589. BARODA: Jay Patel, Mob: 9624555002. SURAT: Rakesh, Mob: 9824015677. BANGALORE: Ajay, Mob: 9880821182. KOLKATA: Pranay Agarwal, Mob: 9830045322. CHENNAI: Murali, Mob: 98511141. COIMBATORE: MADURAI/ SALEM: Parthiban, Mob: 9842236090. SECUNDERABAD / HYDERABAD: Dawood, Mob: 9347105263. CHANDIGARH: Rajiv Sharma, Mob: 9814112633. COCHIN: Biju, Mob: 9847056156. LUDHIANA: Daljit, Mob: 9316818894. NEW-DELHI: Amit Verma, Mob: 9818336688. NOIDA: Manish, Mob: 9810541363. JAIPUR: Rajiv, Mob: 9829010224. LUCKNOW: Amit, Mob: 9335231273. INDORE: Amit, Mob: 9893440999. BHOPAL: 9893552292. Bhubaneswar: Santosh, Mob: 9937208311.



REAL POWER PRO



850W



WORLD'S FIRST SIX+12V RAILS

POWER FOR REALITY

REAL POWER PRO 850W

Celebrating the new generation NVIDIA the latest high graphic cards, Cooler Master has created the Real Power Pro 850W to match its demand for a forceful power supply. We are launching the most revolutionary power supply by far, this spectacular performer has an innovative six +12V independent output rails for excellent power distribution, completely supports the NVIDIA Quad SLI. It also comes with four 6 pin PCI-E connectors that allows for extensive future upgradeability. A powerful and beastly machine with the highest efficiency and stability out on the market, the Real Power Pro 850W is your one and only choice.



Certified NVIDIA SLI-Ready Components

Delhi - SMC International, Mr. Himanshu Jain, Mob : 98100-26658, Tel : 26293001

Mumbai - Matrix3D, Mr. Asif Reshamwala, Mob. 98693-85249., Tel : 022-2308-4511

Bangalore - Zoom Computers, Mr. Lalit Kumar Golchha, Mob: 93421-32858, Tel: 080-2229-5643

Chennai - The IT Depot, Ms. Zareena, Tel : 044-2452-1288

Value Built on Professionalism



AX-27KKK
• Thumb screw design
• 10 drive bays, including
• Side Audio I / O access
• Side USB 2.0 Port
• Snap off front panel
• 450 watt SMPS



Desktop DDRII - 667Mhz.
CAS latency: 3, 4 & 5(clock)
Burst length: 4&8
JEDEC standard



SO-DIMM DDRII - 667Mhz
CAS latency: 3, 4 & 5(clock)
Burst length: 4&8
JEDEC standard



Desktop DDR - 400Mhz
CAS latency: 3, 4 & 5(clock)
Burst length: 4&8
JEDEC standard



SO-DIMM DDR - 333Mhz
CAS latency: 3, 4 & 5(clock)
Burst length: 4&8
JEDEC standard



SD mini/micro
Read: 10 MB/sec
Write: 8 MB/sec
Operation Volt 2.7V/ 3.6V



CFC Cards
Read: 11MB/sec,
Write: 7.5MB/sec, 70X
Operation Volt. : 3.3V/ 5V



MMC-DV
V4.X Ultra high speed
Read: 29MB/sec;
Write: 15.6MB/sec



Pen Drive
Password Protection
USB 2.0, FCC, CE, MIC
Bootable Option



MMD628 512 MB, 1 GB
1.5" Color Display, MP3/WMA/ASF,
View JPEG Photos, AMV Video Play,
Digital Recording, FM Radio, Ebook and Games

TwinMOS Technologies Inc. No. 3, Tzu Chiang Rd., Hsin-Chu Industrial District, Hu Kou Xiang, Hsin Chu, Taiwan R.O.C. 303.

Tel:+886-3-597-1755; Fax:+886-3-597-1763

TwinMOS Technologies India Pvt. Ltd.Tel.: +91-11-41306121, 22, 23 Email.:sales@twinmosindia.com. Web:www.twinmos.com
Delhi : 9312091297, Mumbai : 9320311122, Kolkata : 9339396180, Bangalore: 9880926263.



CardScan® Executive

ORDER CARDSCAN TODAY



CardScan Executive features a desktop card scanner and full-featured contact management software, ideal for the power user.

Synchronize easily with Outlook, PDA's smart phones, plus ACT!, Lotus Notes and GoldMine. Color scanner and fast 5-second scan.



