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Online Search: Beyond The Obvious

Volume 7 Issue 12

December 2007

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YOUR TECHNOLOGY NAVIGATOR

# CONNECT

PC, Laptop, PDA: A Wi-Fi Network  
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Online Can Be Dangerous.  
It Needn't.

PC And HD Connectors Demystified

So Where Should The Kids Be Going  
Online?

 **Jasubhai**  
DIGITAL MEDIA



# Editorial

## Who'll Take Charge?

THE TALE OF the suicide of 25-year-old Praveen Kumar in November has yet again raised concerns about the extent and growth of cyber-crime in India. Kumar, a hotel management graduate from Kerala, met someone in a chat room who claimed to be a consultant with an oil company based out of the UK. Having befriended Kumar over a couple of chat sessions, the “consultant” asked him to send over his CV for a job opening at the company. Kumar promptly obliged. The next day, he got a job offer: assistant administrative officer at the oil company, with a fat pay packet—£4,600 (Rs 3.7 lakh) per month. There was, of course, a clause—the consultant needed money to arrange for documents: visa, medical and migration certificates, and so on. These amounted to Rs 8.5 lakh.

Kumar's father obliged, but soon after, the “consultant” could not be contacted. Kumar had fallen prey to a Nigerian fraudster, and the incident pushed him over the brink.

In another case, the police arrested a 27-year-old man for allegedly cheating a Mumbai-based software engineer through the Internet by posing as a woman and stealing money from his bank account.

Rajesh, a resident of Ambalamukku, Kerala, ran an Internet cafe. After befriending the engineer through chat, Rajesh posed as “Renuka” using a voice converter. He later forwarded a photo from a marriage bureau to the engineer, who provided a credit card and code to “her” to withdraw Rs 2,500 for a flight ticket to Mumbai. Rs 22,000 was withdrawn using the card.

I'm just citing two incidents here from the thousands of instances of cyber-fraud in India. The problem is, only a few know and understand the gravity of the problem while even fewer know how to combat it. Finding a solution is left either to the governmental agencies such as the ministry of information technology, or the owners of the sites the fraud stems from. There is little the police can do here. Ill-equipped in terms of both infrastructure and knowledge of cyber-crime and its practice, the specially-created Cyber-crime Investigation Cell is usually helpless. Private institutions, software companies and ethical hackers help them solve such cases.

Even if the Cyber-crime Investigation Cell does find a way to nail down the criminal, our cyber-laws



**Deepak Ajwani** Executive Editor

**“Indian cyber-law needs a lot of beefing up to be able to spell out clearly what online acts are fraudulent, and the punitive measure in each case.”**

leave a sufficient number of loopholes for fraudsters to evade prison. Indian cyber-law needs a lot of beefing up to be able to spell out clearly what online acts are fraudulent, and the punitive measure in each case. Also, with cyber-crime happening in newer and different forms, the shaping up of cyber-law needs to be evolutionary.

The lack of understanding—even knowledge of—cyberspace amongst the lawmakers, and the almost negligible focus on cyber-crime at governmental bodies and even in police departments, means the general population will continue to be open to the threat of online con-men. What kind of wake-up call is needed?

A handwritten signature in black ink, appearing to read 'Deepak Ajwani'.

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## Directions

A comprehensive search engine shootout would be highly desirable, but is, sadly, impossible. Here's our look at how well the major three search engines perform—and also at what apart from these you might, or might not, consider



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You need to know about at least a few good online places where kids can really have fun—it's not just about keeping them away from the bad places

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## Safety First

Time has taught us that there are too many, in fact way too many, people out there who don't follow the basic precautions when it comes to getting online and being there for a while. The bad news is that bad things can easily happen, and the good news is that it's easy to prevent it. Find out what and how

30 Days With  
Second Life

We've spoken quite a bit about the "game" called *Second Life*. Now one of us actually spent a few hours each day for a month in that removed-from-reality atmosphere—here's the report



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Know More About  
Display Interfaces

Whether it's because you own a device, or because someone comes to you for help, it's good to know what goes where—in terms of connectors. Here's about the newer-generation connectors for displays



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## Comfortable Control

So well, they aren't glamorous, but you need to choose well. Here's a mini-shootout of input devices—we've done much of the elimination work for you by choosing only those really worth considering if you want a hand-friendly computing experience



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Mass Downloader  
3.3.698 SR2

A download manager that allows you to transfer individual files (or lists of files) from Web and FTP sites at the maximum available speed.



exactly how your competitors got top positions in search engines—so you can learn

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Toolbar 1

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Hindi news portals, hindi magazines, and a variety of other resources and Web sites that you need to enjoy working in Hindi.

Massive Assault  
Network 2  
2.0.249

Genre: Strategy. A 3D think-based strategy game where rivals struggle for global domination in a fascinating sci-fi environment.

Silk Road 1.130  
Online Client

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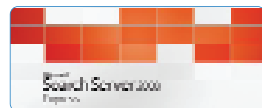
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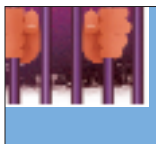
Characters: Advanced facial animation system delivers the most sophisticated in-game characters you've ever seen.





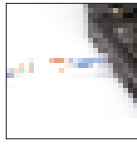
## Blame Game Gone Bad!

A picture portraying Shivaji in a poor light was posted on Orkut, and a hue and cry ensued. Police got the offending IP from Google. Airtel, the ISP, obliged them with a name. A Bangalore-based techie was jailed, then 50 days later, released without charges. Talk about bad name resolution...



## Tenuous Link

Bangladesh was offline for most of the day November 13: the sabotage stopped all Internet use. There was a nationwide investigation. What baffles us is that reports say "Cables were cut." *Cables* were *cut* and a country goes offline? We're as lost as you are—don't ask us for an explanation.



# newsbytes



## Security Watch

### Windows URI Handling Vulnerability

#### The Problem

Mid-November, Microsoft issued a software update to fix a security vulnerability in Windows versions including XP SP2. Criminal groups have been targeting that vulnerability to break into machines and steal data.

The patch fixes a critical flaw found in Windows XP and Windows Server 2003 systems that also have Internet Explorer 7 installed. The vulnerability is not present in Windows Vista.

As some background, for more than a month prior to that, cyber-criminals have been sending out spam messages containing malicious links or Adobe PDF documents that try to install spyware when the user clicks the links or opens the files respectively.

According to Microsoft, "a remote code execution vulnerability exists in the way that the Windows shell handles specially crafted URIs that are passed to it. If the Windows shell did not sufficiently validate these URIs, an attacker could exploit this vulnerability and execute arbitrary code."

#### The Solution

The vulnerability is quite critical, and if you haven't heard of anything like "the URI vulnerability" or "the PDF vulnerability," visit [www.microsoft.com/technet/security/Bulletin/MS07-061.msp](http://www.microsoft.com/technet/security/Bulletin/MS07-061.msp) (http://tinyurl.com/2dbxdu) ASAP and patch your system. The page has all you need to know.

## LOTS IN A NAME?

# The Web: Even More Global

Mid-November, the Internet Corporation for Assigned Names and Numbers (ICANN) announced plans to "fast-track" the development of country-coded top level domains (ccTLDs).

Some background: you've noticed that all domain names use only 37 characters—the letters A to Z, the numerals 0 to 9, and the dash. All these are "Latin" characters—so it imposes a restriction on the people of countries where these aren't used. For example, as you know, you can't have (and type out) a domain name in Hindi.

This means several things—inconvenience for those not familiar with the Latin alphabet, a sense of alienation for them (because of having to type in something they never would), and the incongruence of naming a domain in one language and typing it out in another.

So back in March of this year, ICANN launched a campaign to provide internationalised ccTLDs, with the co-operation of the Country Code Names Supporting Organisation (ccNSO).

Already, many countries whose languages use non-Latin characters had been demanding the ability to use Internationalised Domain Names (IDNs). Those in support of IDNs saw that development as an important step towards

keeping the Internet a non-fragmented, global entity.

We learn that it's not as straightforward as it might seem: ICANN had, in October of 2006, commissioned a laboratory test of the new kinds of domain names. International characters would have to be encoded, and ICANN intended to find whether the use of the encoded characters would "have any impact on the operations of the root name servers providing delegations, or the iterative mode resolvers."

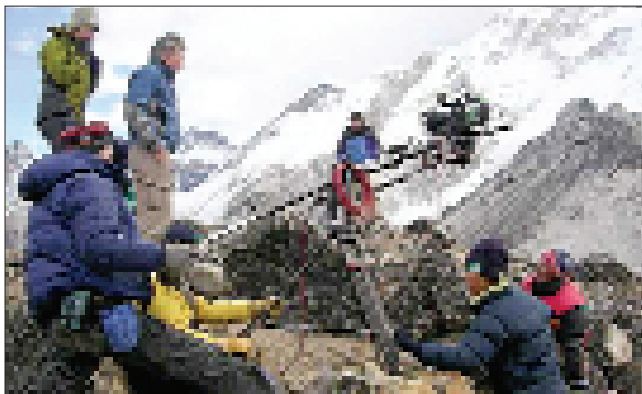
Then, in March, the results were announced: the tests had been

Japanese—which you'll have to copy and paste—that you'll imagine what it's been like all these years for those not familiar with "our" alphabet!

## CONNECTED WELL AND TRULY

# Tech On The Hill

Mount Everest is now (un)wired. November 14, a Chinese mobile phone provider tested—successfully—a transmission station on the world's



successful. "No impact at all could be detected," wrote tester Lars-Johan Liman. "All involved systems behaved exactly as expected."

And now, in this "fast-track" bid, the next step "is to develop the policies that will see the creation of new top-level domains in characters from the languages of the world."

It's only after you see a domain name in, say,

tallest mountain. The intention is to enable calls by casual climbers—there seem to be many such now—as well as those performing in the 2008 Olympic torch relay. The relay will carry the Olympic torch to the top; the site of the station is at 6,500 metres. This station—as well as two others—would provide service along the entire climb.

At first, it sounds sensational—"Mount Everest is connected."—this is the tallest mountain we're talking about. The underlying thought is that if we can do this—yes, the project was very difficult indeed—then we can connect pretty much anywhere.

And then, on second thought, it begins to sound quite ordinary: there really isn't a conceptual big deal about putting a tower someplace on a mountain, is there?

But then again, this is a landmark in connectivity. It's not too far off, the day when you'll be able to call anybody from anywhere—and this bit of news just reminds us of that.

## THE DEVIL AND THE DEEP SEA

# Online's Unhealthy—Again

Kids are getting fat and lazy, at least in countries where there's a lot of money—for example, the UK. There are too many reasons to mention, but not least amongst these is the Internet and the value it holds for young people.

The UK Children's Minister, Beverly Hughes, recently blamed MySpace and co. for their part in the sad phenomenon of kids not being outdoors enough. A recent report by a think-tank called Demos details how "the benefits of a good public realm for children and young people are part of the benefits it gives the rest of society," going on to talk about the lack of formal playgrounds and such, and how traffic keeps children off public space.

The report says, "In one national study, 45 per cent of 500 children interviewed said they were not allowed to play with water, 36 per

# Post The Move

This was one traumatic month—we shifted office all the way from one place along what was called the Bombay-Pune highway to another place on the Bombay-Pune highway. Adding to the trauma somewhat is the fact that our old security guards are no longer with us; we're feeling a little insecure.

So well, what's the impact been? Looking at some who have been here a while, let's see who's happy and why. **Raabo:** Because this place is less distant from civilisation. You see, Robert and a million others define "actual Bombay" as "civilisation," and all the rest of the metropolitan area as "the villages." **Nimish:** He lives in an even more highly-civilised place, so he's pleased, too. **Deepak the Ed:** Because the new office is smaller, his oath-laden speech is easily audible to all without his having to

# digit DIARY

repeat. As an added bonus, other departments can hear him, too, and better understand his gentle nature.

Now who's unhappy, disgruntled, and in a vague mood of protest?

**Ram:** The obvious first in this category. He needs to travel by train for the first time in his life, his coffee is served in smaller cups, and if those horrible things weren't enough, the lift isn't operational yet—so he must actually climb up *three flights of stairs* a day!

**Vijay:** No place by a window for a thoughtful, almost-meditative smoke. (We're reporting this, but Vijay's sincere appeal to all of you is to never smoke.) **Sanket:** That Test Centre was his Own. This one isn't. Yet.

Anyway, we're still a small, happy family, 'cause the line is thinly drawn 'tween joy and sorrow, as the song goes.

## WIRE POWER

# Tech In The Real/Real World

Mid-November, during the crackdown on dissent by Pakistani President Pervez Musharraf, young Pakistanis were using blogs and social networking sites to do what they could to voice and demonstrate dissent. For example, plans for "flash" protests in large cities were posted at the last minute. This was after the government shut down the country's two largest private television news channels.

Cell phone messaging was being used as well to co-ordinate dissent efforts. As representative of what was going on, one student said, "We let students know through Facebook groups and blogs when the protests are taking place. We are having flash protests for five or ten minutes so we do not get caught."

