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LW 60: Intel® Pentium® M Processor 1.73GHz, Microsoft® Windows® XP Home, 512 MB DDR II, 60GB HDD, Super Multi DVD Rewriter, 39 cms (15.4") Wide TFT Screen



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Lenovo	2887-NQ1	Pent M 1.60 GHz	DDR1	336x260x34 mm

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Undercurrents of opportunity



“ Indian industrial sectors are now being recognized for their mettle in delivering world-class products ”

There reaches a time in every country's economic history, when it reinvents itself and experiences unprecedented growth. It's clear that we are in the midst of such an era. Encompassing a wide swathe of sectors, from banking to infrastructure to entertainment and of course IT, growth figures have overshot expectations. Specifically in the case of technology, there have been several trends simmering over the past year, which are only now realized as being sleeping giants. I believe that the following sectors are poised at the threshold of a quantum growth phase:

Animation and gaming: If you're a movie buff, you probably will have got a sense of what's happening here. An increasing number of Indian movies are incorporating special effects segments in their production—not just the occasional flying hero or morphing faces, but world-class, slickly done effects that easily rival those from Hollywood studios. The face of Indian moves is becoming more high-tech as film creators use bleeding-edge production tools from the likes of Autodesk, Softimage etc. Another increasing trend is the outsourcing of special effects sequences from big-ticket Hollywood movies to Indian animation studios. The special effects sequences in several upcoming movies (for example, one starring Ben Stiller) are being handled by an animation studio in Mumbai called Rhythm and Hues.

On the gaming front, there's a similar trend. Be it mobile, console or PC-based gaming, Indian development studios are signing up with big international brands to handle partial or even complete production of several upcoming games. Companies such as Indiagames and Mobile2Win are examples of many such companies making it big in this sector. The response and enthusiasm at the recently conducted FICCI Frames 2006 conference in Mumbai was testament to the fact that the Indian gaming industry is indeed a force to reckon with. According to a PricewaterhouseCoopers report, it is projected to grow from its present size of 35,300 crores, to 83,740 crores by 2010.

Wireless services: As promised by the WiMAX standard, the concept of cheap wireless broadband services for all citizens has always sounded like a dream. While the industry has been extolling its virtues for a long time, the good news is that it's now here. Finally. Companies like Aperto Networks have recently received certification from the WiMAX Forum and have announced plans to launch wireless services in the country in conjunction with major ISPs. Even Intel has adopted the city of Pune to completely blanket it with WiMAX coverage by 2007.

Embedded systems: Today's entry-level cell phones now have about the same compute power as your first PC did back in the 90s. Extending across a plethora of spaces like automobile, consumer entertainment, home automation and communication, these embedded processors form the core of many devices. Take the slick Motorola Razr V3—how many know that its architecture was conceived here in India? With embedded applications abounding, so will the opportunity for trained professionals in this area.

This much is clear—with these Indian industrial sectors now being recognized for their mettle in delivering world-class products, demand is poised to skyrocket from both local and foreign customers. Going ahead, it's important that we be aware of these trends, understand their implications, and utilize them to the fullest extent.

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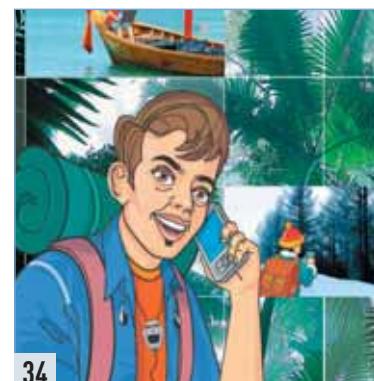
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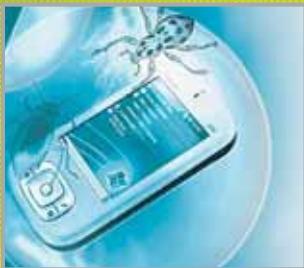
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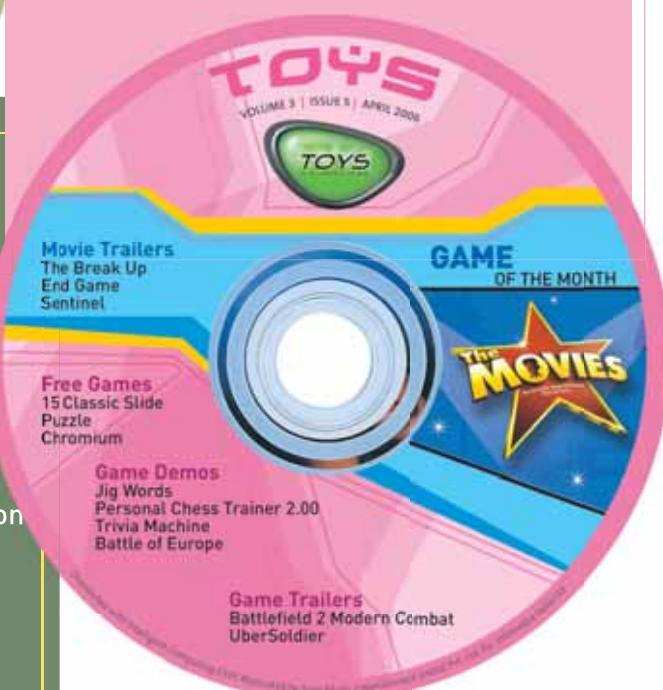
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CHIP DVD

Game Demos: LOTR: Battle for Middle Earth II, Commandos Strike Force, Sniper Elite
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Dated: 1st March 2006

K. V. Rao

Signature of the publisher

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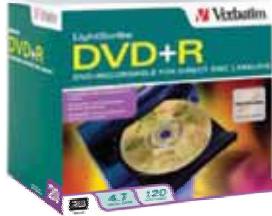
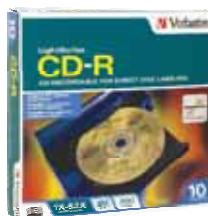
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THIS MONTH ON chip-india.com

Town Square

Last month was a very special one for us, the reason being we had over 20,000 registered users on our web site. On the last check, the count stood at approximately 21,200. Lots of new members are joining our forums everyday and regular posts made by our users give us an insight into what you guys need. This is the best way to keep us informed about the changes that need to be made to the magazine, the cover CDs and DVD as well as the web site. We are looking into your suggestions and will be implementing them shortly.

This month too there has been plenty of activity online. Some cool tips as well as tricks have been posted in the 'Tips & Tricks' section. Two tips posted by 'THE LAST SAMURAI' are really good. In the first tip, he explains how you can remove your BIOS password. If you know the password and you want to disable it, then enter the BIOS settings and navigate to "Set user/supervisor password" and leave it blank. If you have forgotten the password or don't know the password then the procedure is slightly cumbersome. The steps are as follows:

- Locate the CMOS battery and remove it.
- Leave the CMOS password jumper on the motherboard unplugged and powered off for at least a minute.
- Put CMOS battery back in, turn on and boot up.

Another tip given by 'THE LAST SAMURAI' tells you how to power on your PC with the help of your keyboard. This can be implemented by doing the following:

- Enter BIOS when the PC boots.
- Navigate to INTEGRATED PERIPHERALS and then go to POWER ON FUNCTION.
- Choose how you want to start your PC, you may choose between HOTKEY and PASSWORD functions,
- Depending on your choice of HOTKEY or PASSWORD, you will see HOTKEY POWER ON or KB POWER ON PASSWORD activated.
- Enter the hotkey or password as you wish.
- Now come back to the main BIOS screen by pressing the "Esc" key. Exit the BIOS by

choosing to save your changes.

- Shut down the PC and type your password or press the hotkey you have entered to power on PC.

"SIDSUT" has given details about new software called "TOTAL COPY", which allows you to copy files faster. The main feature of this software is that you can even pause and resume the file copy process. It is faster since it does not read the files before copying. To find out more about this software head to our web site and check out the post.

In the past month, some of our spewed fire against those who were spamming the forums, especially 'Smalltalk'. The initiative taken by 'sarodeamol' was followed by lots of members who requested that the guilty culprits should be banned. One of them 'overdose14' did realize his mistake after he was banned. We would like to reiterate what we had said earlier, our forums are a place where all our members can help one another and share useful information. It is not a place for spamming. We will not hesitate to take stern action against the spammers. On the topic of 'Smalltalk', 'neo_natalia' found a web site that tells us about our past incarnation. You can visit www.thebigview.com/pastlife/, give your birth date and find out about your past incarnation. When we checked our past incarnations, we were in splits after reading what has been stated about our past life. Even you will like it, just head to the above specified web site.

Our disappointed lies in the fact that none of you guys posted anything about the March issue. While in the past, there were posts that used to criticize or praise the articles that were present in the magazine or the content on the cover CDs and DVD, but for the month of March there has been no feedback. As we mentioned earlier, we rely on your feedback to judge ourselves. So send us your feedback either through e-mail or post them on the web site. See you guys next month. ■

| Anup Pillai

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Letters

Dear CHIP,

Firstly let me congratulate you on the completion of another successful year of fruitful publishing. I have been subscribing to your magazine CHIP for the past two years. I have seen the gradual and successful adaptation of the magazine to the change in interests of the readers.

I have really enjoyed reading your issues. I always wanted to communicate to you my appreciation for designing such a magazine. I have one issue though. I have not received the December 2005 issue. I ultimately got it from the news stand after persuading the local magazine distributor for two weeks.

Do keep up the spirits high and continue the good work. I think CHIP is the best computing magazine one could get his hands on. I express my heartfelt appreciation for your dedicated and inspired team members.

I'd like to list some points of feedback that you could look into and perhaps use:

- You could create a separate section (may be for Dr CHIP or Tips and Tricks) which readers could take advantage of.
- A section on legal matters of copyright, educational relaxations, etc could be started.
- The gaming section could be a separate pamphlet instead of being incorporated within the magazine.
- This is a question and not a suggestion. Is there a possibility of making copies or reproduction of your CDs/DVDs. Does your organization permit that?
- A separate section for coding may be started which looks into the nuances of programming in the present times.

I implore you to look into these suggestions and let us know if implementations of these are possible.

Regards,

James

Hello James,

Thank you for your kind words. We are glad that you find our magazine useful to you and we hope you continue to do so! That's an interesting list of points you've highlighted. We have addressed some of these issues within our magazine. For example, we have a column written by a cyber law expert each month. This column explains

the various cyber laws prevailing in the Indian context with descriptions on their implications. I'm interested to know if the other points in this list reflect the thoughts of our readers. I'd like to hear from you. Feel free to either mail me or to post on the 'Review IC CHIP' forum on our web site. If you think we should go ahead with the points of having separate sections on Dr CHIP/Tips and Tricks section, or spinning off the gaming section into a separate booklet, or start a new section that deals with the nuances of programming, do write in to me. If the feedback is indicative, we'd be more than happy to implement some of these points! Cheers,

Marco

Hi Marco,

I know as an editor of a reputed computing magazine like CHIP, you have a lot of things on your hand, but trust me, writing to you is my last resort.

I have been a CHIP subscriber for a long time. I subscribed for CHIP issues from the 2000 to 2003 after which I moved to Australia. I remember utilitarian stuff like the 'Hands On' videos that used to be carried on the cover CDs! Last year, I decided to renew ties and subscribe to CHIP internationally (boy, it is quite beyond affordable!).

The standard of the magazine, I must say, is top notch as usual. But I'm sorry to say the service has been below par.

I have still not received my copy of CHIP for January 2006. I have been writing to your subscription department every week. But I have not even received a reply from them. Even the issues that I have received have come to me very late, each month. I only seem to get them after consistently reminding your subscription department.

This is getting to be too much of a hassle for me, having to chase you down like this every month. Please ensure that my future copies make it to me at least by the 2nd week of the month. I only live in Australia—not on another planet!

Thanks,

Umang

Hello Umang,

It's heartening to know that you're still an ardent CHIP reader even though you've moved down under! We have communicated your situation to

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Letters

our subscription team and I believe they have been in touch with you. Rest assured, you will continue to receive your magazine on time from now on—even though you're living in another hemisphere!

Team CHIP

Dear CHIP,

It is with great regret that I inform you that the content in the Games section of the Know How forum in [www\(chip-india.com](http://www(chip-india.com)) might well bring disrepute to an otherwise fantastic magazine. I'm extremely shocked at the kind of "discussions" that are encouraged in the Games section. A huge number of threads are dedicated to discussions involving how to crack different versions of popular games or how to make the cracked versions work.

What is even more appalling is that each such disgusting query receives dozens of "solutions" from even experienced forum members with thousands of posts to their credit. Piracy of software and games is a huge problem in Asia and our country is no exception to this. Your magazine has

also touched upon this topic on various occasions. Surely, you cannot encourage such nonsense on your magazine's web site?

I realize that you cannot control what each and every member posts on an online public forum. That is why you have moderators and administrators to filter out the trash. The absence of such a moderator is appalling. Yours is a reputed magazine published throughout the world and surely you cannot turn a blind eye to such piracy hubs in your forums. By doing so, you are indirectly helping the proliferation of this scourge. When such a "request" is responded to by the forum members with reckless abandon, it also solves the problems of several other people who are too ashamed to post similar queries.

As you may be well aware, there are

thousands of forums and web sites dedicated to this nonsense. At least this prestigious magazine's web site should be spared from this malaise. There are several other reputed web sites in which requests that encourage piracy are strictly looked down upon. If a member ignores the warnings and continues to repeatedly request help regarding cracked games, the thread is closed immediately and in worse cases, their membership in the forum is terminated. Perhaps, you can take a cue from such web sites.

I hope you take a serious note of this. My intention in writing this letter to you is not to hurt anyone's feelings, but rather to ensure that the fair name of this pioneering magazine is not tarnished due to the acts of a few. As an avid reader of your magazine, I consider it my right and even duty to not only praise you for your good work but also to turn your attention to some not-so-good happenings as well.

Yours sincerely,

Sai Krishnan

Dear Sai,

Thank you for your concern. It is indeed sad when a forum's intent is tarnished when it turns toward ungainly things like promoting piracy. We'd like to reiterate to all of our readers that our web site's forums have been created with the sole purpose of bringing like-minded folks together so that they can collectively fuel their passion for various segments of technology—be it hardware, software, mobile or gaming. To make sure that none of these threads degenerate into focal points of piracy-centric exchanges, we are now looking into this with new vigor and will be moderating our forums with greater frequency. To ensure that the gaming industry flourishes and continues to provide us with the content we all enjoy, it is important that they are supported by us consumers. The formula is simple—if we don't pay for games, they don't make money and consequently do not find it viable to develop any more games. To prevent the detriment of this segment, it is important to collectively discourage piracy and buy legal versions of software.

Team CHIP



Umesh Dahiwalkar

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Post Budget talk

It has been a neutral budget particularly for the IT industry. A look at what the stalwarts have to say

The 06-07 annual budget evoked mixed reactions. While some have commended this budget for reflecting positive trends in the economy, others have condemned several announcements made by the finance minister. Overall, it seems the IT industry stands on a no loss, no gain ground.

While the rationalization of the fringe benefit tax has been a decision welcomed by one and all, the imposition of 8 percent excise duty on packaged software and 12 percent duty on computers has been loathed by one and all in the IT industry. This is because hiked prices only means blocking access to technology among the rural populace. Currently, the rate of PC penetration is very

dismal with only 14 PCs per 1,000 people. It will dampen the gung-ho spirit in the IT sector which believes in utilizing more and more technology for health and education and thereby up the economic graph in the country.

Leveraging technology for governance has been an important criterion in the budget, reflections of which we have seen in the form of the national e-governance plan.

The government seems clear on its agenda on making India a hardware manufacturing hub and therefore incentives have been allocated towards the segment.

But consumers who were planning to buy laptops are disappointed with the hike in prices.

| Pradosh Mitra



| Kiran Karnik,
President NASSCOM

"Increase in levies on packaged software and on IT hardware will result in higher prices and have an adverse impact on millions of customers and on the domestic IT market. It will be a setback to efforts being taken to promote IT utilization in the Indian economy and for vital applications like education and health. At a time when technology and market demand were driving down prices, we see this as a retrograde step. We feel this is an intended consequence of adjustments of excise, countervailing duty, etc. We hope that the finance minister will correct this aberration. The increase in service tax and broadening the net to cover some previously excluded IT-related services will not only raise costs, but will act as a deterrent to outsourcing work to SMEs."

| Dr Anand Deshpande,
Chairman and Managing Director, Persistent Systems

"The annual Budget is a "mixed bag". For the IT industry in particular, it is a "status quo" budget with no new taxes levied on the sector. There definitely is a thrust on the improvement of infrastructure and education—two very important drivers for the growth of any industry. We also welcome rationalization of FBT. So in that sense, the industry can be upbeat on the things to come."





Javed Tapia,
President, Red Hat, Indian Subcontinent

"Overall this budget shows confidence in the current strength of the economy. The increased investment in education and the emphasis on rural infrastructure are both good moves from a long-term perspective. For the IT industry, the imposition of 8 percent excise duty on packaged software is a dampener and will cause an increase in prices of legal software. Also, the imposition of excise duty of 12 percent on computers needs to be studied from an impact perspective since the FM has said that there will be no increase in cost due to this."



Hirji Patel,
Chairman, ACI

"The import cost for IT hardware products has been increased by around 5 percent and this increase has to impact low-cost entry-level products on which margins are already low. As regards to laptops, consumers have been enjoying continuous drop in prices and this change will certainly be a bit of a shock. First wavering and now the re-introduction of excise duty on PCs was a surprising move by the government and has added to the complexity of the taxation system. This addition would also attribute towards increase in cost and hence increase in street prices."



Manoj Chugh
President, India & SAARC, EMC Corporation

"This is an A-grade budget driving growth and development. We welcome the government's initiative to leverage technology for improving governance. The implementation of the national e-governance plan through 25 mission mode projects will help the common man access information. I expect that this will have a ripple effect in the creation of information infrastructure for better governance. The continued support by the government in attracting FDI in key technology areas are strong positives for EMC."



Ravi Venkatesan,
Chairman, Microsoft India

"The finance minister's clear focus on catalyzing IT uptake in the government sector with the proposed national e-governance plan will help in delivery of effective government-citizen services. The initiatives led by NMCC for accelerating IT adoption by the SME segment will enable SMEs to further their overall business potential with IT. Government funding for manufacturing high-end tech products is an encouraging step. But the imposition of additional excise duty on packaged software as well as on PCs could be a severe setback to the fledgling domestic software industry."



Ramachandra Panickar,
CFO, Intelenet Global Services

"Though there has been no increase in the tax rate, the crucial issue of an extension in the tax holiday for ITeS firms has not been addressed. We hoped that there would be a reduction in FBT and are looking forward to clarification of IT benefits for BPO companies. As far as increase in service tax to 12 percent, we hope there is clarity on exemption or refund to export oriented companies like ours on input services. Export oriented companies were exempt from service tax on input services such as telecom bills, professional service bills to name a few. The amendments incorporated last year have raised some doubts that need to be clarified."



Amar Chintopanth,
CFO, 3i Infotech Ltd

"It is encouraging to see a union budget aimed at the sustained development of the country. The stable tax regime will help energize the economy as it makes it easier for companies to plan ahead predictably. Funds allocated to the overall infrastructural development will not only attract foreign investment but also promote domestic industries."

With respect to the IT sector, while the incentives given to the hardware segment are positive steps in making India a manufacturing hub, the budget has been largely neutral to the software segment."

Nandan M Nilekani,
President, CEO and Managing Director, Infosys Technologies

"It is encouraging to see India on the growth path. At an overall level, the fiscal deficit is being reined with a lower growth in non-plan expenditure which is a very significant aspect of this budget. Government spending will not be a strain on public savings. The move to increase investment in the social sector is welcome. We are happy to note the enhanced focus on infrastructure spending and the National Urban Renewal Mission. On the IT front, the budget has been neutral. However the proposed 8 percent duty on the counter packaged software impedes IT penetration to the vast majority of the masses. The review of FBT by removing certain genuine business expenditure from its purview is welcome. However the larger administrative issue that the industry is apprehensive about on FBT has not been addressed."

Healer games

So far we have heard of educationalists using computer games as new mechanisms to help students learn. Now it is for games to help in healing. A Blue Bell based firm, CyberLearning Technology, has developed some game applications called Smart Brain Games System. These are primarily targeted towards people suffering from brain injuries and learning disabilities. Replicating the technology used by NASA, these games use neurofeedback to assess the progress of the treatment. Neurofeedback is a form of conditioning that rewards people for producing specific brain waves such as those that appear when a person is relaxed or paying attention. As part of the treatment, the patient is made to wear a helmet with built-in sensors that measure the brain waves, which are then relayed to a neuro-feedback system that affects the game controller. For example, in a car racing game if the patient shows some progress, the neuro-feedback system sends a signal to the controller, which allows him or her to accelerate and steer faster. CyberLearning mostly uses car racing games that can be played on the PlayStation 1 and 2 and the Xbox.

The therapy cost ranges from \$2000 to \$2500. The treatment costs are high; also neurofeedback is not covered by medical insurance and hence using it to heal problems like autism is facing its challenges.

Most practitioners prefer prescribing medicines but some are of the opinion that this therapy of using games to heal needs supervised training before they can be really successful. In fact, using computer games as a method of healing can't be taken lightly because if not exercised properly, it can cause a great deal of anxiety and irritation. But practitioners have reasons to rejoice as case studies have shown positive results. Nine-year-old Ethan Meyers, who faced a near-fatal car accident, woke up after nine months of coma and was declared a lost case by the doctors. Meyers himself claims that two years of neurofeedback training has given him the opportunity to be at par with his friends. Today he is capable of fully opening his right hand which paralysis had curled closed completely.

The heart doesn't give up...

A new biometric authentication technology based on cardiac patterns has been introduced. This comes after identification processes involving fingerprints and retina scan. Since the heartbeat is also considered to be unique from person to person, it can be used as part of the biometric authentication process.

Aladdin Knowledge Systems, dealing in software digital rights management (DRM) and USB-based authentication solutions organized a live demo of the new cardio based biometric technology in Mumbai, enabling authentication using a person's natural BioDynamic Signature (BDSTM)—a unique bio-signature based on cardiac patterns.

The company claims that BDS is different from other types of biometric authentication as it is based on intrinsic electronic signals produced by the human body, including the heart, which is dynamic in nature as opposed to static bio-signals like fingerprints or retina scans. The benefits, as laid by Aladdin Technologies,

are superior performance, cost effective, reliability, accuracy and user-friendliness.

The device looks like a small computer mouse with two metal contacts. When touched for a few seconds—using one finger from each hand to complete the circuit—the device measures several factors in the heartbeat to record users' "biodynamic signature." The signature, claims the company, includes a combination of electrical signals from the heart and central nervous system. The sensors measure these signals, run them through an algorithm on the computer and create a digital representation. The signature includes both genetic and physiological components, and therefore it is not significantly altered by activity such as taking brisk walks or climbing the stairs. Only a major change medically such as a heart attack, for example, would throw the machine off. In the case of fingerprints, a scratch on your finger might change the reading.



Dinesh Desai

Carbon nanotube chips coming soon

The days of silicon chips are numbered. And soon they might be replaced by carbon nanotubes. After a long stretch of challenges, IBM researchers have finally achieved a milestone by creating an integrated circuit out a single carbon nanotube. Integrated chips (IC) are used to process and store information in a wide range of electronic devices from PCs to cell phones.

Initially, the problem was to create transistors used in ICs. Once that hurdle was crossed, Big Blue researchers faced the challenge of figuring out a reliable way to assemble the transistors to form an IC.

IBM researchers developed an 18-micron (less than the thickness of a plastic bag) long carbon nanotube with a 10-transistor ring

oscillator, a device typically used for testing new manufacturing technologies. The success of the research also proved to be economical as only one nanotube was used instead of multiple tubes.

The introduction of carbon nanotubes will have two advantages. Firstly, the data transfer rate will increase as electrical current moves more freely and faster through carbon nanotubes than silicon. Secondly, it is indeed very small—one carbon nanotube is 50,000 times thinner than a strand of hair, which translates to more data storage in less space and makes it more energy efficient and speedier.

It will take time for these chips to appear as IBM intends to spend more time on research.

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WiMAX watch

After all that noise about WiMAX for the last couple of years, it seems to be here finally. India's VSNL and California's Aperto Networks have joined hands to deploy WiMAX in India. Aperto Networks, known for their "WiMAX forum certified", ready-to-use and cost-effective equipment, intends to distribute wireless broadband service across the country with the help of VSNL. In fact, the company, which has developed advanced WiMAX stations and subscriber units, announced the establishment of an Aperto WiMAX Development Center in Bangalore to accelerate the process of deployment. Aperto has been working closely with VSNL since 2004 on network design and deployment.

The duo announced that VSNL has completed deployment of Aperto's PacketWAVE multi-service broadband wireless systems in over 65 cities across India. The goal is to extend the network to over 200 cities within a period of 12 months.



connection requirements.

Their hardware set consists of equipment such as a base station and a subscriber unit; they also have a software application for monitoring the state of connections from the base station.

The Bangalore development center will be the first of the upcoming ones, which Aperto Networks intends to establish shortly in collaboration with VSNL. Plans are also there to set up a customer support team and a distribution hub in Mumbai.

The basic plan of distribution is to activate the network structure of VSNL with the help of Aperto Networks' hardware, which is capable of meeting point-to-point and point-to-multipoint

Where has all the snow gone?

More and more reports of global warming are insinuating the increasing threat facing winter sports. The change in climate is adversely affecting mid- and low-altitude ski resorts and many resort owners are worrying about the problem. Some have even started bracing themselves to work out a solution.

Global warming has resulted in unseasonably warm temperatures, and therefore fewer ski days and reduced snow pack levels. To fight the problem, resort owners are planning to install 1.5-megawatt wind turbines capable of generating clean and cost-effective power for the resorts.

If the wind power can keep the resort running without using fossil fuel, then it might be able to keep the snow on ground and extend skiing days.

Project costs are estimated to be at \$3.6 million and will generate 4.6 million kilowatt hours annually, half of which

will be sold for public consumption. The remaining 2.3 kilowatt will account for approximately a third of the resort's annual power consumption.

Huge investment issues are keeping this project from being implemented. Also an assessment needs to be made on whether the turbines will do more harm than good. But the fight is on to make this project happen, as the key issue is to save the environment. Programs like "Sustainable Slopes" and "Keep Winter Cool" are fuelling the momentum towards this.



Pass your resume through the web

So you thought you got the job after your employer screened your resume? Wrong. Even before your CV landed on his table, somebody was doing the job of shortlisting candidates for him. Your application for the job will not hit the mailbox of the officer in charge of recruiting before passing through an online filter program. This program sorts your resume and figures out whether you are suitable for the job or not.

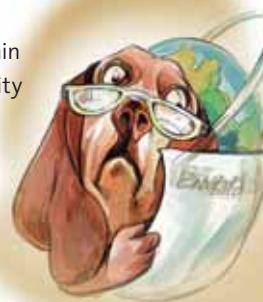
Based on responses to certain preset parameters like flexibility of relocation, the online resume filter application may reject a profile outright if the answer is found to be negative. Similarly, the application assigns positive or negative weightage to certain responses, which are then evaluated to figure out whether a profile is a match or not.

Going forward, this program also states why a resume has been rejected. It can also be configured to send auto reply to the rejected applicants stating the reason for

rejection. This can help the applicants work on the factors stated in the reply.

The resume filtering technology is already in use to reduce the hassle of initial screening. This saves the employer time and gives him more resumes matching a position.

Some companies have such programs integrated to their corporate web sites. For instance, T-Mobile has a cartoon dog named 'Fetch', which hunts for prospective employees and sends e-mails to the applicants if there is a vacancy. Coca Cola, on the other hand, uses its web site as a kind of an online shopping mall for job hunters. Applicants can go to options like 'Add this job to my cart' or 'E-mail this job to a friend' or 'Submit my profile'.



Florida-based Vruv Technology is the first on the list of such application providers. About 300 companies who have used the Vruv software have found it easier to employ, and more so during emergency recruitments.

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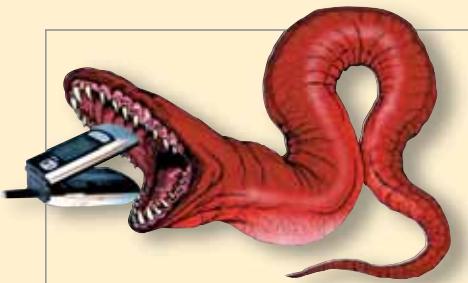
With more and more smart phones inundating the market, there seems to be a surge in virus attacks as well. According to recent reports, smart phones are being affected by a botnet, which comes in the form instant messages. At first it seems just like any other innocuous instant message (IM) that your friend might have sent to you. However, on opening it, you don't get to see any message, instead the botnet application automatically scans the handset for credit card numbers, bank statements and secret passwords.

California-based research firm Face Time Security Lab has identified the new threat and has declared it as a high-risk one.

Messaging is the most popular mode of communication and today it is easier to chat via text messaging on the go. Sliced prices have made this method of communication even more popular. And as they say popularity also begets problems, the increasing use of messaging as a means of interaction has also left room for the distribution of viruses and malware.

Storing messages also play a vital role in inviting attacks. Hackers get access to these messages and use them to develop malware and botnets. Face Time Security Lab has already identified more than 40 unique files that have been used for attacks via instant-messaging networks, including one that hides the stealth application in the systray under the heading "beh.exe."

Federal authorities are investigating cases of hacking. However, industry peers feel that community and social network building exercises through the computer is acceptable, but extending the same to the mobile phone is a no-brainer.



HDD: Hot and happening

The future seems good for the hard disk drive market. TrendFOCUS, market analyzer for the data storage industry has given a prescient account of the shipping of 445 million hard drives in the year 2006. Their leading market forecast tool, the Storage Demand Analysis System, has taken into consideration issues like consolidation, infrastructure, and technological challenges and declared that the market will remain vibrant and competitive till 2010.

According to TrendFOCUS, three main factors will affect the HDD market. Firstly, the growth in demand will stay for the next five years as the demand of PCs is likely to increase in countries like India and China and this will be complemented by the low price of notebooks across the world. Also, the need for hard disk drives in consumer electronics products like personal video recorders (PVR), automobile navigation



systems, digital audio/video players and the like will also boost the manufacture and supply of HDDs. TrendFOCUS predicts that by 2010 the shipment of HDDs will increase to 750 million. However, 60 percent of the supply will still be for the computing market.

Secondly, market acquisition will play another important role in boosting the supply. Seagate's acquisition of Maxtor will smooth-prime

the products, which will act as a catalyst for more consolidation across the value chain.

Finally, TrendFOCUS zeroes on the HDD industry's transition to perpendicular magnetic recording (PMR) technology. Though this will take some time and involve massive capital investments from the supply infrastructure, it will be a milestone in the HDD industry, and will in turn up the supply curve.

Whose services do you want?

New York-based ABI Research has assessed that this year will witness significant level of confusion in the electronics market as newer services of radio and multimedia broadcasting cloud the market. This anarchy is because at a time when consumers are just getting accustomed to new satellite radio broadcasting technologies, newer protocols targeting the car radio segment have already started hitting the market.

Forecasts from ABI Research indicated that in North America alone there will be five different operational standards including the existing XM, Sirius and HD radio services followed by two new—namely QUALCOMM's MediaFLO and Crown Castle's Modeo DVB-H. In Europe, WorldSpace, ONDAS Media and Europa-Max are ready for the competitive battle as the existing Digital Audio Broadcasting (DAB) services fails to offer pan-European coverage. Not only Europe and America but Korea also is in a whirlpool of confusion

with their newly launched terrestrial and satellite based Digital Multimedia Broadcasting (DMB) services.

Along with users, even the automobile market is getting confused about which standard they should follow for providing car audio services. Automotive suppliers are in a worse state, as they have to be ready with their products following certain protocols to meet the demands of the automakers. For the suppliers, the problem gets compounded as they have to anticipate the market demand, which is becoming next to impossible with a flotilla of broadcasting protocols floating all around.

ABI research's new study called the "Digital Radio Automotive Markets" while examining all major digital protocols aims at addressing the problems of the automotive market. The objective of this study includes understanding standardization efforts, market issues and opportunities for each major region.



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New Lenovo PCs

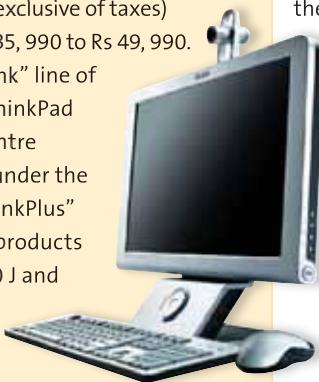
A new range of desktop PCs and notebooks from Lenovo is here to meet the needs of home users and small businessmen. This new family called the 3000 series includes the 3000 Q and 3000 H desktops specifically for use at home, the 3000 J desktops for small businessmen and the 3000 C series of laptops.

Lenovo intends to offer easy-to-use technology with comprehensive service and support. The 3000 Q desktops feature a jog dial with digital media platform that allows you to switch between music, movies, games or television at the turn of the dial. This series comes with an integrated PC camera, the RedordNow software for burning data, music and video CDs as well as for burning data and movie DVDs. The silent operation function helps to counter the noise problem. The One Touch Recovery function allows you to recover your PC to its last backed-up state. The 3000 Q is priced between Rs 55,990 and Rs 88,990. It is ideally suited for those who are looking for a high-end lifestyle PC.

The 3000 H comes with features like One Touch Recovery on DOS, an anti-bacterial keyboard, 17-inch flat CRT upgradeable to 15-inch TFT LCD or 17-inch TFT LCD. The 3000 H series of desktops will be available in the market for a price ranging between Rs 29,490 to Rs 39,990.

The 3000 family of notebooks have been designed combining Lenovo's ThinkPad-inspired technology with new innovations. The Lenovo C notebooks have been built keeping in mind mobile business professionals. This series offers wireless connectivity, built-in service tools and multimedia features encased in a stylish and functional design. These will be available for a retail price (exclusive of taxes) starting from Rs 35,990 to Rs 49,990.

Lenovo's "Think" line of products—the ThinkPad and the ThinkCentre PCs—will come under the realm of the "ThinkPlus" program. These products (along with 3000 J and 3000 C series) will be serviced by IBM.



Dude, my mobile pays!

You must have heard about paying through the mobile but you will have fun doing it here now. Mobile commerce is being adopted as the modus operandi for trading. Sify, while leveraging this, has made it possible for users to shop on its portal SifyMall and make payment through mobile phones.

To make mobile payment functional, Sify has tied up with JiGrahak, a mobile solutions provider. The company's NGPay technology allows users to make online payment through GPRS enabled handsets.

With the number of mobile phone users increasing by the day, (the figure is expected to touch 200 million by 2007), Sify has decided to pull the mobile customer to their online mall. Apart from buying and selling, the mobile application will also help Sify's broadband customer to renew their membership.

The idea is to develop an "Anytime-Anywhere" commerce platform that is capable of delivering the best possible convenience to Indian consumers.

However, customers around the globe can also download and use the free-of-cost NGPay application provided he or she has a J2ME enabled phone with GPRS subscription.

The process of transaction is quite simple. Download the NGPay application from www.ngpay.com to your GPRS phone. Then with the help of the application interface, make purchases from www.sifymall.com. As of now you can make payments using your credit card but soon you can do it from your bank account as well.



Sing-along shoes

Cool music and cool shoes now go together. Literally. California-based Dada Footwear has launched a wireless shoe based on their proprietary technology CodeM that allows an MP3 player to converge with a sport shoe. Based on wireless technology, the application is capable of transferring audio as well as data. The footwear was showcased at the World Shoe and Accessories Show at Las Vegas.

You will be able to listen to music with the help of the bundled wireless headset within a range of nine meters, which means even after you remove the shoes, you can still continue listening to music. The player is capable of storing 100 songs and the battery gives six hours of continuous listening.

The hardware is integrated within the tongue and the heel of the shoe. The shoe has a USB port on the lateral side for plugging in the storage device and battery charger.

Manufacturers of Dada Footwear are excited about their upcoming Get-fit and Get-smart shoes. While Get-fit will deliver information on how to work out better in a trainer's voice to the wearer, the Get-smart shoe will forward phone calls from a cell phone to the CodeM headset.

Dada shoes are targeted towards the age group of 12-25 years. The CodeM footwear is available in the market at a retail price of \$199.99.



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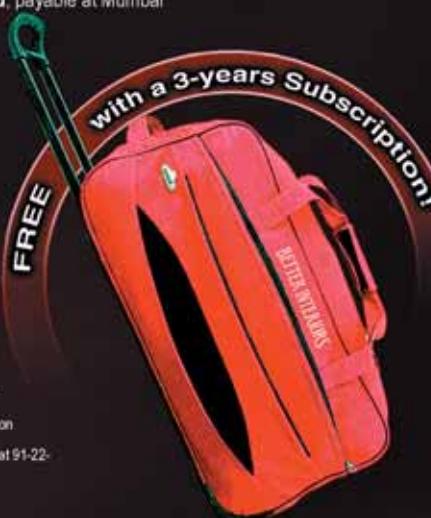
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Richard Huddy
European Developer Relations
Manager, ATI

ATI Speaks

Richard Huddy, European Developer Relations Manager at ATI expresses his views on the overall gaming scenario in India

Being actively involved in the gaming industry for more than 15 years, Richard Huddy's primary focus is helping game programmers to get the best from modern high-performance GPU architectures using Direct3D. Immediately before joining ATI in 2002, Richard spent four years at Nvidia setting up and running their European Developer Relations team. Prior to that he spent two years at 3Dlabs working in the same area as well as working on their DirectX driver.

What is your opinion on the PC gaming scenario in India?

Richard Huddy: The PC gaming scenario has suddenly taken off in the last 18 months in India. We've seen this in online gaming and LAN gaming. Look at the response to gaming tournaments these days. The youth today are much more aware of international trends and have a consuming power as well. I see more and more youth getting into competitive gaming. The demand for the latest software and hardware has increased tremendously in the past few months here. The gaming scenario will get much more competitive in the days to come.

Gaming is a huge industry in Europe and the US. Do you see a similar potential in Asia, particularly India?

RH: Undoubtedly. India is really taking off on that front. Our CEO Dave Orton was here in India at the beginning of the year. That shows how seriously India is being taken by heads of companies.

India is growing as a huge industry in terms of chip development and gaming software—most exciting area being handhelds/mobile phones. In the future, you are likely to see a lot of development on that front.

What role does ATI play in promoting gaming in India?

RH: In India, ATI sponsors local gaming tournaments and supports LAN parlors. Our approach for a while will be actively engaging

gamers directly. This has yielded very good results for us and we are increasing our team strength in India.

This year, you will see a lot more action on this front.

Indian market is more value sensitive and hence foreign brands do take a while to find their feet. ATI also took some time to establish itself in a market that was dominated by Nvidia. Please comment.

RH: The Indian market is a huge one and although it is value sensitive, there is a market for all our products at various price/performance levels. Every brand—whether Indian or international has to communicate that value to the prospective market segment. When we entered the market in India, it was at a nascent stage. The growth was yet to happen. We entered the market at the right time and have helped it grow. And a lot of growth is yet to happen in this segment. Consumers have appreciated ATI's offerings at every level. So that is very encouraging.

With the advent of next generation consoles, will PC gaming suffer?

RH: The overall impact of the arrival of the new consoles seems to be good for gaming. As the new hardware arrives, the newly created buzz will attract more and more people into gaming. We do anticipate a short-term shift from PC gaming to consoles, but the primary consequence of the arrival is that we have more gamers who are interested in hearing about what we have to offer. We saw these small dips in PC gaming with the introduction of the PlayStation 2 and the first Xbox. But fairly quickly the PC recovered as PC hardware continues to improve and give new opportunities to game developers to create cool new gaming experiences.

If you take a look at the best PC games and compare them to the best console games for the Xbox, you can see the reason why people have

moved back to PC gaming. Now PC games are more complex, richer and more fun with the improved platform. Many of the new games for the Xbox 360 look pretty stunning by today's standards, but I believe PC gaming will make a comeback on the strength of the work that we are continuing to put in to PC graphics for the future.

Looking at the current generation of PC games, there is too much stress on technology and graphics. Is game play taking a back seat?

RH: There's a kind of danger that some people within the industry will get too attached to the technology and not focus on the fact that it is the games that count. Technology is more alluring now because we're talking in terms of "photo-realistic rendering" in some of the new games, but actually all of us in the industry know that the technology is only a tool to allow new content.

So, yes, we do need the game companies to remain focused on delivering better games and, in essence, to understand that they are entertainment companies, rather than pure technology companies. But in truth, I don't see any game companies even close to making a mistake of that gravity.

ATI has been putting a lot of effort on optimizing Anti-aliasing and filtering performance, but very few games have been able to utilize these optimizations. What are your comments?

RH: We put all that effort into raising texture filtering and anti-aliasing performance and quality because we know that it helps games to deliver a better and more immersive experience. In fact, no game designer or programmer needs to do anything to take advantage of these enhancements. If a game player has ATI's latest hardware then they can simply choose to turn up the visual options to maximum and the new and improved AA and texture filtering will automatically be used.

There are some technical features which are only enabled when game programmers go out of their way to take advantage of

"The gaming scenario will get much more competitive in the days to come"

them, but that's precisely why we continue to put so much work into making these features more effective, more capable and faster. They simply improve games with no intervention from anyone else in the process.

You can see this for yourself by loading up a game on our older hardware—say an ATI Radeon 9600 and turning the game settings to maximum. Play the game for a while and then do the same using our latest cards—say an ATI Radeon X1600. The X1600 delivers a smoother and higher quality experience for the same game.

Though the graphics rendering capabilities of the current and upcoming generation of VGA cards have almost tripled as compared to the last generation, the current generation of games struggle to deliver the frames, indicating a lack luster effort from PC game developers. The console games are more fine tuned to run on the hardware. When can we expect such fine tuning on PC games?

RH: At standard settings it is often true that games don't take advantage of the power of the newer graphics cards. But the problem is you're looking for improvement in the wrong place. Game publishers often ship games with a really safe set of options because they don't want to risk any unnecessary issues. But that's a very conservative option.

Instead, try turning up the graphics options. Enable anti-aliasing, turn up the texture quality, raise the quality of the shadows to the best, do that through the whole suite of options and then you'll see what the newer and more powerful graphics cards are really capable of. I've tried this with the recent game *Black and White 2*. I played it for 2 hours with the options set to standard—and the game was plenty of fun. There were no problems

at all. But then I quit the game and configured it to run with all the eye-candy turned to maximum—and the difference was striking. All the options on the game are utterly beautiful and when you switch back to the standard settings you realize what you've been missing. ■

| Soham Raninga



→ Pramod Jadhav

With summer time vibes back again, we take you through the steps of planning your vacation the smart, tech-savvy way!





Everybody deserves a bit of rest and relaxation to get away from the rat-race and the daily grind. And what better time to head out than summer time? Not too long ago, when it came to vacationing, folks used to make a beeline for their nearest travel agent to work out the nitty-gritties of planning their holiday. While that option still exists, today's technology has opened up a myriad of new channels that can help you arrive at that ideal escape. With the proliferation of the Internet into people's lives, greater power in mobile technology and the numerous ways in which people can connect to one another using SMS, blogging and voice telephony, vacation-planning businesses are also increasingly tapping into these avenues. Services such as web-based vacation planning and online ticket booking have certainly simplified the process. Team up these services with online map services, vacation planning applications that run on your cell phone/PDA, cool hardware that you can take with you to keep you connected while outdoors and you can have the holiday of a lifetime, minus all the heartache of tedious planning and missed schedules.

To enable you to get the best possible experience on your holiday this year, we decided to explore the possibilities of vacation planning by checking out the options available on three fronts—the web, application software and cool mobile gear. Over the course of the month, we spoke to several companies that run online vacation businesses, tested out software that can help you plan and schedule your itinerary, and checked out web sites and tools that enable you to upload your journal entries, photos and videos to share with folks at home. We also took a look at the plethora of cool hardware and gear that you can use outdoors to store your data, carry it with you, or stay connected. What was interesting is the sheer variety of options available in all of these segments. Having this huge list of options, we distilled it down to a selection of the best resources in these three segments.

So go ahead and dig right in!

| Marco D'Souza, Carol D'Costa and Pradosh Mitra

Web resources

With the world at your fingertips (literally!) you now have access to a horde of information and the best possible combination in terms of travel packages. A revolution in the way we book travel is underway. It may be a bewildering time for the travel industry, but it's an exciting prospect for the travel consumer. With mostly the urban, computer literate, professional middle classes booking cruises, or suburban families seeking a two-week holiday in Spain, turning to the Internet as a matter of course, is increasingly gaining ground. Let's take a look at the options available on the Great Big Web.



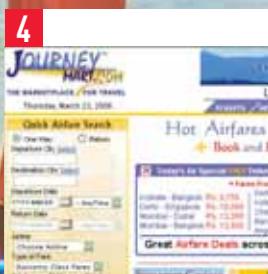
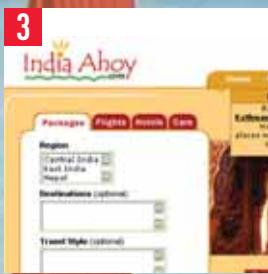
1 Travelguru.com

Travelguru.com is a premier provider of online travel services, catering primarily to the Indian travel market. Travelguru.com offers travelers the opportunity to plan their travel in a transparent, hassle-free, quick and smart way.

Modeled after the success of Travelocity, Orbitz and Expedia, Travelguru.com's product offering consists of a wide array of travel-related services including the sale of airline tickets, hotel rooms, vacation packages. Backed by a unique, real-time, 'Metasearch' technology, Travelguru throws up a wider range of travel options for domestic and outbound international travelers. Its current offer of "Travel cheap or travel free", guarantees a choice of the most attractive and lowest priced domestic airfares for travelers. They have partnerships with more than 450 hotels across and will be shortly adding car rental services, travel insurance, cruises etc.

Toll free: 1600 22 4878

Web site: www.travelguru.com



2 Makemytrip.com

Aiming to be the 'Expedia' for India, Makemytrip.com is among the oldest in the genre of online travel companies. Powered by a proprietary flight booking engine, it is unique in that it allows customers to book complex travel itineraries that include negotiated airfare, multi-airline, multi-hop, upsell and other requirements typical to long haul travel. The engine facilitates booking of air tickets across India to and from international destinations. It consolidates the lowest airfare from all airlines on a single platform, thus saving the user the trouble of checking across multiple airline sites for the best deal. The site also has the ability to book hotels, cars and holiday packages.

Phone: +91 (011) 2653 3251

Web site: www.makemytrip.com

3 Indiahoy.com

India Ahoy is the tours division of MakeMyTrip, and whether it's a cultural tour of India, adventure and wildlife holidays or organizing conferences and incentives, India Ahoy offers services for conceptualizing and operating the

complete tour services. In addition to the over 100 packages available online, India Ahoy can customize itineraries to a variety of destinations according to individual client and corporate needs. Besides the conventional, India Ahoy offers excursions to hidden and offbeat locales as well as different travel styles like safaris, tribal and historical tours.

Phone: 91 11 2653 3251

Toll free: 1-600-118747

Web site: www.indiahoy.com

4 Journeymart.com

A highly comprehensive and meticulously planned site, JourneyMart.com is a complete and global travel platform focusing on specific travel needs. Any traveler intending to make a choice can communicate, query, book and buy online directly on the site. It features a wide variety of proprietary information on travel services and products, articles on places of interest and cultures, and in addition offers customized and intelligent database searches. JourneyMart.com also offers cruises from the Royal Caribbean cruise

Phone: 011-29234056; 011-2923 4057

Web site: www.journeymart.com

5 Mapmyindia.com

MapmyIndia.com is an online, interactive, searchable digital map portal of the entire country. Now, sitting anywhere in the world, you can search and view maps for any part of India, from the remotest village to the most popular tourist destination, to the streets of India's largest cities. With MapmyIndia's category search, you can also see business and tourist places of interest and also locate ATMs, restaurants, airports, hill stations, beaches, etc. It allows you to find any location or landmark in India and see it on a dynamic, interactive, searchable and highly detailed map, get routes and directions between any two major locations and view various tourist and business locations. It also provides a location-based WAP service that delivers maps, directions and other locational information to your GPRS-enabled mobile phone.