Accurately scans and reads business cards in seconds and creates a digital address book



Consolidates all your contact data using drag and drop from email and web sites



Synchronize or export to Outlook Express, Palm, Windows Mobile devices, iPods and smart phones plus ACT!, Lotus Notes, and Goldmine



Includes online backup, access from a browser, and contact updating



Easily categorize contacts, search, sort, de-dupe, print labels, map addresses and much more.



Merge and share contact files, set user access, export to SQL and even expand with more software and scanners with CardScan Office.

COMPUTERWORLD

"This is a business machine I can't imagine being without. Once you use it, I guarantee you'll be hooked." - Todd Weiss, Computerworld

WIRED

"The mere thought of transcribing them [business cards] by hand makes me burst into tears; it would take several weekends. But with CardScan, I can digitize them in an hour or so." - Wired



The New Version 7 GUI improves the CardScan User experience making tasks faster and easier to do.

CardScan® Office

Includes CardScan Executive Scanner & 5 User licenses for sharing vital contact information between groups, departments or even a small company.



CardScan®

REGIONAL DISTRIBUTORS



Maharashtra & Gujarat :
Excel Systems.
Tel: (9122) 2206 2755 / 56 / 57
Fax: (9122) 2209 2427
Email: cardscan@excelsystems.in

Bangalore :
Aishan Technologies
Tel: (9180) 41216100 / 6200
Fax: (9180) 41216200
Email:raveesh@aishan-tech.com

Delhi :
RAP Infosolutions
Tel: (9111) 66608993 / 8994
Fax: (9111) 51619540
Email: sales@rapinfosolutions.com



Country Distributor :
OVERDRIVE TECHNOLOGIES PVT. LTD
Email : info@goverdrive.com
www.goverdrive.com

Chennai :
Rox Trading & Systems Pvt Ltd.
Tel: (9144) 28252214
Fax: (9144) 28252214
Email: jim.rakesh@roxsys.biz



We Make Dreams a Reality
www.leadtek.com.tw

Distributed by:



Always Ahead

The Only SLI Champion in India
www.zebronics.net



*Re-birth of a
Führer*



Leadtek PX8800 GTX

- HDCP capable
- Features to the enthusiast segment by full-throttle graphics performance
- GPU/Memory Clock at 575/1800 MHz!!
- 768MB, 384-bit memory interface for Hi-Res /AA/AF gaming
- Support Dual Dual-Link DVI with awe-inspiring 2560x1600 resolution
- World's first DirectX 10 GPU delivers unparalleled levels of graphics realism and film-quality effects
- Smoothly playback H.264, MPEG-2, and WMV video—including WMV HD
- Integrated HDTV encoder



PX 8800GTS



PX 7950GT
512MB PCI-E



Quadro FX 4500
512MB

PORTABLE MEDIA ENTERTAINMENT STATION



Palm Top



NSIST ON
NVIDIA



BETTER
PHOTOS



BETTER
VIDEOS



BETTER
GAMES



BETTER
PERFORMANCE

Top Notch Infotronix (India) Pvt. Ltd.

H.O: Chennai, Ph: 044-26616202 / 42137265 Fax: 26616203. Email: enquiry@zebronics.net website: www.zebronics.net

*Ahmedabad. Ph: (079) 32983547. *Bangalore. Ph: (080) 22122014. *Bhubaneshwar. Cell: 9861154195. *Cochin. Ph: (0484) 3297399.

*Coimbatore. Cell: 9380219987. *Chandigarh. Cell: 9316017337. *Delhi. Ph: 011 32568344. *Indore. Ph: (0731) 4001435

*Jaipur. Cell: 9828017157. *Kolkata. Ph: (033) 32403299. *Madurai. Cell: 9380573509. *Mumbai. Ph: (022) 23020429.

*Nagpur. Ph: (07104) 320284. *Pune. Cell: 9324481432. *Ranchi. Cell: 9331169057 *Secunderabad. Ph: (040) 66382306.