The most popular Facebook protest group was *We Oppose Emergency in Pakistan*, which had more than 11,000 members mid-November.

It's not a one-off incident, and neither is it restricted to protests: "Blogs and Facebook are starting to change the way young Pakistanis think because people who aren't usually interested in politics are being exposed to it," said Hamza Sadiq Khan, creator of Facebook group "Go Musharraf Go!!!"

If you remember, communication via blogs and cell phones played an important role—in India and in other countries—in the rescue efforts after the tsunamis of 2005.

These, given the very low Internet penetration in countries like India and Pakistan. One need only think of the countries being fully-connected to imagine just to what extent the Internet can empower.

How is the Internet perceived by officials in authoritarian states? China naturally comes to mind, with its Net censorship and other measures and policies.

As Internet penetration increases in developing countries, it'll be interesting to watch two things: first, whether access will bridge divides or actually increase them; second, whether regimes that want to do so can effectively police access. ■



## Two first-hand reports: Kingston told us about their near-future plans in India—and Toshiba about their new notebooks

### Digit @ Kingston: Taiwan

Kingston invited several publications—including us—for their 20th anniversary celebrations. The press event was at Hsin-chu, the industrial capital of Taiwan. One of the highlights of the year for them was the recently-launched (October) HyperX series of DDR3 RAM.

The factory floor was suited up for the tour when we arrived; the assembly of all the products is done over line-ups of SMT (Surface Mount Technology) machines that run a few metres in length. The modules are then tested using visual scanners and then tested for working. The testing area is a huge hall with long lines of motherboards of all generations one after the other testing PC RAM modules and USB drives. There are also laptop setups for testing SO-DIMMs. Then there's the labelling and packaging area.

We managed to get talking with Nathan Su, product manager for Flash memory, and Ann Bai, product manager for DRAM memory, about Kingston's strategies and interests in India. Kingston has chosen to focus, in India, on the USB market (including memory cards and USB drives) more than PC memory, because of import duty issues, and because of

the huge mobile phone market here. They said would be working on their brand image with more promotions and, of course, continuing to keep up the competitive pricing on all their products.

We asked about DDR3, and Kingston told us they were actively working on that technology, but that they believed it would only pick up momentum towards the end of 2008 and early 2009. DDR3 modules are currently very expensive, and sales would only come from test labs, motherboard manufacturers,

According to Toshiba, the new models with HD-DVD will cost 8 to 10 per cent more than laptops with similar configurations and regular DVD SuperMulti drives (DVD-Writers). During the event, Toshiba announced six variants of the A200, of which four will be HD-ready.

Other goodies include a maximum storage capacity of 400 GB (200 x 2), ATI mobility Radeon HD2600 / X2400, 2 GB DDR2, a 15.4-inch WXGA Clear Superview display screen, and a plethora of connectivity options. All variants will be

# irst Glimpses

and a few enthusiasts. For now, DDR2 667MHz would be the most in demand, they said, and Kingston would go with it for now.

On solid state drives (SSD), Kingston's stand is that they would only see the light of the day through laptops. SSDs for Desktops would still be at least a year or so away due to high manufacturing costs and limited capacities.

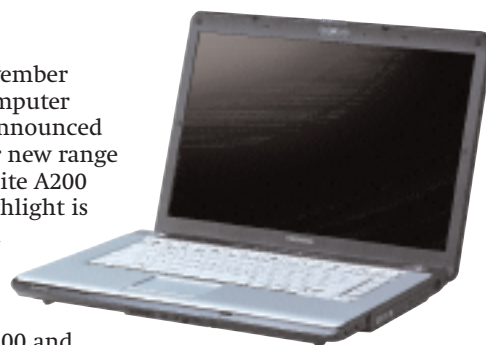
### Toshiba's New Notebooks

Singapore, 6th November 2007, Toshiba's Computer Systems Division announced the launch of their new range of affordable Satellite A200 notebooks. The highlight is the inclusion of an HD-DVD drive and HDMI connectivity.

The Satellite A100 and A200 series from Toshiba were oriented towards value-conscious buyers, and have had reasonably good configurations. With the inclusion of HD-DVD and HDMI connectivity, the A200 will be able to play HD content on the laptop screen; one can opt to enjoy the high definition on a larger screen via the HDMI connectivity, which supports resolutions up to 1080i. The HDMI connector also allows the laptop to be connected to Audio/Video receivers.

powered by Intel Core 2 Duo processors and Windows Vista Home Premium.

The inclusion of HD-DVD doesn't really matter for Indian consumers, but 8 to 10 per cent is a reasonable price difference to pay for being future-proof. The exact prices weren't declared, but expect to pay around Rs 60,000 for the base model, and more for high-end configurations.



Toshiba also announced its go-green initiative called Notebook-2-recycle: they are now offering to recycle its notebooks free of cost, free of any obligation to buy a new Toshiba notebook—just call the global support centre, and a pickup will be arranged. In Phase One, the service will start in Singapore; Phase Two will include Thailand, Malaysia, and Indonesia; and in the final phase, it will be rolled out in all of Southeast Asia. ■





# Directions

## Is there search beyond Google?

Ram Mohan Rao

The word “search” is so loaded, the mind boggles. There are categories of search beyond text—news, images, and so on. There are search engines catering to each of these—as well as to different kinds of text search; in fact, there are hundreds of search engines. Sometimes what you find makes you search for something new—one isn’t even always clear about what one is looking for. The Web isn’t organised; it’s a mess, really, quite like this paragraph. All those neat pages like BBC and Time.com might make it seem otherwise, but think about it: when you’re at news.bbc.co.uk, you might as well be reading a newspaper with a magical sprinkling of interactivity—you don’t need to be on the Internet. You’ll be reading what they present you. The point of the Internet is that there’s (usually) exactly what you’re looking for at some place, and search engines attempt to guide you there.

What follows is our attempt at guiding you to the search engines—to the possibilities.

### Meek Contenders

There are, like we said, hundreds of search engines. None of them present you with as many search results as the big ones, but no-one cares whether you get a million results or a thousand: you need just about twenty or so relevant ones.

Let’s first establish why it is that people gravitate to Google (and the others in its league). Is it just out of habit? Because everyone else does it?

Not quite. In this, our look at what might possibly replace the big three, we first looked at [www.readwriteweb.com/archives/top\\_100\\_alternative\\_search\\_engines.php](http://www.readwriteweb.com/archives/top_100_alternative_search_engines.php) (the URL says it). Forgivably not inclined to perform searches on all hundred, we took a random look: WebBrain.com (interesting name, that’s why). Now people often search for celebrities and models and such, so we took a random name, that of French supermodel Laetitia Casta, and tried it on WebBrain, “The Smartest Way To See The Web”.

It looked good: we got what you see alongside—six category matches, about a hundred “site matches,” and a helpful categorisation of L.C. into “Models and Pin-Ups,” branching out into other models and pin-ups. Smart.

First category match and the first result there brought us what you on the next page. Not quite Laetitia Casta. So we tried another link, and got something equally nondescript.

While we’re still telling you to explore away from the known and trusted, we must say: (a) there happen to be too many search engines that claim new-age capabilities, and (b) the current paradigm—of rating a site based on link analysis—is powerful. You can’t go *too* wrong.

Do explore the page we mentioned: that list is a delight. You’ll find, for example, a search engine you can influence by clicking on feedback links for result pages. (Which is an excellent idea in itself, problem being that enough people need to go there in the first place.)

Now we really want to see if there’s merit to anything beyond traditional search engines, so let’s take a look at Clusty, which [readwriteweb.com](http://readwriteweb.com) calls a “Search 2.0” site.

### Clusters

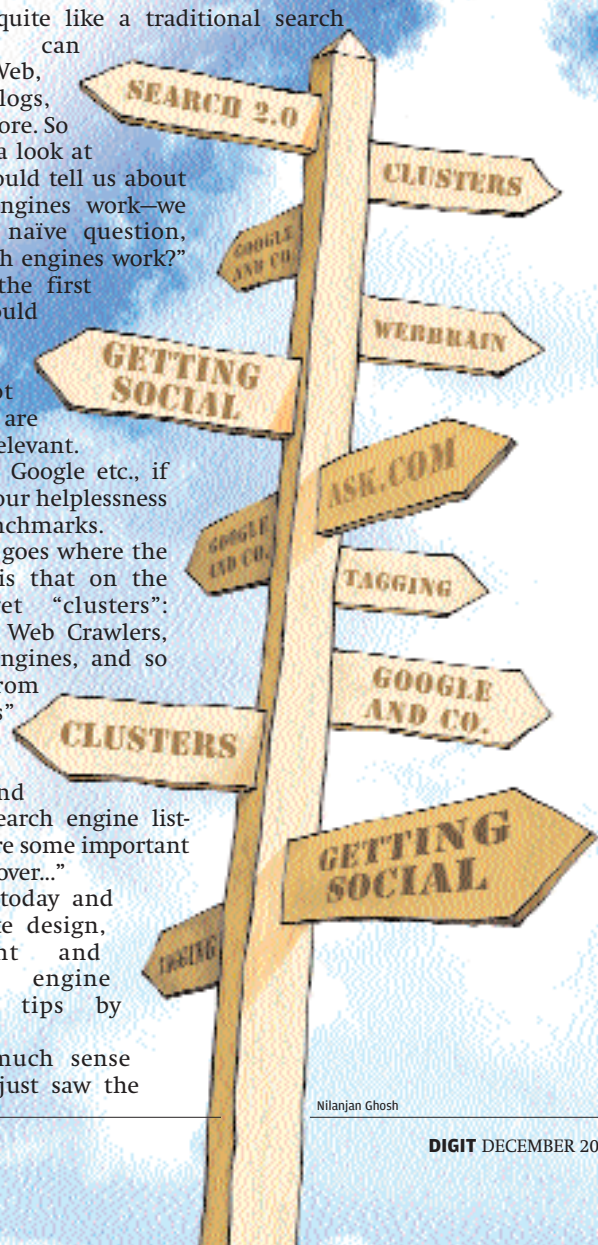
Clusty looks quite like a traditional search engine—you can search the Web, news, blogs, images, and more. So well, we took a look at what Clusty could tell us about how search engines work—we asked it the naïve question, “How do search engines work?” One look at the first ten and we could tell this thing had gotten it spot on: all of them are 100 per cent relevant.

As spot on as Google etc., if you’ll pardon our helplessness in needing benchmarks.

But Clusty goes where the others don’t is that on the left, you get “clusters”: Optimization, Web Crawlers, Meta-Search Engines, and so on. Here’s from the “Tips” cluster:

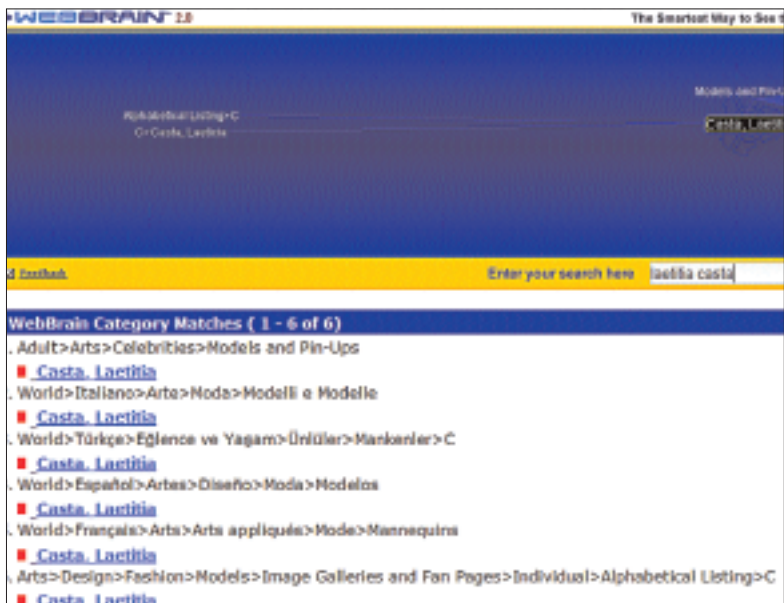
- ☐ “Do’s and Don’ts of search engine listings. Here are some important tips to look over...”
- ☐ “Subscribe today and get web site design, development and search engine marketing tips by email.”

Not too much sense there. Clusty just saw the

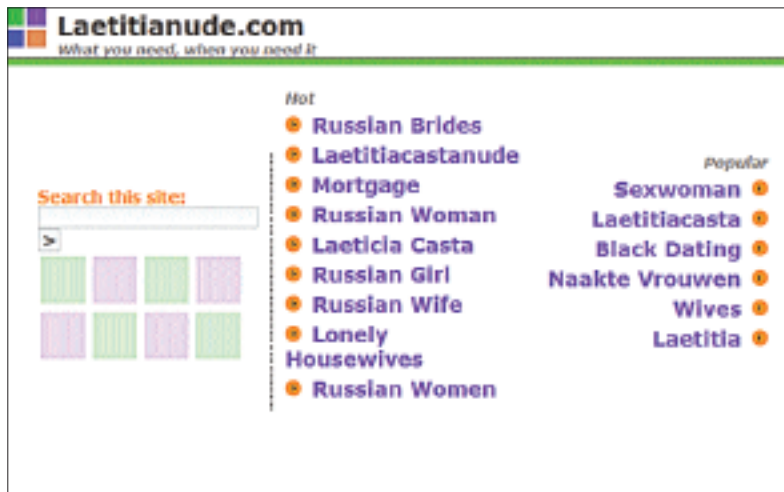


Nilanjan Ghosh





Looks good, the categorisation...