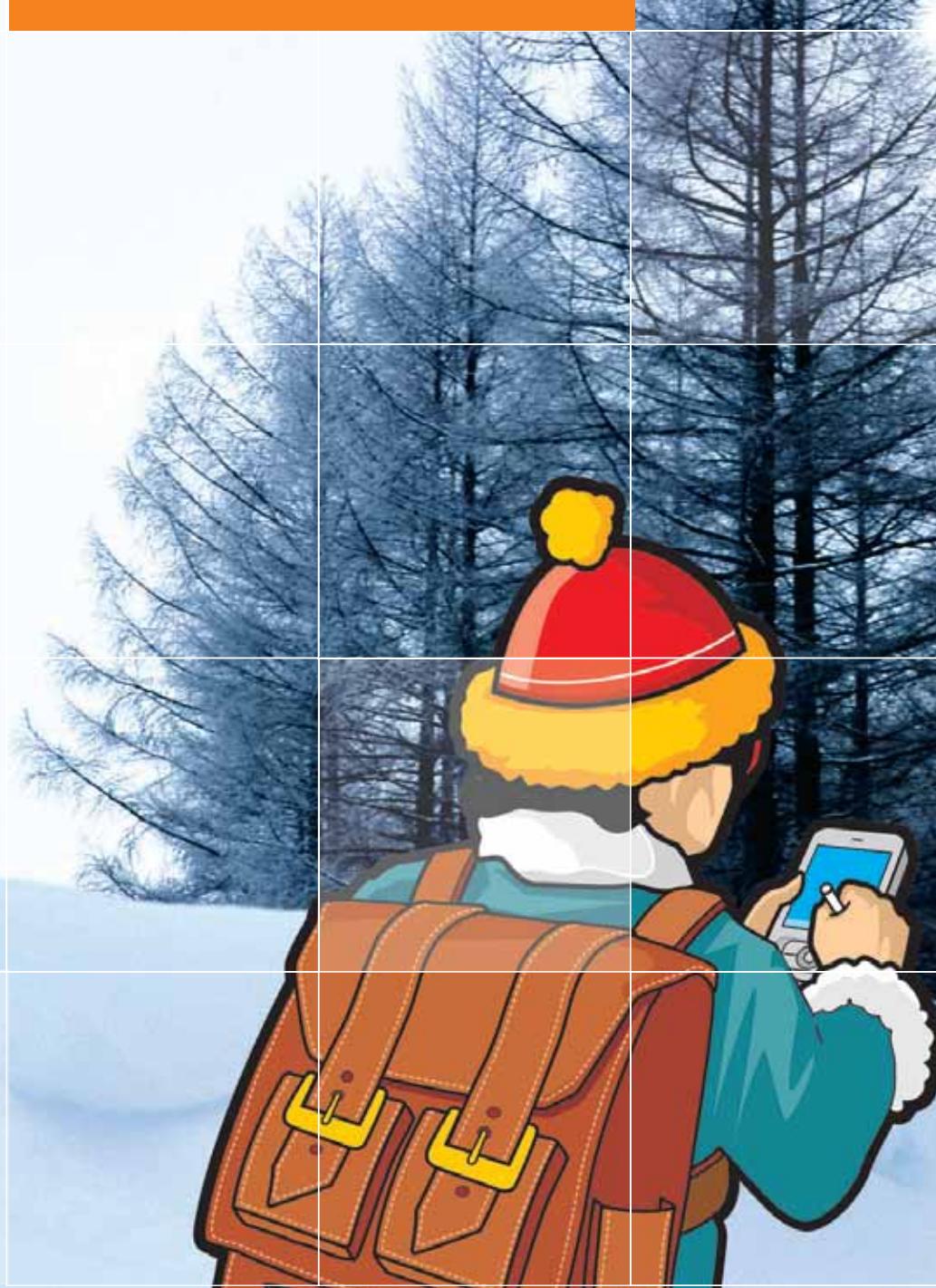
Phone: +91-11-2669 2120

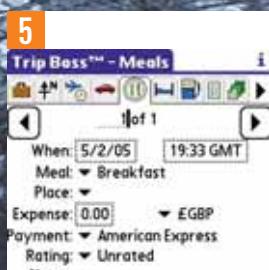
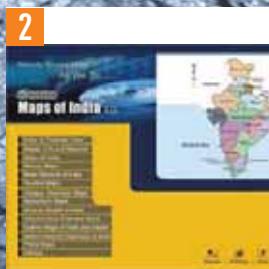
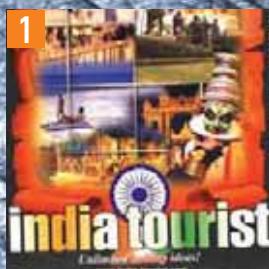
Web site: www.mapmyindia.com



Planning apps

Traveling has always been an integral part of our life, be it annual vacations or business trips. With the advancement in technology, what we can do presently is plan and organize our holiday way before the actual day of departure. There are a plethora of desktop, laptop and PDA applications that can help you plan your trip systematically while also increasing the mobility factor. With the help of these applications , you can have access to maps, local information and contact details effortlessly before you even step out for your holiday.





1 India Tourist

With this interactive CD, users can get information on approximately 150 destinations and 500 sub-destinations within our country. Along with textual descriptions, photographs of nearly 70 places enhanced the usability of this CD. It has a database of 1,200 hotels which range from budget to five star deluxe ones. Besides the names and address, the CD also provides information on hotel tariffs. To enable better planning, the application also offers description of routes that includes direct route and break journey details.

It also suggests itinerary for trips and provides booking details for both regular and luxury trains.

Price: Rs. 100 (plus shipping charges)

Order: Online

Web site: www.shop.rediff.com

E-mail: customerservice@fabmall.com

Phone: (080) 51303030

2 Maps of India

To know about the history, infrastructure, census and tourism of each state, the interactive CD labeled 'Maps of India' is handy for any traveller. For navigation, the application has an easy-to-use menu system and search functionality. The CD gives you access to inter-city road connections as well as intra-city and intra-state road network information. Especially for the tourists, this map holds details of hotels, beaches, stadiums and other entertainment facility locations. One of the best features of this map is the ability to print all images on a regular A4 sized paper from a printer.

Price: Rs 499 (Rs 25 - shipping charges)

Order: Online

Web site: <http://www.fabmall.com>

E-mail: customerservice@fabmall.com

Phone: (080) 51303030

3 All India Time Table

This CD contains details of about the all- India train network along with suburban train information. The CD holds a database of 8,300 trains, 7,500 stations and 62,000 km railway tracks—that's plenty of travel info! Along with the name and route, this CD also delivers information on links, junctions and fares covering 16

railway zones. Those, focusing on only touring, can find specific information on places of interest and other spots. The CD also provides information like detailed timetable of national trains. Interestingly, you can check the status of reservation simply by typing in the PNR number as the application on the CD connects to the Internet and pulls down this information.

Price: Rs 100 (plus shipping charges)

Order: Online

Web site: www.shop.rediff.com

4 Travel Plan

This is an application that culls out information from the Internet. You can download Travel Plan on your PC or PDA. The PDA version is compatible with Palm and Pocket PC. Once installed, you can gather information on air travel, availability of hotel rooms and cars for hiring. You can get access to 750,000 entries of flight information including international carriers like Air Canada, Air France, Lufthansa, etc.

The application enables you to obtain names, locations, price bands, facilities and reservation numbers of hotels. With Travel Plan, you can book from a list of about 50,000 hotels. You need to subscribe to Travel Plan's online subscription service for updated information.

Price: \$49 (PDA version), \$199 (PC)

Order: Download

Email: freedom@travelplan.com

Phone: +44 (020) 8253 5055

Web site: www.travelplan.com

5 TripBoss Travel Manager

This shareware application can be downloaded on your handheld and can be used to plan, record and report different aspects of travel. It helps you work out expenses, trip budgets, trip distances, currency conversions and a lot more. You can store itinerary details, export details to the address book and memo pad, import information from address book and copy paste trip details to do away with the hassle of re-entering data for similar types of trips. All this information can also be customized.

Price: \$34.95

Order: Download

Web site: www.creativealgorithms.com

Tech Gear

The most important aspects in the gadgets you take on your vacation are portability and compatibility: they need to be small and light and should work well in the places you take them to. No matter what the need—whether you want to keep your crucial data close to you, or if you need to access the Internet or you just want to arm yourself with technology that helps you along the way after you leave home—there are numerous tools to choose from. These, in our opinion, are the most important tools you need to pack before you step out





1 USB drives: They're arguably the best things ever invented for personal data. Depending on the amount of data you plan to take with you, you can opt for something as small as 128 MB (for small document and other such files), all the way to 1 GB sticks that will help take a load off your digital camera in case you need to clear space in a crunch. This is a must have.

Price: From Rs 600 (for a 128 MB drive) to Rs 4,000 (for a 2 GB drive)

Brands: Apacer, Kingston, Buffalo

Web site: www.buffalo.co.in

2 Communication devices: On the voice front, you need to make sure that your mobile phone service is enabled for roaming, or you'd be left high and dry once you leave your city. Remember to make note of the service providers that partner with that of your home provider—manually log onto these when you're traveling or you'd be paying more for your voice calls and text messaging. If you're traveling abroad, you could opt for one of the new country-specific SIM cards (from brands like Matrix). Enabling you to buy a SIM card locally and use it in the country you travel to, your international cellular bills can come down by 70 percent in across 26 countries.

On the data front, you would need to sign up for a data service for your GSM or CDMA cell phone and use it to surf the Internet in all areas that support a GPRS, CDMA or EDGE service. If you have a laptop, you can also connect your cell phone to the Internet either physically or via Bluetooth wireless. Some service providers even sell PCMCIA cards that directly allow your laptop to access the cellular network, without the need of a cell phone. Check with your cell phone helpdesk for more information on using these services.

Brand: Matrix SIM cards

Phone: 080-41151852

Web site: www.matrix.in

3 Instant Wi-Fi hotspot: We came across this great little portable Wi-Fi product some months ago. The Netgear WGR101 is a 54 MBps wireless router at heart, which fits in the palm of your hand. It can create a Wi-Fi hotspot from almost any LAN-based Internet connection. This

is ideal if you are traveling in a group in which other laptop users need to access the Internet as well.

Contact: Rashi Peripherals

Phone: 022-28221013

E-mail: sanjaya@rptechindia.com

Web site: www.netgear.com

4 Carry bags: Take a bag that has too few compartments or isn't built for a life on the road and you'd be frustrated before the first week is over! Therefore, it makes plenty of sense to opt for a good carry bag that is built to specifically provide a cocoon of safety and convenience for all your portable hardware. Our favorite brands here are LowePro and Skooba. Besides looking great, they are built using hi-tech materials that keep water and dust away, provide tough support and a conveniently large number of pockets and compartments for managing all your portable gadgets.

Brand: LowePro: Interfoto (E-mail: jpa@interfotoindia.com; phone: 022-24925151, web site: www.lowepro.com)

Skooba: Vantec Apical Impex (E-mail: tejas@apical.in; phone: 9821349177 web site: www.roadwired.com)

5 Miscellaneous must-carry stuff:

Whether you have a digital camera or MP3 player, chances are that you'll never have enough memory while on the road. Invest in a couple of large-capacity flash cards to make sure you don't run out of storage space in the middle of a picture-perfect moment. You'll also need at least four to eight AA-sized rechargeable batteries for your equipment that uses them. Make sure you opt for ones with capacities of at least 1800 mAH or they won't have the lasting power to take you through an entire day. Go in for branded batteries like Sony, Sanyo, Energizer, etc or you'll be disappointed when they don't last as long as you imagined.

Finally, make absolutely sure you invest in a universal power adapter—these devices are invaluable especially when traveling abroad when you're bound to face different voltage and plug standards. You should be able to find all of these products at your local hardware store.



© Vishwanath Vanjire

The SoundBlaster X-Fi Elite set the pace for the standalone reviews. The sheer computing power of the chip combined with a fleet of features makes it a killer solution. Another product which is a killer solution in its category is the Vantec Spectrum VGA cooler. Though it's just a VGA cooler, the effectiveness and perfection is praise worthy. Similarly, the Buffalo RUF2-S512 and the Sandisk m230 prove the importance of getting the basics right. These products do not promise the world and deliver the exact price performance ratio for its category. The XFX 6800XTreme belongs to the other end, giving a dismal price-performance

Top Gear

ratio and making no difference to the existing market. The NEC Versa notebook and the WD Passport external USB drive are good options for their respective categories and add variety to the mix of products. The Epson PictureMate 100 should excite the imaging enthusiasts, it is a perfect companion for your digital camera allowing you to take good quality prints from a compact and feature rich device. The Hitachi T7K250 is a scorcher of a hard drive, it is an excellent product that not only gives ample storage but also stellar performance, the feature set in the form of SATA-II and NCQ support makes it a very smart product.

| The 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.



Supreme sound

Creative is back with its latest offering for the PC audio segment. The SoundBlaster range of multi-channel soundcards from Creative has been virtually ruling the market. The X-Fi range of soundcards from Creative up the ante by offering the most powerful and feature-rich gaming soundcards in the market. Creative soundcards are known to be more efficient, thanks to the dedicated audio processing units which take care of all the sound processing. The X-Fi is far superior when compared to the EMU10K2 chip used in the earlier Audigy series of soundcards from Creative.

We received the Creative X-Fi Elite Pro, the highest and most expensive variant of the X-Fi series. It comes with an external unit that offers quick and convenient switching of modes, connections and controls. The unit looks similar to the latest slim DVD players and requires a fair amount of desktop space if kept horizontally. Thanks to the included stand, you can also place it vertically and save precious desktop space.

The package includes all the necessary accessories and a fully featured remote control that lets you control each and every aspect of sound.

Features: In terms of sound quality, the

X-Fi Elite Pro supports 24-bit analog-to-digital conversion of analog inputs at 96 KHz sample rate, 24-bit digital-to-analog conversion of digital sources at 192 KHz for stereo output, and analog 7.1 speaker output at 96 KHz. The signal-to-noise ratio is rated at 116 dB, clearly better than the 113 dB of the Audigy 4 Pro, which was the best from Creative before the X-F Elite Pro. Support for gaming has been extended as well; the X-Fi supports EAX 5.0 advanced HD effects, the highest environmental surround standards used in gaming today. Being the top-of-the-line variant, the Elite Pro comes with 64 MB dedicated onboard audio memory. The X-Fi audio processor is more advanced and efficient as compared to the earlier audio processors from Creative. The secret lies in the 24-bit crystallizer and the audio ring architecture. The 24-bit crystallizer improves the frequency response and also cleans the sound, improving the overall sound quality. Audio ring architecture is a smart and more efficient way of processing audio by

Soundcard

Creative Sound Blaster X-Fi Elite Pro

Specifications: Signal-to-Noise Ratio 116dB, Total Harmonic Distortion + Noise at 1kHz [20kHz Low-pass filter] = 0.0008%, Frequency Response [-3dB, 24-bit/96kHz input] = 10Hz to 46kHz, Frequency Response [-3dB, 24-bit/192kHz input] = 10Hz to 88kHz [Stereo only], 64MB of X-RAM, Enhanced SoundFont support of up to 24-bit resolution, EAX HD 5.0, 24-bit Crystallizer

Price	Rs 27,990
Contact	Creative Labs Asia
Phone	9820357718
E-mail	india_getcreative@ctl.creative.com
website	www.in.creative.com

RATINGS	
Performance	<input checked="" type="checkbox"/> <input type="checkbox"/>
Features	<input checked="" type="checkbox"/> <input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/> <input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

improving the communication between various components of the soundcard. The result is improved efficiency and higher processing power.

Final verdict: Without doubt, the X-Fi Elite Pro is the ultimate soundcard that money can buy. The sheer processing power, features and ability to handle various formats makes the X-Fi a formidable sound solution. You will certainly need to match the soundcard with the highest quality of speakers to extract maximum performance.

The X-Fi Elite Pro is also the most expensive soundcard reviewed by us, and hence is clearly meant for deep pockets. However, you can very much own a piece of the X-Fi sound processor by opting for the Sound Blaster X-Fi XtremeMusic, the basic variant from the X-Fi series.

For: The most capable and powerful soundcard; feature packed; external control unit with remote; 64 MB RAM.

Against: The soundcard costs as much as a PC!

Processor	MIPs	Real-time (effects)	No of transistors (million)
Live! (EMU10k1)	1,000+	1	2 M
Audigy (EMU10k2)	1,250+	4	4.6 M
Creative X-Fi	30,000+	8	51.1 M

Laptop**NEC Versa E3100**

Specifications: 337(W) x 240(H) x 220(D) mm, 2.2 kg, Intel Pentium M 760 2.0 GHz, 512 MB DDR2 533 MHz RAM, 80 GB hard drive, 14-inch glossy LCD, 16:10 aspect ratio, Dual-layer DVD writer, 4-in-1 card reader, 1 x FireWire, 4 x USB ports, 1 x PCMCIA slot, 10/100 Ethernet, Wi-Fi 802.11 b/g, IR

Price	Rs 79,900
Contact	Enkay Technologies India Pvt Ltd
Phone	9820538310
E-mail	vpb@enkayindia.com
website	www.nec-computers-ap.com

RATINGS

Build quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ergonomics	<input checked="" type="checkbox"/>				
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>				
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Bright and beautiful

The gorgeous looking NEC Versa E3100 with a glossy metallic blue chassis is a mainstream notebook based on the Intel Sonoma mobile platform. It is powered by the Intel Pentium M 760 processor running on the Intel 915 GM chipset. To ensure stable system performance, it features 512 MB RAM based on DDR2 technology running at 533 MHz, which is sufficient to handle most of the tasks. The notebook comes with a generous 80 GB hard drive spinning at 5,400 rpm, sufficient enough to hold a couple of games, movies, songs and images in addition to your documents, e-mail and other data.

The 14-inch glossy widescreen display with a 16:10 aspect ratio will leave you stunned as soon as you press the power button. With excellent contrast ratio and brightness, it makes the E3100 well-suited for mobile entertainment while you're on the move. It's guaranteed to keep you hooked on while watching a DVD. But the puny stereo speakers at the front require a quiet environment to be heard. A good headset or external speakers would have complemented the high-quality display.

NEC has been successful in its attempt to squeeze everything into the Versa E3100. It is capable of reading and writing

a host of media types. The dual-layer DVD writer will help P2P and torrent addicts to shed the load off the hard drive. Transferring videos, images, ring tones and phone data from camera and mobile phones don't require an additional card reader as a 4-in-one card reader is built-in. Four USB ports, Wi-Fi 802.11 b/g, modem, 10/100 LAN, FireWire and S-Video output commonly found in most of the notebooks, round off the features.

Build quality and ergonomics: The Versa E3100 features an excellent build quality from head to toe. The quality of chassis, hinge, keyboard and optical drive are of superior quality. The keyboard with well sized and spaced keys is a pleasure to type on. In addition to a rich feature set, this laptop also features excellent ergonomics. Rather than rear placement of ports, the ports are placed on the front and sides for easy accessibility. Even the touchpad is

centralized to ease operability while the fingers are placed on the keyboard.

Performance: The scores indicate that the Versa E3100 doesn't suffer from any bottlenecks. It performs at par with other notebooks in its category having a similar configuration. Bear in mind that this notebook is not a gaming notebook since it doesn't feature a dedicated graphics subsystem. Battery life is good enough for a long three-and-a-half hour session.

The NEC Versa E3100 is an excellent package, but for its price you'll definitely get a more powerful machine.

SCORES**SiSoft Sandra 2005 Pro**

Hard Drive Index: 30 MB/s
Memory bandwidth: 2,853 MB/s
Optical Drive Index: 1,646 KB/s

PCMark 05: 2,028 marks**MobileMark 2002:** 218 minutes**3DMark 2005:** 1,004 marks

For: Good build quality; feature-packed; excellent display; dual-layer DVD-writer; excellent keyboard with good tactile response and key spacing.

Against: Prone to finger stains and scratches.



Ports placed on the sides are easy to access



Hybrid graphics

This is not about the combination of a dedicated physics processor and a graphics rendering chip. Rather, it is about the 6800XTreme from XFX. Not many are perhaps aware of the 6800XT, one of the latest offerings from Nvidia for the mid-range segment.

You need to keep a tab on the naming conventions applied by ATI and Nvidia. The "XT" variant for ATI stands for the highest version while the "XT" in Nvidia's book stands for the lowest version or the value version. So the 6800XT is the lowest of the 6800 series with just eight pixelshader units as compared to 12 pixelshader units in the 6800. The XFX 6800Xtreme further adds its own play to the situation by rolling out an overclocked version pushing the clocks from 300/700 to 350/900 MHz. The card comes with 256 MB of 256-bit GDDR 3 memory and draws additional power through a

molex connector. It includes the S-video out feature. The package contains an S-video cable, DVI connector, the AI driver system of XFX and a video-editing suite, 3D Edit.

Performance: The graphs tell the story; the 6800XT is certainly slower than the 6800GS and the 1600XT. The performance is better than the 6600GT, thanks to the 256-bit memory interface. The card sits right between the 6600GT and the 6800GS; it could have been an interesting option if the pricing was better. Priced at Rs 15,000, the card is as expensive as a 6800GS and hence defeats the purpose.

You can soon expect the 7600 series of cards for the mid-range market, priced at the same level as the 6800XT. The 7600 series of cards have better specifications and are obviously a better choice. We tried unlocking

Motherboard

XFX GeForce 6800XTreme

Specifications: 6800XT GPU, 8 pixel shader units, 256MB of 256-bit GDDR3 memory, S-video out, Dual DVI

Price	Rs 15,000
Contact	Rashi Peripherals Pvt Ltd
Phone	022-28221013
E-mail	navinderc@rptechindia.com
website	www.xfxforce.com

RATINGS

Performance	█ █ █ █ █ █
Features	█ █ █ █ █ █
Warranty	█ █ █ █ █
Overall Rating	█ █ █ █ █
Value for money	█ █ █ █ █

the 6800XTreme, hoping to unmask four pixelshader units, but that did not go well with the card; it defaulted back to factory settings. The card should have been ideally priced near the 10k mark, bridging the gap between the 6600GT and the 6800GS. For the given price, we recommend the 6800GS over the 6800Xtreme.

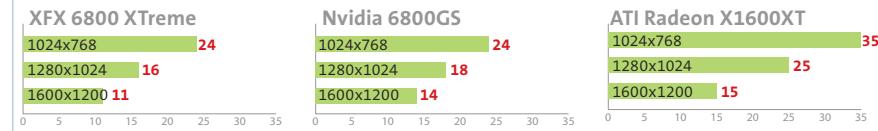
For: 256 MB 256-bit memory; factory overclocked.

Against: Over-priced; noisy cooler; average performance.

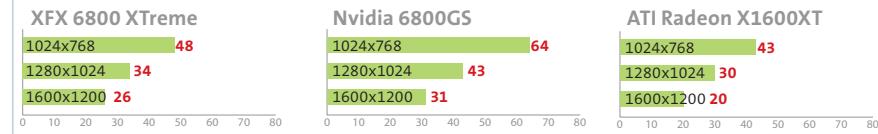
3DMark 2005

XFX 6800 XTreme	3933
Nvidia 6800GS	5657
ATI Radeon X1600XT	5235

F.E.A.R (max@8xAA, 16xAF)



Doom 3(High Quality@4xAA, 8xAF)



The cooler design differs from the generic 6800 series and the fan is too noisy

Portable Hard Disk

WD Passport portable USB Drive

Specifications: 120 GB HDD, 5400 RPM, 2 MB buffer

Price	Rs 10,000
Contact	Amarjit Singh
Phone	9321029204
E-mail	amarjit.singh@wdc.com
website	www.wdc.com
RATINGS	
Build Quality	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Performance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Features	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>



Portable wonder

The WD Passport 120 GB portable USB drive is one of the best looking 2.5-inch external hard drives. The top is made up of plastic while the bottom has been intelligently constructed with rubber to assist while holding it. Grip becomes important for a portable hard disk which is susceptible to accidental falls.

The USB and the external power source connectors are covered by a rubber flap, again a very nifty feature since external hard drives are always susceptible to water spills and these ports are the gateway to the interiors of the hard drive, which are not waterproof. The hard drive activity is indicated by a cool blue indicator which blinks during activity.

Features: The USB 2.0 interface cable has a mini USB head on one end which slides into the drive; the other end is a normal USB head. The USB 2.0 certified cable is a tad short and may cause difficulties for users who don't have front USB ports. It is very surprising that the USB 2.0 cable is not dual headed as it will be difficult to connect to PCs which cannot provide enough power through a single USB port.

We connected the drive to our old IBM laptop which cannot provide the required power through a single USB 1.1 port. The drive did not show up (we worked

on Windows XP Professional SP2) in the Explorer window. However, when we plugged a 2.5-inch HDD with dual-headed USB cable to the laptop and powered it from 2 USB ports, it worked perfectly. Though there is a provision for using an external power supply (not provided), providing a dual headed USB cable would have been better. Besides, carrying a power adapter defeats the very purpose of portability. It also doesn't come with USB drivers for Windows 98SE users. It seems like WD has launched this drive for a niche segment of users with the latest hardware and software.

The drive comes pre-formatted and is immediately detected as removable storage device as soon as you plug it into a system with Windows XP. You can start using the device straightaway after it is plugged.



Rubber flap covering the ports

The manual is a single page fold out that gives you basic information and warranty details. We would have appreciated if it contained instructions for formatting the drive.

Performance: The drive comes with a 5400 rpm HDD with 2 MB as buffer. The performance is good though not the best in its category.

Everest 2006

Linear Read	: 25.46 MB/s
Linear Write	: 25.6 MB/s
Random Read	: 25.5 MB/s
Random write	: 24.2 MB/s
Buffered Read	: 29.4 MB/s
Average Read Access	: 18.15 ms
Average write access	: 8 ms

Real World Tests

Linear Read	: 24.38 MB/s
Linear Write	: 25.6 MB/s
Random read	: 22.03 MB/s
Random Write	: 20.37 MB/s

For: Good performance; excellent looks and build quality.

Against: Expensive; no dual headed USB connector cable; cable length is very short; no USB drivers provided for Windows 98SE users.



MAXIM

The best thing to happen to men since women.

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Scanner**CanoScan LiDE 25**

Specifications: 1200 x 2400 dpi, Contact Image Sensor (CIS), Scanning bit Depth: 48-bit input / 24-bit output, interface: USB (USB 1.1 equivalent).

Price	Rs 3,995
Contact	Canon India Pvt Ltd
Phone	0124-5160000
E-mail	info@canon.co.in
website	www.canon.co.in

RATINGS

Build Quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Budget scanner

The CanoScan LiDE 25 belongs to the slim breed of scanners and is also light in weight. The scanner uses the Compact Image Sensor (CIS) technology used by other Canon models. Such scanners are much slimmer than the conventional flatbed ones because they use tiny LEDs instead of standard lamps. LiDE stands for LED Indirect Exposure.

A unique feature of the scanner is that it uses the same USB port for data transmission as well as to power it, which means you don't need a separate power adapter to power the scanner. This avoids the cable clutter on your desktop; at the same time, the slim and light weight design gives you the option to put it at places where space is a constraint.

Features and software: The scanner has three hot buttons on the front which are pre-configured to "scan", "copy" and "e-mail". These three buttons can also be re-configured with the help of the bundled software to perform a host of other functions. The software is simple to use. It has features that help to save the scanned document in PDF format. The software bundle includes an image editor, ArcSoft PhotoStudio 5.5, an optical character recognition application, and ScanSoft OmniPage SE 2.0.

Performance: The highlights of the CanoScan LiDE 25 are its light weight, compact design and low price. Apart from these there's not much that you can expect from it. The performance at its best is average. It says it has the USB interface which is equivalent to the USB 1.1 standard. Though the LiDE works with either a USB 2.0 or USB 1.1 interface connection, it will only operate at USB 1.1 speed. It took the CanoScan LiDE 25 72 seconds to scan a full page color document at 300 dpi as compared to 27 seconds taken by the Epson Stylus CX 4500. That is more than three times the time taken by Epson 4500.

Coming to the most important element of a scanner, we found the overall image quality to be of average quality. We scanned a variety of pictures. After scanning the pictures at default settings,



Pre-configured buttons for scan, copy and e-mail

we observed that the color reproduction was not accurate. Besides, the brightness and the contrast was also not up to the mark.

Our next level of test involved scanning images at the maximum resolution of 1200 dpi and used the maximum color depth of 24 bits. Some of the images were too bright and the color gradation was not perfect.

We then customized the settings by making changes in the scanner driver and then found the results to be much better in terms of quality.

If you are low on budget and space, only then would we recommend to you the CanoScan LiDE 25. It is available for as much as Rs 4,000. Otherwise, you would be better off with conventional flatbed scanners, which use standard lamps. You could also check out the other models from Canon like the CanoScan LiDE 60, which is much faster and equally compact as the LiDE25.

For: Low price; the same USB port powers the scanner and is also used for data transmission; good bundled software.

Against: Average scan quality; takes much longer to scan as compared to other scanners; cannot scan transparencies.



Mobile photo lab

At first glance the Epson PictureMate 100 looks like a toaster. This tiny photo printer is like a mobile photo laboratory using which you can print 4x6-inch photographs anywhere and from any source. This little printer, which can be carried like a picnic basket packs in tons of features. Weighing just 2.7 kgs, it can print images in JPEG and uncompressed TIFF formats having resolution up to 4600x4600 pixels. With support for PictBridge, Bluetooth and USB Direct-Print, it can print photos directly off digital cameras, cell phones, USB flash drives. You can even print directly from memory cards using the integrated card reader, which supports nearly all formats of cards. For shutterbugs on the move, the PictureMate 100 can also work on a battery pack. The battery pack and the Bluetooth adapter are optional accessories if you wish to add mobile and wireless printing functionalities.

The printer has a well-designed control panel on top. To avoid confusion between the various symbols on the control panel, a legend describing their functions is provided in the flap covering the card reader.

The printer is so easy to set up and use that you can figure out most of the

functions without referring to the manual. Before printing images, you simply need to lower the output tray like a drawbridge and push back the paper-loading tray at the top. The PictureMate 100 offers some excellent features to ease the operation. Before printing from external sources, you can preview the images on the 4 cm color LCD display and select the ones you wish to print. You can even choose to print all the images on a memory card or a digital camera. To add some fun, you can even set the printer to print in grayscale or sepia. Choosing to print two images per sheet or printing with margins is no problem.

Printing pictures from your PC using the bundled application—Epson Easy Photo Print—is a breeze. Apart from the easy user interface, it offers advanced options like photo enhancements, magnification and economy print mode to save ink.

A pack containing 30 sheets of Epson



The easy-to-use control panel

Printer

Epson PictureMate 100

Specifications: 256(W) x 167(H) x 154(D) mm, 2.7 kg, color LCD display, integrated card reader, CMYK cartridge, top paper loading, support for Bluetooth, USB Direct-Print, DPOF and PictBridge

Price	Rs 11,095
Contact	Tushad Talati
Phone	080-30515040
E-mail	tushad@eid.epson.co.in
website	www.epson.co.in

RATINGS

Build Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Ergonomics	<input checked="" type="checkbox"/>					
Performance	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Features	<input checked="" type="checkbox"/>					
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Value for money	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Premium Glossy Photo Paper comes with the package.

Performance: Regular prints fired directly from memory cards or PC take around 2.5 minutes to roll out. The economy mode, which consumes lesser ink, requires a minute lesser. The print quality is simply amazing with very good color reproduction and sharpness. It is recommended to use the economy mode as the output hardly differs from the normal mode—the cartridge will last longer.

If you want a photo printer having a rich feature-set coupled with excellent performance, the PictureMate 100 deserves serious attention.

For: Portable; easy to use; USB Direct-Print support; Bluetooth capability; card reader, DPOF and PictBridge support; backup function; excellent print quality.

Against: The flap covering the card reader is a bit flimsy.



The card reader supports 14 types of media cards

Projector

Plus U4-237 GO-W1616B

Specifications: Imaging unit: DLP chip, Brightness: 2000 lumens, Contrast ratio: 2000:1, Weight: 1.58 Kg, Inputs: DVI [720p, 1080i high definition], S-Video, Composite video

Price	Rs 1,45,000
Contact	Plus Business Machines
Phone	080-30515040
E-mail	sales@plus-india.com
website	www.plus-india.com
RATINGS	
Build Quality	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Performance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Features	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>



Small and bright

In today's world of portability, consumers are looking more toward the convenience of wire-free functionality. The Plus U4-237 projector draws from these features and brings large-screen imaging in a small and handy package. Coming in at just 1.6 kilos, this projector sports the footprint of a textbook making it very portable. Besides the impressive 2000:1 contrast ratio that resulted in vivid imagery and the support for HDTV signals, this projector differentiated itself from the rest of the pack with its built-in Compact Flash based wireless network capability. Its support for 802.11b networking enabled it to accept video signals transmitted wirelessly from client computers with the relevant software installed. This enables client computers to switch between each other in using the projector and is very useful in a boardroom environment where multiple users would want to use the projector for displaying things like presentations. While feature this worked reasonably well for slow-moving applications such as slide shows, the higher bandwidth requirements of full-motion video resulted in jerky video playback over its wireless input. Since this wireless implementation is based on a Compact Flash-based Wi-Fi card, this slot can also accept CF cards and can

be used to directly display presentation files, eliminating the need to connect it to a computer. It also has a USB port to which a standard Type B USB mouse can be attached. This enables an on-screen pointer even in the absence of a connected.

However, when using its DVI connection (it did not feature a VGA port but did bundle a DVI-VGA cable) the playback from standard DVD players was excellent. It could also be directly driven by a video card with the DVI output, resulting in even purer image quality. It supports a maximum XGA resolution of 1024 x 768 making it a native 4:3 aspect screen. However, it also supports 16:9 widescreen video inputs. The device was a snap to set up due to its auto-source sensing and auto image adjustment, where parameters such as the source image resolution, clock speed, and phase are automatically sensed. This enables even novices to get the machine up and running without having to pore over instruction manuals. The on-screen configuration interface is simple use, where pull down menus allow access to all important configuration parameters of the device such as digital keystone adjustment, zoom, image freeze and color/hue control. Depending on the input signal, the color mode of the device can be conveniently

cycled between Standard, Custom and Color. It has a manual zoom ring that provides a 1:1.2 zoom ratio, along with a conventional manual focus ring.

The unit bundles a credit-card-sized remote control that allows convenient access to these imaging controls. An 'eco-mode' function extends the lamp life while reducing the image brightness by about 20 percent—when the unit is used in a sufficiently dark room, this resulted in reasonably good image quality. This mode extends the unit's lamp life to 2000 hours, up from its normal 1500 hours specification. On the security front, it features a Kensington lock that can be used to physically fasten it to a heavy object after it is installed. Additionally, it also offers a password prompt feature during power up, imparting an additional level of protection against unauthorized use. The only real disadvantage was the placement of the exhaust port on the front of the unit, which resulted in occasional heat refraction ripples on the right side of the projected image.

For: Sports a small form factor, surprisingly good contrast, easy setup and wireless presentation capabilities

Against: Expensive, placement of exhaust port affects image



Just Write!

The Gigabyte dual layer DVD writer belongs to the current breed of DVD writers which are capable of burning DVD+R and DVD-R media at 16x, and are also capable of writing dual layered discs.

Design: We got the retail package of the drive. The writer comes with a black faceplate but it has an additional white faceplate supplied in the package.

Features: The retail package includes two software CDs. It packs in Nero 6, the burning software and Power DVD. It also comes with an audio cable and mounting screws. The three manuals included comprehensively cover all the required information. We particularly liked the manual describing how to change the front faceplate.

One thing that we noted is that the

directions were meant for another drive. The manual describes about the volume button which this model of Gigabyte doesn't have. Gigabyte doesn't manufacture their own drives.

Performance: We compared the writer to the BenQ 1640, which has one of the best scores. The results are evident from the scores as seen in the table below.

CD/DVD reading test: It has very good pressed CD, pressed DVD reading speed but we rate it average when it comes to reading DVD+R DVD-R and dual layer +R discs.

Note that pressed CDs and DVDs are those that come straight from the manufacturers of CDs and DVDs.

CD/DVD recording test

CD: The 1616B has very good recording speed for CD-R with an average speed of 36.95X while it supports speeds up to 48X. Whereas the 1640 has average speed of 36.25X and also supports speeds up to 48X.

DVD Writer

Gigabyte GO-W1616B

Specifications: 16x DVD+/-R, 8x DVD +RW, 4x DVD-RW, 4x DVD+R9 DL, 48x CD-R, 24x CD-RW.

Price	Rs 2,999
Contact	Gigabyte Technologies (India) Ltd.
Phone	022-30616666
E-mail	sales@gigabyte.in
website	www.gigabyte.in

RATINGS				
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

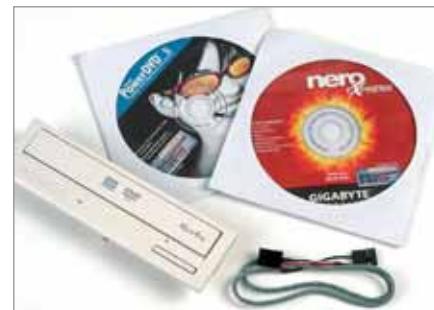
DVD: For the 1616B, the maximum supported speed is 16X for both the DVD+R and DVD-R formats. For DVD+RW, the speed is 8X while for DVD-RW it is 6X.

Speeds of both the drives are almost similar and are very good.

Overall, we would call it a very good CD reader, while we would put it on the same level as your regular DVD writer.

For: Good CD/DVD write speeds.

Against: Slow DVD-/+R read speeds.



Additional faceplate, Nero and Power DVD software, and audio cable

Read Speed X (Average)		
	Gigabyte Go-1616B	BenQ 1640
Pressed CD	36.9	36.87
CD-R	30.41	37.39
pressed DVD	12.11	12.08
DVD-R	6.2	12.08
DVD+R	6.09	12.09
Dual layer pressed DVD+R	6.02	9.07

	Media type	Media Rated Speed	Speed	Time
BenQ 1640	DVD+R	16x	11.47x	5:47
	DVD-R	16x	11.96x	5:47
Gigabyte GO-W1616B	DVD+R	16x	11.85x	6:05
	DVD-R	16x	11.96x	5:41

Graphics Card Cooler**Vantec Spectrum Fan Card**

Specifications: 195x92x20mm, Fan Size: 70x70x15mm, Speed: 2400–4000 RPM, Voltage: 7–12V, Airflow: 17.73–29.54 CFM, Noise: 25–36.54 dB, 300 gms.

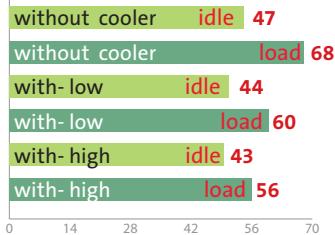
Price	Rs 1,300
Contact	Apical Impex, Mumbai.
Phone	9821349177
E-mail	sales@apical.in
website	www.vantec.com.tw

RATINGS					
Build Quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chill blue

The Vantec Spectrum fan card is an external GPU cooler. The biggest advantage an external cooler enjoys over a fixed GPU chipset cooler is that it is not restrained by the design of the card and works for all graphic cards, except for the ones which have an artic silencer type cooler with an enclosed heatsink fan setup.

Design: It has the same dimensions and size of a normal sized graphics card. It fits into an empty PCI slot in a manner similar to the way a graphics card is fitted. It is powered by a four-pin Molex connector. It consists of two 70 mm fans which pull



air from beneath the case and throw it directly on the graphics card. The Vantec fan card is lit by blue LEDs and the material is UV reactive giving it a very attractive look when operational. You can alter the fan speed with a regulator. The fans are not audible at all at low rpm but at high settings, they are a little audible.

Performance: A drop in temperature—12 degrees—at full rpm is phenomenal for an external cooler and nearly matches the top-of-the-line GPU coolers.

Test System

Athlon XP 2600+ Barton @ 2.1 GHz

nForce 2 Ultra 400 M/b

Gainward 6600 GT AGP 128 MB OCed to 550/1100

512 MB RAM DDR 400

For: Good cooling for an external cooler; multi-utility cooling; good looks; works for all graphics cards.

Against: Expensive; doubly priced when compared to international pricing.

USB Flash Drive**Buffalo RUF2-S512**

Specifications: Capacity: 512 MB; Interface: Hi-Speed USB 2.0, Read: 28 MB/s, Write: 14 MB/s

Price	Rs 2,500
Contact	Buffalo Inc. (Liaison Office)
Phone	011-4128532
E-mail	anju@melcoinc.co.jp
website	www.buffalo-asia.com

RATINGS					
Build Quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>				
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Zip zap zoom

Measuring as much as your little finger, USB flash drives are the best devices for carrying your data wherever you go. Despite the compact form factor, these devices can hold data ranging from a few hundred megabytes up to a few gigabytes—the credit goes to the tiny flash memory chips residing in the drive.

The Buffalo RUF2-S512 is a USB flash drive which can hold half a gig of data. The drive looks simple—it has a silver and black body with a translucent back through which you can see the flash memory chips. The drive is sturdy and it features a cap which clicks when detached or fitted. To prevent the cap from being misplaced or lost, the tip of the drive is cleverly crafted so that you can fit the cap behind when you're using the drive.

Performance: To confirm the rated read and write speeds of 28 MB/s and 14 MB/s respectively, we used SiSoft Sandra 2005 Pro as a synthetic benchmark. The real-world test involved transferring a single 450 MB file from the RAM drive to the flash drive

and vice-versa. Our test rig was powered by AMD Athlon FX 53 with 2 GB Kingston HyperX ULK2 memory and Western Digital Raptor 740GD hard drive.

The test scores reveal clearly that the RUF2-S performed better than the rated speeds. It is a speedster requiring less than 45 seconds to fill up completely.

Look no further if you need a speedy USB flash drive; the Buffalo RUF2-S is one of the fastest USB flash drives available around.

SCORES**SiSoft Sandra 2005 Pro**

Drive index: 26 MB/s

Sequential read: 28 MB/s

Random read: 28 MB/s

Sequential write: 19 MB/s

Random write: 18 MB/s

Real world

Read: 30 MB/s

Write: 18 MB/s

For: Tremendous transfer speeds; very good build quality.

Against: The package doesn't include any software or USB extension cable.

Speed demon

The Hitachi Deskstar T7K250 hard drive is the outcome of Hitachi's attempt to take the Deskstar family of hard drives a level ahead. The T7K250, which is Hitachi's second generation Deskstar drive, features a host of improvements over the first generation Deskstar 7K250. Unlike the 7K250 which features three 83 GB platters, the new T7K250 features two platters having a greater density of 125 GB which is one of the highest today. This reduction in the number of platters and heads and the addition of support for Native Command Queuing (NCQ) gives a big performance boost to this drive, making it one of the fastest SATA II 300 MB/s hard drives for the desktop PC in the 250 GB category.

Performance: To assess the performance of the drive, we used SiSoft Sandra 2005 Pro and HDTach 2.7 for synthetic tests. For real-world tests we transferred 1 GB of data (single and multiple files) between the hard drive and the RAM drive to evaluate

the read and write speeds.

The test results show that the drive is a speed demon. The speed remained consistent across all tests.

If you crave for performance and mammoth storage space, the Hitachi Deskstar T7K250 deserves serious consideration. But be ready to pay a hefty price for it.

SCORES

SiSoft Sandra 2005 Pro

Drive index: 55 MB/s

Sequential read: 64 MB/s

Random read: 44 MB/s

Sequential write: 63 MB/s

Random write: 35 MB/s

Real world

Read Write

Single file: 68 MB/s Single file: 64 MB/s

Multiple files: 56.8 MB/s Multiple files: 36.6 MB/s

For: 125 GB per platter; NCQ; blazingly fast.

Against: None.

Hard Drive

Hitachi Deskstar T7K250



Specifications: Capacity: 250 GB; Platters: 2; Heads: 4; Buffer: 8 MB; Spindle speed: 7200 RPM; Interface: SATA II 300 MB/s, NCQ

Price Rs 8,000

Contact Cyberstar Infocom Limited

Phone 080-51266808

E-mail hitachi@cyberstarindia.com

website www.hgst.com

RATINGS

	Build Quality	Ergonomics	Performance	Features	Warranty	Overall Rating	Value for money
Build Quality	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Ergonomics	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Performance	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Features	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Warranty	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Overall Rating	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Value for money	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■

Sound performer

The Sansa m230 from Sandisk is a 512 MB flash memory based MP3 player. It sports a FM tuner, provides voice recording, and plays MP3 as well as WMA file formats. The size of the player is standard and it offers a blue backlit four line display. Supporting Microsoft PlaysForSure downloads and subscriptions, the player comes with memberships and trial offers for downloading music online. The Sansa m230 is high-speed USB 2.0 compatible, and ensures the music is transferred to the device in a flash. It comes with a sleek carry case that helps in avoiding any scratches, and an armband offering the option of wearing the player while jogging or working out. The player uses 1 AAA battery for power and the rated battery performance for an AAA alkaline battery is 19 hours!

Performance: The Sansa m230 is a good device, performing well in all the departments. Though it cannot compete with iRiver MP3 players, it can certainly give the other brands a run for their money. The sound quality is good; the bundled

ear plugs compliment the device and provide good listening experience. The FM reception is great; it provides 20 slots for tuning your favorite radio stations. You can tweak the sound using the built-in 5-band equalizer that offers some preset modes and also allows you to apply your custom preset mode. The music management is also well implemented, allowing you to create playlists, and also sort music on the basis of artist, genre and album. The blue backlit display could improve; it feels a bit too dim and hence might not be offer ideal readability to some users.

Another minor issue we faced was that of the battery cover being a bit too lose for our liking. The battery performance is good and though it might not last for 19 hours, it will easily give you 12-14 hours of listening experience which is good enough for most.

For: Good overall sound quality; feature-rich; good quality ear plugs bundled; good package, well priced.

Against: Slightly dim display; average bass response.

MP3 Player

Sandisk Sansa m230



Specifications: 512 MB flash memory, FM tuner, plays MP3 and WMA, Hi-speed USB 2.0 support, 19 hours battery performance

Price Rs 3,600

Contact Cosmo Digitec

Phone 022-24918465

E-mail info@cosmodigitec.com

website www.sandisk.com

RATINGS

	Build Quality	Performance	Features	Warranty	Overall Rating	Value for money
Build Quality	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Performance	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Features	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Warranty	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Overall Rating	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Value for money	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■

Sharp Shooters

Our test process brought us up close and personal to 19 well-built, spiffy, feature-packed digital cameras



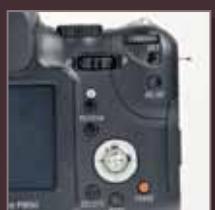
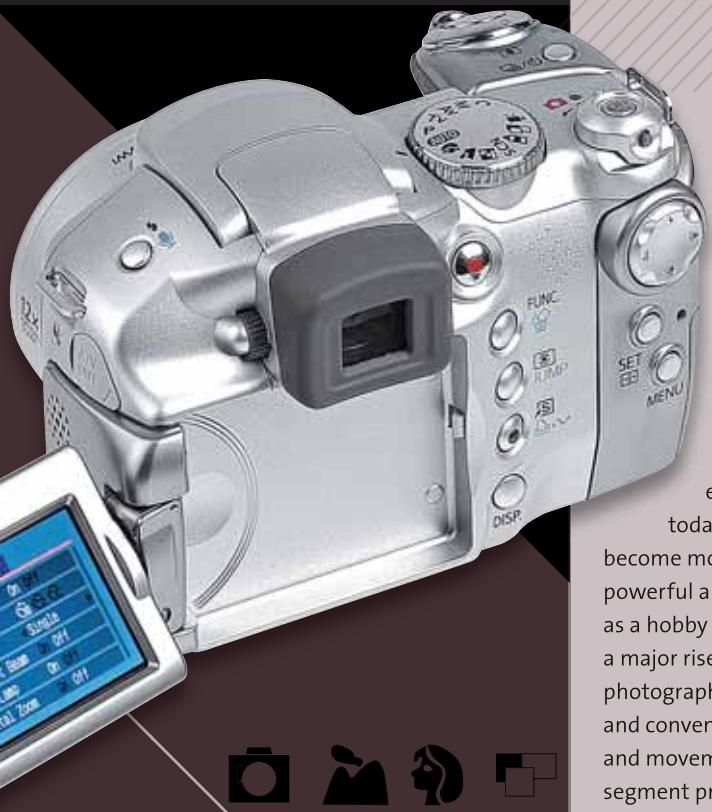
>>
CCD: A charge-coupled device, or CCD, is a light-sensitive semiconductor chip used in most digital cameras. When a picture is taken, the CCD is struck by light coming through the camera's lens. The CCD contains millions of pixels or millions of tiny pixels converts this light into electrons. The resolution of the CCD, the higher the image resolution will be.