*All brand names, logos and registered trademarks mentioned are property of their respective owners



Always Ahead



D MO

www.level1.co.in

RELIABILITY

Level1 presents the future of Enterprise Networking Solutions



WAB-1000H 11g Wireless Mesh Outdoor AP/Bridge With Temperature Controller

- Dual Radio/Interface: IEEE 802.11a/b/g AP and Bridge
- Simultaneously Operates in AP, Repeater or Bridging Mode
- Robust Security Mechanism, Self healing/Forming Mesh
- IP 67 rated Water Resistant and Weather Proof Equipment
- Point-to-Point, Point-to-Multipoint, AP Operation Modes
- Wide range of Models for every RF Connectivity Requirement



GSW-4271E - Aggregation Routing Switch

- Supporting 4K VLANs, Powerful ACL control, QoS/QoS
- Perfect QoS, supporting 256 levels of DIFFSERV priorities
- Supporting 802.1X/Web/Login access authentication
- Cluster Network Mgmt. Supports dynamic routing protocol
- Supporting port binding of MAC address + IP address
- Special design for anti-static and lightning protection
- Hotswappable, Hot-plug, and Redundant Control Modules
- 12/24/32/48 Port Fixed Models are also available



GNS-8000B - Network Attached Storage

- Supports 4 SATA Hard Drives with Hot Swap Function
- Dual Giga-LAN Structure for Load Balancing
- Supports Backup Tape Drive and UPS
- Redundant Power Supplies
- RAID Levels: JBOD, RAID 0,1,5
- SNMP support, Multiple OS and File System Support



WAP-0010-MIMO Wireless AP Switch

- Supports AP, WDS and Hybrid operation modes
- Mitigate Dead Spots and Provides Robust Connection
- Support 64/128-bit WEP encryption,WPA,WPA2,802.1x
- AES/TCP encryption for secure wireless traffic data integrity
- Built-in 4 Port Switch, Compatible with IEEE 802.11b/g standards
- Stable Throughput and Best Wireless Coverage
- Industrial Indoor Mesh AP, POE AP are also available



POH-0850TX 8 Port MidSpan PoE Switch

GSW-2452T 24 Port Gigabit Switch

FSW-3297FX 32 Port L2 FastEthernet Switch

- Wire-speed packet filtering and forwarding rate
- Supports Auto MDI/MDX, Store and Forward Switching
- Jumbo Frame Support, Plug-and-Play
- Best backplane among Layer 2 Switches
- At-a-Glance™ LED's for port and system status monitoring
- 19" Rack Mountable
- Wide range of WebSmart, SNMP, L2/L3 Switches



VOI-9100

H.323 VoIP PBX, IP Telephoney

- H.323 v3 Compliance, H.323 Proxy
- Up to 30 registrations and further expandable
- Address translation for call routing across network
- Can be easily deployed on PSTN setup as well
- Web interface for Remote Management
- H.323/SIP Modular VoIP Gateways also available



KVM-0410/0810/1610:

4/8/16 Port Intelligent KVM Switch

- Cascadable, OSD, Password security
- OS Independent and Transparent to application s/w
- Works with all popular OS simultaneously



WAB-4900A/B WiMAX Base Station and Customer Premises Equipments

- WiMAX Platform
- Modular scalable base station architecture
- Wide Variety of Frequencies: 2 - 6 GHz
- FDD/TDD and dual mode, Multi service with QoS
- Best NLOS and Coverage, Suitable for Residential, Business, MDU/MTU, Hotspot BackEnd
- Voice, Data and Multimedia Services Simultaneously
- Wide range of WiMAX Products and Solutions

DEMAND MORE

LevelOne presents a range of future-ready network products that are designed to maximise what your network can do for you. Scalability, Intelligence and Aesthetics - with LevelOne, you can now harness the full potential of your network.



SECURITY

LevelOne presents the future of IP-Surveillance products for security, industrial and remote monitoring applications



360°

FCS-1050/WCS-2050

World is facing the largest security challenge of all time. LevelOne IP-Surveillance products can distribute high quality video streams over any IP network. Be it LAN or internet and wired or wireless, easy to install and use, LevelOne IP-Surveillance system can be setup and running within minutes. LevelOne IP-Surveillance cameras delivers a dramatic improvement in security for medical, transportation, education, finance, government, industrial and retail markets.



FCS-1040/WCS-2040: Pan/Tilt/Zoom IP Network Camera Wireless 802.11g

- Supports up to 10x Zooming (Optical/Digital)
- 2-Way Audio, External Microphone-Connection
- No extra computer needed on camera site
- MPEG-4 Streaming video/MJPEG for images
- Motion Detection



FCS-1030A: 3GPP IP Camera

- Monitor your factory/installation site through your mobile phones.
- Multi-channel monitoring Web, GPRS/WAP, GPRS/Java, 3G modes
- No extra computer needed on camera site
- User alert like SMS, MMS, E-Mail
- Wireless 3GPP IP Camera also available