Not quite what we were looking for

word “tips” on several pages and clustered those together.

But then, when you do a Laetitia Casta at Clusty, you get (apart from the main results) clusters such as Wallpaper, Model, and so on—which can be useful. Similarly with “Nokia N90”: clusters such as Nokia N91, Specs & Features, Carl Zeiss, and more. But the real value of clusters becomes apparent when you do a search on “nanotechnology”: the clusters are Research, Investment, Future, Applications, and so on.

Clusters, then, get more and more useful as you know less and less about what you’re searching for. There are other clustering search engines as well—Lexxe, for example.

Community

Now community search is indeed Search 2.0. Take a look at Rollyo (<http://rollyo.com>). Anyone can “create a search engine” here for other people to use. So if your subject of interest is nanobots, you give your “Searchroll” a name, and manually enter the sites you think are the most valuable sources of information on nanobots. Submit that to the site, and when someone wants to do a search on nanobots, he or she might “explore” the Searchrolls and come upon yours—and use it.

If this becomes a big thing, it’ll become the next big thing... the idea is, the community is better than any search engine spider at removing the junk and the not-so-useful from the search results. But for a community search site to grow in value, there must be a sufficient number of people willing to actually use it—beta-testers, so to speak.

Straight Questions

Alternatives apart, let’s ask: how good are each of the big three—Google, Yahoo!, and Live Search—at bringing you what you’d like to see? Let’s also bring Ask.com into the comparison, because many claim it brings up the most relevant, though fewer, results.

We’ll speak about plain text Web search, because areas like image search are too subjective. So say we have a simple question, the same one we used earlier: “How do search engines work?”

No surprises here. For a straightforward, Internet-related query like this one, down to 50 results, the first three all bring up totally relevant matches, many of which actually include the original phrase. Interestingly, Ask.com brought up the following in the first 50, something we wouldn’t say is relevant:

“Daily news about search engines and the search engine industry, and information on using search engines to market your web site...”

But to its credit, Ask brings up queries that can help narrow down the search: “Most popular search engines,” “How are search engines used,” and more.

Idle Surfing

Next up: “latest Bollywood movie,” which you might type in if you’re just beginning a surfing session with no particular goal in mind, hoping for something entertaining. All three brought up pretty much what we expected—stuff on movies, wallpapers, gossip, actors and actresses, and all the rest. But there’s an important point here: Yahoo! gives “newcomers”—upcoming sites and personal sites, that is—a larger chance than do the others. This might be a good or a bad thing, depending on how far down the results you go: you don’t want an obscure site coming up in the first ten matches, and at the same time, if you’re looking beyond that, you might like a little change. This is also why you’ll see your own home page climb Yahoo!’s ranks before it Google’s. The moral: give Yahoo! a chance if you want to give lesser-known sites a chance.

Research

Now, say you’re doing research into a subject as part of college work—nanowires, for exam-

ple: their applications, the future, and so on. You really don’t know what to expect; after all, you don’t know anything about the subject, and it’s the duty of the search engine to take you in the right direction. What do they bring up?

The first ten results, though different at the three sites, are all relevant. However, beyond about 20 or 30, the results at Yahoo! tend to get a little niche—as in advanced. Even so, Yahoo! gives you a suggestion starting with “Also try:”. In this particular case, it’s about memory and nanowires, which is pretty good.

But here’s a surprise: Live Search produced what seemed to us the most interesting results in the top 50. It’s not strictly about relevance here—most of the results on all three are relevant—but as a starting point for further research, Live Search served better.

Random Interest

If you happened to read something in the newspapers and you’re interested in finding more—say, “Darfur”—it’s again the first ten results that are important, because you’re unlikely to go beyond those.

With such an example—an issue of international concern—there’s not much scope for going wrong, and none did. However, Yahoo! and MSN have their versions of other searches you could try, which Google doesn’t.

Divining Intent

This shouldn’t really be called “the real test,” because it’s not often we do searches like this one. How do you pronounce “Laetitia”? We used the keywords “pronounce Laetitia”, and Google gave us the answer within the first ten results. Neither Yahoo! nor MSN could. That’s probably because the Google results with the answer had the word “pronounced” instead of “pronounce”, and Google sort of treats those two the same.

This is only one example, but it wouldn’t be wrong to say that when you deviate from “normal” searches—when you throw something a little obscure at the search engines—Google probably divines your intent best.

And So...?

Yes, some search engine will “perform” better in one instance, and some other in another instance. There absolutely cannot be something like a “ranking” for search engines across all categories. But we have three lessons:

(a) Take a look at the table *Quick Shots*. The comments indicate what we want to say, and note that Google really is the best—but not by too huge a margin. Note that the results were *different* in most cases. The search engines aren’t all the same.

(b) Don’t write the other major search engines off; don’t say Google is all you need. Especially when you’re doing serious research on any topic, take a look at all of them. At the same time,

(c) If you’re trying to find something that is unlikely to be spelt out on a Web page, Google is probably your best bet. ■

[ram\\_mohan@thinkdigit.com](mailto:ram_mohan@thinkdigit.com)

Quick Shots

| Category               | Search Phrase—Without Quotes   | Comments On Question   | Google |         |      | Yahoo! |         |      | Live Search |         |      | Our Comments   |
|------------------------|--------------------------------|--|--------|---------|------|--------|---------|------|-------------|---------|------|--|
|                        |                                |  | Dud    | Average | Good | Dud    | Average | Good | Dud         | Average | Good |  |
| Computer Utility       | Motorcycle wallpapers          | We all love our bikes!   | 6      | 3       | 1    | 8      | 1       | 1    | 5           | 4       | 1    | We expected many duds here, and one could have used an image search for this one—but how did the text search fare?   |
| Software Search        | Alarm clock software           | Self-explanatory   | 0      | 8       | 2    | 4      | 4       | 2    | 1           | 6       | 3    | We didn’t actually test the software we found; we went by what we’d expect based on our surfing experience. In addition, trialware has been classified as “average.”   |
| Web site Search        | Latest technology news         | To keep yourself updated   | 2      | 4       | 4    | 1      | 7       | 2    | 4           | 4       | 2    | A “dud” here means something that really isn’t mainstream. Strict ratings here!  |
| Shopping Comparison    | Creative Altec Lansing         | Trying to compare two brands without messing around with the keywords                | 3      | 6       | 1    | 6      | 4       | 0    | 7           | 2       | 1    | “Average” here means the result page gives some information about both brands. “Dud” also means the word “creative” is used as a word instead of the brand, and if one of the brands is left out. “Good” is only if both brands appear on the same page. Also, we were looking for speakers! |
| Planning Travel        | Rajasthan holiday              | Starting point for planning a holiday  | 2      | 6       | 2    | 2      | 8       | 0    | 3           | 5       | 2    | Points awarded for instant booking possibilities and for more information.   |
| Computer Problem       | Task manager has been disabled | You have a virus, and it says “Task Manager has been disabled by your administrator” | 0      | 0       | 10   | 0      | 0       | 10   | 3           | 0       | 7    | “Good” means all result pages that tell you something about the problem  |
| General Interest       | History of British India       | For students   | 5      | 5       | 0    | 7      | 3       | 0    | 6           | 4       | 0    | A subjective rating of content   |
| Technology Information | HDMI                           | You need information on that tech term you heard                                     | 3      | 2       | 5    | 3      | 2       | 5    | 8           | 0       | 2    | This one checks if you get the information you need, without unnecessary data  |
| Random Question        | What is life all about?        | Don’t we all want to know?   | 7      | 1       | 2    | 6      | 2       | 2    | 10          | 0       | 0    | Subjective; does the result attempt to answer the question?  |





# SAFETY FIRST

Like all good things in life, the Internet has its dark side—which you want to veer clear of

Asfaq Tapia

For the most part, the Internet is a friendly place. But as you know all too well, you can't just connect and leave your cares behind—at least, you *should* know. Computer crime, for example, is evolving: from the early-day e-mails promising you pots of cash to the more sophisticated phishing and botnet attacks of today. The good thing is, it's not difficult to stay clear of trouble—all you need is to be aware of what could go wrong.

## The Basics

Surfing the Internet on an unprotected computer is an extremely risky proposition, and if you've been doing that, just go into your Program Files folder. You will almost certainly find programs you don't remember installing. Most damage to your computer happens when you don't take care to have the basic lines of defence installed—anti-virus, firewall, and anti-spyware. As impor-

tant as it is to install them, so it is to keep them updated. Avast! Home Edition (anti-virus), ZoneAlarm (firewall), and Spybot—Search and Destroy (anti-spyware) are some of the popular free programs you can use. You can find these in the Essentials section of any of our monthly CDs. Run full virus and spyware scans from time to time—say about once every one or two weeks.

Another important step is keeping your operating system updated. Setting the Automatic Updates to “notify” you will ensure that you are aware of new updates for Windows to download (assuming you're using Windows). Then, never have the same password for all your e-mail IDs, nor for your bank accounts—it's something like keeping all your eggs in one basket. Also, never e-mail yourself the password for any service on the Internet. You don't want to have your e-mail account compromised *and* give access to all your other accounts to the attacker, would you? Visiting “cracks” and “warez” sites is another potential way to get infected by spyware or a virus—it's dangerous, and you shouldn't be doing it anyway!

It is advisable to heed Google's warning message—like the one above—that shows up for dangerous sites. If you use Internet Explorer 6 (to check this, open IE, and go to Help > About Internet Explorer), it is highly recommended to update to IE7, which is more secure. This is a free download, available at <http://tinyurl.com/38m4oj>. We should also say that Firefox ([www.getfirefox.com](http://www.getfirefox.com)) and Opera ([www.opera.com](http://www.opera.com)) are more secure than IE.

Some Web sites offer screen savers, icons, and wallpapers as EXE downloads. Stay away from these—they are riddled with spyware and/or viruses more often than not. Also, scan any



If you try to visit a potentially dangerous site from a Google search, you'll see this message

e-mail attachment with your anti-virus before opening it.

## Kid Safety

In the case that you have kids at home, most “staying safe online” articles advise you to install parental monitoring software like NetPatrol and CyberNanny, which block access to Web sites and software. Truth be told, kids are smarter these days, and will soon devise ways to get around these blocks. You can't leave it all to a software: it is important to educate them on the dangers of the Internet and the perils of personally meeting new “friends” they make online. A good site to look up before educating your kids is [www.teenangels.org](http://www.teenangels.org) and [www.wiredsafety.org](http://www.wiredsafety.org).

It's a good idea to have the computer in the living room where you can monitor their activity. With their co-operation, you should also set up do's and don'ts like how many hours a day to use the computer, what kind of interactions they should have online, and so on.

## Stop-Think-Click

Most of us have this tendency to click “OK” or “Next” every time we see those buttons on an error message or Web page, without reading what the text above it says. This is also true when we install software—and this is how much unnecessary software gets installed on your computer, software that connects to the Internet without your knowledge, and which, in many cases, does you more harm than good. The same goes for pop-ups you encounter online. We're not telling you to be paranoid—just cautious and sensible: read what you're saying “OK” to!

## Personal Details

You want to be as anonymous on the Internet as possible—you never know when and where personal details can be used to your detriment. When you register at a site, it will ask you for personally identifiable information. Remember, you don't have to give out personal details just because a site asks you for them. Fill in the

mandatory fields—normally the ones with an asterisk—and then choose what other data you want to fill.

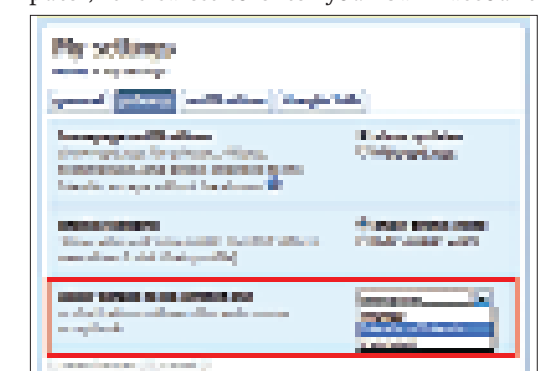
You might have already done some damage: searching for your full name in quotes on a search engine. This should bring up results of places where you have posted on the Web. Visit those result pages to check what personally identifiable information is there that needn't be, and edit those posts accordingly.