>>
Image stabilization: An unsteady hand resulting in camera movement is one of the major reasons for unsharp images especially while shooting using high zoom values or slow shutter speeds. Image stabilization is a feature of a digital system which employs optical elements which serve to compensate for camera movement. The IS feature is usually found on advanced mega-

>>
Noise: Noise is the presence of color speckles in a captured image where there should be none. For example, instead of a blue sky, you will notice faint pink, purple and other color speckles appearing in the image. This noise usually occurs when you shoot using long exposure [beyond 0.5 second] or when you use higher ISO values exceeding 400.

>>
ISO: ISO is the number indicating digital cameras' sensor's sensitivity to light. The higher the sensitivity, the less light is needed to make an exposure. Digital cameras automatically select the ISO but you can also change it manually. Auto ISO generally works best for bright scenes. Shooting at a lower ISO number requires more light than shooting at a higher number.

Vishwanath Vanjire



A couple of years back, people did not think of buying digital cameras simply because they were very expensive. A lot has changed, today digital cameras have not only become more affordable but are also more powerful and feature packed. Photography as a hobby as well as profession has seen a major rise. Thanks to digital cameras, photography has become more interesting and convenient. With so much of interest and movement in the digital imaging segment providing lot of opportunities, the number of brands in the market has risen exponentially. To make things easier, our comparison test gives a comprehensive solution that clearly separates the good from the best and provides a holistic scenario of the digital camera market.

We have segmented the comparison test in three categories, Mega-zoom, Mainstream and the Ultra-compact. The mainstream and ultra-compact categories account for bulk of the market, while the mega-zoom category is a sort of a niche area. Mainstream digital cameras aim for a perfect balance between price, performance and features. They are the most affordable of the lot and are most often the choice for a first time buyer who wants to step into digital photography. The ultra-compacts are sought for their looks, dimensions and style. These credit card-sized cameras are a fine example of technological breakthrough in digital imaging. The size and form factor does not restrict these cameras in any way; they match and surpass the mainstream cameras with respect to features, while having a clear advantage on looks and style. They surely are more expensive when compared to the mainstream cameras, but the gap is closing rapidly. The mega-zoom category has few players and targets a

select audience. What's interesting is the level of zoom rising beyond the 10x mark. All the cameras we received for the comparison sport a minimum of 12x optical zoom. Also, the optical zoom engine has taken an upgrade, with a majority of the brands providing features like image stabilization and anti-blur. Surely, the mega-zoom digital cameras are the most expensive of the three categories in our comparison, but if you were to compare the prices to that of the cameras of our comparison test last year, you will not only notice a clear fall, but also a surge in features and performance.

A common misconception about digital cameras is that the performance is judged on the megapixel count, the higher the megapixel the better the quality. In reality, one cannot assume a linear relation between megapixels and quality. It's true that higher megapixel count translates into more information captured by the sensor but the accuracy and quality of information captured by the camera is equally important. The sensor that captures accurate information is better than a sensor that captures more information with less accuracy. In other words, a 5-megapixel digital camera can provide better results than a 7-megapixel camera simply because it provides better image quality in terms of details and color reproduction. The test results of our comparison tests further solidifies this fact.

In our comparison test we have only included digital cameras using CCD sensors. We have excluded the low-end and mainstream CMOS sensor based cameras because the performance of these cameras is sub-standard and the price-performance ratio is dismal, especially with the CCD based digital cameras becoming so very affordable.





The outdoor test scene

Test Process

Before putting the digital cameras to grind, we categorized them based on their usability and form factor. Accordingly, we fixed on three categories—mega-zoom, mainstream and ultra-compact. Let's step through each of the parameters that were part of the evaluation process.

Features

It is the feature set of the digital camera that extends its functionality making it versatile. We therefore assigned weightage to the camera's features and awarded greater scores to those that exhibited better specifications. We noted the resolution of the CCD, zoom, white balance settings, ISO modes, metering modes, flash modes and preset scenes among many others. To make the user experience more pleasurable, a digital camera must offer a whole lot more. For instance, image stabilization is extremely important for mega-zoom cameras. Before moving on to performance tests we checked the package contents—the cameras which came bundled with accessories like batteries,



The indoor test scene

carry strap and case were granted higher points. The camera's features accounted for 30 percent of its overall score.

Performance

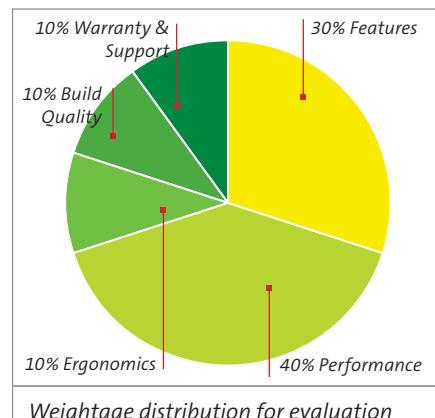
In addition to the resolution of the CCD, the quality of optics (lenses), the image compression engine, the focus capability all go into capturing a great image. To evaluate these characteristics, we devised a test that challenged the cameras on the grounds of color faithfulness, resolution, noise response of the CCD and real-world image quality both indoor and outdoor. For outdoor test, we went to a park during noontime and captured a scene which featured natural colors and textures both near and afar. For indoor test, we set up a test scene which featured rich colors, specular highlights, textures and text. For unparalleled decision we shot all the scenes at default settings. We used flash only for shooting the indoor scene. The more faithful the captured images were to real-life targets, the greater were the points awarded to them for performance. The camera's image performance being the most important parameter, accounted for 40 percent of its overall score.

Ergonomics

A good camera is designed keeping in mind user comfort as the camera will spend most of its useful life in the hands of its owner. Having good ergonomics is essential as it bears a direct impact on productivity. A camera should be easy to hold, the user interface should be intuitive, the buttons should be comfortable to operate and so on. The design of the camera should allow the owner to take good photographs and have a learning curve as shallow as possible. Such minute details differentiate a great camera from a good one. We looked out for these considerations and awarded points accordingly. Ergonomics accounted for 10 percent of the overall score.

Build quality

Since digital cameras are portable devices, it should be sturdy and well-constructed as it will be prone to occasional knocking around when on the road. Here, we evaluated the quality of the camera body's



construction, sturdiness of moveable parts, quality of the flaps, lens protection, etc. This evaluation category accounted for 10 percent of the camera's overall score.

Warranty and support

It is important that the camera should be backed by a robust warranty and support as it is an expensive investment. Here we logged the number of service centers in the country, the number of cities in which these centers are present and the warranty period offered on the cameras.

We concluded the test with the computation of the "value for money" index, which was derived by stacking up the performance and features against the price. The greater this score, the greater is the bang for the buck for that particular camera!

We awarded the cameras that had the best performance and offered the best value for money in each category. We awarded only the best performer in the mega-zoom category as there weren't many participants here.



Presence of presets and manual modes and IS were given weightage

Mega-zoom

Canon PowerShot S2 IS



Specifications: CCD Sensor- 5 MP, Dimensions (wxhxd) mm - 113x78x75.5, LCD Size - 1.8 inch, Optical zoom- 12x, Memory type-xD/SD

Price Rs 29,990
Contact J J Mehta & Sons
Phone 022-24326865
E-mail sales@jjmehta.com

RATINGS

Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Perfomance	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Ergonomics	<input checked="" type="checkbox"/>					
Build Quality	<input checked="" type="checkbox"/>					
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>					

The Canon PowerShot S2 IS has a mammoth 12x optical zoom lens which is one of its most prominent features. It has a 5 MP CCD sensor. Video recording is excellent at a maximum resolution of 640x480 at 30 fps. The video is recorded in raw AVI format and takes up a lot of memory. We could record only 18 seconds of video at the maximum resolution using a 256 MB SD memory card. The flip open 1.8-inch LCD screen is a tad smaller as compared to that of Samsung Pro 815's humungous 3.5-inch LCD screen. The S2 IS is rugged having an excellent build quality. Another one of its most prominent features is its image stabilizer—the best in its class, compensating for movement of hands while taking shots especially while zooming. Navigating through the menus is easy and the menu design is typical Canon style. It performed well though we won't call it exceptional like its mainstream sibling—the Canon PowerShot A610.

For: Excellent image quality; image stabilization; rugged build quality; 12x optical zoom.
Against: Small LCD screen; video recording eats up a lot of memory.

Mainstream

Canon PowerShot A610



Specifications: CCD Sensor- 5 MP, Dimensions (wxhxd) mm- 105 x 66 x 49, LCD Size- 2 inch, Optical zoom- 4x, Memory type-xD/SD

Price Rs 18,000
Contact J J Mehta & Sons
Phone 022-24326865
E-mail sales@jjmehta.com

RATINGS

Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perfomance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ergonomics	<input checked="" type="checkbox"/>				
Build Quality	<input checked="" type="checkbox"/>				
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>				

The Canon PowerShot A610 is packed with many powerful features that you would generally expect to see on a high-end camera. It has a 5-megapixel CCD sensor and a Canon 4x optical zoom lens. The A610 can cater to a wide audience and can also be used by people with little or no knowledge of photography. A newcomer can use the auto mode where he has access to 12 pre-programmed scene modes. The program mode is a step-up to the auto mode wherein you have more freedom to play with options like ISO, white balance, metering and color effects. The A610 is a little bigger and heavier than the other mainstream cameras we tested but its stellar performance overshadows everything.

Coming to performance, it pretty much leaves every other camera behind with best image quality and color reproduction. Ergonomics is excellent—the menu navigation is easy with all buttons easily accessible. It uses AA-sized batteries which are easily available and inexpensive. **For:** Excellent performance; feature rich; rugged built quality.
Against: Slightly bulky.

Samsung DigiMax S500



Specifications: CCD Sensor-5.1 MP, Dimensions (wxhxd) mm- 96.8 x 61.8 x 26.4, LCD Size- 2.4 inch, Optical zoom- 3x, Memory type-xD/SD

Price Rs 12,990
Contact Samsung Electronics India Pvt Ltd
Phone 011-41511234
E-mail ankhee.m@samsung.com

RATINGS

Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perfomance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ergonomics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build Quality	<input checked="" type="checkbox"/>				
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>				

The Samsung DigiMax provides good performance at an affordable price. It has a 5.1 MP CCD sensor, 3x optical zoom and 4x digital zoom. Video recording is good at a maximum resolution of 640x480 at 30 fps. It has 10 preset scene modes for easy shooting out of which three preset scene modes namely Child, Night and Portrait are instantly accessible on the dial. In addition to this, it has a special "E" button which lets you use a photo frame, change color setting, etc. Navigation was not easy initially as we looked for preset scene modes in the Menu (where it is usually); instead we found it in the options provided by the "E" button. Once we figured that out, navigation was a breeze. Build quality is very good and the buttons are well spaced out and accessible. The performance was very good in both indoor and outdoor tests and second in line to the best performer in its category—the Canon PowerShot A610. It uses AA-sized batteries, a better option over Li-ion batteries.

For: Good overall performance.
Against: None.

Ultra-compact

Canon Digital IXUS 55



Specifications: CCD Sensor- 5 MP, Dimensions (wxhxd) mm-86x54x21.6, LCD Size- 2.5 inch, Optical zoom- 4x, Memory type- xD/SD

Price Rs 25,995
Contact Canon India Pvt Ltd
Phone 0124-5160011
E-mail info@canon.co.in

RATINGS

Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ergonomics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Build Quality	<input checked="" type="checkbox"/>				
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Canon Digital IXUS 55 is a power packed little monster. It has a 5 MP CCD sensor and 4x optical zoom. It has an all-metal body which exudes class. You can directly access the ISO settings using the directional keypad. The 2.5-inch LCD screen is placed at the back of the camera. It uses a slider to change between camera, movie and play modes. We found the slider a bit flimsy, a let down to the otherwise excellent build quality of the camera. It has an exclusive print/share button, a new addition to Canon's camera range. It lights up when connected to the PC indicating it is ready to transfer. It also lights up when connected to a PictBridge printer. Menu navigation is simple and is pretty much similar to that of all other Canon models.

The camera scored best in the outdoor test because of its top notch image quality and color reproduction. It performed pretty well in the indoor tests too. Due to its compact form factor, the IXUS 55 uses a Li-ion battery.

For: Very good image quality; all-metal body.

Against: Button size and spacing can improve.

Sony Cyber-shot DSC-W30



Specifications: CCD Sensor- 6 MP, Dimensions (wxhxd) mm-89x59x23, LCD Size - 2 inch, Optical zoom- 3x, Memory type- Memory Stick Pro

Price Rs 15,990
Contact J J Mehta & Sons
Phone 022-24326865
E-mail sales@jjmehta.com

RATINGS

Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ergonomics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Build Quality	<input checked="" type="checkbox"/>				
Warranty	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>				

The Sony Cyber-shot DSC-W30 packs in a lot of punch in a small size at an affordable price. It belongs to the latest offering of Sony's redesigned W series. It has a 6 MP CCD sensor and Carl Zeiss 3x optical zoom lens. It features high sensitivity ISO setting up to ISO 1000 allowing you to shoot in low light conditions. Navigating through the menus is simple and easy to understand. We weren't impressed with the button's tactile response.

Coming to image quality, the W31 fared well in the outdoor test with above average image quality and color reproduction; it performed very well in the indoor tests though. It uses its own propriety memory stick format—Memory stick pro for external storage.

The W30 comes with 32 MB of internal memory, the highest across all categories of cameras we tested. It comes with a Li-Ion battery, owing to its small form factor. The battery requires an external charger (bundled) to charge it.

For: Good value for money; 32 MB internal memory.

Against: Stiff buttons; external charger.

TERMINATOR

CCD: A charge-coupled device or CCD is a light-sensitive semiconductor chip used in most digital cameras. When a picture is taken, the CCD is struck by light coming through the camera's lens. The CCD which comprises of thousands or millions of tiny pixels converts this light into electrons. The number of electrons, usually described as the pixel's accumulated charge, is measured and then converted to a digital value by a component called the analog-to-digital converter. The higher the resolution of the CCD, the higher will be the image resolution.

Image stabilization: An unsteady hand resulting in camera movement is one of the major reasons for unsharp images especially while shooting using high zoom values or slow shutter speeds. Image stabilization is an optical or digital system which employs optical elements which serve to compensate for camera movement. The IS feature is usually found on advanced mega-zoom cameras which have extremely long focal length lenses such as the 12x lens on the Canon PowerShot S2 IS.

Noise: Noise is the presence of color speckles in a captured image where there should be none. For example, instead of a blue sky, you will notice faint pink, purple and other color speckles amongst the otherwise blue sky. Noise usually occurs when you shoot using long exposure (beyond 0.5 second) or when you use higher ISO values exceeding 400.

ISO: ISO is the number indicating the digital camera sensor's sensitivity to light. The higher the sensitivity, the less light is needed to make an exposure. Digital cameras automatically select the ISO but most have a setting to change it manually. Auto ISO generally works best for bright scenes. Shooting at a lower ISO number requires more light than shooting at a higher number. Lower numbers result in images with the least visible noise, which is desirable. Higher the number, more is the noise.

I Buying guide

Now that you have seen the various options and their performance in the respective categories, it is time to make a buying decision. The following buying guide is closely tied with the comparison test and is divided similarly into three main categories, the Mainstream, Ultra-compact and Mega-zoom digital cameras. Considering your application, we describe what features are most pertinent, along with the price points and models that would suit your specific needs.

Mega-zoom: Being one of the most exciting and sought after categories, this one is also the most expensive of the lot. Mega-zoom cameras offer massive optical zoom and hence are targeted towards wild-life photographers and nature lovers, intending to capture distant subjects. Cameras offering 10x optical zoom and above fall in this category. Apart from the zoom, these cameras also offer more control over photography by providing manual controls like shooting modes with aperture and shutter priority and many other features like better ISO range and wider aperture for depth of field. Lately the mega-zoom cameras offer IS (Image Stabilization), a system where the camera compensates for the slight hand shake which causes image blur especially when using high zoom levels. The IS techniques offered by various brands differ in functionality and also effectiveness. Thus one cannot simply depend on the IS, it is very important to check the effectiveness of the IS engine of the camera. The Canon S2 IS has by far the best image stabilization engine as compared to all the cameras that we reviewed. Another important factor is the weight balance of the camera. If the weight is not balanced, the camera will tend to dip towards a particular end, making it difficult to hold it steady when using the zoom feature. These cameras are bigger and bulkier than the rest and hence build quality is also very important.

Recommended models: Canon PowerShot S2 IS, Samsung Pro 815



Mainstream: A mainstream user is someone who wants an all-purpose digital camera that can be used by the entire family. They look for a good mix of image quality, features and affordability. They do not want to spend more money on the shiny ultra compact cameras or the high-end megazoom digital cameras. Mainstream digital cameras are the most affordable of the lot and hence offer maximum value for the money spent. One must look for the following features when deciding on a mainstream digital camera—the CCD sensor should be a minimum of 5 MP. Though a 5-MP CCD might seem like an overkill, the extra resolution helps when you need to take larger prints.

A minimum of 3x optical zoom is a must, ensuring some degree of flexibility while capturing distant objects. Some of the latest cameras offer 4x optical zoom which is a clear bonus. Don't ever bank on the digital zoom, the results are blurry with a lot of data loss. Presets are important but don't ignore the manual controls as these help bring in some creativity.

The movie recording capability of digital cameras have come a long way; don't settle for anything less than 640x480 at 30 FPS. Cameras using AA batteries are preferable over the proprietary batteries, simply because AA batteries are easily available and hence provide a quick solution when you run out of juice.

Recommended models: Canon PowerShot A610, Nikon Coolpix L3, Samsung S800



Ultra-compact: Ultra-compacts are targeted towards users looking for pocketable digital cameras. These digital cameras have come a long way in terms of features and style. The looks, construction and usability are very important for these cameras. Being the smallest of all the categories, the cameras do make some compromises in terms of image quality and performance. Compressing the optics, sensor and the imaging processor into a small form factor brings in some very generic limitations. Thus, don't expect the ultra-compacts to match the quality and color reproduction of the high-end digital cameras. The key factors for this segment are the start-up time, optical zoom, LCD screen size and resolution and finally the features and user friendliness. Ultra compacts are for those who are always on the move. Hence the overall speed and startup time is crucial. Then comes the optical zoom feature, most of these cameras offer 3x optical zoom, but the response of the zoom lens is not always ideal. Sluggish zoom lens results in a lot of delay, which is the last thing you want when you want a quick close-up shot. The battery performance is also very important; the ultra-compacts use lithium-ion batteries, which give much better battery performance when compared to the AA batteries. However, lithium-ion batteries are expensive and not easily available.

Recommended models: Canon Digital IXUS 55, Sony Cyber-shot DSC-W30, Nikon Coolpix S3





| Personal Take



Soham Raninga
soham.raninga@chip-india.com

Talking about digital cameras, the most important aspect is image quality. But these days with swanky mega-zoom cameras sporting massive 12x optical zoom and IS engines, it is tough not to ditch image quality for the mammoth optical zoom lens. For me, the fight was between the Canon PowerShot S2 IS and the PowerShot A610. In the red corner the S2 IS flexed its 12x optical zoom while the PowerShot A610 flaunted its image quality in the blue corner. Both the cameras are ace performers in their own category and hence it was a tough decision. Ultimately, the A610 won the competition because of its crisp image quality and fantastic color reproduction.

There isn't anything flashy about the PowerShot A610 and that's the beauty of it. The classy looks and superb build quality of the camera houses one of the best optics and CCD sensors that we came across in the comparison process. The focusing is fast and accurate, and the 5-megapixel CCD of the PowerShot A610 captures more details than even the 8-megapixel cameras.

The camera has a very practical design—button spacing and placement is good; it is easy to master menu navigation and the interface is friendly. Pricing obviously matters and I would never splurge 30k on a digital camera. For a under 20k price tag, the A610 gives me all that I want, backed by a 2-year warranty. I dare not ask for more!

SpecScan



1

Category	Mega-Zoom
Name	Canon PowerShot S2 IS
Contact	J J Mehta & Sons
Phone	022-24326865
E-mail	sales@jjmehta.com
Price	Rs 29,990
Overall scoring	
Features (out of 30)	21.93
Performance (out of 40)	26.81
Ergonomics (out of 10)	8.89
Build Quality (out of 10)	10.00
Warranty & Support (out of 10)	7.39
Overall (out of 100)	Total: 73.52
Value for money (out of 5)	█████
Features	
CCD sensor (Megapixels)	5
Max image resolution	2592 x 1944
Dimensions (w x h x d) mm	113 x 78 x 75.5
Weight (grams)	405
Zoom (Optical/Digital)	12x / 4x
Focus type (Auto/Manual)	✓ ✓
Macro mode (cm)	1
White balance modes	6
Shutter speed (high/low) (sec)	1/3200 to 15
Metering modes (Matrix/Centre/Spot/Auto)	✓ ✓ ✓ ✗
Flash modes (Auto/Red-eye/Fill/Off)	✓ ✓ ✓ ✓
Preset modes (Auto/Av/Tv/Manual/Program)	✓ ✓ ✓ ✓ ✓
Preset scene modes	7
Video recording	640x480 @ 30 fps
Memory type	xD / SD
Memory (Onboard/Bundled) MB	0 / 16
Image type (JPEG/TIFF/RAW)	✓ ✗ ✗
Image stabilization (IS)	✓
Included battery (AA/AAA/Li-Ion)	✓ ✗ ✗
Package (Batteries/Cables/Case/Carry strap/App CD)	✗ ✓ ✗ ✓ ✓
Performance	
CCD color test (out of 10)	7.19
CCD noise test (out of 10)	1.03
Indoor scene evaluation (out of 10)	8.125
Outdoor scene evaluation (out of 10)	7.5
Ergonomics	
Comfortable to hold	Comfortable
Menu navigation ease	Intuitive
Buttons (Size/Spacing/Relief)	Comfortably large / Well-spaced / Good
Flip-open LCD screen	✓
Build quality	
Body	Good
Battery/memory cover	Good
Lens assembly	Good
Protection (lens cover/built-in flash)	✓ ✓
Warranty & Support	
Number of authorised service centers	125
Number of cities where service centers are present	100
Period of warranty (years)	2

* Prices are indicative and are subject to change, taxes extra



2

3

4

5

6

Mainstream				
Samsung Pro 815	Kodak EasyShare P850	Canon Powershot A610	Samsung DigiMax S800	Samsung DigiMax S500
Samsung Electronics India Pvt Ltd 011-41511234 ankhee.m@samsung.com Rs 54,990	Neoteric Infomatique Pvt Ltd 022-39828600 sales@neoteric.co.in Rs 26,999	J J Mehta & Sons 022-24326865 sales@jjmehta.com Rs 18,000	Samsung Electronics India Pvt Ltd 011-41511234 ankhee.m@samsung.com Rs 22,990	Samsung Electronics India Pvt Ltd 011-41511234 ankhee.m@samsung.com Rs 12,990
23.60	23.52	19.18	16.37	13.79
20.72	16.12	30.77	24.15	25.31
6.44	8.33	8.89	5.72	5.72
10.00	10.00	10.00	10.00	10.00
8.33	2.40	7.39	8.33	8.33
Total: 69.10	Total: 58.87	Total: 76.24	Total: 64.57	Total: 63.16
███████	███████	███████	███████	███████
8	5.1	5	8.1	5.1
3264 x 2448	2592 x 1944	2592 x 1944	3264 x 2448	2592 x 1944
135.5 x 87 x 78.6	108 x 84.2 x 72	105 x 66 x 49	91.6 x 61.8 x 26.95	96.8 x 61.8 x 26.4
870	403	235	169	136
15x / 4x	12x / 3.3x	4x / 4x	3x / 10x	3x / 5x
✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✗
3	10	1	5	5
7	8	8	7	7
1/4000 to 2	1/1000 to 16	1/2500 to 15	1/1500 to 8	1/1500 to 8
✓ ✓ ✓ ✗	✓ ✓ ✓ ✗	✓ ✓ ✓ ✗	✓ ✗ ✓ ✗	✓ ✗ ✓ ✗
✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗
8	9	7	5	5
640x480 @ 25 fps	640x480 @ 30 fps	640x480 @ 30 fps	640x480 @ 30 fps	640x480 @ 30 fps
Compact Flash	xD / SD	xD / SD	xD / SD	xD / SD
0 / 64	32 / 0	0 / 16	20 / 0	20 / 0
✓ ✓ ✓	✓ ✓ ✓	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗
✗	✓	✗	✗	✗
✗ ✗ ✓	✗ ✗ ✓	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗
✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✗ ✗ ✗ ✓ ✓	✗ ✗ ✗ ✓ ✓
5.42	5.20	6.48	5.54	4.37
0.83	2.41	1.06	2.62	2.82
4.625	5.25	8.75	8.75	7.5
7.5	3	10	5	7.5
Comfortable	Comfortable	Comfortable	Comfortable	Comfortable
Some reference required	Intuitive	Intuitive	Intuitive	Intuitive
Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Good
✗	✗	✓	✗	✗
Good	Good	Good	Good	Good
Good	Good	Good	Good	Good
Good	Good	Good	Good	Good
✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
223	20	125	223	223
152	20	100	152	152
1	1	2	1	1

SpecScan

7



8



9

Category	Mainstream	Samsung Digimax S600	Sony Cyber-shot DSC-S600	Nikon Coolpix L3
Name	Samsung Digimax S600	Samsung Electronics India Pvt Ltd	J J Mehta & Sons	J J Mehta & Sons
Contact				
Phone	011-41511234	022-24326865	022-24326865	022-24326865
E-mail	ankhee.m@samsung.com	sales@jjmehta.com	sales@jjmehta.com	sales@jjmehta.com
Price	Rs 14,990	Rs 13,990	Rs 15,000	Rs 15,000
Overall scoring				
Features (out of 30)	14.66	15.18	13.49	
Performance (out of 40)	22.39	19.92	25.46	
Ergonomics (out of 10)	5.72	5.06	5.17	
Build Quality (out of 10)	10.00	10.00	9.17	
Warranty & Support (out of 10)	8.33	6.00	1.78	
Overall (out of 100)	Total: 61.11	Total: 56.16	Total: 55.06	
Value for money (out of 5)	█████	█████	█████	█████
Features				
CCD sensor (Megapixels)	6	6	5.1	
Max image resolution	3072 x 2304	3072 x 2304	2592 x 1944	
Dimensions (w x h x d) mm	96.8 x 61.8 x 26.4	100 x 52 x 36.8	91 x 61.5 x 26	
Weight (grams)	136	133	120	
Zoom (Optical/Digital)	3x / 5x	3x / 2x	3x / 4x	
Focus type (Auto/Manual)	✓ ✗	✓ ✗	✓ ✗	
Macro mode (cm)	5	2	1	
White balance modes	7	6	6	
Shutter speed (high/low) (sec)	1/1500 to 8	1/2000 to 1	1/2000 to 4	
Metering modes (Matrix/Centre/Spot/Auto)	✓ ✗ ✓ ✗	✓ ✗ ✗ ✗	✓ ✗ ✗ ✗	
Flash modes (Auto/Red-eye/Fill/Off)	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	
Preset modes (Auto/Av/Tv/Manual/Program)	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✓	✓ ✗ ✗ ✗ ✗	
Preset scene modes	5	5	8	
Video recording	640x480 @ 30 fps	640x480 @ 30 fps	640x480 @ 30 fps	
Memory type	xD / SD	Memory Stick	xD / SD	
Memory (Onboard/Bundled) MB	20 / 0	32 / 0	23 / 0	
Image type (JPEG/TIFF/Raw)	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗	
Image stabilization (IS)	✗	✗	✗	
Included battery (AA/AAA/Li-Ion)	✓ ✗ ✗	✗ ✓ ✗	✓ ✗ ✗	
Package (Batteries/Cables/Case/Carry strap/App CD)	✗ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✗ ✓ ✗ ✓ ✓	
Performance				
CCD color test (out of 10)	8.43	7.18	4.99	
CCD noise test (out of 10)	3.81	3.57	2.44	
Indoor scene evaluation (out of 10)	5.75	4.625	7.5	
Outdoor scene evaluation (out of 10)	5	5	7.5	
Ergonomics				
Comfortable to hold	Comfortable	Comfortable	Comfortable	
Menu navigation ease	Intuitive	Some reference required	Intuitive	
Buttons (Size/Spacing/Relief)	Comfortably large / Well-spaced / Good	Average / Reasonably spaced / Average	Average / Reasonably spaced / Good	
Flip-open LCD screen	✗	✗	✗	
Build quality				
Body	Good	Good	Good	
Battery/memory cover	Good	Good	Average	
Lens assembly	Good	Good	Good	
Protection (lens cover/built-in flash)	✓ ✓	✓ ✓	✓ ✓	
Warranty & Support				
Number of authorised service centers	223	143	3	
Number of cities where service centers are present	152	100	3	
Period of warranty (years)	1	1	1	

* Prices are indicative and are subject to change, taxes extra



10	11	12	13	14
Ultra-compact				
Samsung DigiMax A40 Samsung Electronics India Pvt Ltd 011-41511234 ankhee.m@samsung.com Rs 9,999	Kodak EasyShare C340 Neoteric Infomatique Pvt Ltd 022-39828600 sales@neoteric.co.in Rs 12,499	Tech-Com DSC-512X Plus Tech-Com 011-26428541 techcom@airtelbroadband.in Rs 7,990	Tech-Com DSC-524X Plus Tech-Com 011-26428541 techcom@airtelbroadband.in Rs 8,490	Canon Digital IXUS 55 Canon India Pvt Ltd 0124-5160011 info@canon.co.in Rs 25,995
13.07	12.43	13.23	13.44	16.92
16.81	17.77	9.98	9.24	30.47
5.72	6.56	6.28	5.44	6.94
10.00	10.00	8.33	9.17	10.00
8.33	2.40	2.22	2.22	7.39
Total: 53.93	Total: 49.16	Total: 40.04	Total: 39.51	Total: 71.72
███████████	███████████	███████████	███████████	███████████
4	5	5	5	5
2272 x 1704	2592 x 1944	2592 x 1944	2592 x 1944	2592 x 1944
105.5 x 56.8 x 32.2	91.9 x 65.3 x 35.3	108 x 56.5 x 38	100 x 55.4 x 35.3	86 x 54 x 21.6
120	145	142	140	140
3x / 4x	3x / 5x	3x / 5x	3x / 5x	4x / 3x
✓ ✗	✓ ✗	✓ ✗	✓ ✗	✓ ✗
5	13	1	1	3
7	5	7	7	7
1/2000 to 8	1/1400 to 4	1/1000 to 8	1/1000 to 8	1/1500 to 15
✓ ✗ ✓ ✗	✗ ✓ ✗ ✗	✓ ✗ ✓ ✗	✓ ✗ ✓ ✗	✓ ✓ ✓ ✗
✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗
5	6	0	0	7
640x480 @ 30 fps	640x480 @ 13 fps	640x480 @ 24 fps	640x480 @ 30 fps	640x480 @ 30 fps
xD / SD	xD / SD	xD / SD	xD / SD	xD / SD
10 / 0	16 / 0	32 / 0	32 / 0	0 / 16
✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗
✗	✗	✗	✗	✗
✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗	✗ ✗ ✓
✗ ✓ ✓ ✓ ✓	✗ ✓ ✓ ✓ ✓	✗ ✓ ✓ ✓ ✓	✗ ✓ ✓ ✓ ✓	✓ ✓ ✗ ✓ ✓
6.85	6.81	3.79	4.98	6.39
4.12	1.52	2.34	1.09	2.09
2.5	4.125	3.5	3	8.125
5	5	1	1	10
Comfortable	Comfortable	Comfortable	Comfortable	Comfortable
Intuitive	Intuitive	Intuitive	Intuitive	Intuitive
Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Good	Comfortably large / Well-spaced / Average	Comfortably large / Well-spaced / Average	Average / Well-spaced / Good
✗	✗	✗	✗	✗
Good	Good	Average	Good	Good
Good	Good	Average	Average	Good
Good	Good	Good	Good	Good
✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
223	20	15	15	125
152	20	15	15	100
1	1	1	1	2

**SpecScan**

Category	Ultra-compact				
Name	Canon Digital IXUS 750	Sony Cyber-shot DSC-W30	Nikon Coolpix S3	Nikon Coolpix S5	Kodak EasyShare V530
Contact	Canon India Pvt Ltd	J J Mehta & Sons	Inter Foto India Pvt Ltd	J J Mehta & Sons	Neoteric Infomatique Pvt Ltd
Phone	0124-5160011	022-24326865	022-24925151	022-24326865	022-39828600
E-mail	info@canon.co.in	sales@jjmehta.com	support@interfotoindia.com	sales@jjmehta.com	sales@neoteric.co.in
Price	Rs 29,995	Rs 15,990	Rs 17,900	Rs 20,000	Rs 15,999
Overall scoring					
Features (out of 30)	18.17	15.29	19.79	16.08	15.70
Performance (out of 40)	26.65	25.73	22.98	20.75	16.09
Ergonomics (out of 10)	7.22	6.00	4.89	6.28	5.44
Build Quality (out of 10)	10.00	10.00	10.00	10.00	9.17
Warranty & Support (out of 10)	7.39	6.00	1.78	1.78	2.40
Overall (out of 100)	Total: 69.43	Total: 63.02	Total: 59.44	Total: 54.89	Total: 48.81
Value for money (out of 5)	█████	█████	█████	█████	█████
Features					
CCD sensor (Megapixels)	7	6	6	6	5
Max image resolution	3072 x 2304	2592 x 1944	3072 x 2304	3072 x 2304	2592 x 1944
Dimensions (w x h x d) mm	89.5 x 57 x 27.4	89 x 59 x 23	89.9 x 57.5 x 19.7	93 x 59 x 20	92 x 50 x 22
Weight (grams)	170	123	118	165	130
Zoom (Optical/Digital)	3x / 4x	3x / 2x	3x / 4x	3x / 4x	3x / 4x
Focus type (Auto/Manual)	✓ ✗	✓ ✗	✓ ✗	✓ ✗	✓ ✗
Macro mode (cm)	5	2	4	4	5
White balance modes	6	4	5	5	6
Shutter speed (high/low) (sec)	1/2000 to 15	1/2000 to 1	1/350 to 2	1/500 to 2	1/1448 to 8
Metering modes (Matrix/Centre/Spot/Auto)	✓ ✓ ✓ ✗	✓ ✗ ✓ ✗	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
Flash modes (Auto/Red-eye/Fill/Off)	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✗ ✓	✓ ✓ ✗ ✓	✓ ✓ ✓ ✓
Preset modes (Auto/Av/Tv/Manual/Program)	✓ ✗ ✗ ✓ ✓	✓ ✗ ✗ ✗ ✓	✓ ✓ ✓ ✗ ✗	✓ ✗ ✗ ✗ ✗	✓ ✗ ✗ ✗ ✗
Preset scene modes	8	5	8	7	8
Video recording	640x480 @ 30 fps	640x480 @ 30 fps	640x480 @ 15 fps	640x480 @ 30 fps	640x480 @ 30 fps
Memory type	xD / SD	Memory Stick	xD / SD	xD / SD	xD / SD
Memory (Onboard/Bundled) MB	0 / 32	32 / 0	12 / 256	21 / 0	16 / 0
Image type (JPEG/TIFF/RAW)	✓ ✗ ✗	✓ ✗ ✓	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗
Image stabilization (IS)	✗	✗	✗	✗	✗
Included battery (AA/AAA/Li-Ion)	✗ ✗ ✓	✗ ✗ ✓	✗ ✗ ✓	✗ ✗ ✓	✗ ✗ ✓
Package (Batteries/Cables/Case/Carry strap/App CD)	✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓	✓ ✓ ✗ ✓ ✓
Performance					
CCD color test (out of 10)	6.30	6.05	4.94	6.81	5.92
CCD noise test (out of 10)	1.37	6.21	2.73	4.44	4.28
Indoor scene evaluation (out of 10)	5.75	8.125	8.125	7	4.125
Outdoor scene evaluation (out of 10)	10	5	5	3	3
Ergonomics					
Comfortable to hold	Comfortable	Comfortable	Comfortable	Comfortable	Comfortable
Menu navigation ease	Intuitive	Some reference required	Intuitive	Intuitive	Intuitive
Buttons (Size/Spacing/Relief)	Comfortably large / Well-spaced / Good	Average / Well-spaced / Average	Average / Reasonably spaced / Average	Comfortably large / Well-spaced / Good	Comfortably large / Reasonably spaced / Good
Flip-open LCD screen	✗	✗	✗	✗	✗
Build quality					
Body	Good	Good	Good	Good	Good
Battery/memory cover	Good	Good	Good	Good	Average
Lens assembly	Good	Good	Good	Good	Good
Protection (lens cover/built-in flash)	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Warranty & Support					
Number of authorised service centers	125	143	3	3	20
Number of cities where service centers are present	100	100	3	3	20
Period of warranty (years)	2	1	1	1	1

* Prices are indicative and are subject to change, taxes extra

Office Station

Office Station

A Maintenance Free PC Terminal
for just **Rs.7***/-**



Marketed
Worldwide in over
40 Countries

Network Terminal Computing

Benefits of the OfficeStation

Cost effective

Save up to 60% of your hardware cost versus buying a P4 or equivalent PC, OfficeStation gives any office or home users to expand an existing Host PC easily and affordably.

Electricity Saving

OfficeStation operates on 5v adaptor, saving appx. Rs. 3,000 p.a. on electricity bills.

No maintenance required

You only have to maintain and upgrade the Host PC, OfficeStation requires no hardware maintenance.

Supports heterogeneous environment

OfficeStation terminal can access Windows/Linux server supporting heterogeneous environment for corporates/institutes.

Simultaneous Windows operation

Both host PC and OfficeStation terminals can run independently and execute same application programs separately. *Additional software license may be required

Small sleek design

Space saving design allows more room for your office or desk area.

Remote control

Because OfficeStation employs TCP/IP based standard Ethernet protocol, you can access your office/home PC from anywhere in the world via the internet.

*High broadband and public IP may be required

Enhanced Security

Increased security through own encryption and password protection. With no FDD/HDD/CD/USB Ports, it is safe from outflow PC data, hacking and computer virus.

Simple and easy to install and use

No software on terminal nor additional add-on cards required. It can be installed simply and easily.

Supports high resolution monitor display

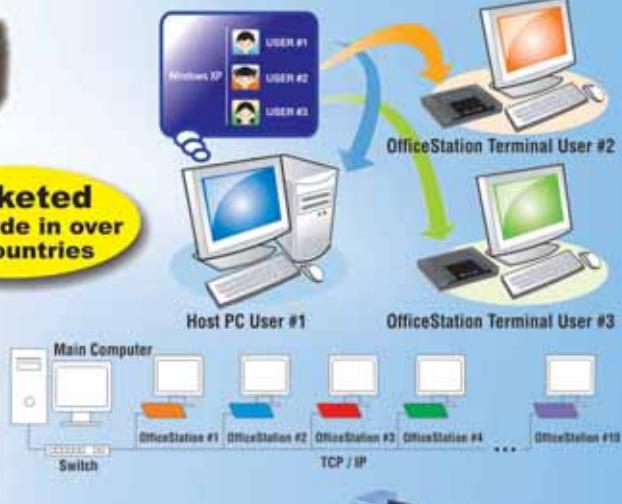
640 x 480, 800 x 600, 1024 x 768, 1280 x 1024 16 bit color.

Great Compatibility

OfficeStation will run Windows based applications on your Host PC : internet browsing, email, office suites, most games and much more. (except 3D games and old legacy applications)

Expandability

10 units of OfficeStation can be connected to single Host PC with Windows 2000/XP Professional, 30 units of OfficeStation can be connected on Windows 2000/2003 Server.



Using remote access feature you can
access your Office/Home PC anywhere
in the world via Internet*.

*High broadband and public IP may be required



How does it work ?

Because your existing PC is being under utilized during usage, (see CPU usage diagram, right) each OfficeStation is programmed to access the host PC's excess computing power. By utilizing Windows XP/2000/2003 and Linux's multi-user feature with UTMA technology, each OfficeStation terminal can operate like a separate PC terminal without decreasing the overall performance of either the host PC or each OfficeStation terminal. Therefore, each OfficeStation unit can run any applications from the host PC independently and securely.



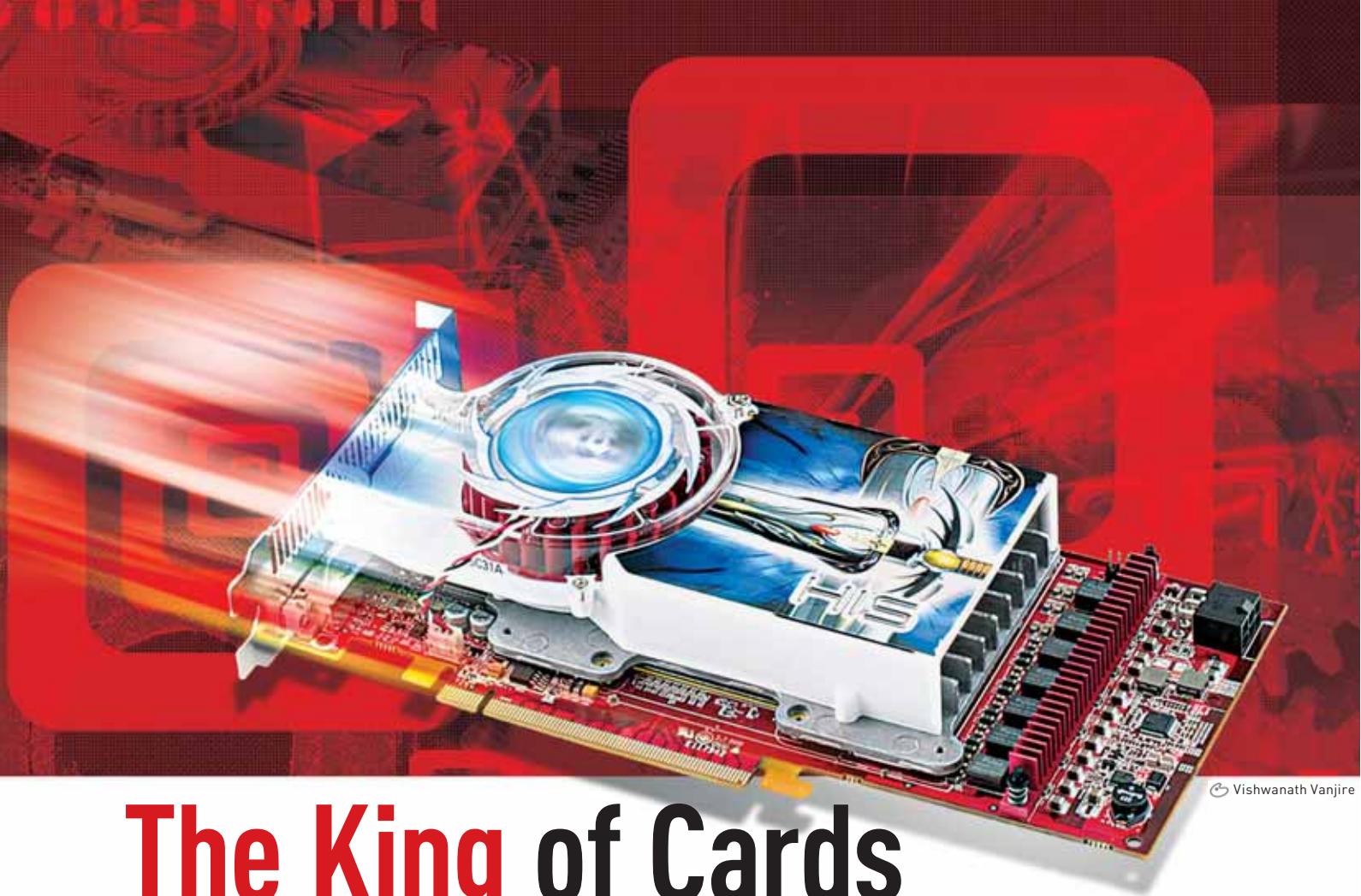
*Linux : Contact for availability



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Vishwanath Vanjire

The King of Cards

The X1900 is ATI's attempt to stay ahead in the graphics processor race

While AMD's Athlon64 was the distinct performance leader on the CPU battlefield, in the last couple of quarters things have been somewhat balanced on the GPU side. Last year, Nvidia raised the bar once again with the launch of their 7800GTX card and promised instant product availability on the same day the card was released. It was a successful campaign and the 7800GTX won the hearts of all gaming enthusiasts.

Under ATI's belt there was the X1800 (R520) which had attracted attention during its development. However, there was an unprecedented delay in its release. After months of speculation and noise, ATI eventually unveiled the X1800 series in October 2005.

On the performance front, it was neck-to-neck with the GeForce 7800GTX. It promised flexible and excellent architectural and performance enhancement headroom. This became possible due to its brand new programmable memory controller

which ATI dubbed as the Memory Ring Architecture, and a very efficient dispatch processor. The capability of this new memory controller was put to good use when ATI released an OpenGL performance patch that utilizes the controller's programmability to boost the performance of OpenGL-based games—a sector that was traditionally dominated by Nvidia's graphics cards. The boost was pretty significant as it managed to close the big performance gap that existed between Nvidia's and ATI's cards. This patch has been included within the Catalyst driver since version 5.13.

With stiff competition, Nvidia surprised everyone again with a counter offering in the form of the GeForce 7800GTX 512 MB card. This card not only boasts a bigger onboard memory capacity but an incredible increase in clock speed as well. Crunching every pixel in its way, the card's performance effortlessly restored Nvidia's position on the GPU throne. If you run the cards in pair, you are guaranteed a heavenly

gaming experience, as seen in SLI tests using these cards.

However, before you could experience the full potential of this card, there were availability issues. It turned out that Nvidia could not live up to the expectations the card had generated and many criticized them for not being able to keep up with the demand. Fingers were pointed at Nvidia for the shortage of fast graphics memory modules, perceived as the main cause of the whole availability issue.

However, putting the availability issues aside, the GeForce 7800GTX 512 MB remained the fastest gaming card during the entire holiday season in December last year. Meanwhile, ATI was gearing up with its upcoming card. Barely 14 days after this year began, they released their new card. Codenamed R580, the X1900 series is ATI's attempt to stay ahead of competition in the graphics processor race.

The R580 is certainly not a rushed attempt by ATI to compete with Nvidia's critically acclaimed 7800GTX 512 MB even

though the launch of the X1800 series and this card was separated only by a quarter of a year. Instead, it was the delay of the X1800 series that made the R580 really look like a rushed launch. This also explains why the timeframe between the introductions of the mid-range X1600 and X1800 series was so close.

R520 on steroids

In the past, ramping up the clock speed of the GPU and memory was the solution manufacturers would normally adopt to increase the performance of their line-up refresh while leaving the entire GPU's capability completely untouched. The R580 follows this tradition very closely. From the architectural point of view, the R580 is fundamentally built on the R520 blueprint. While there is a slight clock speed increase in both the GPU and memory department, from 625MHz/1500MHz of the R520 to 650MHz/1550MHz, the clock speed isn't really the primary focus point of the R58. The focus is rather on the massive shader processing power of this GPU.