FCS-1020: 10/100 IP Camera

- Displays video images on web-browser or through Proprietary Software
- Up to 4 camera display at a time
- MPEG Video compression
- Support UPnP for easy installation
- Supports DDNS for Dynamic IP
- Up to 30 frames per second



FCS-1030/WCS-2030: Fixed IP Network Camera Wireless 802.11g

- Shows live video via LAN or Internet
- Built-in web server: RJ45 interface
- No extra computer needed on camera site
- MPEG-4 Video compression
- Supports DNS/ User Authentication
- E-mail alerts by motion detection



FCS-5004/5008: 4/8 Channel Video Server

- BNC composite video input auto-sensing
- Display via IE-browser
- 4/8 Channels at the same time
- Cascadable
- Multiple playback speed
- Support remote storage/ MPEG / Multicast
- Motion detection/ event actions through recording/ snapshot/ e-mail, SMS, Alarm



WCS-2070: Wireless Day/Night IP Network Camera

- Wireless Connection with WEP and WPA-PSK
- Day/Night application in low light conditions
- Two-way audio
- Optimal synchronization of audio and video
- Intelligent motion detection
- MJPEG/MPEG4 video compression



DOH-1000
Dome Outdoor Housing

- Designed for Indoor/Outdoor
- IP66 Rated Camera Housing



FCS-1050 Day/Night IP Surveillance

- Provides Day/Night functions, 4x digital zoom
- Most advanced Security Features
- Built-in CCD sensor and high sensitive microphone to deliver high quality audio and video
- MPEG4 compression for bandwidth-efficiency
- Intelligent Motion Detection and E-mail Alerts



FCS-1010/WCS-2010: Pan/Tilt IP Network Camera / Wireless 802.11g

- Variable dimension of pictures, quality etc
- Internal microphone/ external connection
- 16 Cameras can be viewed at a time
- MPEG-4 Streaming video/ MJPEG for images
- Motion Detection/ Alarm relay output
- 1/4" CCD Sensor/ Flip & Mirror functions
- Unlimited Cameras can be deployed



FCS-3000:

- Dome IP Night Vision Camera
- Indoor/Outdoor Day/Night Vandal Proof
- CCD with IR Lens
- Built-in web server for remote accessing
- Extended I/O for event trigger sensor & alarm
- Up to 10x zoom, (Optical/Digital)
- Day/Night functions with 10m IR lens



FOH-1020: Fixed Outdoor Housing

- Lightweight for Mounting
- Easy Service and Installation



FOH1030:
Fixed Outdoor Housing

- Withstands Severe Weather Conditions
- Cost Effective Solution

Regional distribution enquiries contact at:
jerry.albert@level1.co.in

Bangalore +91 99 801 32 855 Chandigarh +91 98 140 02 284 Chennai +91 98 845 39 755

Hyderabad +91 984 80 18 884 Indore +91 93 021 14 025 Kolkata +91 98 310 21 744

Mumbai +91 98 925 46 215 New Delhi +91 98 911 36 980 Noida & Ghaziabad : +91 98 180 23 989

Townsquare

Home**Know-How****Townsquare****Reviews****This Month's Issue****CD Contents****Subscribe Today****Downloads****Feedback****Careers@CHIP****Greetings, dear readers**

All through the past several months, you poured in your suggestions, you raved (and ranted!) over many aspects of the website, you requested for more features and you demanded more from your daily dose of technology. Through it all, we listened, made notes and worked. The time has come—if you haven't already been to our website, now would be a good time to point your browser at it. After months of planning and exploring options at the drawing board, we have re-launched CHIP-india.com with an all-new, fresh interface and packed it with great new features! And all this only marks the beginning of a new experience on chip-india.com.

First up, you will notice that we've put up tons of more information in addition to all of your favorite sections. Let's take a guided tour around our new technology playground, shall we?

You will notice the main interface is visibly divided into four sections. The newest additions are the Reviews and the Articles—head over here to gain access to several articles from our past issues in their entirety along with some of the newest product reviews. This section will be regularly updated with content (a lot of which will be exclusive to the website!). In each of these articles and product reviews, we've also added the ability to comment on them—feel free to let us know what you think of the products reviewed or on the review itself.

Below the reviews, we have created a section of buying guides—head over there for virtually any information you need on buying your favorite hardware or gadgets. Culled from our Test Center-based articles, you will find several more such guides, added and updated regularly. If there are any specific buying guides you'd like to see out there, do let us know.

Check out what industry leaders are saying in our Interviews section. You will find plenty of first hand viewpoints and observations here from our interaction with IT leaders over the course of the year.