On social networking sites, where others can see your personal details, you can choose what details you want to show to random visitors and to your friends. It is, in general, a good idea to not add information like phone numbers, addresses, and alternate e-mail IDs to your profile. If you write about family and friends on your blog, it is best to keep the blog address off your profile as well.

Just remember: before you enter any information on the Web, think for a second about how this information could possibly be used against you.

## Online Fraud

These days, the possibility of being duped online is very real. This type of crime would generally make use of programs that record your usernames and passwords or your credit card details, also known as key-loggers. If you keep your anti-virus and firewall updated and run a complete system scan every week, you can be pretty sure you're safe. If you need to do online banking on a public computer, it is safest to enter your bank account



You can choose what information you want to display to whom on your profile





number and password via the virtual keyboard: go to Start > All Programs > Accessories > Accessibility > On-Screen Keyboard.

It is best not to access your bank account from an Internet café. If you do not have Internet access at home, going to a friend's place is much safer. If your bank provides it, it is best to activate the SMS alert service on your account so that you're notified of every transaction you make on your account.

Phishing is a now very well-known technique whereby the e-mail address of an organisation or trustworthy person may be used to trick you into giving out your financial details or usernames and passwords. The fraudster may also send you spam or pop-up messages with links that ask you to "update," "validate," or "confirm" your account information, failing which the said account will be terminated. The link on the message will normally direct you to a Web site that looks just like a legitimate organisation's site, while being a site that exists simply to trick you into divulging information. If you fall prey, the fraudster can fake your identity and run up bills or commit crimes using your name and account(s). Thankfully, it is easy to guard against this type of menace. Most browsers today offer phishing protection; however, this is not switched on by default. To do so in IE 7, go to Tools > Internet Options > Advanced > Phishing Filter > Turn on automatic website checking. The phishing filters in browsers check every site you go to with a phishing database to check if it is legitimate or not. If you want to manually check a Web site address to see if it is a phish, go to [www.phishtank.com](http://www.phishtank.com).

Web sites of all banks and monetary services employ security certificates to validate themselves. If you are visiting a legitimate site in the latest versions of Opera, IE, or Firefox, for example, the address bar will go yellow and you'll see a "lock" icon at the end. Clicking on the lock will show you the security certificate of the site.

Most phishing addresses are easy to spot—for example, the legitimate [www.abc-bank.com](http://www.abc-bank.com) could be forged as [www.abc-banking.com](http://www.abc-banking.com).

Another way a hacker could trick you into giving out your financial details is hacking into a friend's messenger account and sending you an instant message with a link that tells you to update your bank account details. It's a cheap trick, but it does sometimes work... remember that a friend would never ask you via IM about anything to do with money!

### E-mail Scams

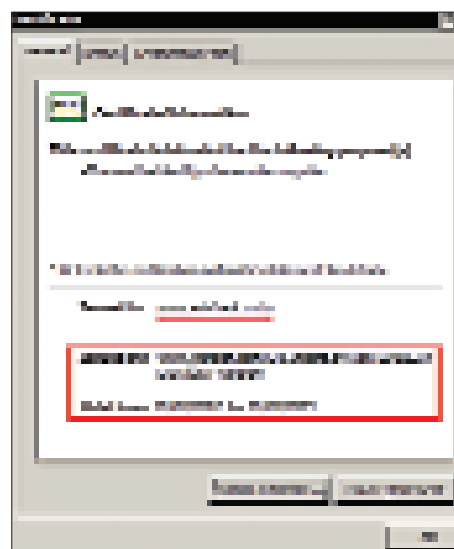
In spite of being the oldest way to trick people in to giving out details, e-mail scams continue to be the most common ways to trick people on the Web.

Even if you do exercise restraint in opening mails from unknown persons, did you know that e-mail addresses are not at all difficult to spoof? Spoofed e-mails are those that appear to have come from a trusted source, but are actually faked to appear that way. Here are the most common signs of a spoofed mail:

- ❑ A sense of urgency to take action.
- ❑ A threat: "If you ignore this, your account will be terminated."
- ❑ A link that to a Web site along with directions on what action to take.
- ❑ Requests to enter usernames and/or passwords or personally identifiable information.
- ❑ Bad grammar.

When you receive such an e-mail, answer these questions first:

- ❑ Do you deal with the bank or business in question?
- ❑ Is the e-mail to you or does it have a generic greeting like "Dear user"?
- ❑ Does it contain information about you that the company should already know, like your username or account number?



Underlined: the things to look for in a security certificate



Here's how to identify a fake e-mail

If the answer to all the above is Yes, then it is most likely a legitimate mail. Always remember, do not reply to mails that ask for personal information; if there is a phone number listed below—most legit e-mails would have this as an alternative means of contact—call and verify. And just don't click on links in e-mails from unknown contacts.

### In The End...

Awareness is key—whether it's about financial crime that begins with the use of online data, or about how kids can be put at risk online. Con artists on the Web are always changing their tactics. Keep yourself updated on the latest forms of online threats and how to guard against them. It isn't difficult. ■

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# Comfortable Control

Today, keyboards and mice can be just practical, style statements, or ergonomic. Which ones deserve to grace your desktop?

Rossi Fernandes

Your choice of keyboard and mouse deserves more thought than a few seconds' worth, which often turns out to be the case. After all, you spend so much time using them!

In this mini test, we take a look at a select few keyboard and mice combos from the superpowers of input devices—Logitech, Microsoft and Razer.

We've filtered out the lower-end products and are focussing on a select few input devices for desktop and gaming use. We'll see what makes them so special and why you need to throw away your old keyboard and mouse and opt for one of these now!

## How We Tested

The tests were more or less simple and straightforward. The entire point of the test was to see how easy to use and ergonomic these devices were. Because these were high-end devices, they came with extras and fancy little features; and we made sure to award points for these.

Most of the mice and keyboards we tested were wireless, and this can have some drawbacks. We decided to check them for their range and look for any delays in inputs that are usually observed when the distance from the devices to the signal receiver is increased. For this, we used the devices while gaming. We also looked at the layout of the keys on the keyboards, and the changes that some manufacturers had incorporated to make the products more stylish and ergonomic. Of course, this is not necessarily a good thing; so we looked at how easy it was to get used to any new layouts.

All the keyboards had multimedia keys and function keys for launching browsers, mail clients, etc. Some of them had special keys that you could customise to launch macros or other custom applications. We only checked features after installing, configuring, and customising the drivers. We also looked at parameters such as build quality and the feel and texture of the material.

## Logitech Cordless Desktop Wave

This is a keyboard / mouse combo that falls in the same price range as the Logitech MX3200 (up next). How is it different? To start with, it's pretty huge—it takes up a lot of space length-wise. It's quiet; to be precise, the keys have the soft-and-quiet feel to them. They are spaced out, and the layout is in a wave-like pattern, with each key inclined in a particular direction. The design sure has the whole ergonomic feel, and it will take some time for most people to get used to it.

The general feel of the keyboard is similar to that of the MX3200. The palm rest is a padding that is actually pretty comfortable to work with for long hours, but it is, unfortunately, not detachable. There are a few large, chunky, grey buttons thrown in next to the multimedia keys at the top and to the left. These are used to launch some of the more important features like your music and pictures folders. The keys on the left are for zooming in and out, and to quickly switch to other running applications using Logitech's Document Flip feature. There are alternative features for each of the function keys; one of these is the option to eject your CD/DVD drive.

The mouse isn't made for gaming, for sure. It uses two batteries, as does the keyboard. It ends up being too heavy to slide around quickly in fast-paced games. It's a laser mouse, so it is very reactive, but there is a laggy feel in-game. Unlike the gaming mice from Logitech, you can't increase or decrease the sensitivity or dpi on the fly.

The mouse has side-scrolling support, and two buttons on either side for going back and forth Web pages. It is, incidentally, comfortable to hold because of its somewhat compact size and shape. It looks symmetrical as well, so left-handed users will like it too.

Rs 4,995 for the Desktop Wave is undoubtedly a little costlier than we'd have expected. Nevertheless, the keyboard is good fun to use, and we recommend it. We can't say the same about the mouse, though—it's well-designed, but its weight brings it down in the ratings. You might consider buying the standalone Wave keyboard and a different mouse.

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★☆ |
| Features        | ★★★★☆ |
| Build Quality   | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

## Logitech Cordless Desktop MX3200

The Logitech Cordless Desktop MX3200 is one of the more practical keyboards, going by the initial look. It doesn't come with any fancy accessories. It's a proper keyboard-and-mouse combo that connects to the PC using a wireless RF USB dongle.

The keyboard is really nice, and the layout is similar to the EasyCall Desktop we've tested. Again, we have the weird placement of [Insert], and some missing keys. The keys are really soft and make close to no noise at all—ideal for anyone who spends nights typing. There's a small display built into the keyboard which tells the time and character count, and also allows you to set on alarms. It has no backlight, which makes it difficult to read what's displayed on the screen in dark or even brightly-lit rooms.



The keyboard also has a small sensor slider at the left where you can run your finger along to zoom into pages. There are also three dedicated buttons for desktop, Web, and picture search, which can be customised using the Logitech Setpoint drivers to search using a particular search engine. There are six customisable preset buttons that can be used as well. The keyboard has a comfortable hand-rest. If you don't like hand-rests, however, you're out of luck here, because it's not detachable.

A common problem with some Logitech keyboards—as with this one—is that there is no



alternate mouse-click menu key. The range of the keyboard is around 2 metres, and that of the mouse, 3.5 metres or so. The mouse does lag a little, but not as much as the Logitech EasyCall Desktop. The finish of the mouse is a little rough—it has a grainy texture. Although a great combo, the lack

of a dock for charging the mouse or keyboard might be irritating. But all in all, it's a great set, and with a price tag of Rs 4,995, it's not too costly either.

Verdict: this one should be a good investment for people who want a rather elegant wireless keyboard and mouse combo for desktop use.

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★☆ |
| Features        | ★★★★☆ |
| Build Quality   | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

## Microsoft Wireless Laser Desktop 4000

The Microsoft Wireless Laser Desktop 4000 is one of the cheaper keyboard mice combos around, but that doesn't make it a bad choice. The Wireless Comfort Keyboard 4000 is a little heavy, and the feel of the keys isn't all that great—there's not enough feedback. A padded strip forms the palm-rest as well as the base of the keyboard—it's comfortable, but might wear out over time.

There is an F-Lock key that is used to disable the function keys and use their alternative functions. Tasks like undo, redo, open, close, and save can be done by a single press of a button. What can cause chaos is that there is no indicator for the F-Lock key, so you could inadvertently call a function key when trying to accomplish one of these shortcuts. There is an on-screen indicator that's displayed briefly when you turn F-Lock on or off. In fact, all notifications are done on screen—but not by an OSD like on the Logitech ones. This is irritating, say when playing a game—when you accidentally press [Caps Lock] or [Num Lock], it shows up and interrupts your game. Fortunately, you can turn this off from the driver controls, but then you're back to square one with the F-Lock problem.

The mouse is fairly light and has no delay, which actually makes it pretty good for gaming.

It feels good to hold as well. One bad thing gamers will immediately notice is the lack of feedback when scrolling—smooth scrolling is terrible for gamers who use the scroll wheel to switch weapons. Those who work on spreadsheets will be happy with the side scrolling option, but will again find feedback lacking.

The range for the devices isn't all that great—a metre or two and you're out of range, and signs of delay are obvious; you start missing out on characters when typing. Two software packages are installed to set up the keyboard and mouse, and are used to customise the "My Favorites" buttons for custom applications and other buttons.

The price is Rs 4,545, and this makes a very good value-for-money bundle—though not as practical as a Bluetooth combo set. The set is a big no-no for those with HTPCs who want to sit quite a distance from their PCs. However, if you never move more than a few feet away from the computer, this set is a good buy.



| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★☆ |
| Features        | ★★★★☆ |
| Build Quality   | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

## Microsoft Wireless Entertainment Desktop 7000

The Microsoft Wireless Entertainment Desktop 7000 keyboard-mouse combo is made for the HTPC Media Center user. The design, styling, shades of grey and the flat layout say it all.

The keys, like those on most style-focused keyboards, give you the feel of using a laptop. The row of function keys have secondary controls that can be accessed with the Function key. On the left lies a panel dedicated to the

media playback controls. To its side are buttons that simulate the left and right mouse buttons to work along with the touchpad on the right of the keyboard. The touchpad is not very easy to use, but you can use only the keyboard for all your tasks.





The keyboard will definitely take a while to get used to—keys are shuffled around, and some just don't exist. For starters, the [Windows] key isn't where it's supposed to be—between the [Ctrl] and [Alt] key—it's placed at the bottom-centre of the keyboard! This is surprising; it's rather silly of Microsoft to break away from the traditional layout of their own Windows key—and it really does make it hard to use shortcuts that involve that key.

The mouse goes well with the keyboard, and matches the colour scheme. It looks like a stealth aircraft because of its not-so-smooth edges and flat look. During regular use, there's no delay, but a very slight delay is noticeable when gaming.