Firstly, on the vertex front, the R580 features the same design as that of the R520 consisting of eight shader processing units based on Shader Model 3.0. Each of them is capable of performing one vector and one scalar operation per clock. Considering the fact that today's games are more pixel shader limited than vertex shader, the 8 shader model should be sufficient to hold up for a reasonable amount of time until the next slew of cinema-quality games.

The strength of the R580 lies in the pixel pipelines (or pixel shader engine). In order to improve the efficiency of instruction scheduling, minimizing unwanted pipeline idling and obtaining a balanced load distribution among all the pixel pipes, ATI has designed a special switching unit commercially known as the Ultra-Threading Dispatch Processor for the entire X1000 series. This dispatch processor watches over the texture mapping units and all the 16-pixel processors that have been arranged in a four-unit per block organization (hence the name Quad Pixel Shader Core). Any communication between any of these units, as well as pixel shader

workload distribution, is coordinated by this dispatch processor. The same goes for codes that are passed down from the vertex shader/triangle setup engine. In short, the Ultra-Threading Dispatch Processor acts as the control tower that coordinates everything that happens within the pixel shader engine.

ATI claims this implementation has improved the pixel pipeline efficiency by an almost unbelievable 90 percent. This is corroborated by the fact that the R520 features only 16-pixel pipelines but still performs on the same level as that of the GeForce 7800GTX that has 24 pixel pipes, if not better.

Greater pixel horsepower

With efficiency taken care of, ATI needed to improve the pixel horsepower in the R580. As more and more titles started to explore the capability of pixel shader to render breathtaking graphics and effects, high memory bandwidth was quietly replaced by computing power as the primary key in determining the performance of today's GPU. The architectural focus of Nvidia's G70 backs the trend perfectly. ATI's latest X1000 series design is another fine example showing us the direction towards which the game developers are heading.

In this new incarnation of the X1000 family, ATI has increased the number of its pixel processors from 16 in the X1800 series to a whopping 48 units. With this increment, ATI has transformed the already-efficient R520 processor into

the grand daddy of all shader-crunching monsters. It is worth noting that despite having such a huge number of pixel processors, the maximum pixel output of the X1900 still remained the same as that of the X1800, at 16 per clock cycle.

While comparing, the GeForce 7800GTX has 24 pixel processors and can draw a maximum of 24 pixels per clock, and yet due to the complexity of pixel shaders processing, the X1900 is still theoretically faster as it has twice the number of pixel processors compared to Nvidia's solution and thus can handle pixel processing workloads faster.

In addition to the enhanced pixel horsepower, the general purpose register arrays of the X1900 have also been increased to 48 units in order to provide more intermediate data storage space for the pixel processors.

Another feature that made its way into this new GPU is what ATI called Fetch4. It is designed to accelerate the loading and filtering of all the four components of a single channel texture simultaneously instead of running these filtering tasks one at a time, which is what the X1800 does.

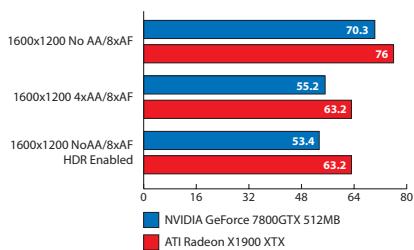
The card

For our tests, we used a sample card from HIS which has the same architecture as that of ATI's 1900XTX reference card. It is one of the most expensive graphics cards ever to reach our hands. Two PCI slots were needed for installation due to its high profile cooling system (dual slot)

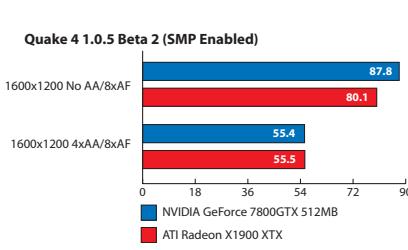


Like all top-of-the-line graphics cards, ATI's X18900XTX uses a huge cooling solution; it was reasonably quiet during operation

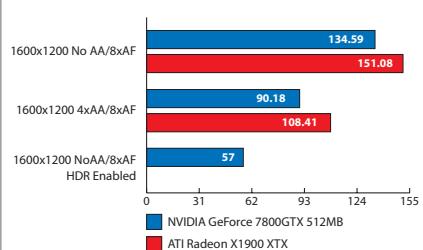
Splinter Cell: Chaos Theory



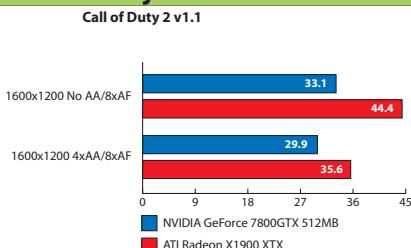
Quake 4 1.0.5 Beta 2 (SMP Enabled)



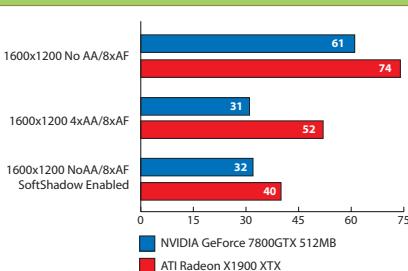
Far Cry v1.32



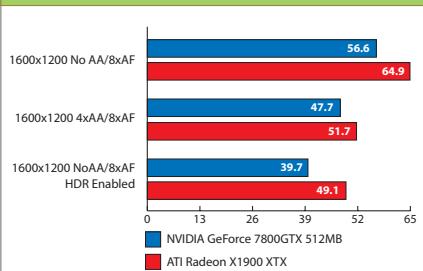
Call of Duty 2 v1.1



F.E.A.R. v1.2



Serious Sam 2



and we are glad to report that the noise operation was acceptable compared to its predecessors that were notorious for their overly loud fans. The build quality of the card is excellent and we managed to easily overclock it up to 700 MHz (GPU)/800 MHz (memory). However, due to limited time at hand, we couldn't conduct a full overclocking finding.

The package comes with adapters and cable but we were disappointed to find no game bundles. For a card that costs a lot, we obviously expected a little more than just a couple of utilities, applications and demo CDs. Nevertheless, looking at the bright side, you receive an 18-month warranty coverage for this card.

We tested the card against Nvidia's 7800GTX 512MB and as usual, the AMD Athlon64 was our platform of choice for this showdown.

Testbed Setup

AMD Athlon64 FX60 overclocked to 2.8GHz
ASUS A8N32-Deluxe
2x 1GB Corsair PC3500 Pro (2-3-2-6)
74GB Western Digital Raptor
Cooler Master 550W PSU

Pushing the card

For our performance tests, we used a combination of some of the newest games to evaluate its mettle in handling the newer graphics effects of today's near cinema-quality games. We also ran the cards at different resolutions coupled with anti-aliasing and filtering combinations. First up, Splinter Cell: Chaos Theory returned some pretty impressive scores where the X1900XTX clearly led the 7800GTX across resolutions and AA/AF combinations.

Far Cry v1.32, at 1600x1200 resolution with High Dynamic Range (HDR) lighting enabled, posted a fantastic score of 57 fps—something that Nvidia's solution could not match. A similar scenario was observed in the Serious Sam 2 tests. Most impressive was its performance in F.E.A.R. v1.2 where the X1900XTX emerged a full 66 percent faster in the test at 1600x1200, at 4x AA and 8x AF. This was clearly due to the increased efficiency of the Pixel Shader unit of the X1900XTX, compared to its predecessors or the Nvidia card.

However, the card lagged during the Quake 4 1.0.5 Beta 2 test. Based on OpenGL, it is an area where Nvidia has traditionally excelled. While framerates

were closely tied here, Nvidia's GeForce 7800 GTX 512 MB edged ahead of the X1900XTX in the high resolution test at 1600x1200 using no AA and with 8x AF.

The scores reveal that the ATI 1900 XTX is currently the fastest single graphics solution money can buy. At least we can say so till we test Nvidia's next card, the GeForce 7900GTX.

We know that a single 1900 XTX would still trail behind a pair of 7800GTX 512 MB in SLI configuration, but please note that ATI also has CrossFire, their dual GPU solution. Now, taking the multi-GPU configuration off the chart, the X1900 XTX's Direct3D performance is simply unmatched by anything Nvidia can offer, at least for the moment.

The OpenGL segment is the only weakness of the X1900 but thanks to the enhancements in the graphics cards OpenGL processing capabilities via its programmable functionality, the performance gap is no longer as significant as it used to be in the past. All in all, if we were to shop for the best 3D gaming card right now, we would unquestionably put our money on this card. ■

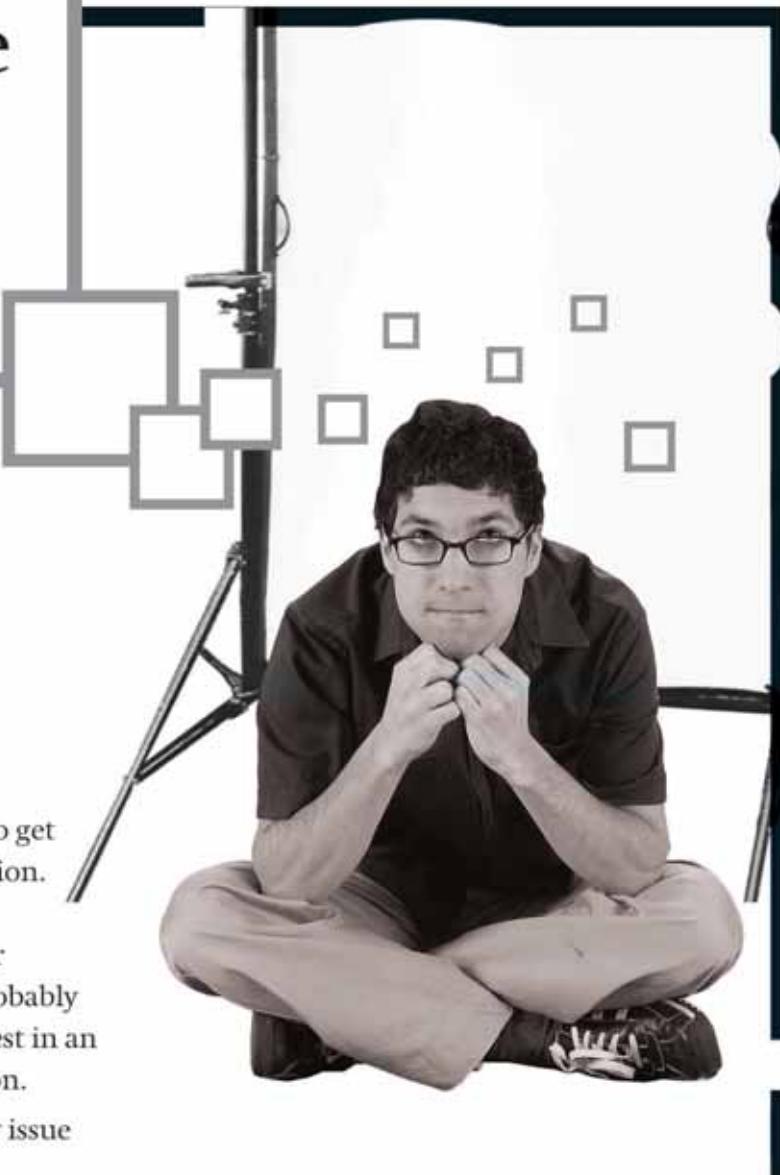
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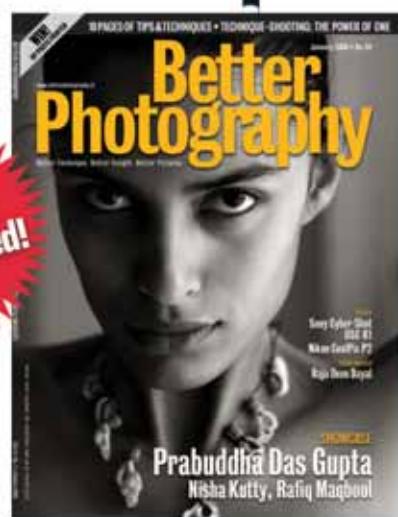
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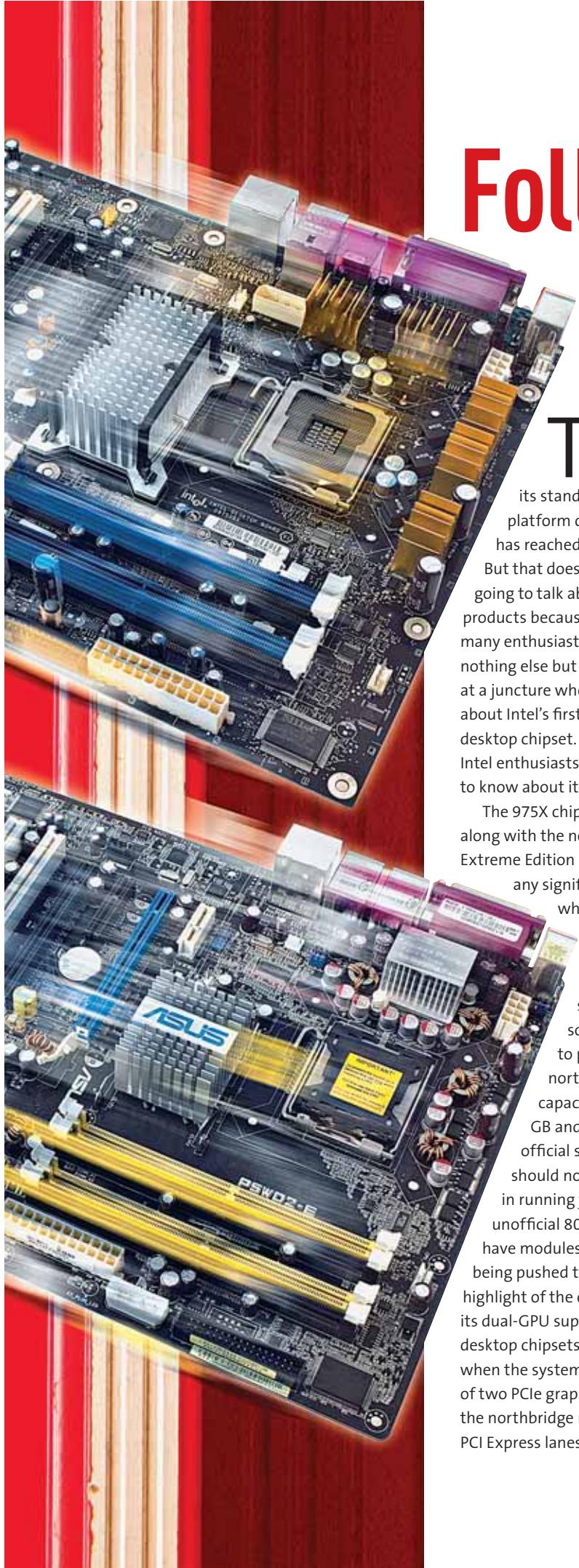
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Following the trend

Intel's first dual graphics capable desktop chipset

Today the Intel Pentium 4 platform has tobogganed in its standing as a fascinating platform chiefly because NetBurst has reached the end of its lifespan. But that does not mean we are not going to talk about any P4-based products because we know there are many enthusiasts who are hooked on to nothing else but Intel. However, we are at a juncture where it makes sense to talk about Intel's first dual graphics capable desktop chipset. And we are sure all you Intel enthusiasts will be more than eager to know about it.

The 975X chipset was introduced along with the new 65nm Intel Pentium Extreme Edition 955. But it does not have

any significant improvements when compared to the previous chipsets from Intel. There is neither new memory speed support nor new southbridge capabilities to pair up with this new northbridge. Maximum capacity RAM support is at 8 GB and 667 MHz is the fastest official speed it offers. You should not have any difficulties in running your DDR2 at the unofficial 800 MHz, provided you have modules that are capable of being pushed to such speeds. The highlight of the chipset is, of course, its dual-GPU support, the first in Intel desktop chipsets. On the graphics front, when the system detects the presence of two PCIe graphics cards in the slots, the northbridge redirects half of its 16 PCI Express lanes that are by default

assigned to the first 16x PEG slot, to the second 16x PEG slot. This effectively halves the number of PCIe lanes assigned to each graphics card, resulting in an 8x/8x dual slot configuration.

Both Nvidia's SLI and ATI's CrossFire dual graphics card implementations should work just fine on this chipset. Unfortunately, for now it is only ATI that has agreed to sanction the CrossFire technology on this platform. Featuring the unchanged ICH7R southbridge means six more PCIe lanes are available for use by any onboard components (for example, Gigabit LAN) to be laid out in slot configuration. In total, the 975X chipsets offers you 22 PCIe lanes for add-on cards.

ASUS P5WD2-E Deluxe

In case you have any one of the ASUS P5 series boards, we are sure you are a satisfied and happy owner. Based on our experience with the entire P5 series, we think this series is without doubt one of the best ever to come from ASUS. The boards are reliable, feature-rich and fun to tweak. Most importantly, on an average, they perform faster than the rest of offerings. With the launch of the 975X chipset, it is no surprise to see the P5 family welcoming yet another new member—the P5WD2-E Deluxe. This board is one of the latest fully featured enthusiast offerings to hit the market and is here to replace the P5WD2 (955X), which was ASUS's previous Intel flagship board.

When we compared both the boards, we noticed that there are no critical design differences between the P5WD2-E and P5WD2 other than some minor layout alterations made to the

SATA ports and expansion slots. Little complaint can be made on the layout and construction of the board. ASUS has done a wonderful job this time around.

We are glad to find that the installation of memory modules doesn't require the removal of the graphics card. The CPU area is spacious and we even managed to install the Thermalright XP120 CPU heatsink on it (albeit via a rather paranormal method). Most importantly, it offered the room to do so. Most of the power connectors and storage devices ports are conveniently placed on the edge of the ports. This is particularly important because it is the foundation to neat and clean power cable management that consequently leads to good air ventilation within the case and therefore lower operating temperatures. The only glitch here is the space between the two 16x PEG slots which we found to be slightly inadequate. This could possibly hamper the installation of PCI Express cards with large cooling solutions.

Feature wise, the P5WD2-E has all the essentials of a flagship board. You get eight SATA ports, two Gigabit PCIe NICs and an integrated audio system by RealTek ALC882M HD audio. Just like the rest of the P5 series, passive heatsink is the choice of cooling for this board. We prefer passive

over

active any day to avoid fan failure issues. The BIOS of this board is solid and it provides a plethora of tweaking and overclocking options to satisfy demanding overclockers. P5WD2-E was our board of choice to build our Intel testbed for this dual core article and we were extremely impressed with its stability. The system didn't crash even once throughout the entire benchmarking session that lasted over the better part of two weeks. That's saying a lot for a new platform.

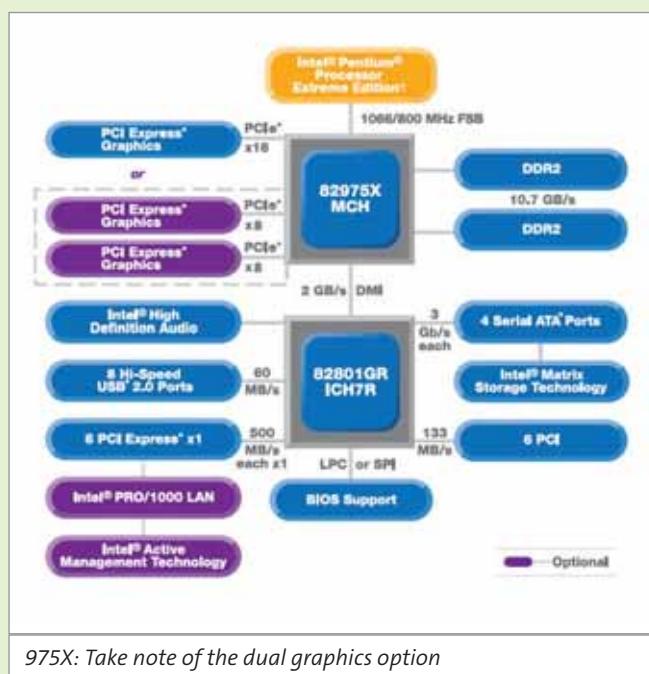


There is sufficient space for a mammoth-sized heatsink

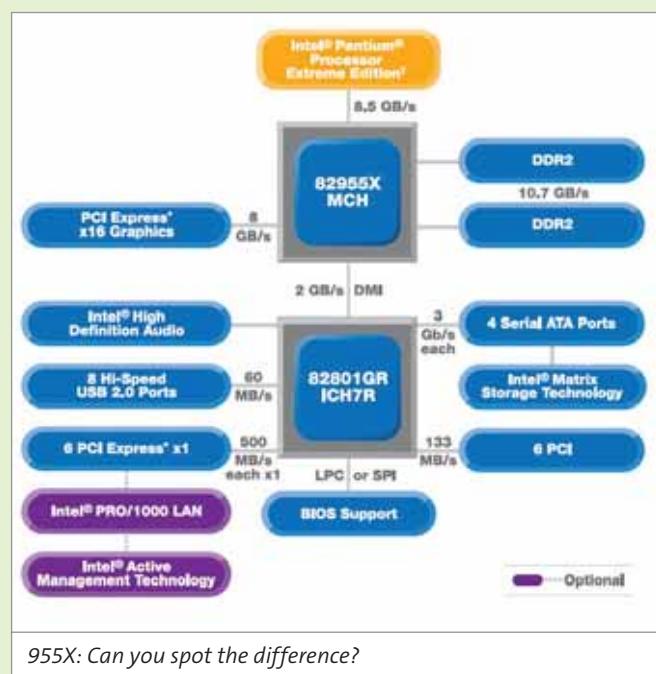
Intel Desktop Board D975XBX

The Desktop Board is a series of motherboards from Intel noted for phenomenal stability. Performance and overclocking have not been its strong selling points all this while due to its conservative BIOS. Also, its feature-set is very chipset-oriented with no attractive extras. Couple this with the fact that it is also the sample board that Intel always includes in their media test kit, and you can easily see why the Desktop Board series has always been regarded as Intel's "reference board". Now, with the introduction of their 975X based Desktop Board, things are a little different.

Upon opening the kit, the first thing that caught our attention were the five big MOSFET heatsinks. We have never seen such a mod on an Intel board before and what impressed us even more is the quality of the mod as these heatsinks are securely mounted on the MOSFET with the help of soldering and not with cheap thermal tape. This definitely translated into additional thermal stability, especially when pushing the limits of the board while overclocking processor and bus speeds. The board comes with three PCIe 16x physical slots. The first one has 16 electrical lanes (or 8x when the second slot is in use), while eight lanes are reserved



975X: Take note of the dual graphics option

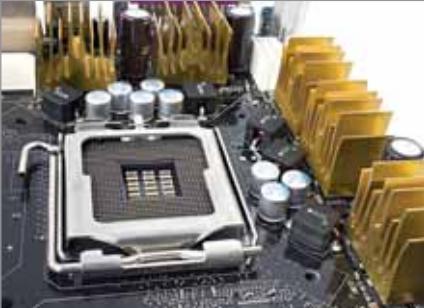


955X: Can you spot the difference?



for the second slot, and four lanes for the third slot. Besides that, you have the option to install another two PCI-based cards on this board as well.

Moving on to its features, it has similar specifications as that of the P5WD2-E. You get eight SATA ports, a Gigabit PCIe LAN and HD audio. Do note that four of the eight SATA ports are implemented via a PCI-based SATA controller and not via a PCIe solution like the one you get on the



Enthusiastic mod: The Desktop Board is heading towards a new direction

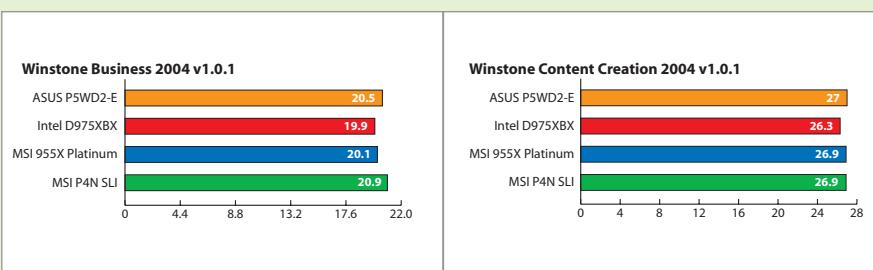
P5WD2-E. This is simply because all the 22 PCIe lanes offered by the 975X+ ICH7R chipsets have been put into use. Therefore, the performance of these four SATA ports are affected and it is slightly lower than that of the other four native SATA ports provided by the ICH7R southbridge.

We found the overall BIOS options to be satisfactory. Besides the expected memory timing options, the BIOS also provides us all the essential tweaking and overclocking options (for example, FSB, multiplier, voltage). All in all, we must say that this Intel Desktop Board is performance-oriented with excellent build quality. The options for tweaking its sub-systems make it a great board for enthusiasts to work with.

How we rate it

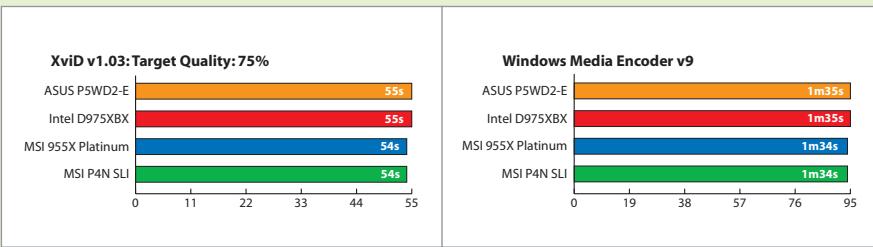
Talking about performance, we know Intel has internally improved the memory performance of the 975X but unfortunately, when it translates directly into real-world performance, the improvement impact is negligible (as our tests have shown). If you have a 955X-based board with you now, we suggest you to stick with it as we do not see any reason for you to upgrade. Multi-GPU is no doubt a fascinating concept but running it on the Pentium 4 D platform is quite a waste as the existing processor is too slow to cope with even with one high-end graphics card like the ATI 1900XTX graphics card, never mind two. Judging both boards from the construction and stability point of view, they are definitely two thumbs-up solutions. At the end of the day, if you insist on Intel and are seeking the best new board, this chipset will not disappoint you.

Application Performance



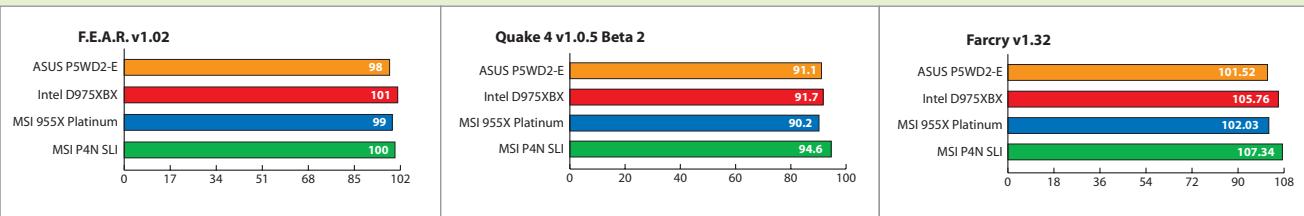
Winstone Business 2004 and Content Creation 2004 are system-level, application based benchmarks that measure a PC's overall performance when running today's top selling Windows-based applications (e.g. MS Office, Norton Antivirus) and Windows-based multimedia content creation applications (e.g. Photoshop, Lightwave) on WinXP, respectively. It's worth noting that some of the applications in the Content Creation 2004 suite are multithreaded. (Score: Higher is better)

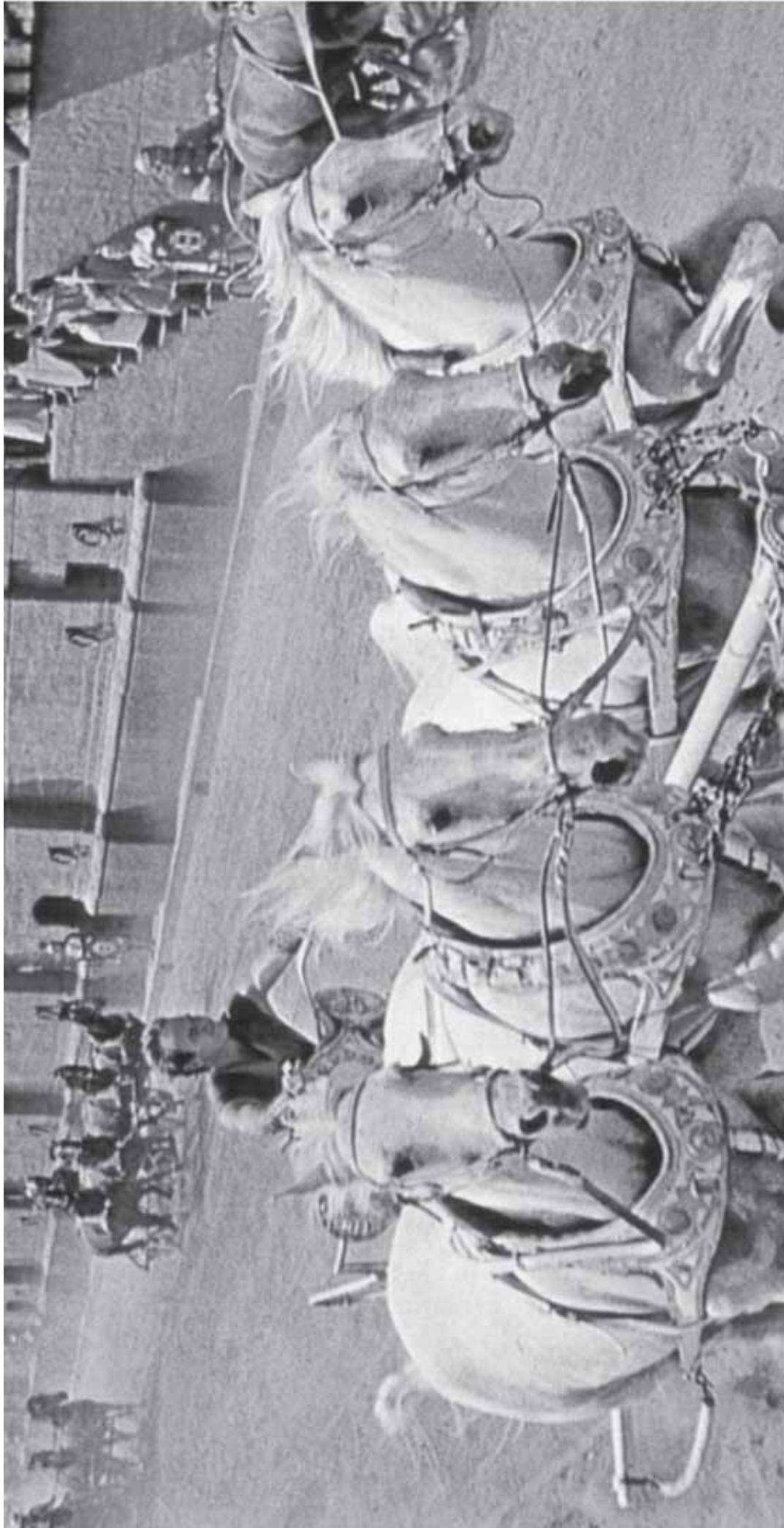
Media Encoding Performance



We used High Definition videos as the sources for all the encoding tests and they were all stored in the operating system drive. Auto Gordian Knot v2.26 was used as the tool to perform the XviD conversion tasks (Quality: 75%, fixed width: 1440, audio: 128kbps VBR). As for the WME conversion, we picked WME 9 Advanced Profile as our codec of choice. We left the default setting untouched except the video size which was set as the video source.

Gaming Performance





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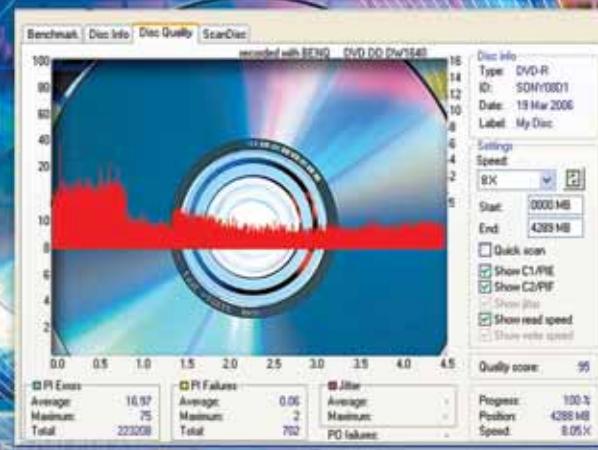
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Write them Right

Know all about CDs, DVDs and the latest high capacity HD-DVD and Blue-Ray discs along with strategies to master the art of burning optical media

Thanks to digitization, we are able to carry every form of data everywhere we go. And one of the most widely used ways to carry enormous amount of data is with the help of optical media such as CDs and DVDs.

Many a time we have faced problems with our CDs refusing to read or skipping, either because they have not been properly written or because the CD is of poor quality. In the absence of devices such as external hard drives, most of us tend to use CDs and DVDs to back up data. But losing critical information because of a badly written CD or DVD would be unpardonable. Besides, we get lost in the complex world of the numerous CD/DVD formats where the DVDs written on our DVD writer don't playback on our standalone DVD players. In this article, we educate you about everything you need to know about optical media, the latest formats and how you can tweak your DVD writer to get the best results.

DVD+R vs DVD-R

Both DVD+R and DVD-R discs have the same capacities. Let us find out the difference between the two and see which is better than the other. When DVDs were being developed, there was no industry standard and many companies were competing to develop what they thought would be the standard of the future. There were two camps, the DVD-R (pronounced as DVD dash R) which was developed by Pioneer and supported by Apple, Sony and a host of other companies all part of what they called the DVD forum. The DVD+R (pronounced as DVD plus R) was supported by Philips, Dell, Sony, HP, and Microsoft. This consortium called itself the DVD Alliance.

Technical difference: The "minus" discs can only be written in one layer on the disc's surface as compared to multiple layers for the "plus" discs. Hence the plus discs can pack in a little more (a 4.7 GB disc cannot pack in full 4.7 GB of data) than the

"minus" discs and hence they are slightly more expensive than "minus" discs. DVD-R discs enjoys more compatibility with standalone DVD players and system DVD drives as compared to DVD+R discs.

There are no physical differences between the two. And DVD writers writing both the formats are available in the market.

Hype about Blue-Ray and HD-DVD formats

Twenty years back the two video tape formats—VHS (Victor Home Systems) and Betamax (Sony) fought a close battle. A few years after, the DVD Forum (DVD-R) and DVD Alliance (DVD+R) was battling it out. Now it is time for us to witness how Blue-Ray duels it out with HD-DVD.

HD DVD HD-DVD

- Supported by NEC and Toshiba.
- Disc capacities of 15 and 30 GB for single and dual layer respectively.

| Different formats for blank optical media

Type	Capacity	Description
CD-R	Up to 700 MB	Write once disc
CD-RW	Up to 700 MB	Re-writable disc
DVD-R	4.7 GB	Write once disc
DVD+R	4.7 GB	Write once disc
DVD-RW	4.7 GB	Re-writable disc
DVD+RW	4.7 GB	Re-writable disc
DVD-R9 DL	8.5 GB	Single sided double layered write-once disc
DVD+R9 DL	8.5 GB	Single sided double layered write-once disc
* HD-DVD-R (single and dual layer)	15 & 30 GB	HD-DVD write once discs
* HD-DVD-RW (single and dual layer)	15 & 30 GB	Re-writable HD-DVD discs
* BD-R (single and dual layer)	25 & 50 GB	Blue-Ray write once discs
* BD-RE (single and dual layer)	25 & 50 GB	Re-writable Blue-Ray discs

* Launched internationally



Blue-Ray

- Supported by Sony, Dell, Hitachi, and Pioneer.
- Disc capacities of 25 and 50 GB for single and dual layer respectively.

How it affects the user

- Both the media are incompatible with each other's players i.e. a Blue-Ray disc will not work on a HD-DVD player.
- Both HD-DVD and Blue-Ray players are backward compatible with DVDs and CDs. So that means your old collection does not become redundant.
- Blu-Ray discs are expected to be more expensive than HD-DVDs due to the different cover layer path requiring a new manufacturing process. HD-DVDs are a step ahead of the existing DVDs, so there will be minor cost differences involved in manufacturing the discs.

Optical drives

Buying suggestion

With good dual DVD writers available for as low as Rs 2,800 and next-generation optical media such as Blue-Ray and HD-DVD already available in the market, we suggest you buy a DVD writer. The

advantages are obvious. It lets you burn a DVD which has a capacity of 4.7 GB, that is it has more than six times the capacity of a CD.

Features to look out for

- Look for a 16x dual layer DVD writer. A 16x dual DVD writer lets you write dual layer +/-R DVDs which have a capacity of 8.5 GB at up to 16x speeds.
- All the latest dual layer 16x DVD burners write DVD+R and DVD-Rs.

Brands and Models

Your burner shouldn't be very picky about media and should be compatible and give out good quality burns with a wide variety of media. Secondly it should be fast. Hence we recommend models with dual layer 16x writing ability.

- Look for internationally acclaimed models.

Recommended models

BenQ 1640—Excellent drive with the best read/write times and wide media compatibility.

Sony DRU 810A—It is basically a rebadged BenQ 1640.

Alternatively, you can refer to web sites

like <http://www.cdrinfo.com> and <http://www.cdrlabs.com/>.

Additional features

LightScribe: LightScribe is an innovative technology developed by HP that uses a special drive and special media and a label making software to burn labels directly onto the CDs and DVDs. The laser inside a CD/DVD disc drive with LightScribe technology focuses light energy onto a thin dye coating on the label side of the disc. Only LightScribe media has this special coating. These drives used are basically DVD writers with the additional feature of LightScribe. The BenQ 1655 is one such drive. Its costs a little more than conventional dual layer DVD writers. It is priced between Rs 4,500 to 5,000. If you want to burn a CD or a DVD for someone special or you want to burn the DVD of your special vacation, you can put a picture of your choice on the CD cover. The image is in grayscale.



Image etched on DVD using LightScribe

Tips on how to enhance your DVD burner's performance

- If time permits, always burn your optical media at slower speed, it gives better quality burns.
- Let your burning software be the only program running. If you get buffer under run errors, try burning at lower speed. The writer needs to have a continuous stream of data from the hard drive or the source of data while burning. The CD/DVD writer has a small buffer to compensate for gaps but if the writer or the processor is interrupted for too long it will lead to gaps or noise.

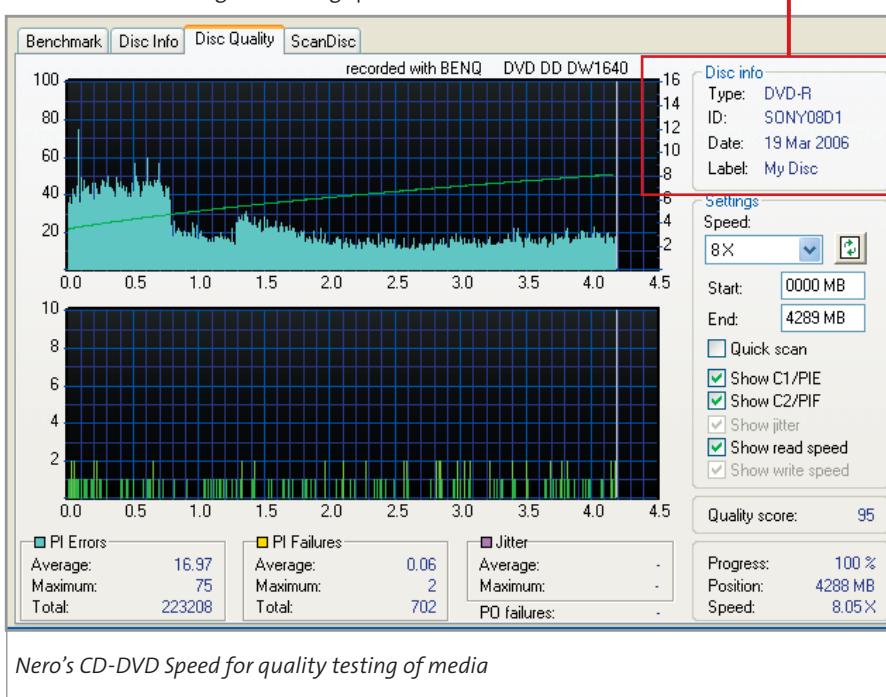
Brand	Format	Media ID	Maximum speed	Quality score
Sony	DVD-R	SONY08D1	8x	95
Sony	DVD+R	SONY D11	8x	89
MoserBaer	DVD-R	MBI 03RG40	16x	91
MoserBaer	DVD+R	MBIPG101R05	16x	95

- in the discs or the entire disc will get ruined.
- Keep the outside of your DVD/CD burner clean so that dust doesn't enter when the tray is opened.
 - Bit Setting/Changing BookType: Use the bit setting feature in your DVD burning software for burning DVD +R/RW media with greater compatibility with older standalone DVD players and console boxes like the PS2 or XBOX. When the booktype field is set to DVD-ROM then the player is fooled into thinking that the user has put in a DVD-ROM disc. DVD Decryptor is a popular software for changing the booktype. It works for Plextor, NEC, BenQ, LG and LITE-ON drives. You can also use Nero, but only the SmartStart/Express version 6.3.1.6 or the above support BitSet for changing the booktype.
 - Upgrading your firmware: Always upgrade your CD/DVD writer to the latest firmware. Firmware removes bugs and adds additional features to your drive like increasing the writing speed of
- DVD+R media or letting you write dual layer discs. Get the latest firmware from the official web site of the burner that you have bought. Unofficial firmware is also available on the Internet. Some of them are really good but newbies should stick to the official ones. Upgrading firmware is as simple as running an executable file and the firmware of your drive will automatically change.
- Make sure your DVD player is capable of playing the formats that your DVD burns.

Optical media test

Using Nero's CD-DVD Speed

We tested a variety of DVD and CD media for their quality. For testing we burnt data



on the media first and then used Nero CD-DVD Speed. The Nero version that we used was 7.0.5.4. It scans the media for errors, and then gives a quality score out of 100. It also shows the scan. The higher the score, the better is the quality of your media, and the longer it lasts. The quality of burning also depends on the capabilities of your DVD writer, so we have tested one of the best DVD writers—the BenQ 1640.

The Nero CD-DVD Speed shows the disc information as Media ID or Code. The quality of media depends on the manufacturer (many companies don't manufacture CDs and DVDs themselves), but it also depends on where it was manufactured and the batch of manufacturing. You can decide which media works out to be the best for you after you identify what works best for your burner.

We must say that all the DVDs we tested were good in quality.

Using DvdInfoPro

Another very popular tool to scan written DVDs is DVdInfo Pro fast becoming popular among the enthusiast community. After finding out the PIF, PI and jitter values (these are explained subsequently), we input it into this table obtained from www.dvd-recordable.org.

You can download the table from www.dvd-recordable.org/wwwimgs/media/reviews/spreadsheet/DEMO.xls

This table is incorporated in DVdInfoPro's latest version V4.56. But since it is a beta software release, we used the above table and used DVdInfoPro version 3.56 for scanning the written media.

Let us now understand some of the values obtained in the scans:

PI - PIF

The ECMA (European Association for Standardizing Information and Communication Systems) standard describes the following:

A row of an ECC Block that has at least 1 byte in error constitutes a PI error. In any of the eight consecutive ECC Blocks the total number of PI errors before correction should not exceed 280.

A row is 182 bytes long where the last 10 bytes contain PI (Parity Inner) information. An ECC block is 208 rows long where the last 16 rows contain the PO (Parity Outer) information. This gives us a maximum possible PI error amount of 208 errors per block and for 8 blocks after each other. This sum is of course 8 times higher giving a maximum possible amount of 1664 PI errors.

If a row of an ECC Block contains more than 5 erroneous bytes, the row is said to be "PI-uncorrectable" or PIF (Parity Inner Failures). In any ECC Block the number of PI-uncorrectable rows should not exceed four.

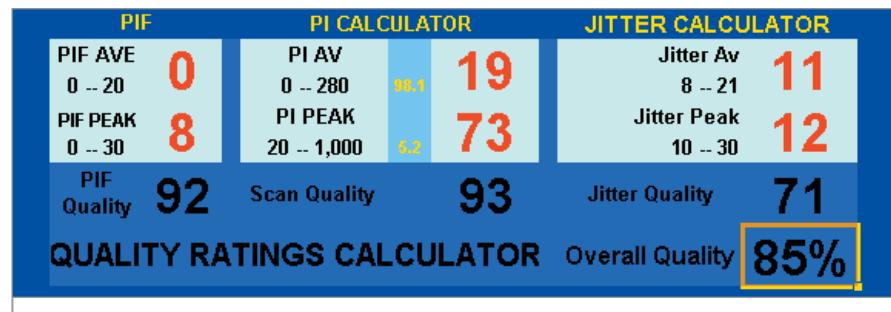
For the EMCA standard, you can find more information at <http://www.ecma-international.org>.

In the above quality rating table, PIF or "PI uncorrectable" is also referred as PO (Parity Outer). So basically these tests are the data parity or ECC checks for DVD media.

Threshold values for PI and PIF

Anything upto 280 PI is considered a good quality disc, 300-320 PI is considered to be of average quality, and anything above these values would be considered bad in quality. It doesn't necessarily mean the media is classed as unreadable. There are reports of some writers/players being able to read discs with 1200 PI, but the quality of that media is poor.

As far as PIF is concerned, 10 and below



Quality rating calculator from www.dvd-recordable.org

means it a good quality disc, anything above 32 PIF is unreadable.

We scanned Sony's DVD+R 8X (Media code: SONY D11) using DvdInfoPro and used the values obtained in the table provided by www.dvd-recordable.org. We got an overall quality score of 85 as compared to 89 given by CD-DVD Speed from Nero. The scores are almost similar differing only in the algorithms used to calculate the overall quality score. We personally liked the DvdInfoPro for showing more accurate scores. As mentioned earlier, the latest version, the 4.56 incorporates the algorithms used to calculate the overall ratings as shown in the above table.

Let us now look at some additional features which are supported by some burners and software.

Overspeeding

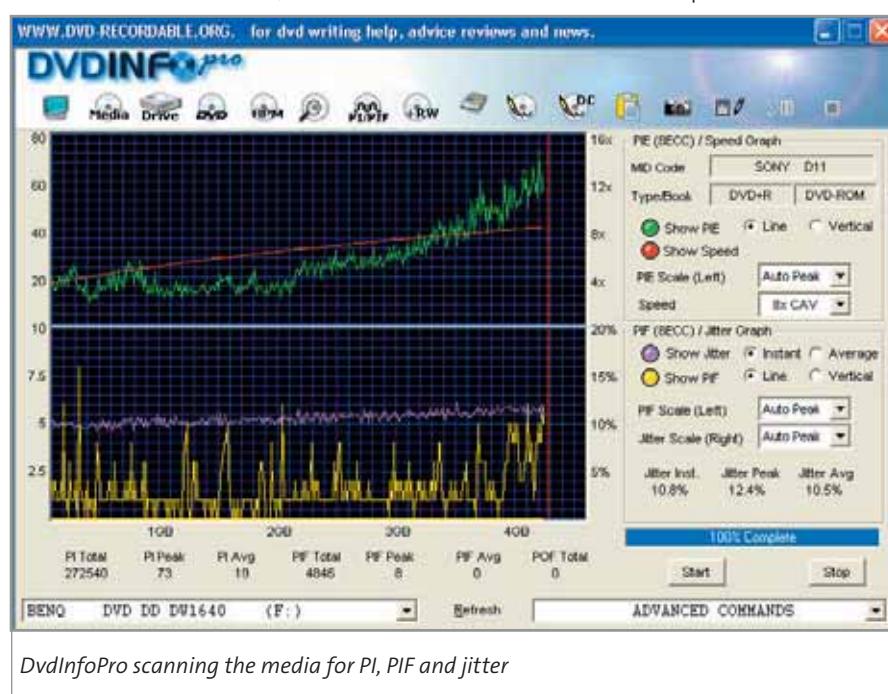
We are already aware that it is possible to write the media at speeds lesser than

the maximum rated speed. Certain DVD writers like the BenQ 1640 allows you to overspeed the media, that is, it lets you burn your DVDs at a speed faster than the maximum rated speed of the media. For example, it lets you burn a 8x rated DVD-R at a speed of 12x or 16x. But then it depends on the quality of the media; it is not possible to overspeed low quality media. In fact, many a times it is not possible to burn poor quality media at its maximum rated speed. We recommend you spare a few extra minutes and burn your media at speeds lower than the maximum rated speed.