On the upper bar, you will notice several

THIS MONTH ON chip-india.com

sections including Reviews, Columns, Articles, Interview, Buying Guides, Town Square, Know How, etc. These are shortcuts to the most exciting sections of our websites. With all of these links right out there on the home page, you won't need to dig too deep to reach the sections you like best.

And yes—something many of our readers have been waiting for—we have decided to upload our back issues on the website (you will also find them in the DVD with the issue, by the way). These files each contain the entire magazine in its entirety. You can grab these PDF files in the 'Back issues' section link on the left of the website's main page.

You will have noticed that our Know How section has now been archived—don't be too alarmed if you find you cannot post any queries or solutions here. In the following round of enhancements, we will be unveiling a powerful engine that will drive this section to make it more utilitarian for all of you. Taking note of the feedback we have received from our online users, we are incorporating all of your suggestions into the next generation of our Know How section which will be launched shortly, complete with overhauled points and a rating system that will enhance the quality of the information in the section.

In the meanwhile, you can continue to e-mail me with suggestions and observations you might have had with the previous avatar of this section—we look forward to hearing from you on our journey to ever-evolve our website for making it the most trusted source of technology answers.

During this, our third anniversary issue, I would like to sincerely thank all of our online users for the commitment and dedication that you show in your interaction on our website. From our side I would also like to reiterate our commitment to bringing you the best in technology through our magazine, our online property, our forthcoming DVDs and also our specials.

Finally, here's wishing you
all a Merry Christmas! ■

| Marco D'Souza

marco.dsouza@chip-india.com

DVD Contents

DECEMBER 2006

LINUX
Fedora Core 6

GAME ADD-ONS
Company of Heroes
Battlefield 2

CHIP ARCHIVES
Dec '05 - Sept '06

PRODUCTIVITY
Insofta Document Backup
JC-soft Edit Pad Lite

TRAILERS
Gran-Turismo
Ridge Racer 7
Eragon
Freedom Writers
The History Boys

SECURITY
Super Security Pack
CryptoExpert 2006 Lite

MOBILE
Sony Ericsson Themes Creator
Sony Ericsson SendFile

SYSTEM
HDD Life
HashCalc

GAME DEMOS
Medieval 2: Total War
Battlefield 2142

MULTIMEDIA
Virtual DJ

CHIP ARCHIVES
• CHIP Archives 2006

RED HOT
• Norton Antivirus 2007

LINUX
• Fedora Core 6

TOOLS • Multimedia: Virtual DJ • AutoStitch • GIMPShop
• Spider Player • Easy DVD/CD Burner • Internet: Firefox • Opera
• Internet Explorer • Avant Browser • Mobile: Sony Ericsson Themes Creator
• Sony-Ericsson SendFile • Productivity: Insofta Document Backup
• JGsoft Edit Pad Lite • Security: Super Security Pack
• CryptoExpert 2006 Lite • System: HDD Life • HashCalc
• Must Haves: DirectX 9.0c • Adobe Acrobat Reader 8
• K-Lite Mega Codec Pack • ATI Display Driver
• NVIDIA Display Driver

MUST HAVES
DirectX 9.0c
Adobe Acrobat Reader 8
K-Lite Mega Codec Pack

TOYS • Game Demos:
Medieval 2: Total War • Sam & Max: Episode 1
Trailers: Gran-Turismo • Ridge Racer 7 • Eragon • Freedom
Writers • The History Boys
Game Add Ons: Company of
Heroes • Battlefield 2



...As the year passes by

SHARMISTHA DEY

While thinking up ideas for the last page of our third anniversary issue of CHIP, I thought it would be fair to take stock of some of the myriad technology trends that have affected our lives this past year.

Yes, we are moving real fast—according to the BBC, “India now has about 129 million mobile phone users”, which equates to about one in nine of the population. The year 2006 saw the proliferation of wireless communication technology for mobile phones, handhelds and laptops—CIOs, CFOs, software executives, media personalities and most conspicuously teeny boppers are hooked to their portable devices on the move because of their connectivity and convenience.

This year, we saw the advent of the new optical drive technology—Blu-ray. Since high storage requirements have become a necessity for most people, this was only ineluctable. The enthusiasm that the boys at the Test Center displayed on the arrival of Blu-ray devices—a notebook featuring Blue-ray technology and a Blu-ray storage optical writer along with the Blu-ray disk—was noticeable on the entire floor. Colleagues from other magazine teams (to whom the idea of deconstructing doohickeys is almost always imperceptible) leaped when they heard ‘25 GB of storage capacity’, their curiosity piqued already about the Blu-ray disk. Immediately, the thought of storing movies, music and data totaling to whopping capacities started buzzing in their minds.