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

## Logitech G15

Logitech has some really nice products for gamers, and the G15 should fit the bill quite well. The G15 adds on a lot of keys, especially ones used for gaming. There are six three-key rows on the left that can be used for a whole lot of games. Apart from the 18 keys, you can also store up to three profiles—effectively, that's 54 shortcut keys that can be used in various games.

All the keys on the G15 are backlit, and though most gamers don't look at their keyboards when gaming, it does look pretty. A key on the G15 can toggle the brightness levels of the LCD screen and the backlight. The keys feel good—they have good feedback and are comfortable for long hours of gaming.

What makes the G15 really stand apart from other gaming keyboards is the foldable LCD screen. Under the screen are controls for the media player. The buttons for these aren't the best though: they are clunky. With the drivers installed, the LCD shows information like CPU and RAM utilisation, and song information from your media player. That's not all—there are communities and forums online that have developed neat little mods for the screen of the G15. An online search reveals useful mods such as bandwidth

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

## Razer Tarantula

With Logitech pumping out products one after the other, Razer obviously isn't going to take it lying down. The Razer Tarantula is its reply to the G15. It doesn't have an LCD screen, so why should you pay more for this? Let's find out...

When it comes to looks, the Tarantula has things going its way. The entire keyboard has a piano-black glossy finish—apart from the matte hand-rest—even the back of keyboard

The mouse runs off a single AA battery, and feels heavy. The keyboard requires 4 AA batteries, which are housed in two bays, and you can break a nail when trying to unlock them—thankfully, you won't be doing this often. The mouse comes with a charging dock, so no such drama here. Because of the Bluetooth connectivity, there are no range issues at normal distances.

If you get this keyboard, it's going to be a bit tedious to use in the beginning, and you should be prepared to look down all the time to find the keys that have been moved about.

You're going to have to decide whether it's worth all that trouble, especially at a price tag of Rs 8,523. But it's pretty good value for its price, and the touchpad can be a handy tool for a Media Center PC.



monitors, e-mail notifications, chat notifications, and—as you might expect—even silly ones, like for virtual pets.

The keyboard software can also detect games on your hard drives and tell you a whole set of custom functions that you can set. For example, the whole list of tasks and heroes in *Warcraft 3* was displayed, and could be assigned to keys.

With all the extra keys and the LCD, you'd think this keyboard was really bulky, but it's not! The keys are a little thinner than those on standard keyboards, so people with thicker-than-normal fingers—and touch typists—might have a little trouble.

We have no serious complaints about the G15, and at Rs 4,995, its pretty good value for money compared to the Razer Tarantula. Gamers should definitely consider getting one for any genre of game.

has the same treatment, though no one's ever going to see it.

Like the G15, the Tarantula, too, has backlit keys, except for the custom keys on the left and right of the keyboard. What special here is the fact that you can replace the keys with a custom set that comes bundled. The keys are made to be removable.

When it comes to the number of custom keys, the Tarantula doesn't come close to the

G15. Also, despite the fewer keys, the Tarantula is still pretty huge. It has expansion ports like the G15, but adds on a microphone and headphone jack. There's also a female mini USB plug hidden away under a small panel at the top of the keyboard.

The feel of the keys on the Tarantula is unique—there's a tiny bit of initial resistance when you press down on them before they sink in. The keyboard feels like a cross between the soft, mushy, ergonomic keyboards of today and the mechanical keyboards of the '90s. There's little or no confusion in key layout, and it's good fun playing and typing on it.

The Tarantula might look great and feel even better, but it lacks the LCD and the large number of gamer keys that the G15 gives you—and yet ends up being the costlier option. Rs 6,750 is a fairly larger sum of money, for what we can only think is the glowing Razer logo at the top.



| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

## Logitech MX518

Some of you might be surprised to see us reviewing the considerably older Logitech MX518. While everybody's busy racing to win the dpi mark, the MX518 has stayed at 1600 dpi—but then, you've got to think, do we really need higher dpi values?

Because of its camouflage and dented-metal-look, the MX518 is a pretty devil. It's got a clean glossy top surface with a matte finish on the sides. The MX518 stands higher than the Razer mice, for example, so people with larger hands are bound to find it more comfortable—it's not heavier, though.

The mouse tracks well on almost any surface, except those that are very glossy—but this holds true for any optical mouse. The mouse has the standard left- and right-click buttons that are concealed well with the body. Apart from this, it also has two buttons for moving backward and forward through Web pages, two for changing dpi settings on the fly, and one to quick-switch between applications. All of these can be customised using the drivers, but they're so bulky that most people uninstall them rather quickly!

Available almost everywhere in the Indian market for around Rs 1,550, the MX518 is great value for money. If your mouse just died on you or if you want to get a substantial upgrade minus a large hole in your pocket, this is quite undoubtedly the mouse for you.



| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



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## Razer Lachesis

**L**achesis is what Razer chose to call their latest mouse, and this mouse has a sensor resolution of a mind-boggling 4000 dpi!

Technical specs aside, the Lachesis is a very comfortable mouse with a low height and buttons that blend well with your fingers. It's one of the lightest and most comfortable mice we've come across, and is ideally suited for those with small or medium-sized palms.

Although we did have some trouble with the Lachesis when working on everyday applications—it kept slithering away randomly—when playing games there was no such problem. It's agile, quick, and reacts very well once you set it up right through the bloat-free Razer drivers.

The buttons on the Lachesis, similar to those on other Razer mice, offer good feedback. Not the dpi switching buttons, though—they're rather clunky. The cable on the Lachesis isn't very thick, which helps keep it out of the way when gaming, but could also mean easily-damaged in the long run.

### RATINGS

|                 |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



All Razer drivers are good-looking. Even in the case of the Lachesis, setting up the mouse and fiddling with the polling rates and dpi is no issue. We could set the polling rate to 500 Hz and 1000 Hz when we played around with the mouse. The glowing Razer logo and the scroll lights can be turned off individually from the driver itself. There mouse has 32 KB of memory—enough to store five profiles.

Although 4000 dpi is something Razer is boasting about, it's pretty impossible to play with—most gamers stick to 800 to 1200 dpi, so all that extra firepower on the Lachesis might be wasted. With a price tag of Rs 7,000, it's the costliest gaming mouse around. It may be all right for bragging rights—but nothing more.

## Razer Copperhead

**T**he Razer Copperhead is another veteran from the gaming scene, and we decided to see how it stood against the newer-generation mice.

In the dark, you'll see the sides of the mouse light up along with the scroll wheel and the pulsating Razer logo—pretty! The mouse is symmetrical, and a little tall and long. Although this is great news for left-handers, it's not the best palm-hugging mouse there is.

With a 2000 dpi sensor, the mouse is good enough for anyone. Pump up the polling rates and you'll see accuracy and reaction times improve immediately. It tracks flawlessly—no skips, nothing.

The Copperhead has two buttons on each side: the ones on the right are used to increase or decrease the sensor dpi. This placement is not ideal, though, and we feel it would have been better fitted at the top-centre of the mouse—like with the Razer Lachesis.

The cables on the Copperhead are long and thin, just like with the Lachesis. The three teflon pads are thin,

but work well to allow you to slide the mouse around easily, precluding any unwanted friction-related jerks.

The Copperhead is available for just Rs 4,250. Despite its age, it's still a good investment. The performance is great, but the shape might be a cause for concern for some.



### Summing It Up

Input devices are getting sleeker and ergonomic over time, and this is creating a few problems along the way. What's the point of sleek looks if they're not functional... a lot of keyboards miss out on basics like a light for [Caps Lock] or [Num Lock] or both. Unlike the trend of a few years ago, today, a fewer number of keys on a keyboard tends to drive up the price. Also, moving keys about and changing layouts might not always be a smart idea. What's more, too much customisation can confuse people. The majority of casual users are used to using the mouse for everything, so a lot of the added function buttons seem to be a waste. We'd suggest you spend a little time with your devices before buying. ■

rossi\_fernandes@thinkdigit.com

### RATINGS

|                 |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

| Contact Sheet |                               | Input Devices |                               |
|---------------|-------------------------------|---------------|-------------------------------|
| Brand         | Company                       | Phone         | E-mail                        |
| Logitech      | Rashi Peripherals Pvt Ltd     | 022-26571160  | kavita_nath@logitech.com      |
| Microsoft     | Microsoft India               | 080-66586752  | geethakb@microsoft.com        |
| Razer         | Netplace Technologies Pvt Ltd | 022-40053901  | Milan@netplacetechologies.com |



# Child's Play

**If you wonder what on earth, apart from the telly can keep your kids entertained through the long afternoons, then read on**

Bhaskar Sarma

**P**icture this: you are running late for that dentist's appointment, the *ayah* is on leave, and your bundle of joy's shrieking like a banshee. His favourite cartoons won't start for another three hours, and he is as pesky as they come. You *have* got a computer, an Internet connection, a filter—the works, you

know. The Internet is full of sites unsuitable for kids (and some adults, for that matter) but if you know what you are looking for, you'll find places that are tailor-made for impressionable minds—kids, in short. These Websites provide a combination of education and entertainment which are designed keeping in mind the notoriously short attention span of so many children.

## National Geographic Kids

(<http://kids.nationalgeographic.com/>)

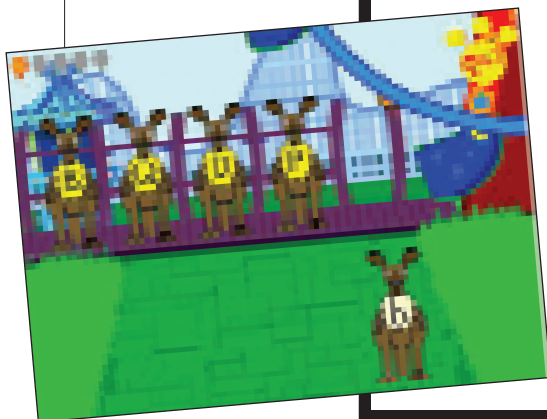


**N**ational Geographic has been in the edutainment business for long, and needs no introduction. National Geographic's child-oriented publication—National Geographic Kids—is known for its child-specific content, and the Web site is an appropriate complement to the magazine.

This site has games, videos and activities, most of them themed around animals past and present. They have videos on prehistoric sea monsters—a complete explanation which will hopefully stop all those questions your daughter had about those giant crocodiles in *Ice Age 2*. Related activities could be constructing a toothpick model or understanding how fossils are formed. There are a lot of Flash-based games on offer—play Frisbee with the dolphins, or plug holes in a leaky pipe, so a thirsty pup gets water in his bowl. NGK also has an option where children can personalise their homepages, send e-cards to buddies or test new games before they are rolled out. Get cracking!

## GameGoo

(<http://www.cogcon.com/gamegoo/config.html>)



**T**he baby kangaroos at Paw Park can't find their fathers, so it's up to you to help them—the babies are wearing t-shirts with lowercase alphabets on them, and their fathers are wearing t-shirts with uppercase alphabets. This is one of the many games at GameGoo that will keep your pre-schooler enthralled. This site's motto is "Learning that Sticks"—too bad we didn't have a pre-schooler at hand who could have proved it, but we guess the site does its job pretty well. GameGoo focuses on language skills like antonyms and synonyms, spellings, sentence construction—all the things that are taught in prep school. Brightly coloured animated characters feature in the games, which are divided into three levels—depending on how advanced the concepts taught are. Children are bound to outgrow the site quickly, but whatever they learn will have been learned well. And this is almost redundant, but there will be peace and quiet in the house—maybe a few excited giggles and claps, but definitely no bawling.



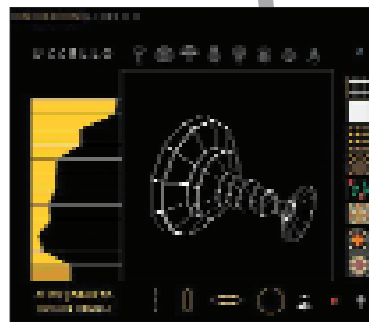


## Protozone

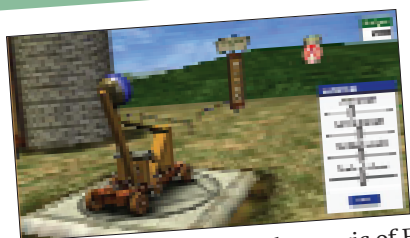
(http://www.protozone.net/AJinteractives.html)

Dazzling colours, 3D figures, symmetrical shapes—kids will love this place. Get them to draw patterns which they have seen in snowflakes, fabrics, inside kaleidoscopes and tiles. The 3D construction area is ideal for children with an interest in building. They can draw cubes, sculpt them, make patterns and while they are at it, rotate them. So detailed are the graphics that it looks like you're handling the real thing. There are two other sections—Games and Puzzles, and Art Machines. Each section has loads of stuff to keep one occupied for hours.

This Web site needs the Shockwave plugin, which you can download free from the Adobe Shockwave Website (<http://www.adobe.com/shockwave/download/>).