Overburning

The standard burning time for an audio CD is at least 74 minutes combined with a silent lead-out area of 90 seconds, used to indicate the end of a disc. Overburning, also known as oversizing, is basically writing more audio or data onto the CD or the DVD than its official capacity by utilizing the area for lead-out and possibly even a few blocks beyond that. The possibility of overburning largely depends on the burning software, the writer and the media used. Not all CD/DVD writers are capable of doing it. Possibly a firmware upgrade may allow your burner to avail this feature. www.cdrinfo.com has a comprehensive and updated list of all firmware for almost all optical drives.

Overburning requires the disc-at-once mode. And your CD writer should be capable of ignoring the capacity information encoded in the blank media's ATIP and instead use the information given by the burning software. The burn speed is critical when recording data to the outermost edge of a CD. Most CD writers overburn a CD only at a low burn speed. ■





Shooting stars

Quick tips for shooting great videos

With camcorders and mini DV cams getting cheaper by the month, users are picking them up faster than ever. Once you are a proud owner of a camcorder, you cannot wait to shoot videos and capture all your magical moments. Like any other electronic gadget, a camcorder also needs to be handled in a particular manner to get the best results. Without learning the basics of video shooting and effective use of camcorders, the results can be disappointing. Often you end up complaining about the bad quality of the video recorder or blaming the light conditions while the fault lies on the methodology and technique used to capture the video. Here we have gathered some basic tips that should go a long way in helping beginners get their act right and record good video clips. The tips apply to all types of video recorders be it the tape-based camcorders or the Mini DVs.

Get acquainted

So you bought a spanking new camcorder, and now all you want is a great video clip to check out the quality. Well, chances are you will be a little disappointed because you either did not activate the right mode for the light conditions or you zoomed too much, or the focusing was not correct. The answer to these problems is the manual, the quick setup guide or online tutorial that can help you get up close and personal with your camcorder. Each of these video recorders

are mighty powerful and are packed with a lot of features. You first need to study the device, and ensure that you understand all the features of the camcorder. Experimenting with the features while shooting a video is the best way to know the functionality in real time.

For example, you must be aware of the "nightshot" feature in your camcorder that lets you shoot videos in dark. The same mode used during day time will ruin your video for sure. So check for the indication on the LCD and make sure you know what each and every icon on the LCD signifies and what modes the camcorder can operate on.

Avoid zooming in and out too much

The camcorder screams of a mammoth 20x optical zoom; although it surely sounds fun, don't get too carried away. Zooming when using a digital camera is not the same as doing the same with a camcorder. When using a digital camera, you capture the frame after you have zoomed on it and got the focus right. But in case of camcorders, you are recording the video while zooming, which means a sudden zoom can throw the video out of context, especially when the camcorder takes a second or two to regain its focus on the scene. Beginner videos are invariably full of extensive zoom in and zoom out which makes little sense and so even if you must use it,



do it slowly. A slow, well-controlled zoom is much more professional looking than a quick zoom. Another tip we suggest is that you restrict the usage of the zoom in between scenes.

Smooth operator

The camcorder is a powerful device but nothing can match the human eye and hence when you quickly turn around to see what is happening behind you, don't expect your camcorder to do the same and deliver fantastic results. Panning has to be slow and smooth. The camcorder can capture video at certain frame rates (typically 30 fps-45 fps) and hence rapid movements from one scene to another will result in a blurry video which looks ugly and unprofessional. The pause button on the camcorder is least used by beginners although it is a very useful and important aspect. Pausing a video and resuming it from the next scene avoids the blur and also gives a fresh perspective. Also, when using zoom, you can pause the recording, first zoom in to the scene without worrying about a blurred video and resume recording. Simple and very effective!

Keep it steady!

While shooting videos our hands tend to vibrate a little. If the vibration is too much, it will badly affect the quality of the video footage. There are two ways to overcome this. One way is to do it in the manner adopted by the professionals—get a good tripod stand. These can be obtained at an affordable price in the market. Another

way is to brace yourself against something like a wall, or perhaps stoop down on your knee while filming. The videos get more blurry when you use maximum zoom because when using max optical zoom, the lens is extremely sensitive to any kind of movement, and hence though it might seem that you have captured a steady shot, the results might hint of blur. Camcorders using optical image stabilization are smarter in countering the blur, but don't bank on them to give you a steady shot while you dance the funky chicken. Use a tripod instead for rock steady videos.

Understand light conditions

Light is one of the most important factors when it comes to video capturing. You need to keep the basics in mind. The source of light should always be behind you as this ensures maximum light on the subject and optimum visibility. The light source falling straight on the lens will deliver dark and poor quality videos. Also keep in mind the shadows, especially when shooting indoors when the light source is behind you and hence in all probability your own shadow be an obstruction on the subject or the scene that has to be captured. The trick is to shoot the video at an angle where the shadow is avoided. Your camcorder might have a nightshot mode, but don't take it for granted. It is not always as effective as it seems to be and hence it is not advisable to always bank on it. You need to take a few sample shots and check the quality instead of going ahead with the entire shoot and ending up with a dark blurry video.

Be a storyteller

When you share your videos with your friends and family, you are telling a story, bringing them close to what you have experienced thing and thereby making them feel a part of the event. This is where creativity is required. Starting a scene abruptly on a restaurant table will call for a million questions about where the scene was shot and the whereabouts of the venue. A smarter way of filming the scene is to start with a wide angle of the restaurant, the ambience and then slowly zooming on the subject, giving a perspective of the entire situation. It lends the required depth

to the scene and makes the video very impressive.

Similarly, when shooting family vacations, always look for a landmark, a sign or natural monument that tells the audience where you are. For example, if you are visiting the Gateway of India, it would make sense to first give the bigger picture of the venue, the busy atmosphere and then entering a scene where you set on a sail. This way your video would give a larger picture of the setting. Engaging the subject is also very important, the videos look lively if you get them to speak, smile and interact.

Short and dynamic

As a rule of thumb, never ever shoot long, drawn out video clips of more than 2 minutes. It bores the audience to death. Using several short clips of 5 to 10 seconds is much more effective. It also brings variety to the audience watching the video. Long shoots of the same scene can get very boring and the audience might just lose interest. Make sure you cut the scene to a new background and then bring your audience back to the prime scene. Always change your perspective, don't limit your shots to one angle only. Approach your subject from all angles. Come from behind, come from the top and so on. Experimenting with scenes and angles can deliver some interesting videos and this way you get a platform to showcase your creativity also.

Conserve battery

Video recording is much more intense than shooting stills with a digital camera. Optical zoom, image stabilization and night modes are very useful but also very resource hungry, taking a toll on the battery. The first step is to conserve the battery by only using these features when required and also pausing the camera when not required. Camcorders also offer battery saving modes that need to be fine tuned according to personal preference and usage. The second and most important step is to carry backup battery packs and a charger. You don't want to end up with a drained camcorder when you need it the most! ■

| Soham Raninga

Ultra-mobile PCs

Pocket PC devices and smart phones have put the computer in our palms and pockets.

Use any of these devices for a week and you'll discover that they don't quite match up to the power and performance of a desktop PC or notebook. Now wouldn't it be nice to have a device that costs less than a budget notebook but with the same computing power, and yet small enough to fit in a coat pocket? In fact, there is—prototypes were recently unveiled at two industry events.

Microsoft, Intel, Samsung, Asus and Founder are working on a new platform: a miniature tablet PC dubbed the Ultra Mobile PC (UMPC).

Microsoft tried to create some buzz through its Project Origami initiative. In fact, it created a teaser web site (www.origamiproject.com/1/) that generated many blog discussions.

Intel also set up a web site (www.umpc.com/). It purports to pack in everything from digital music to wireless Internet into this PC with a very small form factor.

At IDF in the second week of March, Intel unveiled UMPC designs. Samsung and others showed off their prototypes at the CeBIT technology show in Germany (March 9 -15). At first glance, these appear to be smaller versions of the Tablet PC. The prototypes have 7-inch touchscreens and standard Intel Pentium M processors. They can run full versions of Windows XP tablet PC edition. New Windows Touch Pack software takes care of the touchscreen functions.

Wonderful, but is the idea of take-along PCs entirely fresh? I recall a particular advertisement that appeared in computer magazines in the 90s. Ergo Computing (www.ergo-computing.com) advertised a product called "The Brick". At that time they were offering a PC with an Intel 80386 chip. Because of its small form factor, a user could carry it home in his briefcase, hook it up to a monitor and keyboard and continue working late in the night. The only requirement: two monitors and keyboards (one set installed at either destination). That was before laptops became mainstream.

Last year, we got an AMD Personal Internet Communicator (PIC) into our Test Center. With its dull grey boroplast-like shell it easily passed for

a fancy lunchbox or toolbox. But we found that the PIC is indeed quite portable and has all the necessary ports for connecting other devices.

We also saw portable media players like the Sony PlayStation Portable (PSP) entering the grey market. With their own storage media, built-in screens and game pads, they offer the same thrill as that of a gaming console.

I feel Intel and Microsoft want to create the PC equivalent of the Sony PSP (or other portable media players). But for UMPC to be a hit they will need to carefully address the ergonomics and other factors.

Keypad design is important. They will have to master the art of putting all the essential keys within a very limited space. Designers need to consider key spacing and size. A clever slide out keypad or soft keypad (onscreen) might do the trick.

Storage is another important factor. A tiny 40 or 60 GB hard disk is what we expect. And how about slots for removable media like SD cards or Compact Flash? Internal memory? At least 256 MB, but that depends on the operating system memory footprint.

A bright clear LCD display with a good resolution comes next. That's important for computing in the outdoors.

What about battery life? The prototypes shown at CeBIT could barely manage 3 hours. Most of us would need a device that can run for a full workday between charges. Ultra-low voltage chips should do the trick.

And of course, it should have bells and whistles like built-in track-pad/joystick, built-in stereo speakers, audio-out, at least three USB ports (one for a mouse), Video-Out (for connecting an external monitor), and memory card slots.

The UMPC or mini tablet must have good pricing too. I'd say \$500 (approx Rs 22,500) would be a good entry-point. That's lower than a laptop. And a smart phone or Pocket PC costs as much. I bet you are anxious to read more about the UMPC. We'll keep you updated if we get one in the CHIP Test Center.

The writer has been covering personal technology issues for the past 12 years



Brian Pereira
brian.pereira@chip-india.com

“ Intel and Microsoft want to create the PC equivalent of the Sony PSP. But for the ultra-mobile PC to be successful, they'll need to carefully address factors like battery life and screen visibility ”

Double Role

A guide to buying the right TV tuner

Low-end



Models: Intex TV tuner, Techcom TV tuner, Frontech PC TV, Adcom TV Tuner

Budget: Below Rs 2,000

Mid-range



Models: Compro video mate series, Pinnacle PCTV series, Pixel View Play TV series, Leadtek TV Tuner Expert

Budget: Between Rs 2,000 - 4,000

High-end



Models: PixelView PlayTV@7000, Pinnacle Media Center 100e, Compro VideoMate U3

Budget: Above Rs 4,000

For basic requirements, the entry-level TV tuners will do the job for you. These tuners provide basic functionality of watching TV on your PC. You have an option of buying internal as well as external TV tuners in this price range. Internal TV tuners are preferable for those who do not have a lot of additional space and hence would like to use the PCI slots on the motherboard, ensuring the TV tuner is inside the PC. These internal TV tuners also offer FM radio as an option. Most of them come with the same components and are priced under 1.5 K. The good quality ones are from brands like Pinnacle and Compro but the basic versions are not easy to find. While some of these offer video capture, budget tuners don't necessarily offer that.

The software bundled with the tuner is very important—brands like Pinnacle and Compro package feature rich applications for maximum functionality. In case you choose to go for the external tuners in the entry-level segment, you will have to compromise on TV-capture feature. Rarely will an external tuner in this price range provide TV capture. A very important factor for tuners is the strength of the signal. If you plan to share a single cable for your TV as well as PC, the strength of the signal might not be enough to deliver. So use boosters or signal amplifiers for best results.

The mid-range TV tuner segment has quite a few options for you to choose from. These TV tuners not only offer proper video capture from TV, but they are also better in overall quality. The video as well as audio quality is much better than the basic ones. They offer very useful tools to fine tune the reception as well as capture quality.

There are special tuners for LCD monitors as well, promising to deliver the perfect image quality for LCD monitors. In case you have an LCD screen, it is highly recommended to go for the ones specifically made for LCD monitors. Brands like Leadtek, Pixel view and Pinnacle offer special TV tuners for LCD screens, they are external TV tuners that connect to the PC using USB .20 standard. It is crucial that you have USB 2.0 ports for connecting these tuners, ensuring zero bottlenecks while capturing TV. These tuners also support the time-shift feature, which basically allows you to pause, rewind live television and instant replays. Thus, you can take your breaks during a TV show or movie and never have to miss a scene again. Similarly, you should also look out for tuners that support scheduling, enabling you to automatically set the tuner to record particular shows, which can be viewed later.

High-end TV tuners offer more than just TV tuning, they convert your PC into a personal audio/video studio, allowing you to capture and convert video from cable TV, DVD player and camcorders. These tuners use the highest quality of components for capturing video. They also give better resolution than the regular TV tuners.

When going for a high-end tuner, look for those that allow you to record TV shows directly into compressed (DivX) formats. Thus the recorded files will take less space while offering the same high quality. If you plan to install the Windows Media Center Edition OS, there are special Media Center edition tuners available that seamlessly work with the OS, delivering the best level of home entertainment. If you're really cramped for space and want a TV tuner that you can carry everywhere, the Compro VideoMate U3 is the choice; it's the smallest digital TV tuner box. With a thumb-size design (only 9.0x2.6x1.1 cm), you can fit it into your pocket and plug it in anywhere to receive high-quality free-to-air digital terrestrial TV broadcast on your desktop or laptop PC. Using high-speed USB 2.0 transmission, the VideoMate U3 provides SDTV and high-definition 1080i HDTV reception on your PC.

| Soham Raninga

Applications



Software Center

This month, we bring you a veritable mix of applications spanning the office suite, 3D visualization, multimedia and security ranges. When it comes to bringing ideas on product design and architecture to life, Autodesk VIZ 2006 breaks new ground in quick 3D modeling and rendering. Armed with a new set of collaboration-friendly features, it is a must-have for product designers. With WordPerfect Office X3, the new office suite, Corel is back in the office suite game. Sporting features that enhance productivity, it is a good consideration for general purpose home and office document creation. On the multimedia front, we reviewed Quintessential Media Player—a free audio/video application that offers enhanced media file management

and Jet Photo—a nifty little photo manager for converting, touching up and even uploading images from one easy interface. If you need more control over your e-mail, Eudora 7 introduces plenty of new features for mail management and creation, including built-in spam protection, personalities and prevention of accidental mailing to selected contacts. For safety on the Internet we reviewed Outpost Firewall Pro featuring the entire gamut of Internet protection capability including intrusion protection, script blocking and content filtering among many others—all of this with an easy-to-configure interface. Finally, for all you die-hard security buffs, we tested an application that provides biometric access control for your PC. It also bundles the fingerprint scanner.

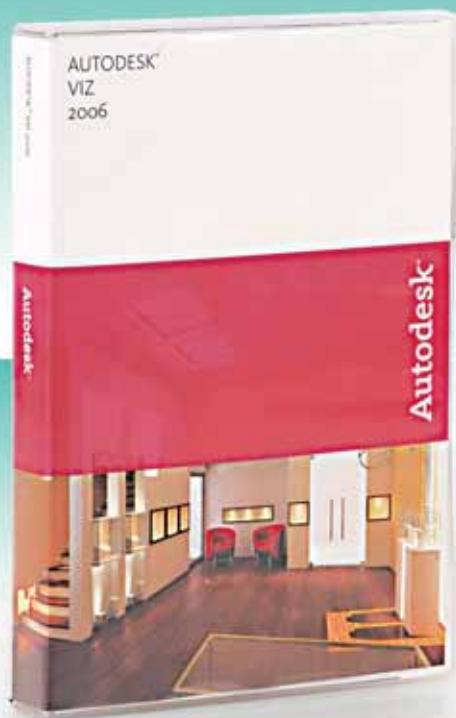
| The Ratings Explained

The parameters used for evaluating software are assigned a graphical rating out of a scale of 5. These parameters 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 stacking the features and the utility of the application against its price. In the case of freeware and shareware tools that are available for download 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.

—Pramod Jadhav



Autodesk VIZ 2006

One of the biggest challenges for architects and product designers is to be able to visualize their designs during their creation before they see the light of day. Autodesk VIZ 2006 is a 3D modeling, rendering and animation application that enables such users to do just that—to design, visualize and share their ideas. Coming from the Autodesk stable it is compatible with many of Autodesk's other applications such as Inventor, ADT, etc. At its core lies 3D Studio MAX's modeling engine due to which it is capable of creating highly realistic models and scenery. Autodesk VIZ can be thought of as a toolkit that offers designers a host of modeling resources by which users can conveniently create a range of different 3D models and scenes. After doing so, it provides features to help manage all your modeling data and finally, for sharing it with other users via mesh files, rendered images or animations.

The installation spans two CDs that include the application along with plenty of other resources such as mesh files, partner applications, tutorials, etc. The program needs Microsoft .NET Framework which is installed during the program's setup process. After installation, you have the option of running through an interactive

demo that highlights the new features in VIZ 2006—very handy for newcomers. For those of you who are familiar with 3D Studio MAX, you'll feel right at home here. The entire interface, from the large workspace in the center to the tool palettes on the right, reflects the same interface as that of MAX. However, the intent of this program is different—it is aimed at helping designers visualize and bring their ideas on screen quickly. There are several interesting enhancements that facilitate this functionality. For example, the Tool Palette provides users with a collection of various elements that are needed while modeling a scene—materials, lights, architectural materials, cameras, studios, etc. There are 20 such tool palettes that span these segments. Similarly, there is a materials palette that contains a range of commonly used materials in 3D modeling such as different varieties of glass, wood, doors, masonry, furnishing, etc. This provides convenient location from where materials and textures can be added to 3D objects during modeling.

If you have previously created AutoCAD drawings, they can be imported into VIZ and using the enhanced loft tool these can be quickly transformed into 3D objects. It also allows utilitarian features such as

3D Modeling and Animation

Autodesk VIZ 2006

System requirements: Windows XP Pro (SP1)/XP Home (SP1)/2000 (SP4), DirectX 9.0c Pentium III 500 or higher, 512 MB RAM, 500 MB free hard disk space, video capable of 1024x768, mouse, CDROM drive

Price	Rs 81,000
Contact	Autodesk Media & Entertainment
Phone	022-56952000
E-mail	selina.pinheiro@autodesk.com
website	www.autodesk.com

RATINGS	
Ease of use	<input checked="" type="checkbox"/> <input type="checkbox"/>
Features	<input checked="" type="checkbox"/> <input type="checkbox"/>
Performance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

flanges, cylinders, etc that can speed up architectural modeling, for example. There are several other smaller enhancements such as the Quick Align feature that enables users to quickly align multiple objects to each other or to a defined center point. The Array Preview function draws only the bounding boxes of arrayed objects, speeding up rendering time in complex scenes.

Mental Ray 3.3 forms the core of the rendering engine of VIZ. It is capable of photorealistic lighting effects along with advanced features such as High Dynamic Range (HDR) lighting, transparent shadows, physically accurate global illumination, etc. In enterprise scenarios, it can distribute rendering jobs of up to 10,000 nodes.

Sharing your work is easy with the ability to publish to 3D DWF (Design Web Format), enabling other users without the program to view your creations. A feature called Communication Center shows up at the bottom of the screen, providing Autodesk-centric news, articles, information and support.

For: Several useful features that enable quick 3D visualization, photorealistic rendering, effective workflow and collaboration capabilities.

Against: Expensive.

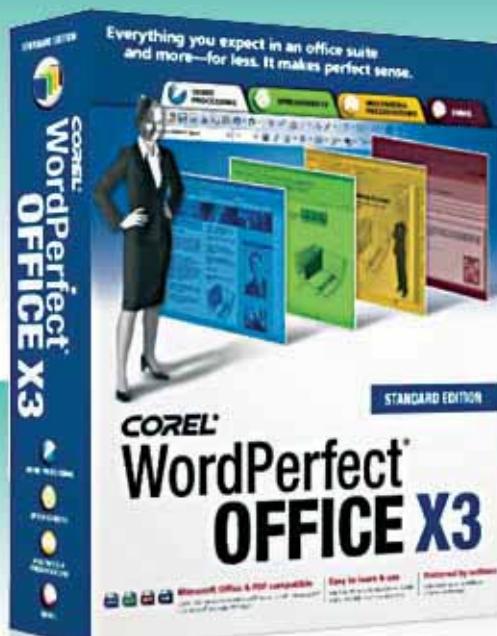
Office Suite

Corel WordPerfect Office X3

System requirements: Windows XP/2000/98 SE, 128 MB RAM (256 MB recommended), Pentium III 466 MHz or higher, 575 MB free hard disk, SVGA display with resolution of 800x600 or higher

Price	Rs \$289.99 [Approx Rs 13,100]
website	www.corel.com
RATINGS	
Ease of use	
Features	
Performance	
Overall Rating	
Value for money	

Find it on CHIP  CD



A well-suited office suite

Corel's office suite has been around and many will remember it from its older avatars. This time around in its X3 version, it promises plenty of functionality at an affordable price, while maintaining compatibility with common document and Internet standards. In this reviewed version, it contained WordPerfect (for word processing), Quattro Pro (for spreadsheets) and Presentations. Installing it was straightforward—the default installation took up about 641 MB of hard disk space. Individual components such as filters, graphics, writing tools and other utilities could also be added or subtracted during the installation. Files could also be copied to the hard disk to eliminate the need to use the setup CD. Corel's suite features tight integration with Yahoo's online services as is evident in the option to install the Yahoo Toolbar during the suite's installation. Through this you can access Yahoo's online services and WordPerfect's online resources.

When starting up each of the component applications, it allows you to select one of several modes. In the case of WordPerfect, it includes the WordPerfect mode, the Microsoft Word Mode, WordPerfect Classic Mode or WordPerfect Legal mode. This enables you to have a familiar environment, depending upon which office suite you are

accustomed to. This occurs in the other components as well—Quattro Pro offers to start up in Lotus 1-2-3 mode or Microsoft Excel mode, while Presentations offer to start up in Microsoft PowerPoint mode.

WordPerfect's word processing capabilities are quite comprehensive—besides its native format, WordPerfect documents can be published to HTML, XML, EDGAR (pure text) and PDF as well. There are plenty of other nifty features—documents have the option of being saved without metadata—a very useful feature that leaves out extraneous data from document files. The PerfectExpert is a task-centric Wizard-driven feature that steps users through creating a variety of documents through all of the component applications. In the case of WordPerfect, for example, it helps creating the content, formatting the document, adding visual elements, editing and proofreading to finishing the task. All these insights help simplify the process of creating good-looking portable documents, especially for novice users.

One of the defining factors about the WordPerfect Office suite is the numerous shortcuts throughout its interface. For example, buttons on the toolbar enable you to call upon recently used fonts and symbols without having to resort to the normal route.

Quattro Pro is the spreadsheet component of this suite. It features over 540 formulas from a range of categories including financial, statistical, engineering, string, database, mathematical, etc. It also features Excel-style pivot tables and also the capability to export data to SQL databases for enterprise applications. Owing to its similarity with Excel, it is quite easy to get accustomed to.

Like its name, Presentation is a presentation tool that allows you to create slides with text, graphics, sounds and videos, and spruce them up with a host of slide transition effects. Besides the ability to export files to Microsoft Powerpoint, it can also do PDF, HTML or XML formats. We found this to be a reasonably powerful tool for presentations, but it tended to fall short of the number of animation offered by a competing application like Powerpoint.

There is a professional version of this office suite, which includes a mail client, a database application called Paradox, the WordPerfect SDK and Visual Basic.

For: A good set of features for general office applications; thoughtful inclusion for speeding up work.

Against: Components like Presentation are not as powerful as those from competing office suites.

Cinema on your PC

With powerful audio and video capabilities in computers today, it is possible to enjoy a cinematic experience out of your very home PC, minus all that fancy home theater equipment. WinDVD is an application that pioneers DVD playback on home computers with a full basket of features that rivals most consumer DVD players. In its newest version, it extends its range of capabilities with high-definition H.264 support, MPEG-4 (DivX) playback and support for a host of audio and video processing technologies.

Sporting a simple interface, it is functional and allows easy access to its many features. Resembling a conventional DVD player, the standard DVD control buttons are easily accessible as part of the main interface and can also be pulled out to a separate panel on screen. The settings menu allows access to its many audio and video features such as the speaker controls (ranging from stereo to 7.1-channel), advanced video processing like the

TrimensionDNM which reduces blurring during fast-moving video sequences and several audio effects that simulate real-world concert halls such as the Sydney Theater, Chicago Theater, etc. We found these effects to be interesting, but their efficacy is subject to individual taste—we tired of them after a while and reverted back to the standard playback mode.

Among the newer features, the application also supports Universal PnP (UPnP) devices by which it can access audio and video content on compatible networked devices—ideal for connected digital homes. WinDVD 7 can also create content on mobile video playback devices like the iPod, the Sony PSP, PDAs and mobiles. However, several of these features are only available in the Gold or Platinum version.

For: Comprehensive support for the latest audio and video standards.

Against: The more exciting features need to be purchased.

Thin and light audio

With most of your personal MP3 collections spanning several gigabytes, it's all too easy to get lost in all of that music. Over time, we tend to listen to only the newest tracks or to those that are most easily accessible. Some music players such as Apple's iTunes changed this by allowing your music files to be tagged and called up in a way that enabled easy access and more thorough access to your audio and video collection.

Like its name, the Quintessential Media Player is a nifty little tool that aims to be a one-stop audio file management and playback tool. Coming in at a mere 3 MB, it's one of the smallest audio players you can download. After using this player for a while, we found it is also one of the most feature-packed. Besides support for video standards like MPEG, M2V, M1V, AVI, WMV and ASF, it does everything from organizing your digital audio files (MP3, WMA, Ogg, WAV etc) files based upon parameters such as file names, artistes, albums, genre, duration, etc. It allows you to tag audio files and then sort them according to any

of these parameters. It supports queuing of tracks, cross fading, creating playlists, visualizations, etc. You can also rip your audio CDs to MP3, OGG, WAV or WMA using various constant and variable bitrate settings. You can even use it to record directly from your soundcard's line-in port. The built-in Gracenote functionality allows the application to pull down album information from the Internet during ripping and audio CD playback.

The application is easy to use with indicative icons and plenty of right-click functionality. Learning its capabilities is a snap as most functions are indicatively labeled. Unfortunately, there are no real help files and even the link to the online web site results in a page under construction.

With a good collection of audio and video management capabilities, this is a good digital audio playback application.

For: Plenty of audio playback; ripping and management features; low system requirements; free.

Against: Lack of help resources.

Audio/Video

WinDVD 7



System requirements: Windows XP/2000, Pentium III 500 or higher (Pentium 4 2.4 or higher for HD playback), 128 MB (256 MB recommended), 75 MB free hard disk space, normal or widescreen display, video card with 24-bit resolution and DirectX compatibility, stereo or multi-channel soundcard

Price \$49.95 (Approx Rs 2,150 - Platinum version)

website www.intervideo.com

RATINGS

Ease of use	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Performance	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Overall Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Value for money	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Find it on CHIP DVD

Media Player

Quintessential Media Player



System requirements: Windows 2000/XP, 128 MB RAM or more, 10 MB free hard disk space, stereo sound card

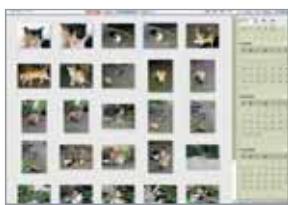
Price Free

website www.quinnware.com

RATINGS

Ease of use	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Performance	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Overall Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Find it on CHIP CD

Photo Manager**Jet Photo Studio 2**

System requirements: Windows 2000/XP, Pentium III 800 or higher, 256 MB or higher, 1 GB or more free space, graphics sub-system with 24-bit color support

Price Free
website www.jetphotosoft.com

RATINGS

Ease of use	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Performance	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Overall Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Find it on CHIP CD

E-mail Client**Eudora 7**

System requirements: Windows 98/2000/Me/XP, Mac running OS X or later

Price \$49.95 for Paid mode
website www.eudora.com

RATINGS

Ease of use	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Performance	<input checked="" type="checkbox"/>					
Overall Rating	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Find it on CHIP CD

Your photos everywhere

To use Jet Photo Studio 2 you need to first import your digital images into Jet Photo 'albums'. This is done by the large button on the main interface. After dragging and dropping folders or individual files from your hard disk, a new album is created. There is no support for RAW or TIFF files but these files are automatically converted into JPEG format while importing.

The interface consists of two parts—a left panel that contains the thumbnails of the photos in the album and a panel on the right that displays a range of information. Beside thumbnails, you can view entire albums or view individual images in the left viewing panel. On the right, you can view the image file information (such as the photo details as recorded by the camera or scanner), you can add notes to photos and tag them with indicative words that can later be used to search for similar sets of photos based on defining characteristics. Since the images are automatically organized by date, it is easy to search for

photos you've taken between date ranges.

More than the photo management capabilities, it incorporates GPS support by integrating GPS information with the timestamps of the photos in its albums. The application recognizes handheld GPS devices like those from Garmin and Magellan. It even allows downloading maps from online map resources. The JetPhoto Server feature is an open source photo publishing service that allows publishing to online personal photo albums. It even resizes your photos before publishing to the web. When it comes to sharing your photos, you can create images for a variety of devices such as a PDAs or cell phones. This functionality is enabled through the MobileReady feature that allows you to select portions of your photos to fit into smaller screens.

For: Plenty of functionality for publishing or exporting your photos to other devices; free.

Against: No support for TIFF or RAW files.

Supercharged e-mail

In its newest versions, this popular mail client from Qualcomm features a host of interesting and very practical features. First up, there are two modes in which Eudora installs—in Paid mode (where it needs to be registered) and in Sponsored mode (no registration required, where advertisements are displayed and additional features like integrated Spam protection are absent).

After installing the program, a wizard steps the user through configuring a mail account for the first time. This includes standard tasks such as setting up the username and password, defining the POP3 and SMTP servers for incoming and outgoing mail, etc. This done, the interface is almost identical to any other e-mail client with the folder listing on the left and the message windows on the right. The folder listing on the left has tabs at the bottom that offer access to often-used tools like a file browser, signatures, stationary and personalities. Personalities is a feature that lets you define characteristics of your mail to reflect different situations—for

example, you could create a 'Business' personality that could have a different stationary and signature compared to a 'Casual' personality. This is a good feature while sending mails to different groups of people within your contacts list.

The program's options are accessed through the Tools menu. From here, you can access a range of categories including mail checking, incoming/outgoing mail, composing, dialup settings, fonts, display, spell checking, etc. These sections are in the form of icons on the left, with their individual configuration options on the right of the box, making them easy to access. This release of Eudora Features enhanced search capabilities, making it easier to locate content in e-mails. There is also a feature called BossWatch which allows you to flag important contacts to avoid accidentally sending messages to them.

For: Easy to install and configure; plenty of features over other free e-mail clients.

Against: Advanced features require the program to be registered; AD bar present in free version.

Sentry while you surf

Outpost Firewall Pro is a Firewall application that offers a good set of additional tools for tightening your protection against network-based threats.

Installation is simple—during the process, it offers automatic configuration or a wizard-driven interface that steps you through setting up the various parameters. Before completing installation, you can access the 'Advanced' section which allows last-minute configurations. For example, you can set up the program to run in Normal mode or Background mode. You can also define which applications are blocked, partially allowed or trusted. Additionally, there are other advanced networking and policy parameters that can also be configured. The program restarts the computer after installation. During the first reboot if it encounters any change in the way installed programs access the Internet, it alerts you and allows you to decide what to do. There is also a 'Quick Tune' plug-in that integrates with Internet Explorer and

blocks graphics banners, advertisements, ActiveX scripts and applets, resulting in quicker web browsing. Finally, there is an in-built spyware functionality that can be enabled. This offers both real-time as well as on-demand spyware scanning.

The main interface is simple yet effective. The left bar contains two primary sections—the Internet and Program Plug-ins. Entries under the first section include Network Activity, Open ports, Allowed and Blocked applications. Clicking on any of these displays its contents in the right panel. From here, you can modify settings in each of these areas.

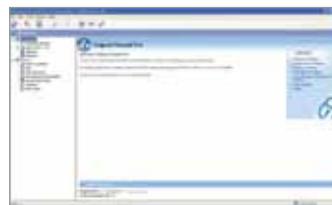
Most useful is the Plug-ins section, which contains a host of utilitarian add-ons such as active content scanning (scripts, ActiveX etc), AD blocking, anti-spyware, attack detection, content filtering, etc. This provides a one-stop set of tools for protecting your online experience.

For: A good set of protection tools besides firewall functionality.

Against: None.

Internet Security

Outpost Firewall Pro



System requirements: Pentium III 233 MHz or higher, 32 MB RAM, Windows 98/2000/XP or 2003 Server, 30 MB free hard disk space

Price \$39.95 (Approx Rs 1,800 - Single license, 1 year of updates)
website www.agnitum.com

RATINGS					
Ease of use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Find it on CHIP  CD

Forget passwords

If you are tired of entering the password each time you log on to Windows then get your hands on this software. Instead of using a password, you can use your fingerprint in order to log on to your system.

Before you install the software you will need to install a compatible fingerprint reader on your machine. The installation of the software is done very quickly and your fingerprint will be scanned and associated with your user name.

During the configuration stage, the application will automatically instruct you when to place your finger over the fingerprint reader. Once the scanning is done, you can then decide whether you want to continue using password to log on or just use the fingerprint authentication.

The most noticeable feature of this software is that if you have multiple users using the same system, then it will permit each of the users to associate separate fingerprint authentication with their respective user names. So even if your

password is cracked by someone he or she will not be able to gain access to your system as the fingerprint won't match. You can even encrypt your files using this software.

Another feature of this software is that it protects unattended desktop with a fingerprint encrypted screensaver. It even allows encrypted wire transfers for authentication between servers.

On the flip side, support for biometric devices is limited only for those from SecuGen Biometric Solutions.

This software will be very helpful for those who have a short-term memory and have difficulty in remembering numerous passwords for several purposes. So forget about remembering passwords anymore and simply log on by using your fingerprint.

For: Ease of use; support for multiple fingerprint authentication for different user accounts.

Against: You need to have biometric devices from SecuGen installed on your system in order to use this application.

Security

Tutis Authentication Systems



System requirements: Windows 2000/XP, Pentium III or higher, 128 MB RAM, 50 MB free hard disk space, supported biometric sensor

Price Rs 7,000 (including SecuGen fingerprint reader)
Contact AmexIT Limited
Phone 022-28571485
E-mail biometrics@amexit.com
website www.amexit.com

RATINGS					
Ease of use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Features	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Performance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Overall Rating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Value for money	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Find it on CHIP  CD

Technology on Wheels

The automobile industry is increasingly turning toward technology to enable more powerful and effective onboard systems. These embedded systems promise ever greater amounts of comfort and security

Today's cars are using plenty of technology under their skin. This is not only to make your ride more pleasant, comfortable and faster, but also to protect human lives. In many high-end commercially available cars, systems such as radar, night vision and a plethora of sensors around the car process information from the external world and represent them inside vehicles through dashboard screens and display systems to arm the driver with more decision-making information. These electronic systems process enormous amount of data in real time and warn of impending danger or threatening obstacles outside the vehicle. If the driver doesn't respond in time, the vehicle is even capable of engaging itself and intervening automatically—much like an autopilot! No longer fiction, these systems are already in today's cars. The International Motor Show in September last year that took place in Frankfurt saw the launch of the new Mercedes S-class as their flagship vehicle with several of the systems described here.

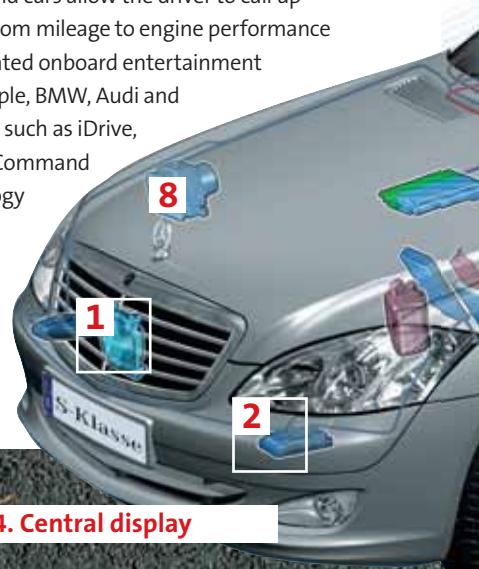
The revolution within

The inevitable marriage of electronic systems with the automotive world has translated into greater fuel efficiency, lower gas emission, spiffier performance and greater onboard comfort even in today's more affordable cars. Professor Harald Heinecke of BMW states that today's automobile systems extend over many borders

where many of its functional units are controlled by separate onboard computers that are, in turn, linked together by powerful networking systems. All of this closely resembles the functioning of a high-tech office where component sections work dedicatedly on specified tasks, but all of them communicate with one another to enable the entire unit to orchestrate as a single, efficient entity.

One of the biggest challenges is to bridge these systems and to provide the driver with an interface that is user-friendly, intuitive, responsive and comprehensive enough to allow access to the vehicle's systems. Using innovative tools such as jog dials and strategically placed TFT screens, today's high-end cars allow the driver to call up virtually any kind of information from mileage to engine performance characteristics to even voice activated onboard entertainment and navigation systems. For example, BMW, Audi and Mercedes use proprietary systems such as iDrive, MMI (Multi Media Interface) and Command respectively. So when did technology begin to make such significant inroads into automobiles?

It began during the early 1990s when cars started featuring the CAN-bus



1. Distronic



This new braking system works with the driver to maintain a fixed distance to the car ahead. If this distance is reached, the car can automatically apply the brakes and can even bring it to a complete stop.

2. Headlights



In the vehicle's night vision system, infrared lights supplement the low-beam to reveal pedestrians and animals in the car's path. It does so without dazzling the oncoming traffic with unnecessarily harsh light.

3. Command



With the cockpit management and data system, the driver has access to the car's onboard systems via an intuitive rotary button which is used to scroll between menus in the embedded dashboard screen.

4. Central display



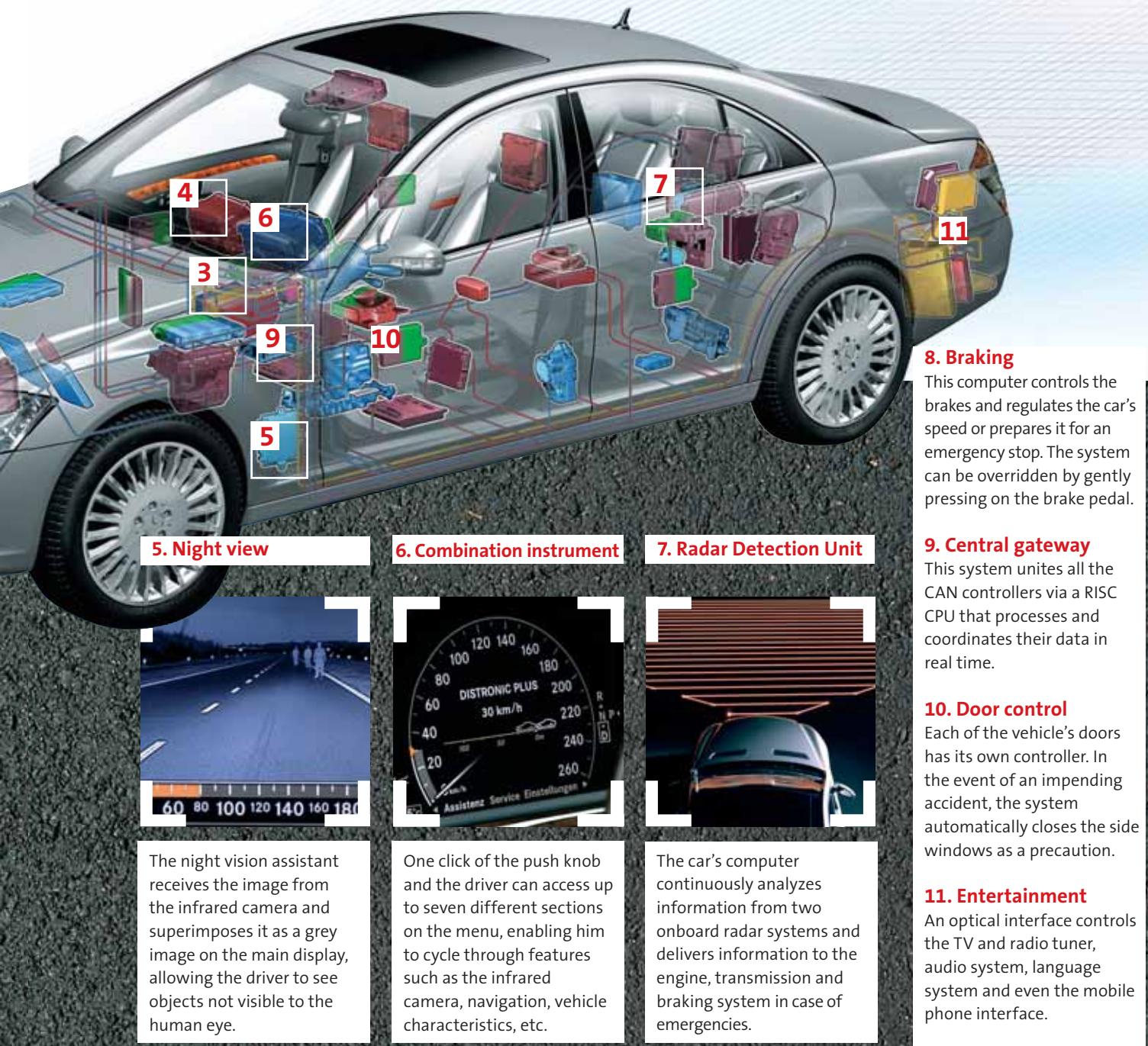
This tilt-able display features photo-realistic images of various functions and is used to control a host of driving characteristics including maintenance, navigation information and vehicle response.

(Controller Area Network) which was a high-performance serial interface technology used in real-time applications, as is required in automotive applications. Developed by Bosch, this technology paved the way for the more advanced systems as are seen in today's cars. In the past, these control systems were implemented using copper lines, but today they have evolved into fiber optic communication networks. In present-generation cars, the MOST (Media Oriented Systems Transport) system is a very high-performance automotive communication system implemented in the form of a ring network using fiber optic cables. When it comes to passenger safety, other systems like Byteflight enable data rates of up to 10 Megabits/sec and are used for onboard safety applications like airbag deployment, seatbelt tension, etc. Among present-generation trends,

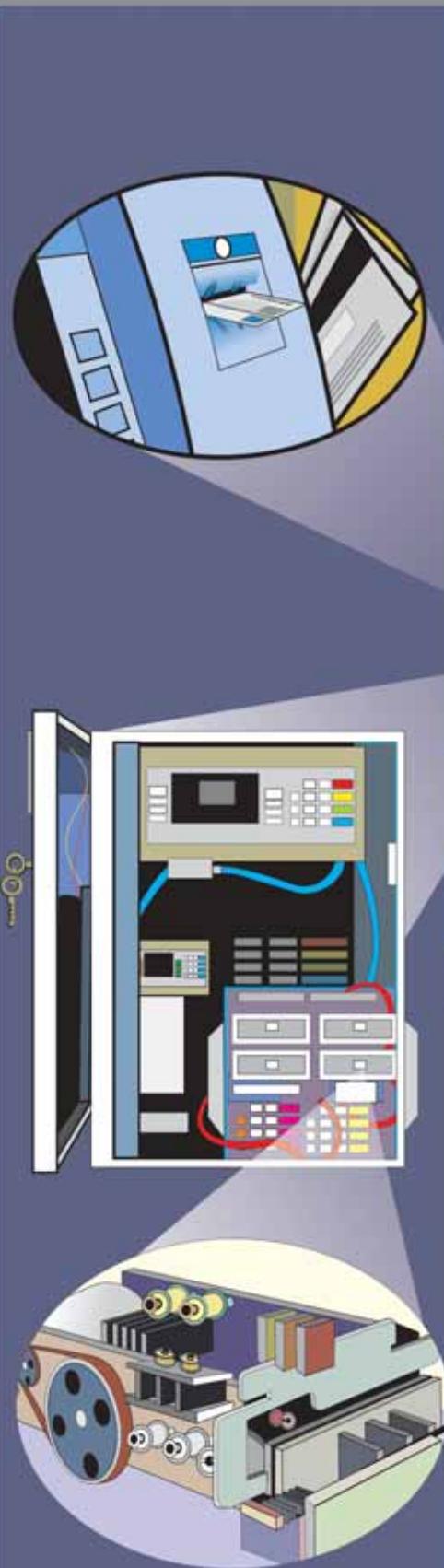
Flexray is a newly-created automotive network communication standard that is supported by a consortium consisting of such giants as BMW, Volkswagen, Daimler Chrysler, GM, Royal Philips Electronics, Freescale, etc. This system will enable x-by-wire (i.e. drive-by-wire, steer-by-wire, brake-by-wire, etc) in upcoming cars. Yet to be implemented, it has been demonstrated as being superior to both CAN and MOST in both price and performance.

Plenty is changing—in the BMW Series 7, for example, the onboard software totaled about 70 MB when it debuted, but in the last six years it has already hit the 1 Gigabyte mark in its newest model. While all of these systems described here are awe-inspiring, be sure to see them in your next car—who knows, this could happen even a few months down the line! ■

| Manfred Flohr



How an ATM works



1. Reading information off the ATM card's magnetic strip

The ATM card has a magnetic strip on its back. It is similar to the magnetic tape found on cassettes. It is made of a combination of plastic and magnetic powder. Read/write heads similar to tape recorders are used to write information on the magnetic tape. The recorders have coils wrapped around special metals to make an electromagnet. Passing current through these coils generates a magnetic field which can magnetize bits of the strip. The strip can have many north and south poles on it and their position and number are used to encode information such as your name and account number.

The card when inserted into the ATM machine is read with a similar device that wrote it. The magnetic strip when moved over the read head induces voltages in the coils and these can then be amplified and recorded electronically. This information is then sent to the computer.