Another breakthrough technology was Intel’s Core 2 Duo line of processors—Conroe (desktops), Merom (laptops) and Woodcrest (servers). The Conroe that we had reviewed is a manifestation of a very interesting change in processor design—that of moving away from clock speeds and incorporating additional features and capability. This truly is the year of multi-core processors. The surge in digital content has correspondingly spawned the need for efficiency vis-à-vis quick delivery. Having realized this; processor-manufacturing companies are designing chips that are inherently faster, but more importantly are capable of delivering much more performance than what single-core parts could do. And

all of this with negligible increase in power consumption. Designed to satiate users’ need to run multiple applications simultaneously, these processors will enable smoother workflow and greater efficiency among several sectors.

A tangible effect of this will be felt by the visual effects/animation industry (which is booming these days), who need multi-functional systems that promote smooth workflow. “These technologies will help unravel newer possibilities”, quipped a visual effects artist we spoke to earlier this month.

The growth in sales of game consoles such as the PlayStation 2, and Xbox 360 (released earlier this year) points to how the epidemic of electronic gaming is fast spreading and what it will do for a gamer’s attitude (while playing the PS2 game *Bully*, game reviewers at the Test Center indulged in bullying copiously!). Talking about the PlayStation, they can’t wait to get their hands on version 3, which we are told will be available here by Q1 next year.

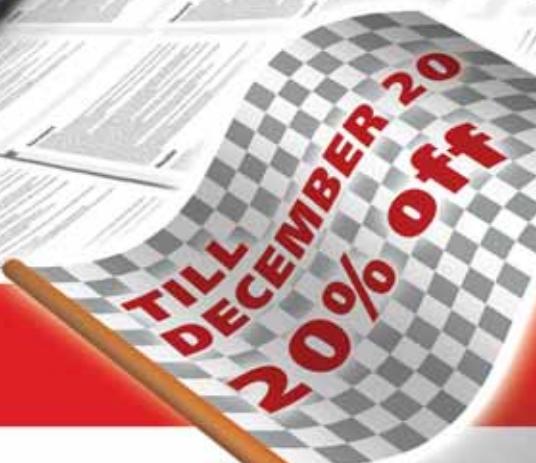
Reflecting on the trends that have swept us this year, one cannot but help notice the rising number of people, especially the youth, caught by the gadget fever. This fever is communicable—the gaggle of sprightly young people my sister hangs out with, are content in their digital world consisting of a flotilla of gadgets. Not owning some of the popular gadgets would be almost tantamount to social harakiri. Working or surfing on a laptop for information, chatting on a cell phone or cavorting virtual friends on instant messengers while the iPod plays loud on speakers are regular events for this digitally hooked generation. The explosion in popularity of consumer electronic products such as digital cameras, camcorders, portable audio players, portable game consoles, digital imaging and video recording devices have created this new segment of a savvy generation of users who are content building relationships with such contraptions. A burgeoning group of youngsters are creating their own digital home studios to create, edit, print, store and share digital content.

As for me, I am not devoid of the influences that this digitally switched-on generation showers, mostly because I spend every day with geeks and get enough of gadget overdose on my platter. But I’m not complaining. Yet. ■



Sachin Pandit

ROYAL DRIVE INSTEAD OF MANUAL INPUT



Award-Winning OCR and PDF Conversion

ABBYY - Defining Recognition

~~\$ 399~~
Rs. 14,399/-



~~\$ 199~~
Rs. 7,199/-



~~\$ 99~~
Rs. 3,599/-

ABBYY FineReader OCR
and **ABBYY PDF Transformer**
are excellent time-saving solutions!

With **ABBYY** products it is easy to convert, transform and archive pages of books, newspaper, contracts, letters, brochures, faxes etc and so on, as well as any PDF file.

Authorised Distributor:

NETSPIDER INFOTECH INDIA LIMITED

Plot : B-104, Rebello Enclave, 23rd Cross Road,
Subash Nagar, MIDC, Andheri (E), Mumbai -93

Phone : 91-22-40056043, 09820800633

E-mail : sales@niil.in Website : www.niil.in

UP Office : 99185 17272

Channel Partners invited

Net Spider
www.netspiderindia.com

Govt. taxes & duties extra. The above discounted prices are for electronic delivery.