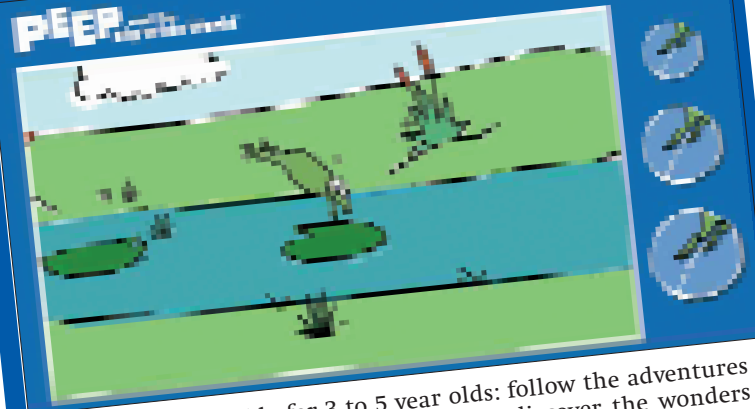
## ForgeFX

<http://www.forgefx.com/casestudies/prenticehall/>

Another site featuring the magic of Flash and Shockwave, this site—aimed at schoolchildren—attempts to teach them concepts like topographical maps, wave motion, eclipses, projectile motion, pheromone tracking and so on, through interactive and fun simulations. For instance, projectile motion and the concepts related to it are illustrated by the design process of a paintball-throwing catapult—the length of the arm, weight of the paintball, muzzle velocity and tension in the string all need to be adjusted to hit the bull's-eye. If your child is confused by topographical maps and how the contours of terrain are represented in them, increase the heights of hills and the depths of valleys and watch the ovals and circles change their shape in the adjoining map. This site has enough to satisfy the young 'un's curiosity, so you don't have to hunt down and read those science books yourself. The kids will ace their science tests, but will also develop scientific temper, which is more important.

## Peep And The Big Wide World

(http://www.peepandthebigwideworld.com/)

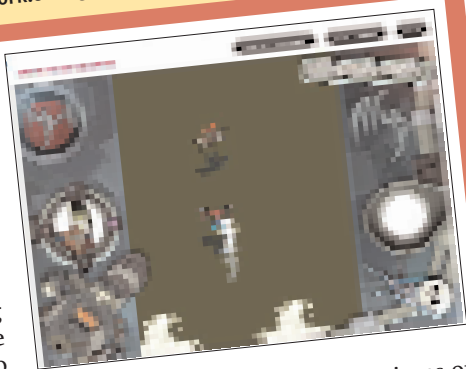


This site is suitable for 3 to 5 year olds: follow the adventures of three animated characters as they discover the wonders that lie in store for them. The cute chick named Peep and his pals—the little bird Chirp and the waddling duckling Quack, among others, have loads of fun.

The site is divided into several sections—activities, games and videos. The games and videos are all Flash-based, have voiceovers and load pretty fast. There's a new video every day: one day it could be about how Peep discovering that the, evil cat with giant legs and rows of razor sharp teeth was quite harmless, or it could be about how a seed grows up and becomes a plant. The games teach stuff through fun; for instance, the concept of primary colours is taught by splashing the wall with red, green and blue until the required colour appears. Nice, isn't it? Go ahead and check it out; we promise your kid will love you.

## Cartoon Network (Games)

(http://www.cartoonnetwork.com/games/all\_games/index.html)



How often we had wished in those afternoon cartoons of long ago that the cat gets whacked one more time, or the duck does just one more somersault before falling down. And those ads—how we used to bitch that it seemed we were watching commercials with bits and pieces of cartoons thrown in. Cartoon Network's Website solves all the problems. Here, choose from more than 170 free games, leap and whack to your heart's content for as long as you want and do it without pesky ads.

Most of the Flash games in this huge collection are engaging and attention-grabbers. There's no specific age group to recommend these games to, though the audience of these cartoons is an obvious target. That said, if you want a break from shooting at enemies or racing cars, you might want to exchange places with your little one and have a go at these games yourself. It would be a change, and a nice one.

## Thunk

(http://www.thunk.com/index.cgi)

Kids love mysteries. Experienced folks have always known that if you really want to hold the attention of children you involve them in activities which have an element of The Unknown in them. And what could be more exciting than secret messages and ciphers?

Thunk does not have the flashiness of other sites which cater to kids, but it does its job of introducing the world of encryption pretty well. The homepage has a section where plain English sentences can be scrambled into cipher text—next time you see something like “Zfz V jrec r trxn cfurl!” scrawled on your kitchen calendar, go to Thunk, type in the letters in the blue box and hit the unscramble button. “Mom I want a cake today” pops up; head over to the kitchen and get that oven out.

For kids, Thunk's scrambler and unscrambler open up a whole new world of fun. Imagine how cool and geeky it would be



if you exchange scrambled e-mails and jokes with your friend. In fact, if you send a joke that's really funny, it could be featured on the site (in scrambled version, of course). The site also has links to other interesting related sites like CIA for Kids and FBI for Kids. There is also a nifty section explaining all about cryptography and its history. Jn ran vzganbbnu, anrryl.

## In search of the Ways of Knowing Trail

(http://www.brookfieldzoo.org/pagegen/wok/index\_f4.html)

An incomplete letter from a father to a daughter about the secrets of the Ways of the Knowing Trail, a village in the heart of Africa—sounds like the plot for a jungle thriller. There are no murderers or detectives here—only the thrill of surviving in an alien environment using your knowledge of nature. Sound interesting? Well let's head over to Epulu to find out.

You start at an airstrip where there is a welcoming party—children whose parents live or work in and around the huge Ituri Forest that surrounds the village. After introductions, you hop on the jeep, which unfortunately breaks down in the middle of the forest miles away from your destination. You have to navigate through the forest relying on the experience of your friends.

What's interesting about this whole storyline is that the storyline becomes different depending on the choices you make.

For example, during the night you could either sleep in a burrow high in the trees or a jungle hut. Depending on your choice, you would learn stuff which you might have missed otherwise. Along the way, your companions introduce you to the sights and sounds of the forest... We won't spoil the fun by revealing the ending. Do it yourself, you know.



## Chevron Cars

(http://www.chevroncars.com/games/)

Remember “Cars”? Yes, the animated movie. What if we said we found a site where you could race cars that look like they came out from the movie?

As you might have already guessed, this site is pure fun and games. Car games are but one section of the games available here; there are other types of games available, including arcade and puzzle games. Reflexes, speed, manoeuvrability—you need your wits about you to beat the high scores in most of the games. Extremely addictive—so much so that we almost didn't finish this article as we played on and on and on...



In addition to these games, there are loads of free stuff—stickers, wallpapers, post cards, colouring pages, and screen-savers that would keep the kids connected with the movie. ■



## Summing Up

Apart from the sites we have mentioned, there are thousands supposed child-friendly sites. We recommend using kid oriented search engines like Yahoo!igans (kids.yahoo.com) or Ask for Kids (www.askforkids.com) to search for them as they link to sites which are suitable for children. There is also the fact that most of these sites are usually slow to load, as they have plenty of graphics and animation—so you could get jerky videos if you have a very slow connection. One thing stood out like a sore thumb—the absence of engaging sites with local content. This is a pity, as India has a rich cultural heritage which can provide the raw content. Most Indian sites are filled with boring text which is sure to turn anyone off. We hope the situation changes for the better. Any takers?

bhaskar\_sarma@thinkdigit.com





# Setting Up WiFi At Home

Here's all you need to know about WiFi routers

Robert Sovereign Smith

With an increasing number of us buying laptops—coupled with more broadband connections—we've seen a spike in the number of multiple-PC households. It's quite common—especially in metros and A and B class cities across India—to find a PC plus a laptop or two (and even WiFi-enabled PDAs) in the average tech-savvy household. The need for networking them arises, however, and WiFi routers seem to be the popular choice. This is where the tech-savviness ends, sadly, with more unsecured wireless networks popping up all the time. Here we'll walk you through some important aspects of setting up and managing your network.

## What's Popular

If you have a broadband connection that requires an ADSL modem, you should consider buying an ADSL router. These have the modem inbuilt, and also act as a router for your network. If your ISP has already provided you with a modem, you'll only need the average WiFi router. We've found the Linksys WRH54G router to be the most popular buy, and it's what we've used as an example here. The slightly older Linksys WRT54G is also a very popular model; the only difference is in the looks, and the fact that the (newer) WRH54G has a Wizard page in the control panel to help you set things up easily at home. Routers from D-Link, NetGear and others are just



The Linksys WRH54G, for home users

as good—just the terminology and nomenclature of the settings we mention in the following will differ from what you find on your screen if you own a different brand of router.

## Setting It Up Right

It's best to let your router share your Net connection, so that the laptops or other devices on the network can access the Internet even when the desktop PC (if you have one) is switched off. If you buy an ADSL router, you will find that your ISP's cable fits directly into it. If you already have a modem, and if you've bought a WiFi router, you'll see that it has LAN ports at the back. One of these ports will be called "Internet" or "WAN", and this is where you connect the LAN cable between your router and the modem.

## Router Settings

All the routers available use a browser-based control panel, which you access by typing in a specific address into the address bar. The first time you hook up your router to your PC or laptop, you should use a LAN cable (usually bundled) and connect it to one of the router's LAN ports. Set the Local Area Network connection on your PC / laptop to obtain an IP automatically. To do this, go to Start > Settings > Network Connections. Right-click on your LAN connection and select Properties. Under the "This connection uses the following items:" header, you should see Internet Protocol (TCP/IP). Double-click this and make sure the Obtain an IP address automatically radio button is selected. Click OK and then, back in the LAN Properties box, make sure to check the Show icon in notification area when connected box at the bottom before clicking OK again.

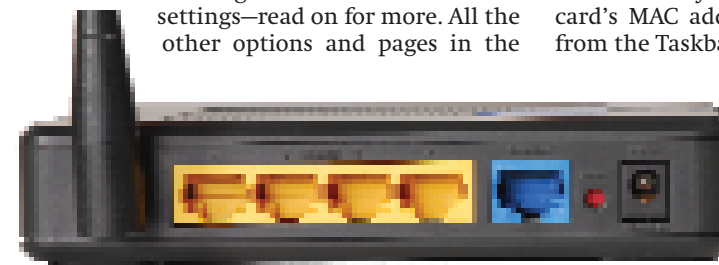
Usually, the documentation that accompanies the router will tell you what address to use

to access the control panel, but if you've have lost the documentation, you can just wait for the LAN connection (between the router and the PC / laptop) to get running, and then, once you have been assigned an IP address, look at the details and note down the "Gateway" IP. You should see the LAN icon in the Taskbar when the connection is available; just double-click on it and select the Support tab. Here you will see values for IP, Subnet Mask and Default Gateway. Type the Gateway IP into your browser and you should get into the control panel. You might have to use "admin" as the username and a blank password if prompted. Your manual will have this information, but if you've lost it, look up the manufacturer's Web site.

## The Wizard Page

If you're using the WRH54G, you will be shown a Wizard page that will let you set up your router quickly and easily with very well-explained settings. All this should be self-explanatory, and you should have no trouble.

You might need to tweak some settings—read on for more. All the other options and pages in the



The router has clearly demarcated ports for LAN and your Internet connection

WRH54G and WRT54G are identical.

## The Basic Setup

If you're using the WRT54G router, the first screen you'll see is the Basic Setup configuration options. Here you specify details of your Internet connection and LAN and wireless settings. Other routers will have similar settings. Important settings to remember are:

**Internet Connection:** Here you will be asked for the connection type (usually PPPoE for ADSL in India), and the username and password that your ISP should have provided you with. Enter them in the appropriate boxes.

**Network:** Here you get to choose what IPs your LAN should use, and what IP the gateway should use. You should use private IP addresses here, such as 192.168.0.1, 192.168.100.1,

10.0.0.1, etc.

**Servers:** You can set whether the router assigns IPs dynamically to clients that connect to it, and which address to start assigning from. In our example, the router is set to use DHCP, and starts assigning IPs from 192.168.100.100.

## Cloning

Some ISPs lock user accounts to their network card's MAC (Media Access Control) address. This is to ensure that no one but you or the PC that the connection is registered to is allowed to use the Internet connection. Some ISPs even lock the username and password, so that you can only access the Net from your own home, using only the LAN card that the connection was set up on. If you find that your router is not able to dial and establish a connection with your ISP's server, this could be the reason.

Most routers will let you just spoof your network card's MAC address so that the ISP will let you in. To do this, just click on MAC Address Clone (for WRT54G) and set the MAC address to the value of your LAN card. To find your LAN card's MAC address, double-click on the icon from the Taskbar (or go to Start > Settings > Network Connections, and double-click your LAN connection), go to the Support tab and click the Details button. You will see a value for "Physical Address"—this is the LAN card's MAC address. Copy it and then paste it into the appropriate place

under MAC Address Clone in the router control panel. You should now be able to dial up and connect to your broadband connection.