4. Dispensing the cash

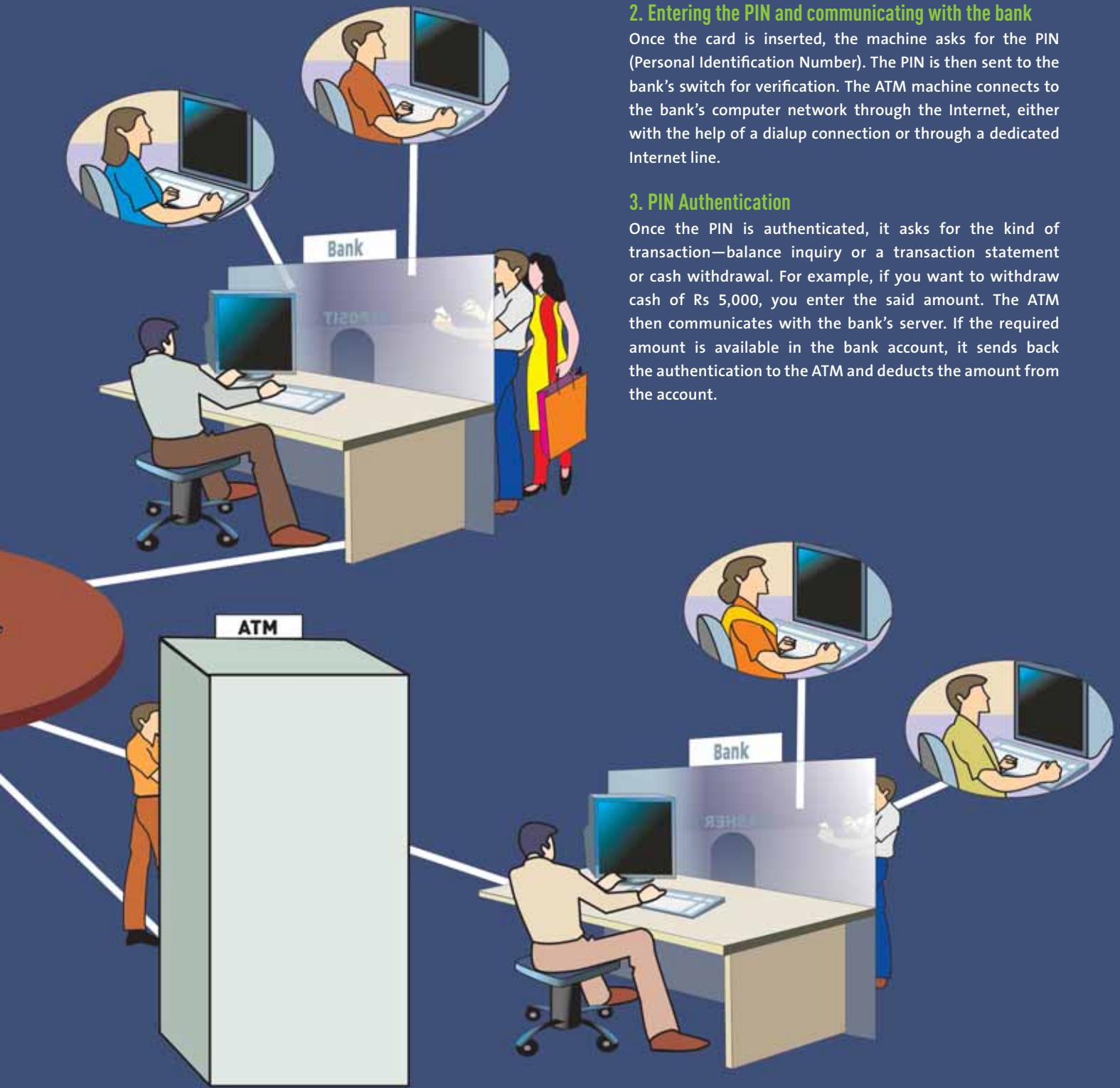
The lower bottom corner of the machine is the cash dispensing section. It has an electric eye that counts each bill as it exits the dispenser mechanism. All information about transaction is recorded such as the number of notes. The recorded information is stored over a period of time so that in case there is any dispute about a transaction, one can refer to the logs.

Besides the electric eye, the cash dispensing mechanism also has a sensor which measures the thickness of each bill. In case there are two bills stuck together, they are diverted to a reject bin. The same applies for bills which are torn or folded.

5. End of the transaction

If the customer asks, he gets the receipt of the transaction. The ATM screen reflects the balance after the transaction and the card is returned to the user at the end of the process.

ATM stands for “Automated Teller Machine”. Even though the “M” stands for machine, people still refer to the ATM as an ATM machine. ATM is also referred to as “Any Time Money”. The ATM provides you 24-hour access to money.



2. Entering the PIN and communicating with the bank

Once the card is inserted, the machine asks for the PIN (Personal Identification Number). The PIN is then sent to the bank's switch for verification. The ATM machine connects to the bank's computer network through the Internet, either with the help of a dialup connection or through a dedicated Internet line.

3. PIN Authentication

Once the PIN is authenticated, it asks for the kind of transaction—balance inquiry or a transaction statement or cash withdrawal. For example, if you want to withdraw cash of Rs 5,000, you enter the said amount. The ATM then communicates with the bank's server. If the required amount is available in the bank account, it sends back the authentication to the ATM and deducts the amount from the account.

New Age Malware

Viruses have found a new victim—the smart phone. Anti-virus is available for them but do you really need to be worried?

We were busy brainstorming in one of our many editorial meetings; it was well past our lunchtime and some of us were quite understandably getting restless. A few continued with their ideas, backing them up with facts and figures while others took turns betting on the menu in the canteen that day. In the middle of this, one of our (hungry) reviewers received a text message. It turned out to be a spam message sent via Bluetooth. He had forgotten to turn Bluetooth off after transferring files from his computer. Our attention now shifted from filling our empty stomachs to the source of that trash Bluetooth message. Eliminating those who did not have Bluetooth enabled phones, we finally homed in on the culprit—our unsuspecting illustrator. His mobile phone was infected with a Trojan that was periodically sending rubbish messages via Bluetooth to neighboring devices. The poor old chap was quite embarrassed and completely at a loss as to how he managed to contract this pest on his phone. There are many more like him, naive and clueless of this new menace—mobile phone malware. If he were a little more careful with his “connectivity settings”, he would not have faced this problem in the first place. The infection was not a dangerous one—he did not lose any information but if his phone could be so easily infected then it could be open to smarter intrusions. To drive my point home, enable Bluetooth on your phone in a public place (a restaurant or a park) and search for more devices in the area. There will be phones that might require authentication (with pass codes that can be easily guessed) or ones that will willingly pair up with your device!

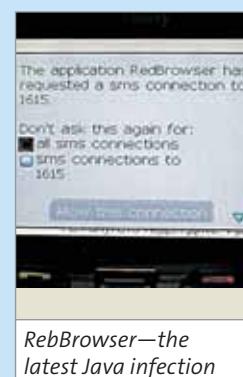
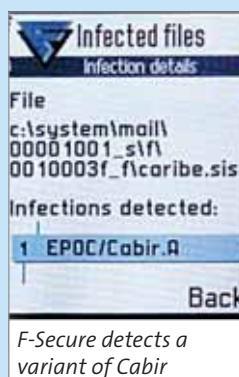
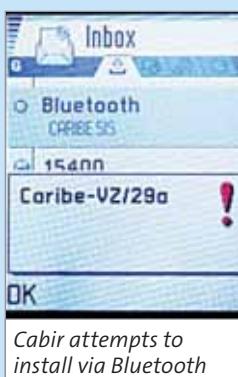
F-Secure, a Finnish anti-virus company did something similar but on a much larger scale by conducting a Bluetooth test in CeBIT (held in Hannover, Germany) this year. They built a “Bluetooth honeypot”—a device with a 100-meter range that identified itself as a phone in discoverable mode. The honeypot was capable of identifying the devices found in its vicinity—ones that had Bluetooth, enabled or not. By the end of the trade fair, which goes on for a week, it had

identified 12,500 unique devices—that's almost 1,800 devices a day! The trade fair was the perfect playground to spread malicious code, overwrite system files, SMS premium numbers et al. This did not happen because the honeypot was only designed to identify the devices within a hundred meter radius but it can be used to accept file transfers and scan for viruses. F-Secure hopes this concept will be used to scan devices at check points in enterprises to curb the spread of any mobile viruses. But are there so many mobile viruses out there in the wild or are they just being a little too paranoid? Many still discount the mobile phone virus scare as one that is over hyped. Even as the skeptics continue to voice their opinions, anti-virus organizations have released products aimed at protecting PDAs (handhelds) and smart phones (using the Symbian or Windows CE/Pocket PC/Mobile OS). Does this really mean that there is a cause for concern or is it just another ploy to feed off people's paranoia?

Evolution—a natural process

The story is quite simple—ever since some brilliant scientists brought computing power from the mainframe rooms to our desktops, we have learnt to rely heavily on the machines. It didn't take time for another bunch of intelligent minds to cook up programs that could get hold of the personal information stored on your computer. It was time to turn to anti-virus software to prevent them from causing havoc on your office or home machine. And if that weren't good enough the next resort was installing a firewall. Next, spyware made its appearance, wreaked havoc on desktops with rootkits toeing the line.

The reason for so many attacks is the increasing number of desktop and notebook users. A regular desktop or a notebook holds personal records, e-mails, documents, pictures, etc. Handhelds being able to store the same sort of information are being exposed to the same risks today. With convergence as the buzz word, smart phones are becoming more popular. Be it a Palm Treo, a Blackberry, an O2 or a simple Symbian Series 60 phone, everyone wants to be the proud owner of these devices because of the



sheer computing power they provide in your palms. But like everything else, convergence too has its share of disadvantages.

The mobile world was unaffected by viruses and worms till two years back when anti-virus companies reported a mobile phone worm that could spread via Bluetooth connections. The worm names "Caribe" appeared on many phones as "Cabir.A". Even though Cabir.A was written by coders who just wanted to show what could be done to any Bluetooth-enabled device within a 10-meter radius. Nothing stopped others from taking advantage of this concept and soon there were variants of it infecting mobile phones.

Ever since then there have been cases of Trojans, worms and malware infecting mobile phones all around the world. The numbers might not be staggering since their footprints are sometimes limited to a country's service provider or the language. The Delf Trojan, for example, infected PCs around the end of 2004. It made use of Russian text-messaging services to send SMS to mobile phone users—another form of spam. In the same year the "Mosquito" virus affected Symbian-based Series 60 phones. The virus seemed to originate from pirated copies of a mobile game. The game company took ownership of that "virus". It had been planted to send information to their servers (in the form of text messages) of the use of illegal copies. The company had to remove this from the game after they received complaints.

Java-based Malware

The list of infections might not be as long when compared to the PC-related attacks but there have been cases where Trojans (known as PbStealer) capable of

I Different methods of protection

Third party software applications

Installing anti-virus software made for the mobile OS. Trend Micro, F-Secure, Kaspersky Lab, Symantec, McAfee offer anti-virus and/or firewall solutions.

End-to-end solution

Usually used in a corporate scenario where the service provider offers secure connections and protection from spam in the form of messages, mail and suspect files.

Built-in security

The smart phone's operating system is built with fire-fighting and preventing skills. The phone manufacturer might either use a third party software to help to use its engine or create its own security layer in the OS.

stealing personal information from smart phones have been discovered by anti-virus companies. A lot of us store our account numbers, passport details, PIN codes on our phones. Phones that make use of more services like e-mail, voice mail, etc are more susceptible to Trojans.

Last month, a Java-based infection called Redbrowser.A infected Symbian-based Series 60 and 80 phones by posing as a WAP browser that uses free text messages. It in fact uses only "premium" phone numbers and continues sending random messages till the service is terminated explicitly. The end result is a fat bill! Right now, it seems to have affected phones in Russia but the moment these infections start crossing network and language barriers users will face problems. The F-CommWarrior worm, for example, has been reported in five countries like five countries (including India) while Cabir has been sighted in 24. As you can see, worms are going international and at a rapid pace.

There are some minor infections as well to tackle, annoying nonetheless. While some might send you random text messages, others might wipe off all system fonts when you restart your phone or replace all the icons in the Menu with skulls. And in case you think Windows-based smart phones are unaffected, don't be so sure. Reports on malware designed for CE/Pocket PC/Mobile 5.0 might be less in number but there seems to be enough room for intrusions, especially with the arrival of Java-based applications.

The Mobile Anti-Virus Researchers Association has reported a new kind of virus called "Crossover". This one infects a Windows Pocket PC when it syncs with the infected computer. Do not panic, this is another one of those concepts that demonstrates the chinks in mobile devices. The need of the hour is observing caution when reading mail or opening attachments from unknown recipients. If the threat increases over the next few years (as more smart phones are bought), we will find ourselves updating our anti-virus software on our phones.

| Ashutosh Desai



Bloggers' Park

Today, blogs influence public opinion as much as any other medium. And it is more serious than you thought

Among all the things this decade witnessed in the Internet world, one of the chief was reposing some of the power of the press in the hands of the common people. Weblog, more popularly known as blog is World Wide Web's gift to all those in search of a platform to express their opinion. Blogging defined the concept of "personal space" on the web. But what started as a simple medium of expression has extended to a massive podium of sorts consisting of people involved in discussion of issues ranging from the serious to the flippant and influencing public opinion at the universal level.

Blogging is publishing your thoughts as quickly as a whim catches your fancy or when the mood strikes. The reasons for writing blogs could be simply to communicate—to share professional and personal experiences, to give vent to injustice (recently we have had bloggers spewing fire at the Patiala High Court's decision of acquitting all nine accused in the Jessica Lal murder case), to kill boredom or to basically experience the joys of writing. And it becomes easier to post notes and comments when you are clued about where your interests lie, whether it is politics, travel, food, media and entertainment, and the like.

Transgressing the frivolous

Blogging started a trend a few years back encouraging the young and enthusiastic netizens to establish a community of sorts. But it has not remained confined to being a hobby or a way to pass time. Blogging today has become bigger than bloggers themselves—what with the scope the Internet provides to let each and every one part of the "blogverse" as some call it, be voyeuristic in their respective fields of interest. The open source approach has seemingly become the most favored modus operandi in writing blogs about something as serious as finance. Did we ever think the Internet would allow us to be liberal, unsuspecting monetary voyeurs? With a rising

number of people being either too lazy, or too busy, or simply incapable of managing their money, it is but natural to turn to the bloggers providing first-hand account of managing their finances.

Today there are hordes of young bloggers opening their finances for all to see and learn from. MyMoneyBlog.com comprises 150 bloggers within the age group of 22 to 35 taking the open source route to discussing personal money management. The only thing they keep secret is their names. Once you visit his site, Jonathan Ping, a 27-year old engineer tells you he is no financial guru, he doesn't do seminars or writes books. But he is honest and open about his financial life. Ping's idea is to optimize different and unique money making ideas. After all everybody loves money and it affects everyone. His finances have accelerated thanks to readers and fellow bloggers; his net worth increased by \$30,000 in one year, and he says he only worked for about half it. Ping puts it very succinctly, "If I mess up, you will know. If I come across a neat way to make or save money, you will read about it here. If others would like to follow the ride, that's just awesome. Hopefully we'll learn from each other and meet up in the Caymans some day."

The most interesting thing about Ping's blogs is that whenever advice is sought from him on a particular scenario such as how to meet steep credit card bills, he brings the question up for all fellow bloggers by posting it and seeks suggestions from them. Only when a consensus is arrived at, he posts the solution.

The catch line that strikes you as soon as you visit www.mymoneyforest.com is "Growing money is like planting a forest". Sounds interesting? Yes, to many of the 30-and-still-broke category of people, it would make sense. Also, getting financial advice from a bunch of people who are roughly of the same age group and who are making the same choices for achieving financial freedom simply by scanning through blogs is preferred as it also saves you the time from running to

financial pros. MyMoneyForest.com clearly states that the onus doesn't rest on the owner of the site for investment losses incurred by readers/bloggers. After all, it is only a mechanism of picking up tips and thereby helping one another grow wealthier. A look at www.adrini.com and you have an inspiring tagline, "Our goal: Let money work for us". Instead of looking to scrimping expenses, bloggers are encouraging reorganizing finances to let the money tree grow faster. Blogs on Adrini are updated six days a week, where bloggers talk about their experiences on real estate, stocks, how to earn money sitting at home, and the latest dope on finance from new book releases.

But getting people to chat about and share investment details on the web is reflective of a nouveau pattern in stark contrast to earlier times when taking about one another's incomes and investments was a big no no. If not changing times, bloggers have certainly redefined financial behavior.

Knowing that blogs provide useful dope on media, food, travel, etc, most people these days resort to reading up experiences narrated by bloggers about a city or country before venturing out to visit them. When there's a plethora of information out there, it only makes sense to cull them out and use them to your own benefit. But considering the web is not denuded of junk, it is only better to go to recommended blogs or the most famous ones. www.vagabonding.com rated once as the best travel blog on the web by forbes.com is a round-the-world travelogue created by Mike Pugh. All of Mike's trips through Asia and East Africa between October 2002 and November 2003 are updated on the site. The interesting thing is Mike updated all the information while on the road. All the travelogue, video and photo entries can be accessed from the archives while random entries fill up the home page. Ed Sullivan who traveled around Central and South America on his bike has journals of his travels updated on www.edsgonesouth.com. It is useful information for anybody wanting to visit these places.

| Making news, breaking lives

An incident of this order cannot escape the realm of this story. That's because it gave everyone in the blogosphere a big jolt. When Gaurav Sabnis from Mumbai posted comments questioning the credibility of the Indian Institute of Planning and Management, a leading Indian B-school, the dean Arindam Chaudhary did not sit quiet. Not only did he send him a legal notice, but in his e-mail he threatened Gaurav to make a bonfire of all IBM laptops outside the IBM office in Delhi if action was not taken against him. IIPM happened to be IBM's customer and Gaurav, IBM's employee. Without wanting to put his employer in a state of crisis, Gaurav resigned from his job.

The incident sent shock waves across the bloggers' community. They argued about the right to freedom of speech and demanded that action be taken against the required people, and democratization of opinion is restored. The incident acquired volatile proportions but it reiterated once again the fact that after all at the end of the day, it is truth that will prevail and the Internet as a medium will only help to express and establish it.

Contextual blogging

With the world going gung-ho about blogging, how can hotmail king Sabeer Bhatia be far behind? During his recent visit to India, Sabeer Bhatia and Shiraz Kanga briefed the media about their latest venture on blogging called BlogEverywhere.com. Bhatia said, "About 80 percent of Fortune 200 companies have space devoted to blogs for source of information. This means that blogging has moved away from being just frivolous, it has evolved as an important tool in dissemination of information and influencing opinion around the world. Blogeverywhere.com will help users with a multi-purpose browser-based toolbar." The idea for this blogging website, says Mr Bhatia, was conceived in the US and has been developed at KPIT Cummins' development center in Pune.

For today's young generation, the

Internet has replaced the television. And we are headed for an Internet demanding more and more user participation. The blogEverywhere toolbar was conceived understanding this phenomenon. With this toolbar you will be able to post your piece of writing on the web page. However, it begs to differ from the other 27.2 million blogs all around the world. This toolbar brings "context" to blogging with the "read" and "write" buttons, which means you don't have to blog to get an audience. You can give your opinion on the topic defined on the web page. Users can search for and read other people's comments on any topic on the BlogEverywhere site. Users will also be able to surf the web using search engines of their choice. The toolbar is equipped with several other features like ratings, RSS Feed Reader, etc.

BlogEverywhere has been designed to take advantage of the potential of Web 2.0, which believes in democratization of the web. Mr Bhatia reiterated, "With India being at the cusp of understanding the power of blogging, it made sense to create something that will help them leverage this in the right direction."

As kids we remember reading about the power of the pen, today it is certainly the power of the blog, and why not after having brought about a paradigm shift in communication. It remains to be seen now how the blog community around the world wields this power in the best possible manner. Watch this space for more action in this sphere... ■

| Sharmistha Dey



Data Forever

Will our digitized works of print be subject to the ravages of time? The question looms large as newer ways to protect data spring up





It may be presumptuous of us to link our holiday snaps with cultural works of art and human history, but these mediums face a similar dilemma, that of erosion with time. After more than 20 years, our highland landscape pictures will no longer hold the lush greens, and our prized once-in-a-lifetime snap that warrants artistic merit would have faded and would have lost its luster.

In our libraries, many written works are vulnerable to fading, tinting and general wear and tear. The recent flurry of media transference (to electronic backup) has brought about issues of longevity (apart from criticisms over copyright and version/edition control). It is still an imprecise science to measure the lifetime of a CD, as it would invariably be subjected to wear and tear before its 100-year storage integrity can be verified. Also, conservative estimates have narrowed the longevity of CD-ROMs to between five and 10 years.

Every year, the world produces more than 1 million gigabytes of information stream—only 0.003 percent of which originates from written or printed works. A large portion of the information consists of photographs, animation, video, audio, graphics and various amalgamations of multimedia. Many of these works are of cultural importance and should be preserved for our future generations.

According to Clifford Stoll, an American astronomer and data protection specialist, and author of the book *Silicon Snake Oil: Second Thoughts on the Information Highway* (1996), “Electronic media does not fare well in media archiving”. In fact, Clifford is not the lone voice of opposition in this issue. “We cannot forget nor dismiss the importance of collective information,” says Dr Elisabeth Niggemann, Director General of Germany’s National Library. The threat of arbitrary information loss (or digital Alzheimers) through negligence or unavoidable data corruption would be disastrous to knowledge seekers.



Therefore, we need to ensure a way to protect information forever.

Apart from storing electronic publications, libraries around the world have been scanning their written work collections. The electronic archival of written works or “Retro Digitization” enables these valuable works to be stored in a more transferable and widely available medium for public access. In the first digitization centres at Muenchen and Goettingen in Germany, the *Gutenberg Bible*, one of the oldest surviving books printed (it is also the oldest handwritten work), has been scanned.

The Google Book Search Library Project (formerly Google Print) is a repository of library books culled from the libraries of the universities of Oxford, Harvard, Stanford, Michigan and the New York Library

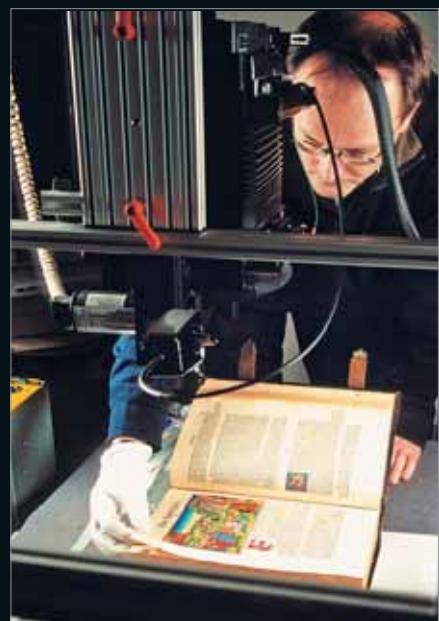
Steps, such as those initiated by Google and Amazon, have different goals. Large-scale digitization projects such as digitizing written works of art are mostly reliant on public support. The most significant project in this sphere is “Google Book Search”. The search engine giant has enabled indexed keyword searches within books, in addition to offering books in portion or in full.

Google has scanned books from major universities. Fifteen million books from the University of Stanford and the University of Michigan have already been digitized. The University of Harvard and the New York Public Library also contributed a portion of their book collection. The project is massive although much of it has been delayed due to the unresolved issue of copyright between publishers and writers.



THE NASA SYNDROME

When America reaches out to the moon again in 2018, they have to start from a vantage point of nil. Old data from previous missions have been destroyed and have become unreadable. Right: The Gutenberg Bible being scanned for future generations to view in digital form



Automated scanning: Google employs manual labor scanning but research has been made into employing robotic copiers which can automate the task of turning pages and scanning.

Apart from safeguarding the integrity of scanned data, there is also the need to prepare the data as meaningful and searchable information. Without the metadata of additional information regarding the writer, publisher, publication details, keywords and other information, the origin and source of the written work may be lost forever.

Here is an example of how bad digital Alzheimers can be. By the year 2018, when America sends four more astronauts to the moon, the initial moon landing by Armstrong and Aldrin more than half a century ago would have been but another milestone blip in earth's space exploration efforts.

NASA hesitantly disclosed the tragic reality of digital data integrity and archival standards. In the mid-90s, 1.2 million magnetic tapes filled with three decades worth of space flight information has been rendered unreadable due to improper archival policies. Tapes were not cataloged, unlabeled or damaged due to humidity and floods. There was no proper mechanism to archive these tapes



Dr. Elisabeth Niggemann,
Deutschland National Library

"We cannot let digital Alzheimers propagate"

and renewed cataloging efforts (not to mention full-scale medium transfer so that new hardware and software could read the data) would cost NASA millions of dollars and thousands of hours of time.

Around 20 percent of the information culled during the Viking mission to Mars in 1976 was damaged because the media that stores the data became unreadable. In 1979, the data generated by the Pioneer space probe on Saturn was stored in the form of magnetic tapes. Even though four different media was used, two decades of wear and tear ruined the information.

NASA no longer has the capability to sift through the information gleaned from that mission.

And therefore the need to manage large chunks of data arised. NASA and Google ventured into a collaborative effort (with the onus on Google) to manage the enormous data. Google along with the NASA Ames Research Center set up a new complex at NASA's Research Park in Silicon Valley.

As long as the medium is not retired, the only barrier to reading data is software support. Even though the bits and bytes on any media can clearly be retrieved, the lack of software support to decode these data would render it as long strings of unfamiliar ones and naughts.

When Stephen Abrams, Digital Library Program Manager at the University of Harvard was asked as to how many kinds of data formats are there in the library, he was unable to offer a definitive answer. This is a dilemma that bears much weight. In his seminar, Mr Abrams detailed the problem by showcasing the national file format registry archives, which catalogs "every format in the world"; it features 3,189 file format extensions.

"This is not the end of it," Stephen Abrams reminded the crowd. Apart from exotic formats, there are many versions



FADING PHOTOGRAPHS

The oldest available photograph from the 60s (left) is still legible and clear even after exposure. Now we store snaps in the JPEG format on CD-ROMs and other medium (as seen above). A corrupted compression such as a misplaced bit error pictured above, would ruin the photograph completely

of the same format. The PDF format consists of 60 variants, many of which are incompatible.

"The ever-evolving industry insists on new programs that does away with legacy data support," comments Elmar Mittler, Head Librarian at Goettingen regarding the roadblocks faced by archivars.

At Harvard, 97 percent of electronic documents have been archived in nine common formats such as AIFF, ASCII, GIF, HTML, JPEG, PDF, TIFF, WAVE and XML. The remaining 3 percent are in other, more esoteric, formats.

There are several strategies in reading legacy data. The simplest is data migration, whereby data is converted to a newer file format by emulating the older hardware on new computers. A more effective method would be to hold a "museum" of sorts, where old hardware are (such as 5.25-inch disk drives or magnetic tape readers) maintained in order to read these data.

To reduce the risk of data loss, these data should be backed up to other media, such as magnetic tapes or CDs. The Internet is also a thinly-veiled black hole repository, which essentially means many sites containing useful and pertinent information would disappear as fast as they sprout up.



| John Kunze,
California Digital Library

“Unformatted text is the only data that we will able to decipher in 30 years' time”

Links

www.langzeitarchivierung.de

The authority network for long-term archival (Nestor).

www.gutenbergdigital.de

The Gutenberg Digital Bible

whatis.techtarget.com/fileFormatA/0_289933,sid9,00.html

An explanation of file formats available.

Restoration of data in the future: 'Error 404' is a common stumbling block when searching for web sites that are no longer available. For John Kunze of the California Digital Library, web site archival is a headache. "Only unformatted text would be readable by a computer in the future with as much integrity as it would be read now," sums up Kunze.

Original web sites are backed up in the ASCII format. In the future, when its multimedia content will have deteriorated, the text would still be preserved. The other option is to scan images for archival.

Document printed on paper lasts longer due to uncomplicated support. All you need is a source of light and you are able to decipher and comprehend the data printed on paper.

In this era of digital photography, CDs and memory cards have replaced film as the media of choice. But some are still drawn by the allure of film. Just as photographs are subject to fading or color erosion, CDs are also subject to ageing. According to production figures, CDs generally last for 100 years, but burning a CD would yield deterioration and shorten its longevity by less than five years. It is not without just cause that professional archive specialists conduct CD backups every year.



- 1) The panoramic photo of the Neuschwanstein Castle (as seen above) after being scanned by the Laser Scanner Imager which has a resolution of 20,000 rows of pixels. The scanner swivels at 360 degrees.
- 2) The Laser Scanner Imager and the panoramic camera mounted on a tripod.
- 3) Laser scan enables zooming into the frame to capture minute details.

Digital reproduction of monuments: If King Ludwig II were still alive, he would have been amazed at the phenomenon of digitally scanning and reconstructing Ludwig's famous Neuschwanstein Castle. With resolutions up to 5 mm, nothing has remained uncaptured from the 3D scanning camera. Even a fly on the wall is visible.

High-resolution cameras and the ever

increasing capacity of the media will continue to ensure the growth of such reconstructions as the one above. With books, documents, music and films being stored digitally, it is no surprise that even buildings and monuments can be "backed up" in a similar way and reconstructed to their original states.

"Usually what happens is it takes long to discover the problems in the historical

buildings that need restoration. In such cases, says Michael Suppa from DLR, it becomes difficult for us to restore the originality of the building. Therefore, we try to capture the image of the culture to as detailed a level as possible."

DLR conducts its task without any excuses. The tools and methods suggested are meant for the development of space applications. The purpose of this rollout

is to allow the robots such as the ones in planet Mars exploration to capture panoramic photos.

Two robotic technologies are used, which include a laser scanner to record the slightest details of the structure and a camera to record the texture.

New storage techniques: A photo consists of more than 50 million points of geometry. The allowed capacity and algorithm at this moment is not compatible with the high resolution. A DVD is only capable of holding a 4 GB panoramic image.

In order for computer data to outlive castle walls, optimal treatment is required. At DLR, the data is stored in the server and back-ups are performed regularly. All the data has to be transferred when the hard disk is replaced or when the next generation of computers emerges. The file format used is an "eternal" format known as VRML (Virtual Reality Modeling Language). "VRML consists of ASCII file text. Thus, no special viewer is needed to read the data," says Michael Suppa.

The importance of backup from older media has been acknowledged by the German Music Archive in Berlin. The central collection, which has been part of the German Library since 1970, has obtained publication rights from all media in German.

The Music Archive has a complete

collection of every CD released in Germany. Around 20,000 new disks are added to the collection annually. All this while, each CD is merely collected, given a password, and then stored in an underground location. With each passing day, even a CD may degrade or decay. Therefore, a backup copy has to be made for the whole archive.

Busted CDs: Music lovers stand to lose a great deal, especially when it comes to the music of the 80s. More than 1,000 albums on first-generation CDs which were published between 1983 and 1985 are now slowly deteriorating. Joachim Hack from the German Music Archive commented on the loss, "We refer to it as the sky filled with stars." When such a CD is held up against a brightly shining light, tiny holes can be seen clearly in it, like the stars in the sky.

The root cause of such a problem is the mixture of materials used during manufacturing the CDs back then. The reflector layer, improperly coated, will oxidize if air is allowed to penetrate the layer and the CDs get destroyed as a result. Fortunately, the error-correction system on most players are able to compensate for some of the damage.

For a temporary solution, the contents of each CD should be copied to the hard drive. This is advantageous for the Music Archive users. They can easily access the songs from the large collection. It will take

around five years' time to copy the whole music archive. The actual start time is still yet to be decided.

Original CDs are now kept in the best possible condition. The underground storage facility is dry and airtight with a constant temperature ranging from 18-19 degrees celsius. Most of the CDs will last longer than those made during the 80s.

The manufacturers later learned from their mistakes and protected the aluminum layer more effectively. "The 50-100 years of CD lifespan is possible as promised by the manufacturers," according to IT specialist, Joachim Hack. Music lovers should understand that this is only applicable to CDs which are stored in the archive under optimal condition.

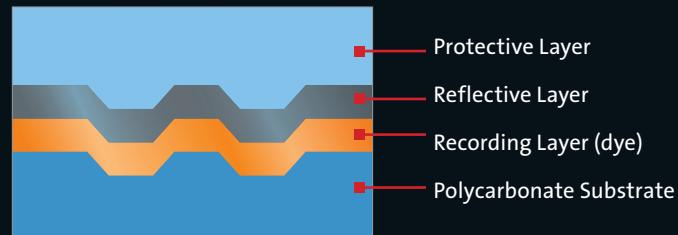
Burned CDs have a shorter life. If CD-ROMs were used as a backup medium, the archive staff would have to copy the content into new disks every five years. If you want to avoid the risk of losing data, you are advised to do that as well.

Storage media manufacturers are able to give an assured shelf life of 100 years. However, it must be understood that these figures are achieved by performing test under special conditions.

To find out which color is best for the data storage layer, the industry conducted various experiments. The tests proved that gold and blue colored layers are much more stable when compared to green layers



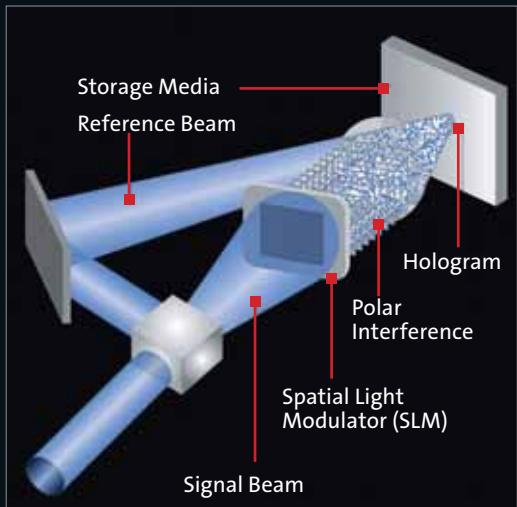
Layer Structure



All CD-Rs are arranged in a few layers. From the color of the layers, it can be seen that the manufacturer uses many types of material. Depending the combination of colors (cyanin, phtalocyanin or azo) and the reflector (gold, silver and aluminum), the layer will display a shining green, blue and golden color. On the production level, the quality of every layer will be tested

Holographic Layers

While writing, the laser beam is split into two. The signal containing the data will be converted to 3D pixels by the SLM. Later, it is combined back into the reference in the polymer media. Here, it will create an interference pattern stored on the holographic layers. The data will be read through the reference beam.



Classic Format—5.25 inches: This is the shape of the first holographic media from InPhase, capable of storing up to 300 GB of data



CD Archive: At the underground spaces of the German Music Archive, the complete collection published in German can be found. More than 1,000 CDs from the 80s have become faulty due to the ageing process.

which contain cyanin.

According to manufacturers, the DVD's shelf life is as long as that of the CD. Similar to the CDs of the 80s, early DVDs also get easily spoilt. The DVDs which were released during the 90s have the same aluminum layer vulnerable to oxidation. In international forums, users have reported seeing black spots under the microscope lens.

Putting 1.6 terabytes on a disk: The industry is encouraging the growth of new media. The first HD DVD-R is being released in early 2006 along with its recorder. The newest storage medium has a 15 GB single layer. Its competitor, the Blu-Ray with an even bigger capacity will also be commercially released this year.

The actual composition of the Blu-Ray remains undisclosed. The key element involved is a new organic color that reacts

to the blue laser, while remaining very stable.

There are several other storage options becoming viable down the line. The capacity offered by HD is insignificant when compared to the holographic storage media under development. The American developer InPhase has declared that it can store up to the 1.6 terabyte of data on a piece

of holographic media. With that kind of storage capacity, four million books from a library collection could easily fit into one of these media.

The first holographic disc which has a capacity of 300 GB will be released in the market this year along with its reader/writer. The exterior case reminds us of the older design. The data's media is covered with a case that has a diameter of 5.25-inches, similar to a an old floppy disk.

The similarity ends on the outside, as the holographic disk uses a complete different technology. A laser beam, split into two beams, is used to create 3D polar interference on the holographic layers. Through slight changes of angle, wavelength and media position, holograms can be stored in the media layers.

InPhase uses Bayer synthetic materials for its storage medium. Polar interference from the laser changes the optical characteristics of the material. Regarding the breakthrough, Dr Hermann Bach, Head of Bayer Material Science & New Technologies explained, "The quantum leap in the capacity of the media is due to the advances in the 3D storage material, on a molecular level."

With a 50-year lifespan, according to InPhase, holographic storage is clearly outpacing the conventional magnetic device with its shelf life of seven years. ■

Links

www.dlr.de/rm/en
DLR Robotic Institute

www.ddb.de/eng/index.htm
German Music Archive

www.inphase-tech.com
InPhase (US producer) developed the holographic technology commercially.

| Team CHIP

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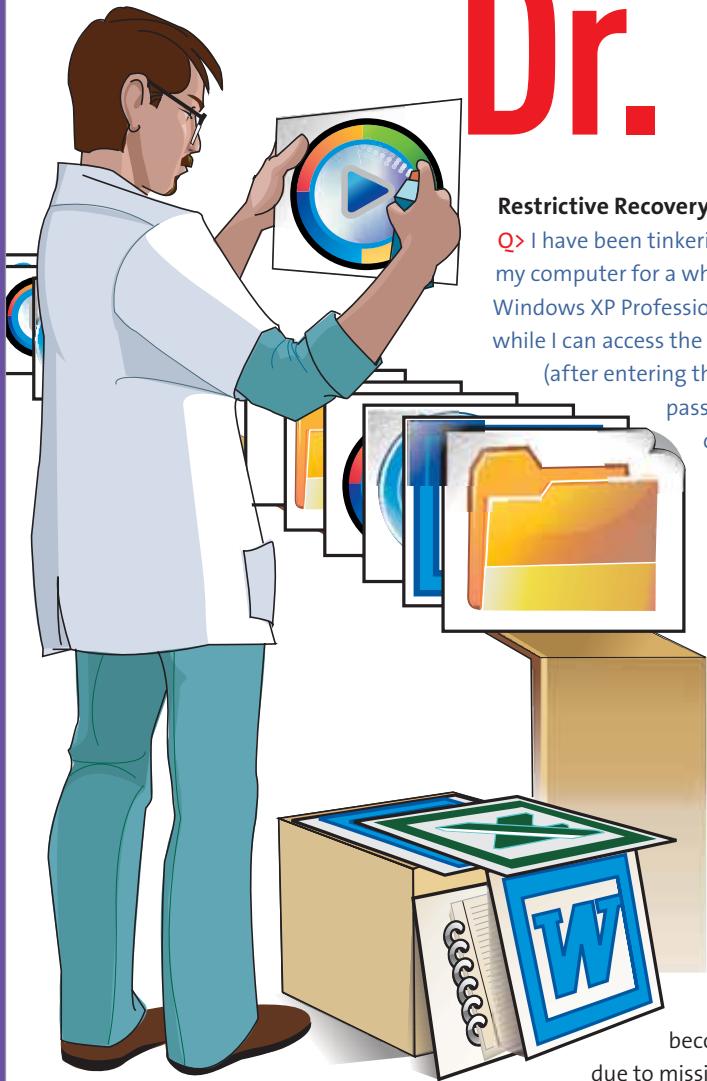
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Dr. CHIP



Dinesh Desai

Restrictive Recovery Console

Q I have been tinkering around with my computer for a while now. I use Windows XP Professional. I found that while I can access the Recovery Console (after entering the Administrator password), I couldn't change directories very freely. I tried to navigate to the "Documents and Settings" folder but get an "access denied" error. Why do I get this error? I signed in as the Administrator.

-Nadir
CHIP TIP

The Recovery Console is used when Windows does not boot properly or become inaccessible due to missing/corrupt files.

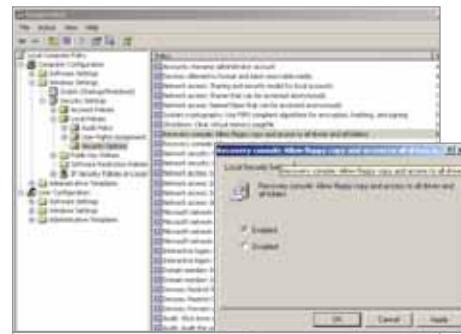
The console—as its name suggests—is provided to recover a problematic operating system. The console allows you to run only a subset of all the commands you might already know in DOS. Since a recovery involves working with the operating system files, access to the rest of

| How to Read the Code

All code lines and commands are written in the following manner:

`netsh>int>ip>reset>tcpreset.txt`
where the `>` symbol denotes a space.
Hence, the above code line should be typed as

```
netsh<space>int<space>ip<space>>reset<space>tcpreset<dot>txt
```



Use the Policy Editor to lift restrictions imposed in the Recovery Console

the folders other than the "System Root" is restricted. Even copying files from the hard drive to the floppy is restricted. The reverse, however, is allowed. The System Root folder (default being C:\Windows) and its subfolders are accessible for repair. Even though this sounds very restrictive you can start/stop a device from loading during startup, repair/reconfigure the boot configuration/Master Boot Record and re-format partitions.

There is a way you can try and override the restriction over folder access. This has to be done from the Windows GUI. Click on Start | Run, type "gpedit.msc" and click on OK. The Group Policy Editor will open. Navigate to the following folder in the left hand side panel of the window – 'Computer Configuration | Windows Settings | Security Settings | Local Policies | Security Options'. On the right hand side, double click on "Recovery Console: Allow floppy copy and access to all drivers and all folders" and select the "Enabled" radio button. Click on OK and close the Policy Editor window.

XP Firewall Error

Q After installing a new anti-virus on my computer I noticed Windows XP's firewall was turned off. I tried to enable it but it refused to do so. I uninstalled the anti-virus but it did not help at all. I do not know if

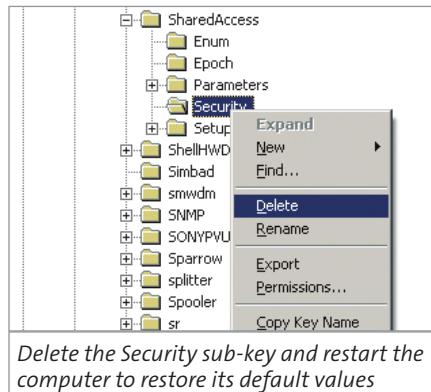
the installation and this firewall problem are related but I still get the error that says the firewall service could not be run. How can I get my Windows Firewall to function once again?

-Karan

CHIP TIP Click on Start | Run, type "services.msc" and click on Ok. The Services window will appear. Locate "Windows Firewall/Internet Connection Sharing(ICS)" and right click on it. Select Properties and try restarting the service (click on Stop and then Start). If you get the same error then try the following steps. You can also do the same from the command prompt window. Start | Run, type "cmd" and click on OK. In the command prompt window that appears, type the following command and press [Enter],

`net start sharedaccess`

If you get an error here also then you will need to edit the Registry to reset the 'SharedAccess' values. Click on Start | Run, type "regedit" and click on Ok. The Registry Editor window will appear. Navigate to the following key,



Delete the Security sub-key and restart the computer to restore its default values

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SharedAccess\Security

Delete the Security key, close the Registry Editor and restart the computer.

Outlook Error

Q I use Microsoft Outlook 2003 on my computer. I use it to download my personal as well as business mail. I also make use of the Notes, Reminders and store all my appointments in it. Now, I cannot access anything I have stored in Outlook because of an error I am confronted with every time I try to start it. It says that some "entry

point WnetEnumCached Passwords could not be located in the dynamic link library MPR.dll"-

-Jatin

CHIP TIP Here is what you can do to stop this error from appearing and also get back to using your mail client in full swing. Open Windows Explorer and navigate to the "C:\Windows\system32" folder. Locate the "Mapi32.dll" file. If the extension(.dll) is not visible then click on Tools | Folder Options and click on the 'View' tab. Scroll to the option, "Hide Extensions for known file types" and uncheck it. Click on Apply to save the changes and then click on Ok. Now you will be able to view the file name with the extension. Select Mapi32.dll and press [F2] (or right click and select 'Rename'). Rename the file by changing the extension to "Mapi32.old". Now click on Start | Run, type "fixmapi.exe" and click on Ok. FixMapi will run (nothing will appear on your display, it will execute in the background) and after that just restart the computer.

Opera History

Q I have a very strange problem. I use Opera as my web browser and I have noticed that I cannot go 'back' to a web page I have already visited. The 'Back' button does not work whenever I try to click on the button within Opera. When I try to access the web sites through Internet Explorer I can use the 'Back' option very easily. How can I get Opera to save the history of web sites I have already visited?

-Feroze

CHIP TIP The solution for your problem is relatively simple and small. All you need to do is open Opera and make changes to its options. First, open Opera browser and click on Opera's History. This is what you



In Opera's preferences, ensure web address caching is enabled in the 'History' options

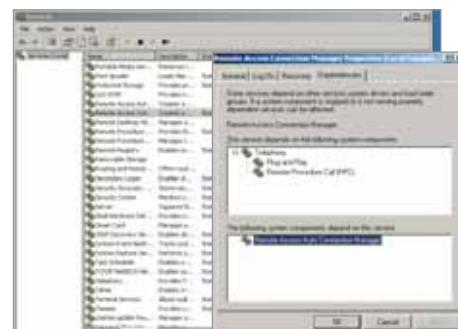
need to do—click on Tools | Preferences | Advanced | History. If the function has been disabled, make sure you select the right settings to enable the 'Back' button in Opera.

Connection Error

Q I decided to go in for an Internet connection recently since I had just upgraded my computer (hardware and software). I tried creating a connection using the "Add a network connection" wizard but for some reason I do not get all the options. How do I get all the options back?

-Jeev

CHIP TIP You did not mention what sort of a software upgrade you did on your computer. If it involved an operating system upgrade then there is a possibility that certain services have not installed successfully. These services will need to be restarted in order to get the New Connection wizard display all the options. Click on Start | Settings | Control Panel



Remote Access Auto Connection Manager is listed as a system component that is dependent on the Remote Access Connection Manager

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| Administrative Tools and double click on Services. Alternatively, you can click on Start | Run, type "services.msc" and click on Ok. In the Services window that will open, locate "Internet Connection Sharing". Right click on it and select 'Start'. Internet Connection Sharing requires Remote Access Connection Manager. You will also have to start "Remote Access Connection Manager" and "Remote Access Auto Connection Manager" services. These services depend on each other. For example, Remote Access Auto Connection Manager is dependent on Remote Access Connection Manager. Restart the computer after enabling these services and try creating a new connection again.

Slow Network Printing

Q When I try to print presentations or Word (I use the Office XP Standard Edition) files with pictures it takes a lot of time for the computer to send it to my printer. I can say this because regular text documents or Excel printouts are printed promptly while the heavier ones are not. Is there a way I can speed things up a bit?

-Tarun

CHIP TIP The delay might be because of the nature of the pictures—they might be large, high-resolution images. This adds up to the amount of information the 'spooler' can take. Print jobs are first lined up to buffer before they are sent to the printer. You can work on the picture properties in your document by right clicking on an image and selecting "Format Picture". Click on the 'Picture' tab and click on 'Compress' and click on Ok. If you are prompted to

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Blocking pop-ups

I have been using the Opera browser. It is supposed to be good for blocking pop-ups. But a lot of pop-ups (advertisements or some Flash animations) still appear after every few minutes. How do I stop these from loading? Please suggest a solution. If there is any software that I need, please can you provide the link to it.

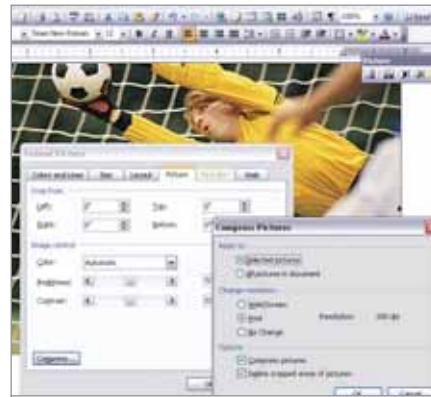
- Pankaj Bansal



Use Opera's 'Quick Preferences' to set the pop-up blocker to the desired level

Opera has very good pop-up blocking capabilities. Try out the settings before looking for a third party alternative. Click on Tools | Quick Preferences | Block unwanted pop-ups. Another option would be to click on Tools | Quick Preference | Block All pop-ups.

- kaushik81



Compress high-resolution pictures within Office XP documents before you print them

apply the picture Optimization then click on Apply to make the changes take effect.

Media License Error

Q I download many video files from the Internet. They are a mixture of movie trailers and home videos. Some of the movie trailers I had downloaded require some sort of a digital license. Initially the files used to play in Windows Media Player (it appeared as if it would search for the license) but nowadays I get an error and the file refuses to play. The error goes something like this, "Licenses for your media files are corrupted". Do you suppose the licenses destroy themselves? The files were free to download and never had any 'expiry date'.

-Niket

CHIP TIP This error is not due to some sort of

license self-destruction. It is because the licenses are really corrupted. Here is what you can try to do—open Windows Explorer. Click on Tools | Folder Options and click on the 'View' tab. Under 'Advanced Settings' click on 'Show hidden files and folders' and click on OK. Now search for the "DRM" folder on your computer. Usually the folder is found in the system partition itself. On Windows 2000/XP systems the folder is "X:\Documents and Settings\All Users\DRM" and on machines running Windows 9x/ME it is "X:\Windows\DRM". DRM is the acronym for Digital Rights Management. "X" denotes the drive letter for the partition on which Windows is installed.

You can also find the location of the DRM folder from the registry. Click on Start | Run, type "regedit" and click on Ok. Navigate to the following key,

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\DRM\

Double click on the Value "DataPath" (in the right hand side pane of the Registry Editor) and note down the location of the DRM folder on your system.

The location of the DRM folder on your hard disk appears in the Value data box. Note this location.

Close the Registry Editor and start the Media Player(Start | Programs | Accessories | Entertainment). Click on Tools | License Management. The "License Management" dialog box will appear. Under the "Backup and Restore Location", click on "Change"

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and specify a folder on the hard disk where all the licenses can be backed up. It is preferable to save the licenses in a new folder created on the Desktop. Click on "Backup Now" to save the licenses to this new location. If backing up the licenses does not work then delete the "Drmv2.sst" file located in the "DRM" folder (the location which is known to you now). After deleting this file try backing up the licenses again. If deleting this file does not solve the problem then you will have to rename the "DRM" folder (by selecting it and pressing [F2]) to "DRM_1" (as an example). You will have to rename this folder even if you are able to run the license backup in the Management dialog box. Close Windows Explorer and go to <http://drmlicense.one.microsoft.com/Indivsite/en/indivit.asp>

You will have to follow a set of instructions and subsequently update the security component of the Media Player. After the changes are made to the Media Player security component open Windows Media Player and click on Tools | License Management. Specify the folder that was backed up on the Desktop and click on 'Restore Now' to restore all your licenses. Try playing your licensed media files now. You might be prompted to 'migrate your licenses'—click on 'Migrate' to do so. If after all this you still receive license errors then you will have to download the video again so as to get a fresh copy of the license.

ActiveX on Opera?

Q I use Opera as my default web browser. I noticed that this browser does not load ActiveX scripts. Web sites that use ActiveX to display content do not execute in my browser at all. I tried to look for some settings related to downloading and running ActiveX scripts but came across nothing. Is there a plug-in that I need to download?

-Arun

CHIP TIP ActiveX objects in a web page are not supported by Opera. VBScript pages are not Opera's specialty. Pages using JavaScript are scripted since it is a very common language used in web programming. There is a way (a tedious one) to make ActiveX pages load in Opera. It involves installing a Netscape

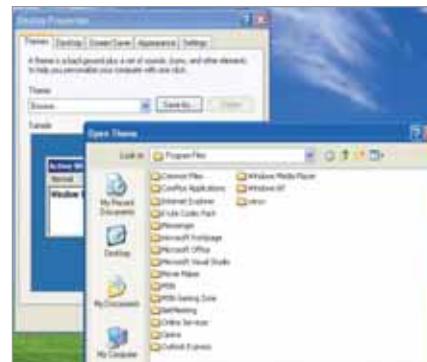
plug-in (which also work for Opera) called Neptune. It can be downloaded for free from <http://www.meadco.com/neptune/>. Install the plug-in and Opera should automatically use Neptune to load the ActiveX page. This is achieved by running the IE engine within Opera.

There are a few things you need to do after installing Neptune (make sure Opera is closed when you do so). Go to the Internet Explorer plug-in folder, which is usually located at "C:\Program Files\Internet Explorer\PLUGINS". Look for a file called "npmeadax.dll" and copy it (right click on it and select 'Copy'). Paste this file into Opera's plug-in folder, which is (by default) located at "C:\Program Files\Opera\Program\Plugins". When you open Opera it will associate the file to Neptune's function (which is to emulate IE and load the ActiveX page). However, this method does not work in all cases so it would be better to just load the page in Internet Explorer for the time being.

Restore Missing Files

Q I had installed the 'Incredible India' theme that was provided on the CHIP CD. It worked perfectly, up until now. The icons that were used to denote 'My Computer', 'My Documents', and 'Recycle Bin' have been replaced with blank icons (resembling symbols that appear against a file with no known association). I also get a message saying there was an error loading the theme and that there are some missing files too. How do I rectify this problem?

CHIP TIP The Incredible India theme might not be in the Add/Remove Programs list. -Jheen



Change your theme to the default or browse and choose another 'Theme' file

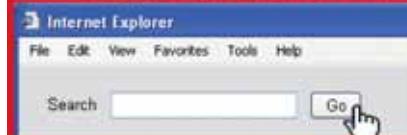
Need a hand with your PC travails? Log on to www.chip-india.com/knowhow and post your query. Voila! You're on your way to a glitch-free future.

Info | For Accurate Diagnosis...

1. Mention system specifications.
2. Mention new hardware or software installed recently.
3. Note the error message, including the action or event that triggers the error. For instance, the error message comes up only during startup or shutdown, or when starting a particular application and so on.
4. Mention any changes you've made just before you started getting the error. For instance, have you deleted some files recently or uninstalled some application?

That rules out uninstalling the theme. You could try reinstalling the theme so as to replace the files that have gone missing. If you are not keen on going back to your original theme then all you need to do is select another one from XP's Display Properties. Right click on the Desktop and select Properties. In the Display Properties box under the 'Theme' tab select 'Windows Classic' or 'Windows XP'. This will get rid of the error and the icons on your desktop will be restored. You can also delete the custom theme (Incredible India) from your computer by deleting the 'custom.theme' file. Search for this file and delete it. ■

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Add life to your pictures

Instead of distributing CDs of your digital photos, show off your creativity by making a movie consisting of your pictures in either the VCD or DVD format

How do you share those precious memories captured with your digital camera with your friends and loved ones? The most common way to do it would be sharing them via CDs. But imagine flipping through hundreds of pictures given to you by someone on a CD. You'd probably get bored half way through. But what if it were a DVD or a VCD having fancy slideshows with stunning visual effects and awesome background music to complement it? That would be a visual treat you would not want to miss out on. And since it would play on any DVD or a VCD player, you don't even require a PC to view it. Instead, you can enjoy the fun on the large screen in your living room!

This workshop is a step-by-step guide

on how you can create slideshows of your digital images and burn them in either VCD or DVD format.

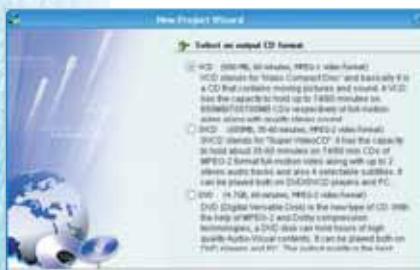
You don't need to be an expert to create separate slideshows for different occasions like birthday, wedding, etc on a single disc or adding comments to each picture. Using Photo2DVD Studio you can easily combine digital photos with music and text in the most natural and intuitive way. And you wouldn't feel any less than a professional. Unlike most applications, you need not use any other software for authoring DVDs and VCDs. Photo2DVD Studio is like a 'Swiss Army Knife' which has all the functions built right into it. For your convenience, it has been included on the CHIP DVD.

| Anand Tuliani

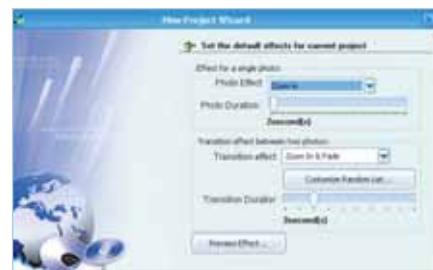
Create slideshows of your digital images



STEP 1. 1. A slideshow would be in a mess if you stuff it up with all sorts of photos ranging from vacation to birthday party to wedding, etc. Creating a DVD or a VCD with separate slideshows for different occasions would make more sense. Hence, start off with organizing your pictures using separate folders for different occasions.

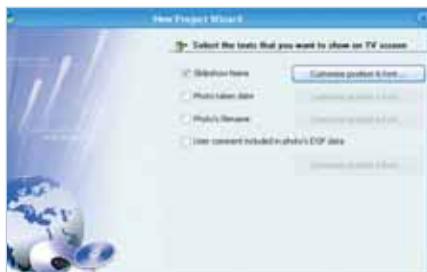


STEP 2. After launching Photo2DVD Studio, you will be presented with a 'new project wizard'. Select the type of the video disc depending on the number of images you have. The VCD format is more than sufficient for creating a one-hour long movie with more than 100 images. However, the DVD format will result in the best output quality.



STEP 3. Time to add some eye candy! Select the photo and the transition effects from the dropdown lists. Hit the preview button to see how the effects look like and customize them according to your preference. Specify the display and the transition duration of the photos. Either select a particular effect or randomize various effects.

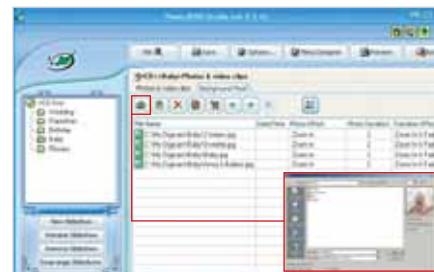
Create slideshows of your digital images



STEP 4. Click on the 'Customize position & font' button to format the font and the position of the date and time in case your digital camera doesn't have the option to embed the date and time on the photos clicked. Click on the OK button to confirm. In the next dialog box, you can choose to convert images to black and white.



STEP 5. After you're done with the wizard, create as many blank slideshows as the number of occasions or categories of images depending on how you organized them. The first slideshow exists by default. To add further slideshows, click the 'New slideshow' button at the base of the left pane. If you wish, you can rename each slideshow to avoid confusion.



STEP 6. Now begin adding images to each slideshow. Select a blank slideshow from the left pane and click on the 'Import photos' button from the toolbar. From the dialog box which appears, browse for the relevant folder and add all the images to the slideshow. Following this method, add images to all the slideshows.



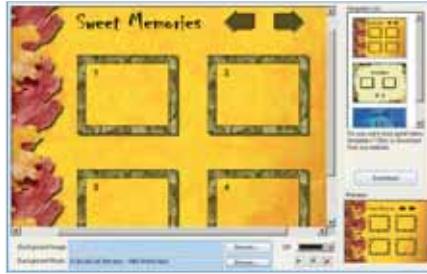
STEP 7. Images when added to slideshows may not appear in the order you want. In that case, you'll need to rearrange the order in which you want them to appear. To do so, first switch to thumbnail view and then rearrange the pictures in the desired order by dragging and dropping them in appropriate locations.



STEP 8. Photo2DVD Studio is so versatile, that you can even edit images. To edit an image, double click on the image you wish to edit to bring up the image editing dialog box. Using this you can add text boxes with comments, you can customize photo and transition effects for individual photographs, crop images and rotate images clockwise or counter-clockwise.



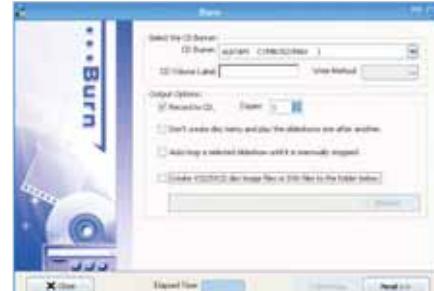
STEP 9. The slideshow will be denuded of charm without background music. To add music, choose a slideshow from the left pane and select the 'Background music' tab from the right pane. Click on the first button on the toolbar to add tracks of your choice. Tracks can be in MP3, Ogg, Wma or Wav format.



STEP 10. Customize the main interface of the disc which appears as soon as you insert it into the VCD/DVD player. Click on the 'Menu designer' button on the tool bar and select a template of your choice. Alternatively, you can even specify your own background image. Don't forget to change the title of the disc. Double click on it and type a suitable title.



STEP 11. Before clicking on the burn button, make it a point to preview the disc to see how it looks and feels. Preview each slideshow to confirm whether the order of images, effects, transitions and the background music are fine. If not, you can revert back and make final changes before finalizing and burning the disc.



STEP 12. Click on the burn button on the toolbar to bring up the 'Burn' dialog box. Insert a blank optical disc into the CD/DVD writer and click on the 'Next' button. Hit the 'Start now' button to burn the entire slideshow on to the disc. Insert the disc into the DVD player. Now sit back and enjoy the show!



 Dinesh Desai

Just fix it!

A do-it-yourself guide to troubleshoot PC problems

Let's start off with a riddle. What's the similarity between a natural calamity and a PC problem? Well... the answer is simple. They're both unpredictable and can strike anytime!

The complexity of the various components inside the PC makes it susceptible to dozens of problems. When faced with any problem with your PC, the computer technician is like God who you expect will eliminate all your PC troubles. Depending on the nature of the problem, he may take a few seconds to a couple of minutes to fix it. At times he may charge you a bomb just for touching a few cables or tightening the connections and getting your PC up and running. That's when you realize that you could have solved the problem yourself and saved your money!

This workshop will step you through troubleshooting some of the most common problems which affect PCs. Do not attempt this workshop if your PC is covered under a maintenance contract by your vendor as it may render the warranty or the contract void.

What you need

Make sure you have a first aid box for the PC which has the following tools. You'll find most of them lying around the place.

- A Philips screwdriver to open the case and detach cards.
- A clean lint-free cloth.
- A soft-bristled brush.
- A current detector which is usually a small screwdriver with a tiny bulb in its handle.
- Spare power cable and spike buster fuse.
- Heat sink compound.
- Don't be surprised, but you'll also need a pencil eraser. You'll soon know why.
- And most importantly patience and confidence!

Before you begin...

Here are some ground rules that you should strictly follow:

- Make sure your hands are clean and dry.
- Remember to switch off the mains before attacking any problem.
- Work in a well-lit environment. Use a torch or lamp when working in poor light.



No Internet connection

Before venting your anger on your Internet service provider, make sure everything is fine on your side. It may be possible that the RJ-45 clip which goes into the network card or the LAN socket on the motherboard has come out or become loose. Reinserting or tightening the clip in the socket may solve the issue. If it doesn't, then it's time to give your service provider a buzz.



System doesn't power up

Switching the mains on and off and torturing your case by pushing all the buttons on it won't solve your problem. Here's what you can do before ringing up your technician

- Switch off the mains and check your spike buster. Remove the fuse from it and check whether it's burnt. If it needs to be replaced, you'll get it at any electrical store close by.
- If your spike buster is fine, check the power cable which goes to the PC's power supply unit (PSU). Detach the end of the cable going into the PSU and check its terminals with the current detector after switching on the mains. Your problem should be solved unless the PSU is faulty.

Keys on the keyboard get depressed and don't release

Since the keyboard is exposed, it's the easiest target for dust to creep in. Over a period of time it forms a stubborn layer at the base under the keys along with moisture. And if you have a habit of having snacks while you're at the PC, the keyboard too becomes a part of the feast! So remember—'Never eat while you're at the PC'.

The layer of grime formed at the base of the keyboard is the prime reason for keys getting stuck and not releasing, especially the bigger keys like enter, shift and backspace. Such a problem is tortuous while you're working on a word processor or typing an e-mail. Hitting the keys hard out of frustration will further worsen the case. Here's the solution.

Insert the head of a 'minus' screwdriver under the affected key and gently push it down like a lever to pluck the key out of the keyboard. Clean the area under the key with a dab of cotton and fit the key back and you're problem will be solved.

It's rightly said that prevention is better than cure—hence keep the keyboard covered when not in use. Dust covers are available in the market.



Front USB ports don't work

USB devices like flash drives, MP3 players and digital cameras are convenient to use with the PC when the case has USB ports on the front panel. If the front USB ports don't work, either they aren't connected to the USB headers on the motherboard, or the USB headers have become faulty.

To resolve this issue, open the case and check whether the USB cables from the front panel of the case are fitted on the motherboard's USB headers. If they aren't, locate the USB headers from the manual provided with the motherboard and connect the front USB ports as instructed. If the ports are already connected to the headers, call your technician to look into the matter.

The PC starts with 'one long beep and three short beeps' OR 'one long beep and eight short beeps' without any display

Such a beep pattern is an indication of a fault with the graphics card which may have become loose or damaged.

- Detach the monitor's VGA plug from the port on the graphics card and open up the case.
- Unscrew the screw gripping the graphics card and pull it out of the AGP / PCIE slot.
- Clean the contact strips at the edge of the card by gently rubbing them with an eraser.
- Fit the VGA back into the slot and fasten it with a screw.

Now switch on the PC and it'll start without any hiccups. And if the problem persists, call up your technician to get it solved.





Time keeps skipping back

If the time keeps skipping back inspite of adjusting the clock settings in Windows, it's because the motherboard battery has depleted. To fix the problem you simply need to replace it.

- Purchase a CR2032 cell from any watch shop. It looks like a 50 paise coin.
- Open up the case and locate the cell on the motherboard. Remove it gently and replace it with the new one.
- When you switch on the PC, you may get a message saying something like the BIOS has been reset. Press the 'Del' key on the keyboard to adjust the BIOS settings and exit saving the settings.
- When Windows loads set the time and it'll never skip back again!

The PC beeps continuously like an ambulance siren

Alternating low and high frequency beeps like an ambulance siren is a sign that the CPU fan is erroneous and needs immediate attention. The alarm is sent off by the motherboard when it senses that the RPM of the CPU fan has dipped below the threshold level.

- To fix this type of an error, first remove the CPU heatsink as indicated in the quick setup guide which came with your processor.
- Brush off the dust settled on the blades of the CPU fans and the fins of the heatsink. If the layer of dust is stubborn, you can use a toothbrush.
- Wipe off the old layer of heatsink compound from the processor and the base of the heatsink.
- Apply a thin layer of fresh heatsink compound on the processor and fit the heatsink back.
- Connect the CPU fan cable to the connector on the motherboard and your system will be back on track.



The display is affected by colored patches or tint

If a certain portion of the display is affected with colored patches, degaussing your monitor will solve the issue. Enter the monitor's display menu and select the degauss option. The monitor will flicker after a click sound for a few seconds and will return to normal without any patches.

If the display is affected by a red, green or a blue tint, the VGA plug of the monitor must have become loose. Removing it and firmly fitting it back again into the VGA port of the display card may solve your problem. If it doesn't, the monitor or the graphics card may be faulty requiring your technician's expertise.

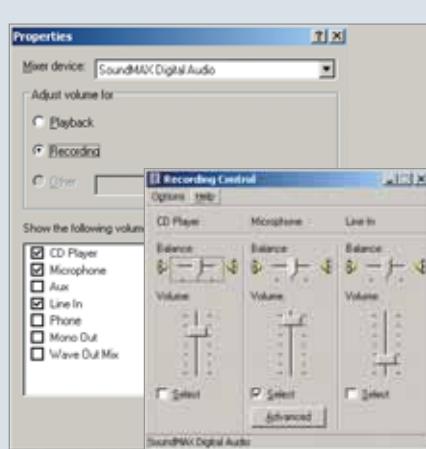
Microphone doesn't work

If you can't record using a microphone or if your chat partner cannot hear what you're saying, here's the solution:

Check whether the microphone is properly connected. Its pin should be connected to the jack having a red or a pink ring around it in the audio panel behind the case.

After verifying the connection, double click on the volume icon in the system tray at the bottom right hand corner of the desktop to bring up the 'volume control' dialog box.

- Click on the 'Options' menu and select 'Properties'.
- Check the 'Recording' radio button and check the option 'Microphone'.
- Clicking on 'OK' will take you to the 'recording control' dialog box.
- Check the 'Select' checkbox under the microphone slider and crank the microphone volume to full.
- Close the dialog box and you're done!



| Anand Tuliani

All it takes is a Wink!

Learn how to make tutorials with the user-friendly and free Wink

Most often the installation of any new software is usually followed by chaos and confusion as users struggle to get to grips with it. And by the time they get used to it, it is time to upgrade to a new version and start learning all over again! Small wonder then that many people prefer using older versions of software. A major reason for this hostility towards new software is the absence of good tutorials. Usually, any new software is accompanied by documentation and manual but it is so jargon-ridden that non-tech users find it difficult to familiarize themselves with it. It's easier to learn with user-friendly software tutorials. All you need is some time, effort, and a freeware called Wink.

Getting ready to Wink

Developed by Satish Kumar and Bent Møller Madsen, Wink is a freeware application designed for creating presentations and tutorials for software products. Wink works by allowing the user to make a series of screen captures and add notes and comments to them. Wink then puts them together in the form of a Flash movie and plays it in a browser (most browsers today are Flash-enabled). The film can be edited any number of times as per the needs and requirements of different people. A neat touch is Wink's ability to move the mouse cursor among different frames. For instance, if you are making a file on how to use MS Word and have a screenshot that shows you highlighting text followed by another in which you select the "Bold" option to make the selection, the Flash movie generated by Wink will

actually show the mouse's cursor moving from the block of selected text to the "Bold" option on the toolbar.

Download Wink for free from <http://www.debugmode.com/wink/download.php>. The software is available for Windows as well as Linux. The Linux version lacks some of the options present in the Windows version. The download is in the form of a zipped file and is light enough to be dial-up friendly—the Windows version tips the scale at a mere 1.8 MB. Installation is a breeze—just unzip the file, click on the Wink.exe file and follow the instructions. As for system requirements, Wink runs on just about any PC that runs Windows or Linux. All it asks for is to be run within a resolution of 800x600.

Creating a tutorial using Wink

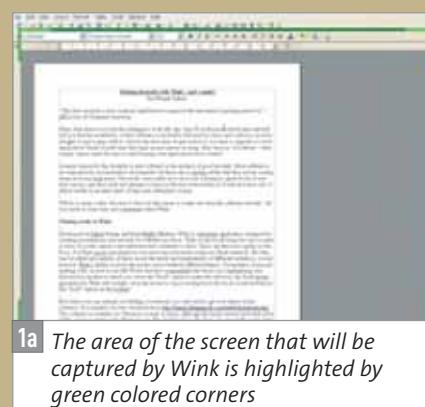
Just as it would be insane to start making a feature film without a script or screenplay, it would make little sense to start building your tutorial without having a script that outlines just what the tutorial would be covering and to what extent. It would also be prudent to have a rough idea of the kind of screenshots you would like to use. Once you have these ready, you are all set to roll.

STEP 1. Setting up Wink

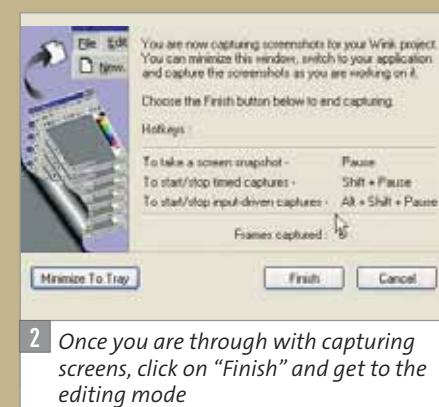
To start off matters, first open the application for which you wish to build a tutorial. Once that's done, start Wink and select New from the File menu. This will bring up the New Project Wizard. Now specify the area of the screen you wish to capture. You can choose to capture the entire



1 The Wink New Project Wizard in which you specify the area to be captured and other details



1a The area of the screen that will be captured by Wink is highlighted by green colored corners



2 Once you are through with capturing screens, click on “Finish” and get to the editing mode.

screen, just the application window or even a rectangular area as per your specifications. As you make your choice, four green colored corners will appear on the screen, outlining the area that Wink will capture in its screenshots. You can also set Wink to continuously capture screens or to do so only at your command. After specifying your requirements, just click on ‘Minimize to tray’ (this will reduce Wink to a small icon on the Windows system tray).

STEP 2. Capturing screens

Having set up Wink, it is time to take the screenshots. This is the easiest part of the tutorial. All you need to do is keep pressing the key (generally the Pause key) whenever you wish to capture the screen. The small Wink icon on the Windows system tray will blink to confirm that a screen has been captured. You can also opt to sit back and let Wink capture the screens on its own by specifying the number of frames you want captured per second. When you have captured enough screens, simply double click on the “Wink” icon on the Windows system tray. This will bring up a box that will tell you how many screens (Wink calls them “Frames”) have been captured. Click on “Finish” to end the capturing process.

STEP 3. On the editing table

The moment you click on “Finish”, Wink will display the frames it has captured. It is now time to move to the editing mode. You can reorder the frames by simply dragging and dropping them to different locations in the sequence. You can give each frame a title and can also add explanatory notes to your screen captures. This is done through

text boxes (Wink terms them “Callouts”) that highlight different aspects of the application. The Callouts can be resized and can be of different shapes and sizes, depending on your needs. You will notice the mouse cursor is displayed in a darkened box in each frame—this can be moved to a different location in the frame if you so wish. Finally, you can choose either to let frames be displayed for a specific time on the screen or provide for the “Next” button, which will allow you to navigate through the tutorial.

STEP 4. Movie time

Once you have finished editing your frames and determining the sequence in which they will appear, save your tutorial (or “Project” as Wink calls it) by clicking on “Save” in the File menu, and specifying a name for your tutorial (you can do this at any stage of making the tutorial). This will save your tutorial in the .wnk format. To see your tutorial in the Flash movie format, go to “Project” and choose “Settings”. Here, specify the name of the Flash film that Wink will construct using your screenshots and notes. Also specify the frame rate and the kind of cursor movement you prefer. That done, click on “OK” and choose “Render” under the Project menu or just click on the green arrow in the Wink toolbar. Your Flash film will be ready for display. To see it, go to “Project” and choose “View Rendered Output” or just click on the icon on the Wink toolbar depicting a globe with spectacles. Your tutorial film will start playing within your default browser. If you don’t like what you see, feel free to go back to the .wnk file you created and make changes.

STEP 5. Using other formats

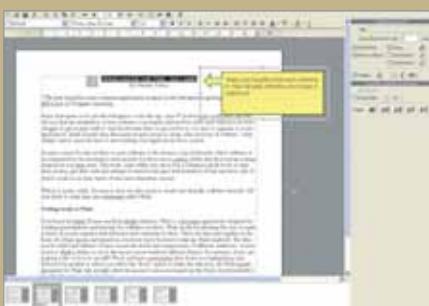
While Wink primarily generates tutorials in the Flash format, you can also render your tutorial in HTML and PDF formats. To do this, open the .wnk file containing the tutorial, go to “File” and choose “Export As HTML” or “Export As PDF”, depending on your needs. The tutorial in these formats will be static—the cursor will not move although you will be able to use buttons to navigate back and forth if you specify it while saving in the desired format. The advantages of saving in HTML and PDF formats are obvious—the files are much lighter and are therefore easier to mail or transfer.

To Wink or not to Wink

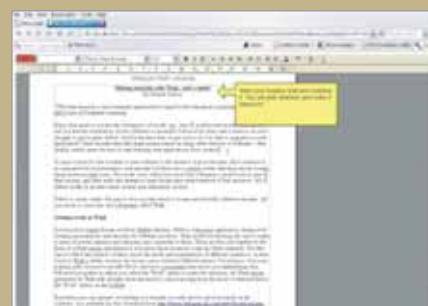
Wink does have its share of shortcomings. The most notable of these is its inability to accommodate audio. Although skilfully crafted text balloons can overcome this flaw to a certain extent, more often than not, a human voice is needed to accompany the movie or presentation to clarify matters. The software also tends to crash occasionally, which is frustrating especially if you are midway through editing frames. But the developers try their best to suggest solutions if you send them detailed information about how and when the crash occurred.

But these flaws pale into insignificance when you consider what Wink delivers. It can be used not only for tutorials but also for advertisements that highlight software functionality and even presentations (although it is unlikely to give PowerPoint a run for its money). But it is its ability to generate tailor-made tutorials for different users that makes Wink an important tool. ■

| Nimish Dubey



3 While editing your tutorial, you can use text boxes to put in additional notes and highlight application features



4 My tutorial with text boxes and a moving cursor—all within an Internet browser...



5 A tutorial in the PDF format. No moving cursors here, but extremely handy nevertheless!



Tip of the month | Applications

Remove duplicate audio tracks

I have a lot of music on my hard drive, which I have collected over a period of time from different sources. My problem is I have many songs, which have duplicate and even triplicate entries stored in different folders. To make matters worse, the same song is saved under different names. Now there is hardly any space on my hard drive. Please tell me how to remove all the duplicate entries. At the same time I don't want to lose any of my music collection.



For the above problem, use the software "No Clone". You can customize your search by selecting the folder, partition or drive you wish to. It masks windows OS files while searching. After the search is complete, it identifies zero-size files, same-name files, similar content files, and file portions. The identification of similar content files takes care of songs saved under different names. Duplicate file groups are colorized and can be either deleted or sent to a different folder. This software can be used for sorting any type of file. It's a shareware and can be downloaded from <http://noclone.net/>. We have included it in the CHIP Tool CD also.

Tips & Tricks

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Get rid of error reporting
Share folders quickly
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Configure the power button
Get rid of low disk space warning

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Windows

1 | Windows XP

Bypass Windows XP login screen

Whenever I switch on my PC the booting process halts at the login screen where I have to click on my username (there is no password) and only after that it leads to the desktop. Now since I am the only user, I don't want the booting process to halt at the login screen; instead I want Windows XP to directly boot to the desktop bypassing the login screen. How do I go about it?

CHIP TIP First you have to make sure that you have logged into an administrative account else you will not be allowed to make changes.

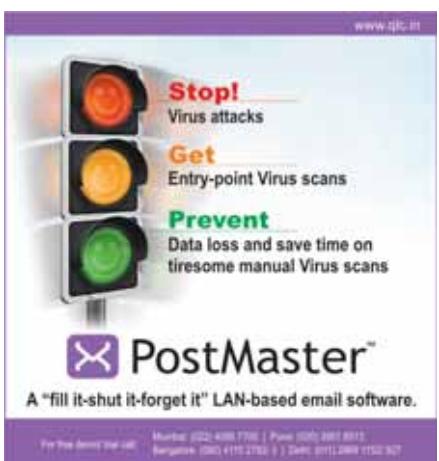
Go to "Start | Run".

Now in the open box, delete if anything is present and type "control userpasswords2" without the quotes. If you aren't logged into an administrative account it will ask you to login into one. After you have done that a new window will pop up.

Under the "User" tab, you will see a check box saying, "Users must enter a username and password to use this computer". Uncheck that box. Now if you have multiple user logins, then it will ask you which login you would like to automatically log into. Enter the username and the password if any and click on "OK". Restart the machine and you will directly reach the desktop.

2 | Windows XP

Increase overall system performance in windows XP



I have Windows XP installed in my system.

I really like the Windows XP theme but since I have just 256 MB of RAM, navigating through the folders is slow. I don't like the classic Windows look. Is it possible to tweak Windows XP for navigating faster, keeping the Windows XP theme?

CHIP TIP To do this, right click on My Computer and then click on Properties. A new window will pop up, click on the Advanced tab. Under the "Performance" section click on the Settings button. Another window will pop up. Under "Visual Effects" select the radio button, which says "Best Performance". Now in the box below, scroll right to the bottom. Check the box, which says "Use visual style on windows and buttons" (note that all other check boxes will be unchecked, let them be that way). When you check the box you will observe the radio button for "custom" will get selected, that's normal. Click on "Apply" and then on "OK". Navigating through the folders will be much faster now.

3 | Windows XP

Get rid of error reporting

Every time a Microsoft program crashes in Windows XP, an "Error Report" comes up asking for some information on the crash to Microsoft server. I don't want to use the error reporting service. How do I disable it?

CHIP TIP In order to get rid of error reporting,

- Go to "Start" and open "Control Panel".
- Double click on "System", and then click on the "Advanced" tab.
- Click on the "Error Reporting" button at the bottom.
- Select "Disable error reporting". When this option is selected, error reports will not be generated.
- You can select the option "But notify me when critical errors occur" to have Windows notify you when a critical error occurs, even if you have disabled error reporting.

Now click on "OK" and you are done!

4 | Windows XP

Share folders quickly

How do I share folder with others in the quickest and simplest way possible?

CHIP TIP

Windows XP allows you to share data within the network by letting you share folders with other users. If you want to share more than one folder, there is a quicker and simpler way to do it by using the "Shared Folder Wizard". Follow these steps to learn how to launch the wizard and start sharing!

- Go to "Start | Run"
- Simply type "SHRPUBW.EXE" in the space provided, and click on "OK".
- This will launch the "Create A Shared Folder Wizard", click on "Next" to continue.
- Browse to the folder you want to share.
- Enter the share-name by which you would like to share the folder.
- Enter the share description in case you want to (this is not compulsory).
- The next screen will allow you to set permissions; you can choose the way you would like to share the data and the kind of access permissions you want to set for different users.
- Once you're done with the above, simply restart the process and share more folders without having to exit the wizard.

5 | Windows XP

Create a Password Reset Disk

What do I do if I want to backup my user password?

CHIP TIP

If you want to backup your user password, you have to create a password reset disk. If you're running Windows XP Professional as a local user in a workgroup environment, you can create a password reset disk to log onto your computer when you forget your password. This is how you do it.

- Click on Start | click Control Panel and select "User Accounts".
- Click on your account name.
- Under Related Tasks, click on "Prevent a



- 5 When you forget your password, create a password reset disk to log onto your PC

forgotten password".

- Follow the directions in the Forgotten Password Wizard to create a password reset disk.

Store the disk in a secure location, because anyone using it can access your local user account

6 | Windows XP

Configure the Power button

Tell me how I can stop Windows from automatically shutting down when the power button is pressed.

CHIP TIP Many of you might not be aware of the fact that Windows XP has a very smart and efficient power management system that lets you configure the system "power on/off" button. By default, when the power on/off button is pressed, the system automatically performs the "Turn off computer" action which is otherwise done by going to "Start | Turn off computer | Turn off".



6 | Windows XP's power management system lets you configure the power button

Many of you might turn your system off simply by pressing the power button without taking the pain of going through the Start menu, but some might also find the feature a potentially risky one simply because an accidental key press will shut down all applications and then the machine itself. There is no way you can stop the system from shutting down once you press the power button. Here is a tip to change the settings and stop Windows from automatically shutting down when the power button is pressed.

- Right click on the desktop and select

"Properties".

- Click on the "Screen saver" tab and then go to the option "Power" at the bottom of the window.
- Under the "Power" settings click on "Advanced".
- Go to "Power buttons" and select the first option "When I press the power button on my computer".
- The default action is set to "shutdown", you can change it to other options like "stand by" or "ask me what to do" and click on "Apply".

Next time you accidentally press the power button, rest assured that your computer won't shut down abruptly!

7 | Windows XP

Get rid of low disk space warning

I keep getting the low disk space warning in my system tray. How do I disable it?

CHIP TIP The popping up of the low disk space warning in the system tray occurs when Windows detects that a partition is running out of disk space. If you get irritated with this message, here's a simple registry fix that will solve your problem.

Go to 'Start Menu | Run' and execute 'regedit'.

In the Windows registry navigate to 'HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer'.

Create a 'new binary value' and set its value to '00 00 00 01' and exit the registry.

Restart your PC and breathe a sigh of relief.

APPLICATIONS

8 | Fedora Core 4

Installing Yum Extender

I have started using Fedora Core 4 on my machine. I found out that there was a way to update software on Fedora Core 4 but it was through the console. Is a graphical interface available to ease software upgrades/downloads?

CHIP TIP Fedora Core uses 'Yum' to keep software up to date. Yum (Yellow Dog Updater, Modified) is used in the command line mode. There is a way to make this command line process a little easier. You

will have to install 'Yum Extender' on your system so that you can download/upload software through a graphical user interface. First download Yum Extender from <https://sourceforge.net/projects/yumex/>. After downloading 'Yumex' install it as 'root'. Click on the terminal icon to bring up the console. Type the following commands and press [Enter],

su –

Enter the root password and press [Enter]. Now you are in SuperUser mode.

Type,

yum install yumex

Press [Enter]. Yum Extender will be installed and will be accessible under Applications | System Tools. You just have to click on update to get a list of the packages available for download. It still uses Yum's repositories (and configuration files) to create this list. Select what you want to download or remove packages according to your preferences from the Edit menu in Yum Extender. If you access the Internet through a proxy then configure the Yum Extender's 'Preferences' by entering the server's address. It is entered in the following format,

`http://<User>:<Password>@<proxy> hostname:<port>`

Ignore the user/password part if you do not use one.

For example, `http://10.20.31.183:80`

9 | Microsoft FrontPage 2000

Viewing time for web pages to load

I have been dabbling with an older version of FrontPage (from the Office 2000 suite).

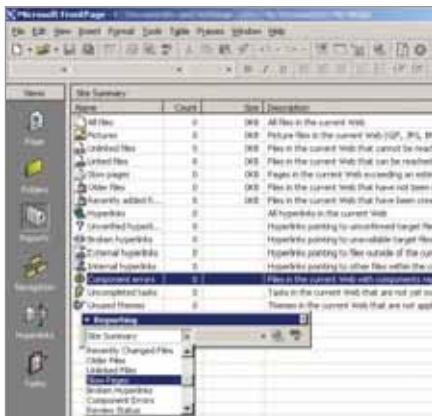
The advertisement features a graphic of three traffic lights (red, yellow, green) arranged vertically. To the right of each light is a heading and a brief description:

- Stop!** All Internet and email headaches
- Freedom** From all worries with a 'fill it-shut it-forget it' solution
- Get** Complete peace of mind

PostMaster™
A "fill it-shut it-forget it" LAN-based email software.

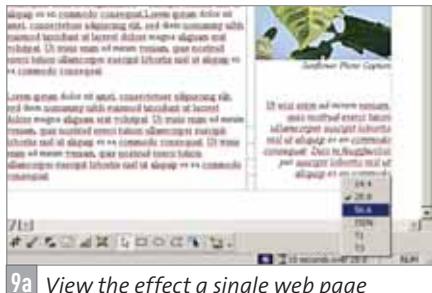
For free demo visit www.jfc.in
Mumbai: 022 4000 7700 | Pan India: 9003 2001 8012
Bengaluru: 080 4115 2160 | 91 9003 2001 8022

It is essential for me to create web pages that are light. How do I find out how much time the web page I create will take to download on a user's machine? Is there a plug-in for that in FrontPage?



9 Use the Review toolbar to obtain a list of the pages that take more than 30 seconds to load over a 28.8K connection

CHIP TIP Microsoft FrontPage provides a very simple way of viewing the amount of time a web page takes to load on a user's computer. Click on File | Open Web and browse to your web page. Now make sure you click on View | Reports | Site Summary to get a list of the web pages and components. Click on View | Toolbars | Reporting. Click on the dropdown list and select "Slow Pages". This will bring up a list of all the pages that will take over 30 seconds to load. This is a default value and can be changed by just editing the



9a View the effect a single web page has over different kinds of Internet connections quickly

number in the toolbar. It's possible to find out which pages will take more than 20 seconds also.

There is another way to configure your PC for the same purpose by using a standard 28.8K modem or a DSL modem.

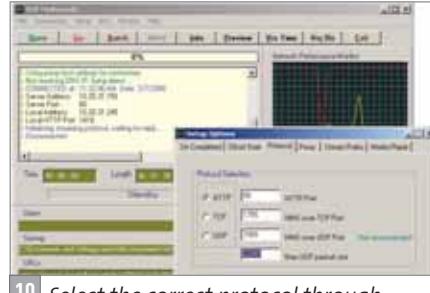
With the web page opens in FrontPage take a look at the bottom right hand corner of FrontPage. You will see some details like "18 seconds over 28.8". This means the page will take 18 seconds to load on a 28.8K connection. Click on that portion and you can select the kind of connection the user has and obtain information on the amount of time it will take to the load the web page.

10 | SDP Multimedia

Capturing video with network streaming protocol

I download audio/video files by saving the link and pasting it in my download accelerator GetRight. But there are a couple of videos that I cannot download via GetRight. It does not seem to support the URL which starts with "mms://..." instead of the usual "http://...". I have even tried to search for the video files in the 'Temporary Internet Files' folder but found nothing. How can I download videos from such links?

CHIP TIP MMS is the acronym for Microsoft Media Server. It is a network streaming protocol used to play audio/video online. Media Player supports this protocol and hence it opens and begins buffering the media by default (unless you have a MMS protocol player). There are quite a few applications available that capture video using protocols other than HTTP. SDP Multimedia is one such application. It's free



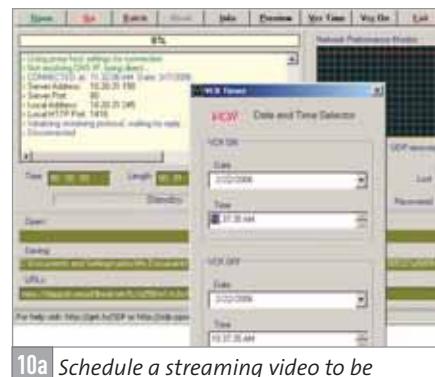
10 Select the correct protocol through which SDP should stream media that uses the MMS protocol

and quite easy to use.

SDP Configuration: Before you begin using SDP Multimedia go through some of the configuration options. Click on Setup | Setup Options and click on the 'Proxy' tab if you use one to access the Internet. Enter

the proxy address and port and then click on the 'Protocol' tab. Select the protocol you want to use to capture the streaming media. If you use a proxy then you might be surfing the web via port 80 (HTTP). Select the HTTP port radio button or else leave the settings just as they are. Set the stream rates from the 'Stream Rates' tab and select SDP to be your default media player while running the download.

SDP VCR Mode: SDP Multimedia has a VCR option that allows you to schedule an MMS media download if you are going to be away from the computer. Click on the 'VCR Time' button (or Edit | VCR Time) and simply set the "VCR ON" and "VCR OFF" times.



10a Schedule a streaming video to be downloaded while you are away with SDP Multimedia's 'VCR Time' option

Batch Downloads: This proves to be extremely useful in case of multiple downloads. This requires an .ASX file. A simple way to do this is by opening a notepad file and entering each MMS stream link on a new line (make sure you press [Enter] at the end of each link). This file has to be saved as an ASX file and not TXT. Enter a name with the .ASX extension in double quotes like this, "Demos.asx". Save the file and open SDP Multimedia, click on 'Open' and browse to the ASX file to begin the batch download. The links will be automatically picked up one by one and the capture process will begin. You can enter up to 50 links in an ASX file.

11 | Winamp

Jump directly to any song in Winamp playlist

I have almost 5,000 songs stored on my hard drive. Now whenever I listen to them

in Winamp, I directly drag the Music folder (which contains all the 5,000 songs) into the playlist window. It's alright when I put Winamp in the random mode and listen to whatever track it plays. But when I have to listen to a specific track I have to scroll through all the songs to find it or else I have to go to the specific folder where the song is saved and double click on it. Is there is way by which I can look for a particular song in the Winamp playlist without having to scroll.

CHIP TIP Winamp has an inbuilt feature called "Jump to" to directly jump to a song in a particular playlist. Put all the songs in the "PlayList Editor" as you normally do. Then highlight Playlist editor by clicking on it and then hit the button "J" on your keyboard without the quotes. You will get a new pop up window with a text field. Here you can enter which ever song you are looking for in the playlist. It does a string search, so even if you don't remember the whole name of the song, it will display all the closest matches and you can then select your song. Just double click on the song name of your choice and it will automatically play without disturbing the playlist. You also have the option "Move after current" by which you can enqueue your selected song after the song that it is currently playing.

12 | Word

Speed up rendering of Word documents

I always find that whenever I read or edit complex Word documents containing images or multimedia content they take a significant amount of time to load. How can I expedite the process?

CHIP TIP If you have a slower computer, when you read or edit a very complex document loaded with images and multimedia content, it may take time for Microsoft Word 2003 to load the documents. If this happens, you can view your document using a draft font that speeds up rendering by hiding complex formatting, yet keeping the substance of the content intact.

- Click on 'Tools' and then 'Options'
- When the 'Options' multi-tabbed dialog box appears, select the 'View' tab.

- Check 'Draft Font'.

- Click 'OK' to close the dialog box.

Now click on 'View' and choose 'Normal'. Your Microsoft Word 2003 document will appear in the Courier New font. Only minor formatting changes such as bold, italic, or underlined text will appear. Note that your document has not changed on disk, only its appearance on screen

13 | Word

Preventing page breaks

How I can prevent paragraphs in Microsoft Word documents from splitting to separate pages?

CHIP TIP Your Microsoft Word 2003 document may include a small paragraph, four or five lines long, that may split onto separate pages. You may be working on a technical paper, containing a very complex paragraph describing how to perform a task. If this paragraph is split by a page break, the documentation may be confusing. In either of these cases, Word's default splitting of large paragraphs into separate pages may not appeal to you. You can change this option, either on a paragraph-by-paragraph basis, or you can select the entire document for modification.

- Either right click on a paragraph, or select a group of paragraphs and then press the right mouse button.
- Choose 'Paragraph' from the popup menu.
- When the 'Paragraph' multi-tabbed dialog box appears, select 'Line and Page Breaks'.
- Check 'Keep lines together'.
- Press 'OK' to close the dialog box.

14 | Word

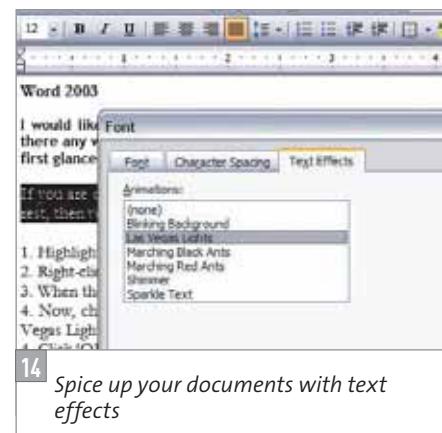
Jazz up your document

I would like certain blocks of text in my Word document to stand out from the rest. Is there any way to add lights and sparkles to grab the attention of the reader at the very first glance?

CHIP TIP If you are designing a Word document and want certain text to stand out from the rest, then follow these steps:

- Highlight the text.

- Right click and choose 'Font'.
- When the 'Font' multi-tabbed dialog box appears, click on the 'Text Effects' tab.
- Now, choose from a variety of effects for your text namely Blinking Background, Las Vegas Light, Marching Black Ant, Marching Red Ant, Shimmer, and Sparkle Text
- Click on "OK" to close the dialog box and apply the text effects.



14

Spice up your documents with text effects

15 | Word

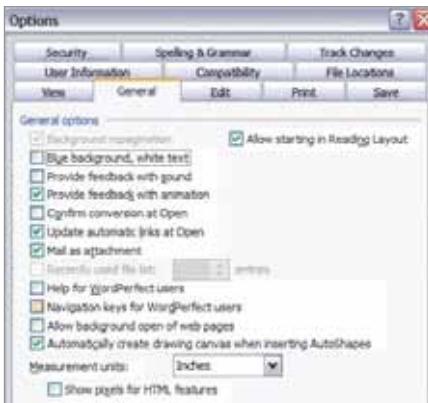
Switching from WordPerfect to Word 2003

I have been using Corel WordPerfect for quite a long time. But now I have switched over to Word 2003. Can you tell me how to make Word act a little more like WordPerfect so that my transition is easier?

CHIP TIP In order to make Word 2003 act like WordPerfect just follow these simple steps.

- Click on the 'Tools' menu.
- Select 'Options' and when the multi-tabbed dialog box appears, click on 'General'.





15 With this setting you can easily switch from WordPerfect to Word

- Check 'Blue background, white text' to make the window colors more familiar.
- Check 'Help for WordPerfect users'. Now, whenever you enter a function key combination, Word 2003 will illustrate how to perform the equivalent function.
- Check 'Navigation keys for WordPerfect users'. This changes how certain keys operate in Word 2003 to be more like WordPerfect.
- Click on 'OK' to close the dialog box.

16 | Word

Splitting a document into two sections

How do I work on two sections of the same document simultaneously in Microsoft Word?

CHIP TIP If you are working on a document spanning over several pages, you may feel the need to work on two sections of the documents simultaneously. For e.g. while translating or writing a report, you may

required. Can be mixed with Non - External Forces: particles can be further affected by simulated forces like negative.
Next page: Making Fire
Previous page: Basic Animation

Know how to configure the render and animation settings.

Setting Up the Workspace
Start from the default blender configuration and set up window, and a smaller panel underneath it for the buttons window.