## Wireless Settings

Under Basic Wireless Settings, select "Mixed" for Wireless network mode if you have multiple devices connecting—laptops, media servers, smart phones, PDAs, Sony PSP, etc. If you have just a laptop and you know for a fact that it supports 802.11g, you can safely set this to "G-Only". Apart from better speeds and connection strength, this will also give you a slight security edge, as people with older WiFi equipment (802.11b) will not be able to connect.

You will also see an option for SSID (Service Set Identifier). Set this to anything

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McCam/BH/Intel C-46307





Put in all the Basic Settings for the router

you want—it is what your wireless network will be called. You should leave all other settings the way they are.

Clicking on Wireless Security will take you to a page where you have to specify a security mode. Here you should use WPA Personal or WPA2 Personal, because you don't really need Enterprise level security, and WEP is not secure enough. Since all the devices on your network need to be capable of using the same security mode, we suggest you stick with WPA Personal here. If you use WPA2, your laptop(s) should have no trouble connecting, but devices such as smart phones or Sony PSP might not be able to connect. You will need to specify an 8-digit key that people will have to type to gain access to your WiFi network. Make it easy to remember, but complicated enough—at least one number and one uppercase letter.

You can add on security by allowing only certain devices to connect to your network, and ignoring all the rest. You can do this by enabling Wireless Mac Filtering, and then choosing whether you want the list to be a block list or allow list. Let's say you want to allow only certain devices to access the network; you will have to set the filter to "Permit only" and add in the MAC address of all the WiFi-enabled devices you own.

## Security And Restrictions

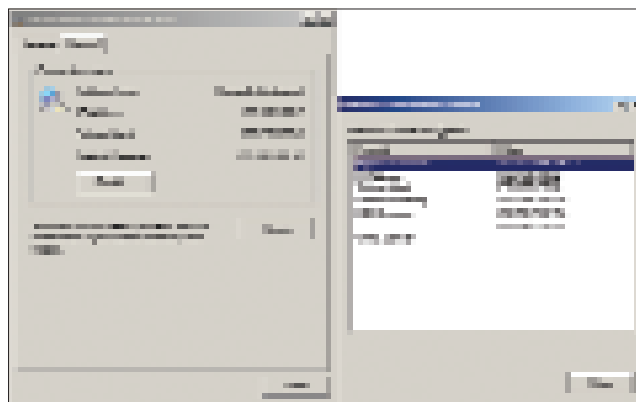
Clicking on Security will give you two options—Firewall and VPN. All you should do is make sure that all the boxes under Firewall are checked. Leave the VPN settings the way they are.

Under Access Restrictions, you can control who accesses what and when. You can define up to 10 access policies, which basically means you can make 10 rules here. Amongst other things, you can select a list of PCs, based on MAC addresses, IP addresses or IP ranges, and set times when they get access to the Internet, or times that they don't. All the settings are quite self-explanatory.

You can also block services such as trace route, ping, SSH, IRC, etc., from the router itself, making doubly sure that no one can use a protocol you don't want them to. Apart from all this you can even block sites by typing in their addresses, or you can block sites based on keywords. Blocking sites with the word "download" is a good idea if you are on a limited bandwidth account and have others using the same router.

## Applications And Gaming

Under this header, you'll find options to let you tweak the way the router handles your online gaming requirements. For example, if you're addicted to *Quake III*, you can forward ports 27,000 to 29,000 to your desktop's IP address to make sure that all data sent by Q3 servers comes directly to you without any delay. Under Port Triggering, you can forward a set of ports to another port. Say for example you're hosting an FTP server on your PC, but instead of port 21, you're hosting it on port 2121. Most people who connect to your FTP server will never type



Find your LAN card's MAC address and get your router to spoof it

“:2121”, and will end up getting connection error messages. Using port triggering you can set the router to accept data on port 21 from the Net, and send them to your PC on port 2121.

DMZ stands for De-Militarized Zone. Basically, if you enable this setting, and point it to your Desktop, all packets that aren't specifically marked for others will come to you. Obviously, DMZ reduces security, so use it at your own risk.

## Administration And Status

Under Administration, you will find options to change the admin password, and choose whether the Web server runs on various protocols or not—you could choose to only run it as HTTPS, making access to the control panel more secure.

Under Status, you will see a summary of all the settings you changed. It will inform you the status of your Net connection. You can choose to disengage or engage your Internet connection. Everything else is pretty self-explanatory.

Once you're done with all this, you're ready to start connecting WiFi-enabled gadgets to your network. Happy streaming! ■

robert\_smith@thinkdigit.com



## A SELECTION OF TIPS AND TRICKS BY DIGIT FORUM MEMBERS

### Add 'Insert' Option To CD Drive Context Menu

(<http://www.thinkdigit.com/forum/showthread.php?t=35982>)

**Author: Vishal Gupta**

Here is the step-by-step procedure:

1. Download the file cdeject.zip from <http://tinyurl.com/38xklh>, extract it and copy the DLL file to the %windir%\System32 folder.

2. Copy the following code into Notepad:

Windows Registry Editor Version 5.00

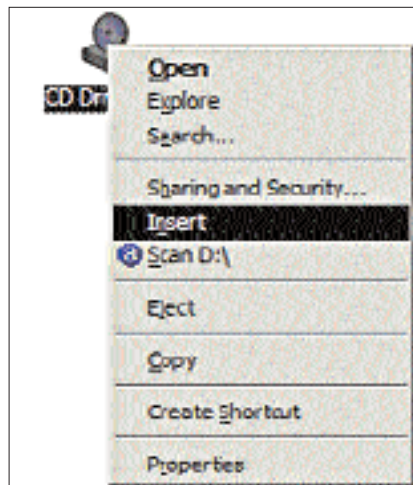
```
[HKEY_CLASSES_ROOT\CLSID\{02A07E80-0-EFA2-11D4-8306-A7EBD4C50C7C}]
@="CDEject Context Menu Shell Extension"
```

```
[HKEY_CLASSES_ROOT\CLSID\{02A07E80-0-EFA2-11D4-8306-A7EBD4C50C7C}\InprocServer32]
@="C:\WINDOWS\system32\cdeject.dll"
"ThreadingModel"="Apartment"
```

```
[HKEY_CLASSES_ROOT\Drive\shellex\ContextMenuHandlers\{02a07e80-efa2-11d4-8306-a7ebd4c50c7c}]
@="C:\WINDOWS\system32\cdeject.dll"
```

3. Save the file with any name, but the extension must be .reg.

4. Run the file; it'll ask for permission. Grant it.



Insert your optical drive tray with a right-click of your mouse

5. You'll now get the Insert option in the CD drive context menu!

### Connect To The Unofficial Digit IRC Chatroom From Within Firefox

([www.thinkdigit.com/forum/showthread.php?t=73663](http://www.thinkdigit.com/forum/showthread.php?t=73663))

**Author: gary4gar**

1. Install the ChatZilla extension for firefox from <https://addons.mozilla.org/en-US/firefox/addon/16> and restart Firefox to complete the installation.



2. Now, go to Tools > Chatzilla. A new window should open up.



3. Select "Freenode—Europe" from the available networks
4. In the new window that opens up, enter /join #digit  
Happy chatting!

### Enable Multiple Logins In Yahoo! Messenger

([www.thinkdigit.com/forum/showthread.php?t=65416](http://www.thinkdigit.com/forum/showthread.php?t=65416))

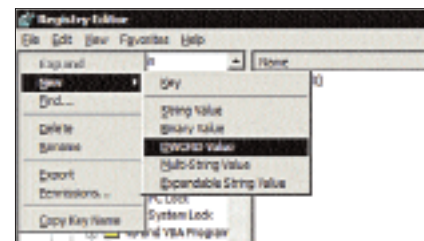
**Author: kal\_21**

1. Open the Registry Editor by clicking on Start > Run and entering regedit.

2. Navigate to HKEY\_CURRENT\_USER\Software\Yahoo\pager\Test

3. Right click on any blank space in the right column and choose New Dword Value.

4. Call it "Plural".



Adding a new DWORD value in Regedit

5. Double-click and assign a decimal value of 1.  
Now close the Registry editor and restart Yahoo! Messenger, and you'll have multiple logins. (This does not work with version 9, though)

### Configuring BSNL Modems To Forward Ports

(<http://www.thinkdigit.com/forum/showthread.php?t=58475>)

**Author: Quiz\_Master**

To configure a BSNL modem to forward ports, you need to get to the router configuration page, so type 192.168.1.1 in your browser, then enter admin as both the username and password (It's the default one, if you haven't changed it yet).

Now go to the Advanced Settings tab and then to the Application sub-



The router config page of the BSNL Huawei MT-882 modem

section. There, enter the settings as above.

You can change the port number according to the port you use in your BitTorrent software.

Click Apply. This will reboot your modem; the rebooting process will take about two minutes.

### Settings with Type IV modem MT 841

Use the same steps as above to reach the router configuration page, then click on NAT > Enable. Go to NAT Entries, Click New... Then, enter the data as here.



Optimal NAT settings

Now your modem is set to forward ports.

### Internet Connection In Linux Via Mobile

([www.thinkdigit.com/forum/showthread.php?t=49242](http://www.thinkdigit.com/forum/showthread.php?t=49242))

**Author: Manshahia**

1. Connect the mobile via USB cable.
2. Open terminal and type su to become root.
3. You'll be asked for the root password; type it in.
4. Issue this command:  
wvdialconf /etc/wvdial.conf  
This is when the phone will be detected as a modem. In this window, you should now be able to see the address the phone's modem is connected on. Note it down. E.g. 'Modem = /dev/\*'
5. Then to edit this file using a text editor, enter:  
kwrite /etc/wvdial.conf

6. When Text Editor opens the file, make a note of the username and password in the file and erase everything from there. Then enter the following:

```
[Dialer Defaults]
Modem = /dev/ttyUSB0 # <--
Enter the USB port location here
Phone = *99#
Username = xxx # <-- Enter the
username here
Password = xxx # <-- Enter the
password here
Baud = 230400
Init1 = ATZ
Init2 = ATQ0 V1 E1 S0=0 &C1 &D2
+FCLASS=0
ISDN = 0
Modem Type = Analog Modem
Carrier Check = No
```

The modem will be configured successfully. To dial the Internet connection type, enter the following in the terminal:

```
wvdial
If everything goes fine, it will say
'connected successfully'.
To disconnect, press [Ctrl] + [C].
```

### Remove Security Alerts From System Tray

([www.thinkdigit.com/forum/showthread.php?t=70449](http://www.thinkdigit.com/forum/showthread.php?t=70449))

**Author: ravi\_9793**

Go to Start > Control Panel > Security Center.

In the left pane, click the Change the way Security Center alerts me link, located right at the end of the column. In the new window that pops up, uncheck everything.

### How to Use Any Gadget On Vista's Sidebar

<http://www.thinkdigit.com/forum/showthread.php?t=66664>

**Author: anandk**

Here is a way to convert Google or almost any Gadget and use them on your Vista Sidebar. You can transform almost any gadget into one that can reside in the Windows Vista sidebar or your Desktop. The freeware Amnesty Generator lets you do it, without your having to know even a line of coding!

Download & install Amnesty Generator from [www.amnestywidgets.com/GeneratorWin.html](http://www.amnestywidgets.com/GeneratorWin.html). Then, choose a Web gadget you'd like to turn into a Vista gadget, click a few buttons to display the gadget's underlying HTML code. Copy and paste that code into Amnesty Generator, you can change a few settings, such as the gadget's name or size, if you wish, and tell the software to turn it into a

Windows Vista gadget. The gadget will appear in the Windows Vista Gadget Gallery. From there you can move it to the Sidebar or even your Desktop.



A custom sidebar in Windows Vista

### Hide Hard Drive Partitions

([www.thinkdigit.com/forum/showthread.php?t=65741](http://www.thinkdigit.com/forum/showthread.php?t=65741))

**Author: Batistabomb**

Here is a cool technique which hides entire hard disk drive partitions by a simple procedure without using Regedit:

1. Go to Start > Run and type diskpart.

A DOS window will appear with following description.

DISKPART>

2. Then type list volume

3. Suppose you want to hide drive E:, type select volume 3. A message will now appear in the window saying "Volume 3 is the selected volume".

4. Now type remove letter E. You may have to reboot the computer. Diskpart will remove the letter. Since Windows XP doesn't have the capability to identify the unknown volume, it won't display or show results from it. To access the contents of the hidden drive, repeat the process, but in the fourth step, replace remove to assign, i.e., assign letter E.■





## ATEN CS52A 2 Port Hybrid KVM

### One finger switch your PCs

The ATEN CS52A is a 2 port Hybrid KVM (Keyboard, Video, Mouse) switch targeted at the home user who has more than two machines running—laptop and PC, for example. KVM switches are meant to be used as a way to quickly switch between two computers without virtual networking software.

What you get in the package is three branches of cables—two of which connect to the two machines and a third for the display, keyboard and mouse you'll be using with the two systems. You also get USB and audio connectivity for the speakers and microphone. Unlike more advanced KVMs, there are no security features built into this device.