1. Create a mesh of a 3-divisionicosphere in the center "particle emitter".

Work on two sections of a document using the split

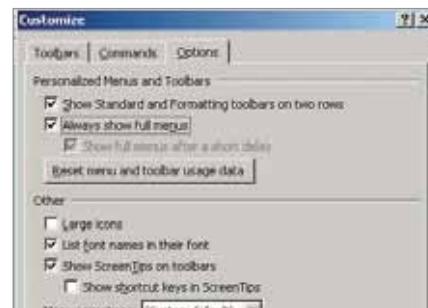
want to refer to some other section of the document. In such cases, you can split the current document into two sections and work on them simultaneously. To split the screen horizontally, press "Ctrl+alt+s" and then use the mouse to place the split at the desired position. Pressing "Ctrl+alt+s" again will remove the split.

17 | Microsoft Office

Expanding the menu to display all options

Menus in Microsoft Office applications display only the most recently used options when clicked. The entire list of options gets displayed only when the menu list is expanded. Can I permanently set the menus to display the entire list of options?

CHIP TIP By default, menus in Microsoft Office applications like Word, Excel and PowerPoint display only the six or seven most recently used options when clicked. The entire list of options gets displayed only when the menus are double-clicked or expanded. If you want to permanently set the menus to display the entire list of options, right click on any of the toolbars and select 'Customize'. Under the 'Options' tab in the 'Customize' dialog box, check the option 'Always show full menus' and close the dialog box. Now click on any menu and see the difference.



17 Use this option if you hate expanding menus in office applications

INTERNET AND COMMUNICATION

18 | Browser

Switching tabs in Firefox without using mouse

Is there any shortcut to switch tabs in Firefox?



When several tabs are open in Mozilla Firefox, using the mouse is not the only way to switch tabs. Instead, you can use the keyboard shortcut 'Ctrl+tab' to switch tabs like using 'Alt+tab' for switching between open windows in the taskbar. Switching tabs using the keyboard is useful while surfing the Net.

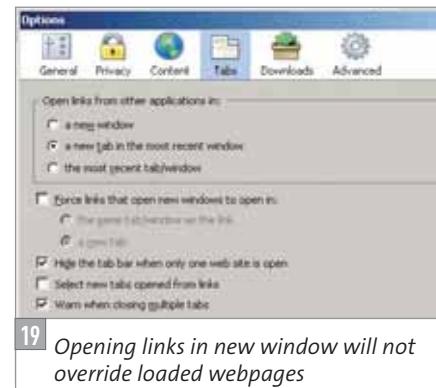
19 | Browser

Setting Firefox to open links in new window

When I click on HTML links from other applications such as MSN Messenger, they open up the active window in Mozilla Firefox. Can I set Firefox to open links from external applications in a new window?



When you click on links from other applications like MSN Messenger or a help file, they open in the most recent window replacing its contents. To prevent this, set Firefox to open such links in a new window. To do so, go to 'Tools | Options | tabs' and check the option 'A new window' and apply the settings for the effect to take place.



19 Opening links in new window will not override loaded webpages

20 | Browser

Automatic spell-check in Thunderbird

I always run a spell-check before sending any e-mail using Thunderbird. Is there a way to make Thunderbird automatically run it before sending e-mails?



If you are used to running a spell-check each time you send an e-mail, it would be a wise option to set Thunderbird to automatically do a spell-check before sending e-mails. Simply go to 'Tools | Options' and check the option 'Check spelling before sending' under the

'Composition' tab and click on 'OK'. Now you need not click on the spell-check button before sending an e-mail.

21 | Outlook 2003

Longer duration of Desktop Alert

How can I force Outlook 2003's new e-mail Desktop Alert to stay on screen long enough so that I can read it?

CHIP TIP Whenever you receive new e-mail with Outlook 2003, a pop-up Desktop Alert near the right side of the Windows Taskbar appears, providing you with a brief synopsis of the e-mail and a quick opportunity to click the e-mail to read its contents. However, this Desktop Alert only appears for a few seconds, giving you very little time to click on it. If you want this Desktop Alert to appear for a longer duration, you have to do the following:

- Click on 'Tools', select 'Options'.
- When the 'Options' multi-tabbed dialog box appears, click on the 'Preferences' tab.
- Click on the 'E-Mail Options' button.
- When the 'E-Mail Options' dialog box appears, click on 'Advanced E-Mail Options'.
- When the 'Advanced E-Mail Options' dialog appears, then click on 'Desktop Alert Settings'. When the 'Desktop Alert Settings' dialog appears, move the 'Duration' slider to the right. As you move it, you can see underneath the slider the duration of time the Desktop Alert will appear on screen. Choose your desired length, from 3 to 30 seconds.
- Click on the 'Preview' button to preview your settings. Click on 'OK' on the four dialog boxes to close them.

22 | Outlook 2003

Changing the default color

I want to know how I can change the default yellow color for Outlook 2003 notes to my desired color

CHIP TIP Normally, Outlook 2003's Desktop Notes appear in the standard color of yellow. If you want to change the default color to green, blue, pink, or white, do the following:

- Click on 'Tools' and then on 'Options'
- When the 'Options' multi-tabbed dialog box appears, select 'Preferences'.

- Click on 'Note Options'.
- Next click on 'Color' to choose your desired color.
- Press 'OK' on the two dialog boxes to close them.

23 | Outlook 2003

Detecting spam sources

I want to detect from where all the unwanted e-mail comes from to my Outlook 2003 inbox. How can I do this?

CHIP TIP When you receive an e-mail message in Outlook 2003, it normally displays the e-mail's sender, recipient, date and time of message sent, subject, etc. But e-mail addresses can be forged. Therefore to view the e-mail's routing information to help determine which computer or network actually has sent the message, do the following:

- Right click on a suspect message.
- Choose 'Options' from the pop-up menu.
- Look for the section 'Internet headers'. Depending on the e-mail, you will see more detailed routing information such as when and where the e-mail was received on each network, SMTP message IDs, MIME type information and more.

24 | Outlook 2003

No envelope icon with mail

How can I prevent the envelope icon from appearing on my Windows taskbar whenever I receive e-mail with Outlook 2003?

CHIP TIP To get rid of the envelope icon that appears with e-mail near your clock in the Windows taskbar, follow these steps:

- Click on 'Tools', select 'Options'.
- When the 'Options' multi-tabbed dialog box appears, click on the 'Preferences' tab.
- Click on 'E-Mail Options'.
- When the 'Advanced E-Mail Options' dialog appears, uncheck 'Show an envelope icon in the notification area'.
- Click on 'OK' on the two dialog boxes to close.

HARDWARE

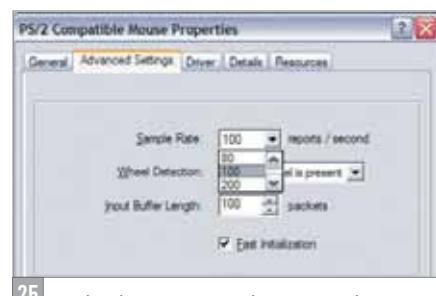
25 | Mouse

Tweaking PS/2 mouse performance

How can I take care of the problem of the mouse behaving erratically?



Sometimes the mouse does not function properly due to a peculiar hardware problem. There could also be the possibility of the mouse being either too sensitive or slow, causing some misbehavior. There are some basic settings by which you can tweak the way Windows handles the mouse. Most of the tuning is particular to the PS/2 port that the mouse uses for connection. To improve performance or fix some issues with the mouse:



25 | Make the necessary changes in the "Sample Rate" and "Input Buffer Length" for fixing issues with the mouse

- Go to "Start | Control panel | System"
- Under "System Properties" click on "Hardware"
- Click on "Device Manager" and go to "Mice and other Pointing Devices"
- Select your mouse that will be generally denoted as "PS/2 Compatible Mouse" or it can be a specific name if Windows XP recognizes the brand or model of the mouse that you are using. Double click on the mouse to open its properties.
- Select the "Advanced Settings" tab under Properties.
- The very first option, "Sample Rate" relates to how often the operating

www.pc-b.com

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- Wasteful Internet browsing
- Unrestricted Internet access

Stop!

- Email backup hassles
- Spending on email IDs

Stop!

- Virus attacks
- Spam & unwanted emails

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Bengaluru: (080) 4119 2700 | S. Durgapur: 09122 2000 1150-3027

system determines the position of your mouse. If you want to increase the resolution of your mouse or increase the speed at which your mouse is tracked, you should increase this value. Increasing this value will make your mouse more sensitive; decreasing this value will make it less sensitive. By default the value is 100.

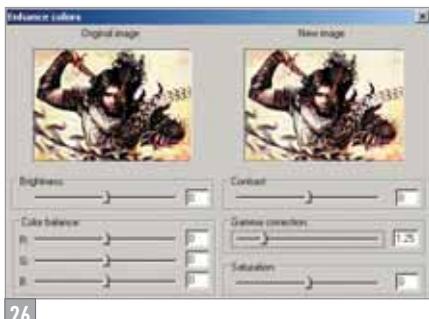
- The third option, "Input Buffer Length" relates to the size of the input buffer that stores information about your mouse location. Increase this number if your mouse behaves erratically. By default the value is set to 100.
- The last element on the window is the "Fast Initialization" option. By default it is turned on in most cases. It basically increases or decreases the time it takes the OS to start up. If your mouse behaves erratically (moving in random directions or acting as though you have clicked buttons on when you actually have not), clear this check box.

26 | Digital Camera

E-mailing snaps

I want to e-mail snaps that I have shot on my digital camera. But the images are way too big in size for me to send them as attachments. I don't know how to use professional imaging software like Photoshop. What is the easiest way to correct and resize images so that they can be easily attached and sent via e-mail?

CHIP TIP When sending images as attachments in e-mails, it is recommended to reduce the size of the images so that they don't exceed the overall size of the attachment. This way it takes lesser time for the sender to compose the mail and



26 Move the sliders to adjust brightness, color, contrast and gamma



26a Specify the resize percentage or the dimensions

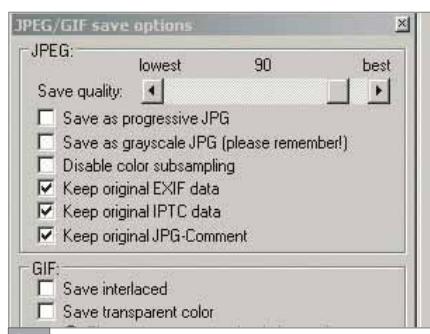
the recipient to receive the mail. Further, you may want to make a few corrections to the images like tweaking the color balance, brightness, contrast, sharpness, gamma, etc before e-mailing them. If you don't know how to use Adobe Photoshop, the simplest solution is to use IrfanView.



26b Sharpen the image to reduce blurriness

Correcting images: Before resizing images, apply corrections such as adjusting color balance, brightness, contrast and gamma to enhance them. After loading an image in IrfanView, go to 'Image | Enhance colors'. In the dialog box adjust the settings to correct the image as per your preference. After you're satisfied with the preview in the preview pane, click on 'Apply to original' to apply the changes.

Resizing images: To resize an image, go to



26c Save image in JPEG format to keep the file size low

'Image | resize/resample' and specify the new size of the image as a percentage of the original image size depending on the size of your image. Make sure the "Preserve aspect ratio" option is checked while you specify the new size.

Adjusting sharpness: After reducing the size of the image, there will be a slight reduction in the sharpness. Use the shortcut 'Shift+s' to sharpen the image before saving it.

Saving: Uncompressed image formats like BMP and TIFF are bulky. Hence, it is recommended to save images as JPG. Specifying the file type as 'JPG-JPEG files' in the "Save picture as" dialog box and hit the "Save" button to save the file in the desired location.

If you've done everything correctly, you'll notice a significant reduction in image size. Now you won't have to wait for ages to attach and e-mail images. Click send and share your memories with friends and family.

27 | Graphics Card

Cool your graphics card

I have recently purchased a 6600 GT AGP card. The idle temperatures are around 50-55 degrees but it goes all the way up to 85-90 degrees while playing games like Need for Speed Most Wanted. I am looking for coolers in the market but I have not been able to find any. What do I do?

CHIP TIP Firstly the core slowdown threshold for the 6600 GT is at 140 degrees i.e. at temperatures 140 degrees and beyond, the graphic core will slow and shut down to prevent core damage. It's not recommended to push your graphics card to such limits as heat reduces their life span. First of all, try ventilating your case properly. If possible have at least a 120 mm front intake and exhaust fan for your case. This will reduce temperatures a bit. For example, Artic silencer coolers are available at most hardware enthusiast stores. Unfortunately, Artic silencer doesn't have a cooler for the 6600 GT AGP version because of its unusual design. It's mainly due to the PCIe to AGP Rialto Bridge. We recommend the Vantec Spectrum fan card instead. It helps reduce temperatures to as much as 15 degrees at load, which is quite commendable. ■



Multis



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Executive Leather



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BacPac Mission



BacPac Jump



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Games Kids Play

Children know what they want these days.
I know what I want—their toys!

Robosapien V2 (Price: USD 250)

The Robosapien V2 is a remote controlled talking robot, which stands two feet tall—ten inches taller than its predecessor. A little over 2.5 kgs in weight, version 2 has been around for a year now and is still popular among people of all age groups. It can pick up and throw objects, kick and even dance. Farting and burping are also part of its 67 pre-programmed movements. In addition to following commands sent from the remote control, it can also function on its own in ‘free roam’ mode. With its ability to learn up to 84 additional programmable steps, you can even program it to carry out certain tasks. Robosapien V2 can also “hear” sounds in stereo mode and react accordingly. It can even distinguish colors and skin tones with its “eyes” (color vision system). The Robosapien is quite a social animal—it can communicate with fellow-bots in its vicinity too.



Fly Pentop Computer
(Price: USD 100)



Robosapien V2
(Price: USD 250)

Roboraptor (Price: USD 100)

Razor-like teeth, eerie eyes and a striking resemblance to the raptor, the fascination with reptiles from the Jurassic age has not ended. The Roboraptor is a hundred dollar pre-historic robot that can sense its surroundings via touch and sound. Sensors that are placed along its reptilian body (including its mouth) help it in avoiding obstacles; hear audio (in stereo mode) and react accordingly. You can control the raptor to do your bidding with the help of the remote control. It can be set to function in different stealth modes or be plain playful. If your dog can fetch and play dead then this raptor can do better.

Robot Shark (Price: USD 100)

Creating one of the most feared pre-historic creatures on land was not enough. A reproduction of the ‘Don of the deep’ had to follow. The robotic shark is scaled down to just two feet in length and can swim (and be controlled) up to a depth of nine feet. It is made up of segments, which allow it to mimic the predator’s swimming motion. A propeller tucked neatly under its tail fin produces the forward thrust. It can be made to swim backwards—something even fish can’t do! The remote control has a range of up to 40 feet and is also waterproof. Interested in going swimming with your pet shark?

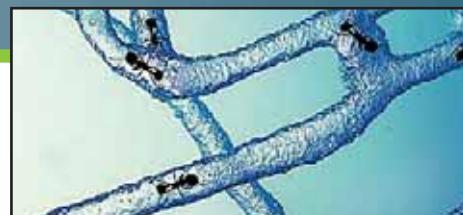


Friendships
(Price: USD 20)

LEGO Mindstorms NXT

(Price: Not Available)

If buying a ready-made robot is not your style then LEGO's new Mindstorms NXT kit will be right up your alley. This new version is going to attract more LEGO fans than the what the Mindstorms kit did when it launched in 1998. Use the NXT kit's components to build your own robot and program it to do a specific task. The ultrasonic sensor and the sound sensor can be its eyes and ears while three servomotors will give mobility to your robot. You can program your robot to perform tasks and teach it to interact with other robots too. It supports wireless transfer via Bluetooth and can also be connected to your PC through a USB 2.0 port. Creating your own robot with LEGO is meant to be simple (it is meant for the age group of 10 years and over). There are LEGO robot-programming guides for those who need a helping hand. If you are interested in owning this robot kit, then you will have to wait a while. The LEGO Mindstorms NXT kit will be available only in the second half of the year.



AntWorks (Price: USD 20)

This ant farm is made up of an edible gel made by NASA as part of an experiment. The ants burrow through this special gel, which is a form of nutrition for them. The base of this ant farm has LEDs that give it its cool blue look. Instead of watching goldfish swimming aimlessly in an aquarium, you could switch to gazing at ants making tunnels into gel.



Fly Pentop Computer

(Price: USD 100)

The Fly Pentop Computer by LeapFrog Enterprises won the "Educational Toy of the Year" by the Toy Industry Association at the International Toy Fair this year. Meant for kids eight years and older, the Fly Pentop computer sees what you write on special paper called "Fly paper". You can play games, learn spellings, phrases, improve your math or learn science. You can draw a calculator on the special paper and do your math. The pen will read the answer out to you. It will even say it in Spanish.

Friendchips (Price: USD 20)

Radica's Friendchips is meant for young girls who just have to "keep in touch" with their friends while class is on. The gadget lets one key in a message onto a "chip" through a "reader unit". Pass the chip over to a friend and she will read it on her Friendchips set. It consists of two reader units and four chips. Even though it is meant for girls, many boys have expressed their interest in this messaging service. Even little kids are going paper free!



20Q

(Price: USD 16)



Robot Shark

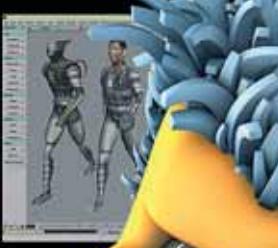
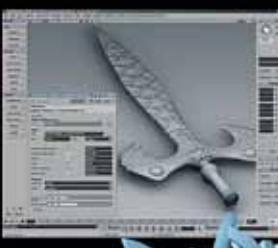
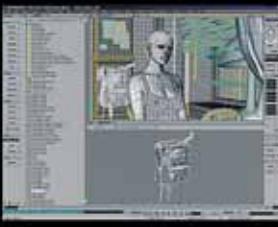
(Price: USD 100)



Roboraptor

(Price: USD 100)

| Ashutosh Desai



The Art of Animation

What goes into bringing a three-dimensional character to life? An animation expert breaks it down for you

Thrillers like *Terminator*, *Jurassic Park*, *The Matrix*, *Sin City* and games like *Half Life 2*, *Onimusha 3* have enthralled audiences and gamers around the world. Incidentally, all these movies and games mentioned above have one thing in common. All the special effects and animation have been created with the help of Avid's SoftImage XSI software.

To understand SoftImage XSI better, Anup Pillai and I met up with animation expert Siddharth Bolurker recently. Siddharth has been in the animation industry for over 4 years now. He has worked with well-known studios like Paradox and Prime Focus Limited. His proficiency in Soft Image XSI has made him a "domain expert" in Real Image Media Technologies. ■

Watching him create a CG character so deftly on his notebook could fool anyone into believing that animation is a piece of cake. 'Sculpting' a simple CG object and animating it requires a firm grounding in 3D modeling and an in-depth knowledge of CG tools. Here is a sampling of how Siddharth used SoftImage's XSI 5.0 to create a CG character's head.

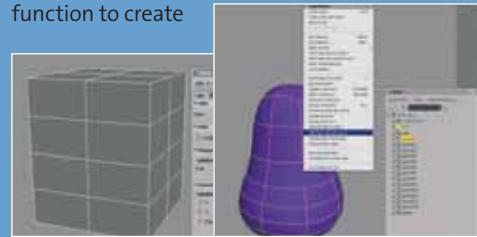
Character Modeling

Building any CG character usually begins like a game of building blocks. The head is first modeled from a cube. The cube is subdivided on all faces—these subdivisions can be increased as and when needed during the creation process. This cube is sculpted into the shape of the character's head. Characters (in 3D) are also created from scans of illustrations or reference images. At this sculpting stage an animator can increase the subdivisions (creating a more complex mesh) on the surface. This depends on the level of detail he intends to incorporate into the character's face. Tools built into the software can be used to create more edges on the surface of the object. Once the animator has created the basic shape of the head from the cube, he begins work on the lower half of the oval—the mouth area.

The portion that will be shaped as the

character's mouth needs to have its mesh (subdivisions) re-arranged. To form the outline of the mouth, edges will need to be created. While shaping the cavity he might also have to delete some edges. To create the cavity he has to 'push' the polygons that lie within the periphery of the mouth. In this manner the mouth is created. Now comes the part where the animator begins work on the upper half of the character's head—the eye (yes, this character will sport just one eye). Once again, a cavity needs to be made where the character's eyeball will reside. This eye socket is a lot bigger than the mouth that has been created earlier. Making the socket is somewhat the same wherein edges are formed around the eye rim. The polygons for the forehead can be pulled closer to the eye making the ridge over the socket thicker. The eye socket and the mouth are then further sculpted to give it a beveled look.

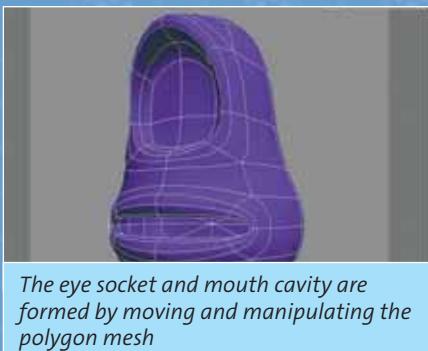
Next on the list are the ears on the character's head. Since the animator intends on creating identical ears on either side of the head he uses the 'symmetry' tool in XSI. This way he is sure that the ear he makes will be replicated on the other side of the head, reducing his work. He does this by simply deleting one half of the head and concentrates on the ear. He pans around the character to get the right view of the portion from where he will create the ear. The subdivisions (or mesh/loops) on that portion of the head are reworked to facilitate creation of this part. Then with the help of the same tools, a ear is literally pulled or 'extruded' out of the character's head. Loops at the tip of the ear are once again manipulated and pushed in to give it more form. The animator uses the "symmetrize" function to create



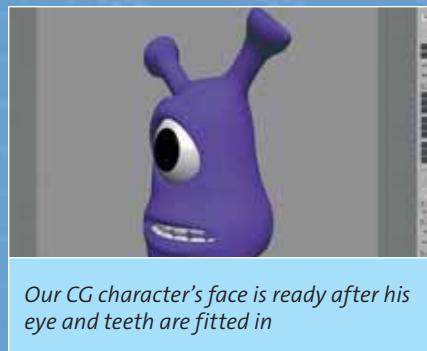
Before: The animator starts with a basic shape

After: The basic shape is sculpted into a form close to the character he has in mind

By Pramod Jadhav



The eye socket and mouth cavity are formed by moving and manipulating the polygon mesh



Our CG character's face is ready after his eye and teeth are fitted in

the other half of the character's face automatically. The "symmetrized" half is now joined to the original.

The only things left to create and fit into the character's face are his teeth and eyeball. These are also molded from basic shapes like a cube or sphere and fitted into the face.

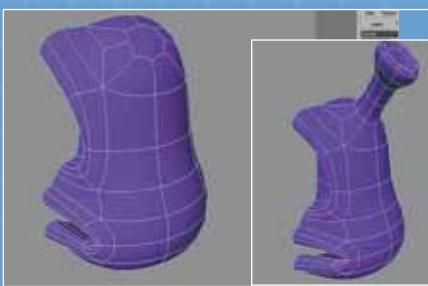
Secondary Motion

Now that the head has been created the animator focuses work on the ears. The objective here is to make the ears move whenever the head changes its position. This sort of movement relative to the main body is called secondary motion. In order to produce secondary motion on ears the animator has to create a skeletal system of the face. He uses the 'right hand side' view of the wire-frame face to create a 2D bone structure. Since the goal is to produce secondary motion of the ears, the skeletal system created here is quite basic. A central bone is created in the head and the view is once again changed to create the ear bone. The "symmetrize" function in XSI is used again to duplicate this bone for the other ear. This is the basic "bone chain" required to create secondary motion of the character's ears. After the creation he links the ear bones to the head bone. This is an important step and it doesn't mean the ear

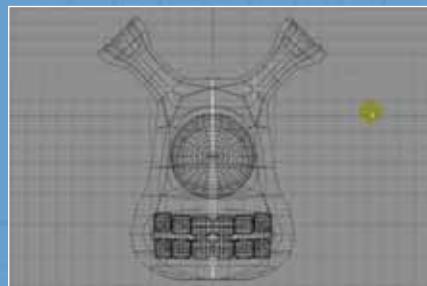
and head bones are "physically" linked. The linking is done in order to specify the head bone as the parent bone and the ear bones as secondary.

The skeletal session is ended and the animator gets back to the original view. He goes about creating control objects that are non-renderable. This means that they do not need to be hidden while rendering the scene. Three control objects need to be created here. One is created and placed along the axis of the head bone while the other two are placed on the tips of the ears. The control objects on the ears are "matched" to the control object in the head. This will ensure that the control objects on the ears will match scaling, rotational and translation movements with the central object. In addition to this match he uses the "constrain" function to link these control objects to the ear bones. This way the ear bones are always driven by the control objects. Now the animator 'envelopes' the character to this skeletal setup (also known as "skeletal hierarchy"). The skeletal hierarchy can be viewed like a simple schematic so as to get an overview of the bone structure). All the polygon vertices on the head are selected and "weighed" or assigned to the head bone.

The eyes and the teeth in the head need to move along with it, so the animator



The mesh on the head is manipulated to accommodate the formation of an ear

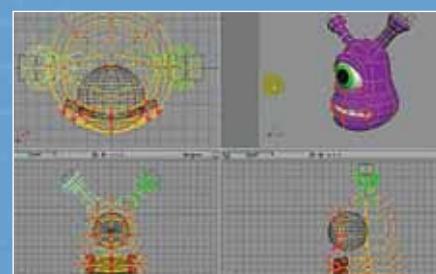


Creating the bone structure within the character's head

selects them and binds them to the head bone—also known as the "parent" function. Now to test the animation easily, a "shadow bone" is created. It is basically just a cube that encloses the entire head. This can be selected and dragged to move the head, which is easier than selecting the wireframe object. When the animator moves the head, the ears also move along with it. But this is not secondary motion since the control objects on the ear remain fixed in their position. Ideally the control objects should also move along with the head bone with some delay to achieve perfect secondary motion.

Final Tweaking

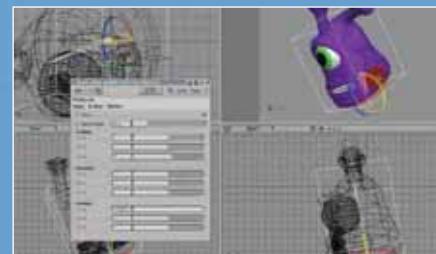
The animator selects the two control objects and uses the "pose constrain" function to the main head bone. To constrain but also maintain the position of the control objects on the ear, he also uses the "constrain



Make sure all the polygon vertices are linked to main head bone

compensation" function. To set up the secondary motion he changes certain weightages to create a slight delay in the way the control objects follow the ear. Rotating or moving the head now creates ideal secondary motion. This function can be further tweaked by creating a custom slider to reset the values as and when required. ■

| Ashutosh Desai



Tweaking settings produces perfect secondary motion of the ears

ONIMUSHA 3

CHIP
Exclusive

A fun-filled adventure game packed with good sound effects

Developer Capcom has tied up with Ubisoft to release Onimusha 3—one of the most popular games for the PlayStation 2—exclusively for the PC. All the gaming enthusiasts who couldn't play this game on the PS2 would now be relishing the second opportunity that they have got.

In this game the adventure takes place both in medieval Japan as well as modern day Paris. The two main characters of this game are Samanosuke and Jacques who is a French commando. As the game progresses, you will switch between either of the characters as well as the locations. The game begins with Samanosuke and his small group of soldiers assaulting a fortress in medieval Japan where warlord Nobunaga has been pinned down. There are no training sessions when you begin so you will have to figure out the controls soon enough so that you can survive the battle. In the middle of the fight between Samanosuke (you) and Nobunaga, the former is taken to present-day Paris through a time rift. Here he finds that the very demons called Genma that he was fighting against in his medieval home in Japan have infested the streets of Paris and are killing innocent

people. During this stage he comes face to face with Jacques who is then shifted to medieval Japan through another time rift. Here Jacques come in contact with a small winged spirit called Ako who will help you in your quest to defeat your enemies as well as find a way back to your time. Ako has a good sense of humour but at times you might find her presence annoying.

During gameplay, you will find that quite a number of useful things are hidden in treasure chests that are placed around the corners. These things could help you heal and extend your life or you could get some new shield that will protect you during an attack. Some of the treasure chests are puzzle boxes, where you'll have a set number of turns in which to slide puzzle pieces around to complete a circuit. These can be pretty challenging. Most of the other puzzles aren't very difficult though, and the game's linear structure means it is usually pretty obvious where to go or what to do next.

The controls are not difficult to master. You need to carefully time your attack so that you can finish off your enemy without any trouble. The advantage of this well-timed move is that your enemy will lose a much greater amount of soul orbs



than that with an ordinary move. These souls can then be used as currency for powering up your defences as well as your weapons. You can practise these cool moves during the training sessions that crop up in between the game. The developers have taken care to see that even a novice who will be playing this game for the first time will be at ease while playing the game and won't have to keep pressing two to three keys simultaneously just to execute one simple move.

The sound effects and voice acting are very good. In this game most of the conversation takes place in English. You will not be hearing the original Japanese voice over. At the beginning of the game, Jacques talks in French but later with the help of Ako both he and Samanosuke start speaking in English. The background musical score also fits in perfectly with the story of the game

But the developers have ignored one important aspect that makes a game stand out from the rest and that is the graphics. While the game looked awesome on PS2, on the PC the effects are really bland. This is because this game has not been developed separately for the PC; it is just a port of its console counterpart. We played this game on our rig that had 1 GB of RAM and ATI Radeon 1900XT with 512 MB of RAM, and yet the game looked under textured. There are options available to change the graphic settings but even after playing the game at the highest settings, it failed to give the same response as that on the PS2. Another omission in the PC version is the cinematic introduction that was present in the PS2 game.

We fail to understand the logic behind releasing *Onimusha 3* for the PC when

the developers have already released *Onimusha: Dawn of Dreams* for the PS2. There does not seem to be any reason why this new game in the *Onimusha* series could not be released simultaneously for the PC and the PS2. However, in spite of being a direct port of the PS2 game, *Onimusha 3* is very fast-paced. It has a good story, very good sound effects and allows you to perform some cool moves. You only wish that the developers had put in some more effort and engineered this game specifically for the PC so that there would be an improvement in the graphics.

But if you are fan of the *Onimusha* series and you want to get a first hand experience of how this game feels on the PC then go grab it quickly. ■

| Anup Pillai

RATINGS

7.5 / 10

For: Good story; easy to master controls; good sound effects and background score.

Against: A direct port of the PS2 game.

Publisher: Ubisoft **Distributor:** e-xpress Interactive Software Pvt Ltd **Phone:** 022-28870017 **System:** Windows XP/ 2000, Pentium IV 1.0 GHz or equivalent, 512 MB RAM, 8x or faster DVD drive, 3.5 GB of free hard disk space, video card with 64 MB or more memory

ORS UNITE AGAINST
GIONS OF HELL

PSP Games



■ Price: Rs 2,999 ■ Distributor: Milestone Interactive Software Ltd
■ Tel: 022-28203319

RATINGS

8 / 10

For: Excellent visuals; adrenaline pumping action.

Against: Frustratingly difficult in the later levels.

Pursuit Force

Get ready for some high-speed missions

Pursuit Force is an interactive action movie with high-speed car chases, heart-stopping stunts and some hardcore gun action.

The game's story, just as it is in the movie, is best left ignored. The basic premise of the game is there are five gangs ruling the city; you're a cop in a new police department called Pursuit Force that has access to some serious firepower. You have 30 missions that involve you in high-speed chases, car-hopping and some old school gun-running. Each one of these aspects push the PSP's capabilities to the max as these are definitely one of the most visually appealing games I've seen on the system.

The car hopping is one of the most unique aspects of the game. It's an exhilarating experience, even if though it can bug you a bit. There are times when the yellow jump icon doesn't show up, and it may cause a bit of re-strategizing on your part. Also, the game is extremely tough and will even give the gaming elite a run for their money. The later levels expect you to be perfect with what you do as one mistake like hitting the civilian traffic can cost you the whole level.

If you think you can handle the heat, then *Pursuit Force* is a great action game that doesn't disappoint.

Wipeout Pure

Junks the storyline, sticks to futuristic racing

Wipeout first made its mark on the original PlayStation console (now sold as the PSOne) as one of the launch titles for Sony's foray into the home console market. Now that Sony has ventured once again into a new arena of handheld consoles, *Wipeout* returned marking its spot as a must-have launch title. We know the review has come in a bit late, but we decided to take a look at how this launch title rates in accordance to today's standards.

Wipeout Pure is a futuristic racing game with not much of a storyline. You have hover-racers, you can pick up weapons and boost and first position wins. The racing control may take a while to get used to, especially if you've spent a lifetime drifting in traditional car racing games but once you master the art, you'll be able to control an unstoppable rocket. The vehicles look great; they have kept to the original design in the first of the *Wipeout* series. Overall, the game does not disappoint in eye candy.

We would have recommended *Wipeout* as a must-buy at the time of its launch, but now there are several other great options available in the genre. Still, with Adhoc Wi-Fi multi-player support, downloadable content, and tons of tracks and vehicles to unlock, *Wipeout* makes an excellent portable game to own.

| Gagan Gupta



■ Price: Rs 2,999 ■ Distributor: Milestone Interactive Software Ltd
■ Tel: 022-28203319

RATINGS

7.8 / 10

For: Highly addictive game play; lots of unlockables.

Against: Slight learning curve; no infrastructure multi-player mode.

TOM CLANCY'S

RAINBOW SIX LOCKDOWN

This PC shooter improves upon tactical gameplay

The console version of *Rainbow Six: Lockdown* released in September last year was a huge letdown. While the earlier PC games in the *Rainbow Six* series gained popularity for being tough tactical shooters, the transition to the consoles made the game too simple. As a result, hardcore fans of this series were left dissatisfied. However, Ubisoft having realized this came out with a new version of the game exclusively for the PC. This one is a lot more tactical as well as fun to play.

In *Lockdown* you again step into the shoes of Domingo Chavez leading a small team of highly trained counterterrorist specialists. At the start of each mission you are briefed about your objectives. You can choose from a wide array of weapons namely assault rifles, submachine guns, combat shotguns and pistols and at the same time you will be informed about the ammo capacity, accuracy and the damage that can be caused by the weapon that you have chosen. So you will have to choose wisely since in every mission you are likely to encounter a large number of terrorists and if you run out on ammo you will have to rely on your teammates to do most of the shooting. One of the most significant omissions in this game is the tactical planning portion that used to be the hallmark of the earlier *Rainbow Six* games for the PC.

For your missions you will find yourselves in locations as diverse as the Middle East to the Scottish Parliament building. For a major portion of the game your main objective will be rescuing hostages from the terrorist groups. You will have to carefully make plans and then execute it with the help of your teammates in order to complete your mission. A new tool

that is the motion sensor will help you detect terrorists that are hiding behind a wall or in a closed room. The enemy artificial intelligence in this game is quite decent. But sometimes you will catch the terrorists unaware and you can finish them off quickly. As the team leader, you can ask your team members to either follow you or stay put and defend a particular area. You can even command your team members to open locked doors for you by placing an explosive and blasting it off or by using the shotgun to blow off the hinges.

The graphics are very good. The developers have paid attention to the smallest details. The game runs smoothly even on an entry-level graphics card. However, if you do own a mid-range or a high-end graphics card you can play the game by turning on the dynamic lightning and shadows option. The sound effects in this game are noteworthy. You can hear footsteps in quiet hallways. You will be able to hear your own character breathing heavily if you have been running around for quite a while.

On the flipside, you might lose interest in the game after playing it for a while as in almost all the missions you will be killing the terrorists and rescuing the hostages.

But on the whole, *Lockdown* is a good game with improved gameplay and graphics. The developers have made sure that this game feels like a PC shooter instead of being a port. ■

| Anup Pillai

RATINGS

7 / 10

For: Improved gameplay; engineered exclusively for the PC; noteworthy improvements in graphics and sound effects.

Against: The game tends to become predictable after a few missions.



You can ask your teammates to clear out a closed room



Finish off your enemies quickly by sniping them



Take a backseat and let your team members do all the shooting

COMMAND & CONQUER™

THE FIRST DECADE

A compilation of all the C&C games released till date

Command & Conquer, the classic real-time strategy game took off with a bang in the wee 90s offering the fans of the new genre then a sci-fi world to conquer through winning grueling missions. The series kept getting bigger year after year with new releases having improved graphics engine and artificial intelligence and new universes to conquer. *The First Decade* packs in all the *Command & Conquer* games and expansion packs of the decade 1995 to 2005, on a single DVD.

Although the packaging mentions '12 C&C games on a single DVD', the reality is that there are only six games, the other six being expansion packs with new missions and units. With more than a dozen missions per game, the entire pack translates to over 150 missions! That's surely a lot to be commanded and conquered! And to top this, with skirmish mode the number of missions which you can battle out are virtually countless! If you find the computer's intelligence an easy nut to crack, you can choose to fight against human opponents in online and multiplayer modes.

The C&C fever started off in 1995 in a sci-fi universe called Tiberium. The story was all about the conflict between the Global Defense Initiative and the Brotherhood of Nod. You could choose to be the good or the bad one. The classic DOS based game featured chunky infantry and artillery units formed out of a few pixels, blew people off with an extremely addictive game play accompanied by a techno soundtrack. Lengthy levels involving capturing and blowing up structures and commanding the funny infantry units to vanquish the rival last for hours. Cut scenes featuring interlaced video before and after every mission are good enough to leave people gaping at the screen.

The old nostalgic DOS game on the disc has been ported to Windows XP.

The craze continued with the next version of the game called *Command & Conquer: Red Alert* with improved graphics and AI. The storyline is somewhat the same but the groups GDI and Brotherhood of Nod have been replaced by Allies and Soviet. To add to the excitement, Westwood Studios, the original creators of the C&C series, offered some more meat with two expansion packs '*The Aftermath*' and '*Counterstrike*'.

After two further releases, C&C mutated into a FPS game called *Renegade* which left fans stunned after which it got back to the good old RTS genre. The final version of C&C called *Generals* featured a DX 8.0 based engine with spectacular visual effects. Unlike the earlier versions of the game, *Generals* focused on modern warfare involving biochemical weapons and air strike.

The game ships with a DVD featuring exclusive interviews and tribute videos of diehard C&C fans. There's an interesting interview of Louis Castle (co-founder of Westwood Studios) speaking about how RTS games evolved. A small poster of the game is an icing on the cake.

If you've got all C&C titles right from the beginning, *The First Decade* doesn't have anything extra—it's just a jumbo compilation of the entire series. But if you're a fanatic and don't want to miss out on the DVD and the poster, go ahead and grab it! ■

| Anand Tuliani

RATINGS

8 / 10

For: Paradise for Command & Conquer fans; excellent game play.

Against: Hogs 10 GB of drive space!



Top: The Obelisk of Light blasting a tank in a single shot!

Middle: Create total annihilation with war tanks and rocket launchers in Red Alert 2

Bottom: The good old first version of Command & Conquer

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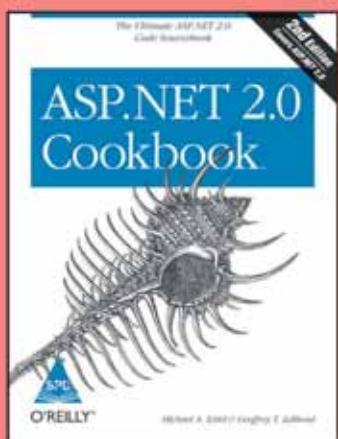
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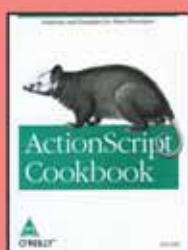
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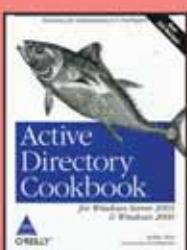
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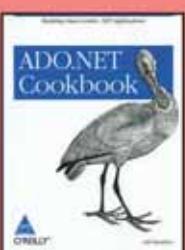
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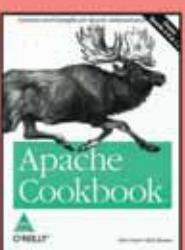
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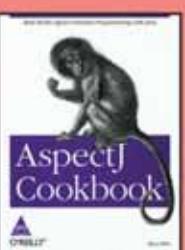
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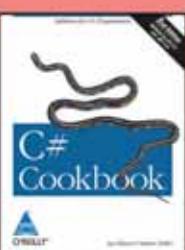
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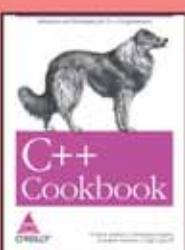
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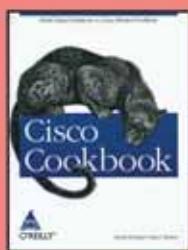
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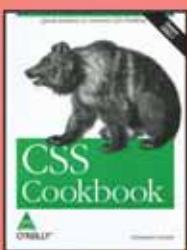
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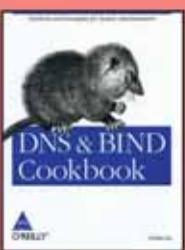
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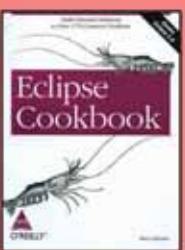
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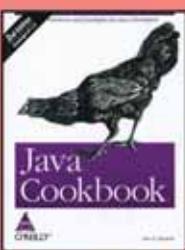
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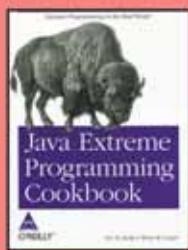
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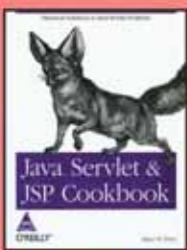


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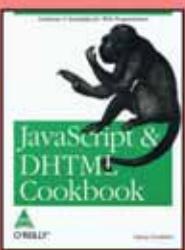
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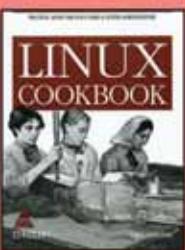
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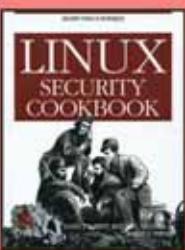
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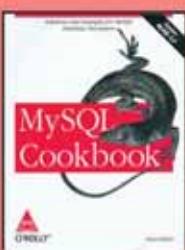
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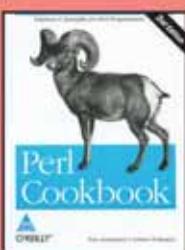
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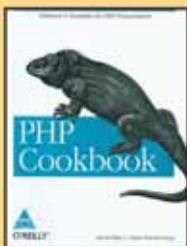


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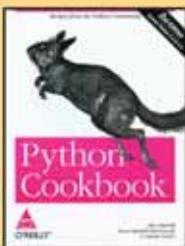
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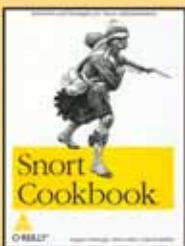
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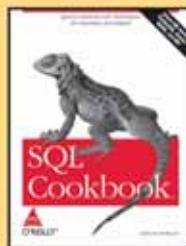
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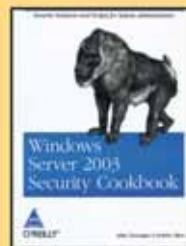
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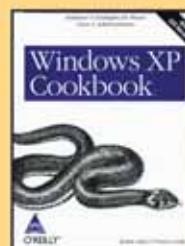
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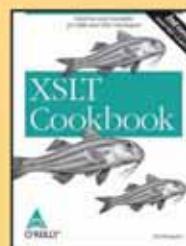
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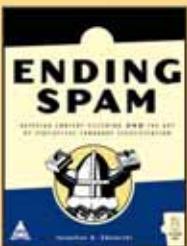


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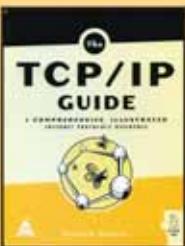


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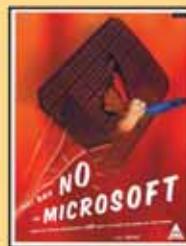
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The Last Word

We all know what it is like to be a fanatic of a sport. Be it cricket, football or tennis, the exhilaration of watching your favorite team or player in the throes of action is something that we all, in some small or large way, live for. And truly, for the die-hard enthusiasts out there, the opportunity to watch their favorite sport live is a lot like a pilgrimage of sorts. I had the opportunity to experience such a pilgrimage this month when I was invited as a guest of AMD for the Malaysian Grand Prix race at Sepang. Being a reasonably ardent fan of Formula 1 racing, I was quite thrilled at this prospect. The thought of savoring the fastest sporting events in the midst of all the glamour and excitement associated with flamboyant drivers and high-profile names in the automotive world was something I couldn't pass up.

Arriving in Malaysia was like stepping into another India, albeit with cleaner, wider roads—there are Indians everywhere. With such a large Indian population (especially South Indians), it's not hard to find your way around and I wasn't surprised when I heard Hindi and Tamil regularly on the roads. With a multitude of malls, commercial complexes and high-rise buildings sprouting all over the city of Kuala Lumpur, there's a very metropolitan vibe. I was fortunate enough to be staying at a hotel bang opposite the Petronas Towers (of "Entrapment" fame). Looming at 1486 feet with its 88 stories of glass and steel, it certainly is a sight to behold.

But then, I was here for the race. On day one, we were taken to the racing circuit, where we met representatives from AMD (the official sponsors and technical partners of Scuderia Ferrari) at the track. Comprising four other journalists from the region, we started off with a walk to the Ferrari pit lane. Standing right there in front of Michael Schumacher's Ferrari, seeing the race engineers working their motorized tools on the car was enough to give a die-hard race fan goose-flesh. As the guide explained, the

various functions of the team and the racks of hardware comprises high-performance networks and Opteron-based compute clusters in the command center, where the Ferrari team engineers went about their work of analyzing race data and technical characteristics

of the car. In the mist of this lecture, the sound that followed filled the tiny room like a thousand awakening lions—the Ferrari's V8 056 engine erupted to life in the front of the room. In the process of running diagnostics on the engine, they fired it up causing all us visitors to leap clear out of our skin! Starting from this very introduction to the car and through the entire course of the race, it is the very sound of those 2400 cc engines spinning at over 16,000 rpm that leaves the most lasting impression—they are enormously loud. So loud, that no normal person can sit at the grandstands without wearing earplugs for protection while the cars scream past like Banshee wailers. In fact, earplugs are standard issue for these races—wind up without a set and you'll have hurting hands by the end of the race (from holding them to shield your ears for two hours!).

Over the next few days, the itinerary was a complete car buff's dream-come-true. We went to the exclusive F1 Paddock Club where one could enjoy the luxuries of air conditioning (yes, considering the track temperature was a toasty 45 degrees Celsius!), gourmet food and a bird's eye view of the Ferrari pit stop lane and startup grid. There were additional trips into the pit lane during the Free runs and the practice sessions with the cars vying for quicker lap times down the track, along with special access passes to other restricted areas of the pit lanes. The fact that I took 402 photos during the course of the trip was testament to the rampant photo-ops everywhere.

Besides all the car eye-candy on the racetrack, I was pleasantly surprised at the sheer number of supercars scattered over the city—from classic Ferrari 355 to the famous 360 Modena to the all-new 430, I noticed at least a dozen of them around where I was staying. I even encountered more exotic brands like the Maserati Quattroporte and the Lamborghini Gallardo—both in the parking lot at the race track itself.

Interestingly, over the course of this trip I was asked several times about the possibility of an F1 circuit in India. From the seemingly endless stream of ongoing "enhancements" to our country's roads, airports and building infrastructure, I find it hard to believe that we could currently support the logistics required of such an event. But then again, if Malaysia or Morocco can do it, I don't see why we can't. ■

| Marco D'Souza



Dinesh Desai

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