It seems a little confusing to setup at first, but once done, switching

control from one computer to another is effortless—a press of a button is all it takes. A Quick Guide is provided to help new users get on their way quickly.

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



The build quality is decent and the cables are fairly sturdy as well. The cables are around 4 to 5 feet in length in length and should be sufficient to reach two computers on tables kept side by side.

At Rs. 2750, it's slightly more expensive than expected. We don't really see the need for such a product in a country like India where most households have a single PC. Those using a

laptop and a PC might find this most useful, though.

#### Specifications

Dimensions: 8.45 x 3.40 x 2.13cm, Weight: 0.41kg

Contact: Cubix Micro Systems

Phone: 022-25008968

E-mail: sales@cubixindia.com

Web site: www.aten.com

Price: Rs 2,750

## Linksys NAS200

### Not fast enough

The Linksys NAS200 is a small entry-level NAS box, offering decent features at an attractive price, but with a few flaws that are hard to overlook.

The NAS200 looks like double-decker router box and has perforated black plastic all around for ventilation. The hard drive mounting isn't the sturdiest we have seen. Two USB ports are available for external storage to take backups at the press of a button.

Setting up the NAS200 is quite simple and the provided CD makes it even simpler for home users with no networking experience. The hard drives can be configured in RAID 0, RAID 1 and JBOD via a Web interface or the client application. The

Web interface is cryptic and unintuitive.

The NAS200 comes with a media server and devices supporting UPnP can connect and stream multimedia content directly. The device also has a download manager that can download files directly without the need to keep a PC switched on. It supports HTTP and FTP, but we would like to see support for BitTorrent (mid-range NAS boxes have it). The drives can power down if inactive to save electricity.

In these Gigabit Ethernet times, the NAS200 only has an Ethernet port (10/ 100)—unacceptable. In our test, it took around 5 minutes to transfer 1 GB of data when configured as single disk.



Such speeds are good enough for normal file transfers, but when using it as a media server, the impact will be significant.

For the features, the tag of Rs 9990 seems reasonable for normal home use.

| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Value for Money | ★★★★★ |
| Build Quality   | ★★★★★ |
| Overall         | ★★★★★ |

Demanding users wanting media streaming might find the performance poor.

#### Specifications

Capacity: 512 MB Flash memory, SD expandable slot; Music formats: AAC, MP3, WAV; Dual 3.5 mm audio jacks; Lanyard with aluminium ring

Contact: Linksys India

Phone: NA

E-mail: Linksys\_india\_sales@cisco.com

Web site: www.linksys.com

Price: Rs 9,990

## SanDisk Extreme Ducati Edition 4GB

### More oomph than a Ducati

USB drives are boring. The new SanDisk Extreme Ducati Edition is not. Visually appealing and built to resemble a Ducati motorbike, this drive is encased in a solid metal jacket with a red glossy paint job, silver and black details and even a little Ducati badge on top—a delight for any Ducati fan. A taillight that blinks during data transfer is also a nice touch. The metal does make it heavier than most other drives its size, and it's a bit bulkier too.

With excellent build quality and a retractable gold-plated USB connector, it appears ready to take any punishment. A long lanyard

is provided so you can wear it around your neck to prevent it from getting lost, though it becomes uncomfortable to wear this dead weight after a while.

The drive supports ReadyBoost for Vista, and is compatible with Windows Vista, XP, 2000, Mac OS and Linux. There's no file backup, encryption or U3 capability, but the drive exhibits blazing transfer speeds, taking just 34 seconds to transfer a 700 MB

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



file to the drive; transferring it back takes just 29.5 seconds. This is one of the speediest performances by a Flash drive we've seen so far.

SanDisk bundles RescuePRO Deluxe—a data recovery software that can recover files deleted from any drive, specifically meant for memory cards. It is backed by an unmatched lifetime warranty from SanDisk and that makes it a very attractive option for portable data storage and transfer. In both

performance and style, the SanDisk Extreme Ducati Edition assumes pole position and is definitely worth a buy, if you don't mind the slightly steep price.

#### Specifications

Capacity: 4 GB; Interface: USB 2.0; Lanyard; Weight: 100 gm

Contact: Rashi Peripherals Pvt Ltd

Phone: +91-22-67090820

E-mail: sandisk@rptechindia.com

Web site: www.sandisk.com

Price: Rs 4,200

## Western Digital My Book Pro Edition II 2 TB (WDG2TP20000N)

### Back up your whole world

First it was the 1 TB drive, but now, Western Digital has upped the ante by sending us an external hard drive, with a size of gargantuan proportions of 2 TB—the My Book Pro Edition II.

Ruggedly constructed, this drive looks like an extra-large reference book. The casing looks like aluminium, but is in fact a strong polymer. The drive has a push-button on one side that lets you take one-touch backup of your data in conjunction with the provided Retrospect backup software. This is a user-serviceable drive—you can take out the two SATA II WD10EACS SE16 drives inside and get them replaced yourself. The drives are configured so that you can either choose RAID mirroring for extra data protection or, RAID striping for speed and performance.

RAID configuration is easy with WD's intuitive RAID Wizard software.

The My Book sports triple interface: USB 2.0, FireWire 400 as well as the ultra-fast FireWire 800 which has a fast throughput of 800 MBps. In fact, there is an extra FireWire 800 port that lets you connect more drives in a daisy-chain, if one fine day, 2 TB does not suffice your ever-growing demands, and the design of the drive lets you stack one drive over another.

Drive performance—though not the best—is as good as we expected. It took about 45 seconds to transfer a sequential file to the drive and 40 to copy it back. Things speed up by about 40 per cent when you use the FireWire 400 interface.

The bundled Retrospect Express backup software can handle all the data backup tasks including encryption. You can schedule these tasks

and it can even do a complete restore of your system if things go horribly wrong. A convection cooling system driven by a thermostatically controlled fan with a rubber frame (to dampen noise) keeps this setup cool. All the necessary data cables are provided, so you don't need to go looking around for them. The My Book is quite bulky,—1.93 Kg, for obvious reasons—and carrying isn't very pleasant. Even with 2 TB, the obscenely expensive price tag of Rs 45,000 will take a bite out of your flesh.

#### Specifications

2 TB; 2xWD10EACS SE16 SATA II

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Feature         | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



7,200 rpm hard drives; Latency: 4.2 ms; Read seek time: 8.9 ms; Interfaces: USB 2.0, FireWire 400, and FireWire 800; Cables: USB 2.0, IEEE 1394a, IEEE1394b; Dantz Retrospect Express backup software; Dimensions: 174.6 (H)mm X 159.3 (D)mm X 104 (W)mm; Weight: 1.93 Kg

Contact: Venktron Infotech

Phone: +91-9321029204

E-mail: amarjit.singh@wdc.com

Web site: www.wdc.com

Price: Rs 45,000





Connect | Know More About

# Display Interfaces

Let the connectors and cables confuse you no more.

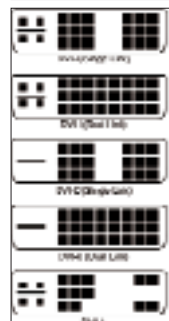
Samir Makwana

You've been hearing a lot about High Definition content for quite some time. Everything's gone digital—movies, gaming, TVs, monitors, projectors. With this, a slew of new connector interfaces has arisen, and a lot of us are left scratching our heads wondering what goes where. We're going to do a little show and tell here to help you out!

## DVI—Digital Video Interface

DVI is widely used for flat-panel LCD monitors, digital projectors, and present-generation graphics cards as a high-resolution digital display interface. The technology was created by the Digital Display Working Group. All video cards produce digital signals that are converted to analogue at the VGA port; they are then transmitted to a monitor where it's re-converted to digital. Instead, display devices that have DVI ports can be connected to receive a direct digital display from the graphics card.

It's not that simple, though, because DVI connectors come in three flavours—DVI-Digital (DVI-D), DVI-Analogue (DVI-A) and DVI-Integrated (DVI-I). The DVI-D connector is used to connect devices



The pin layout differs for each type of DVI Connector

such as digital LCD monitors—it eliminates the analogue signal conversion that takes place at the VGA port of the video card. To carry a digital signal to an analogue display, DVI-A cables convert the signal to analogue and hook into the VGA port of the analogue display. DVI-I cables can be used to transmit both digital-to-digital and analogue-to-analogue signals on different pins.

DVI-D and DVI-I connectors are sub-divided into single- and dual-link connectors—dual-link connectors support 24 bits per pixel and higher resolutions. A single-link DVI connector that consists of four twisted-pair wires (red, blue, green, and one for clock) that offer a maximum display resolution of 1600 x 1200 at 60 Hz. Dual-link DVI connectors offer double the power of transmission and can display a resolution of 2048 x 1536 at 60 Hz. Dual-link connectors are easily identified by their additional pins.

## S-Video

This is a high-quality video interface format that carries three-colour YUV analogue video signals—Y (Brightness/Luminance) lies in one channel, U (colour) and V (chroma) in another channel. Since television

sets display Luminance

and Chroma signals separately, sharper images can be displayed using an S-video connector than a Composite video connector.

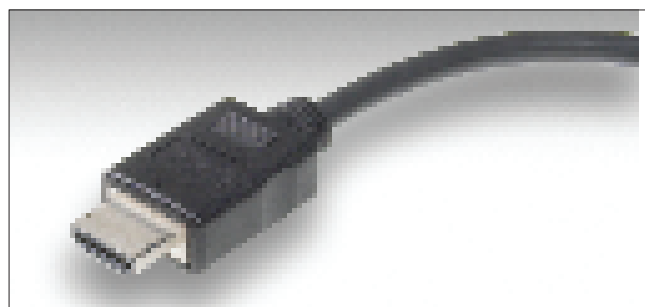
S-video is capable of a display resolution of 480i and 576i (standard definition), and doesn't carry audio signals on the same cable. Devices such as VCRs, DVD players, camcorders, receivers, and game systems may use 4-pin Mini-DIN (Deutsches Institut für Normung) cables, for which a special S-video connector is needed. For computer connectivity, 7-pin Quasi-DIN S-video connectors are used. Connect S-video with care; the pins are weak and may bend.

## HDMI

High Definition Multimedia Interface is an industry-supported, uncompressed, all-digital audio/video interface. Transferring uncompressed audio/video data over a single cable requires a lot of bandwidth. HDMI is the solution to this, and is capable of transmitting HD content at 5 Gbps (gigabits per second), which is twice the bandwidth needed to transmit multi-channel audio and video.

It is backward-compatible with DVI, and a DVI/HDMI cable can be used to connect your graphics card to, say, an LCD TV. HDMI is specifically used for DRM-protected digital audio/video sources such as gaming consoles, Blu-ray Disc players, etc.

High-bandwidth Digital Content Protection (HDCP) technology developed by Digital Content Protection, LLC, is used



HDMI: the slim connector for fat piping—as in HD content



for protection of content via the HDMI as well as DVI interfaces.

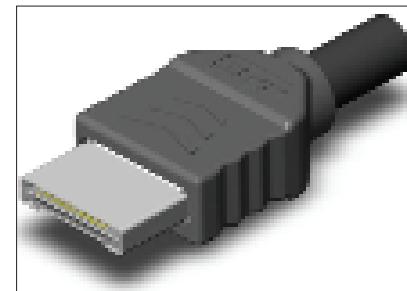
Two types of HDMI connectors are currently available—standard and high-speed. Standard cables can handle 1080i signals (frame resolution) at a speed of 75 MHz, while high-speed cables can handle 1080p signals at speeds of 340 MHz—the highest currently available.

The Standard, also called the “Type A” connector, has 19 pins that provide bandwidth support to SDTV, EDTV, HDTV modes and more. It is electrically compatible with single-link DVI-D, and its width/height is 13.9 by 4.45 mm. The high-speed, also called “Type B” connector, has 29 pins, and is electrically compatible with dual-link DVI-D; its width is 21.2 mm. The maximum length for an HDMI cable is 50 feet. They're expensive, as are DVI to HDMI convertors.

## Unified Display Interface

This is one of the latest video interfaces used to connect PCs to HDTV displays. It will replace VGA connectors on PC monitors as well as other devices and make it compatible with DVI. To make UDI compatible with newer interfaces like HDMI, the HDCP technology was incorporated into it.

Despite having 26 pins, the UDI connector is small, and is cheap to manufacture. This display interface is competing directly with the DisplayPort interface. The future looks bleak though, because its Special Interest Group



UDI: The soon-to-be VGA killer

is on shaky ground after Samsung and Intel exited it this year. Apple currently heads the group.

## Display Port

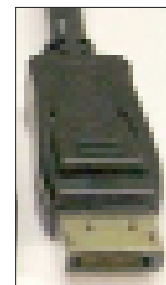
This is a VESA (Video Electronics Standards Association) standardised technology. It is being pitched as a VGA and DVI standards replacement. Though the DisplayPort specifications are similar to HDMI, it will be used primarily as a computer interface—connecting PCs to TVs, CRT monitors, flat panel displays, digital projectors, home entertainment receivers, etc.

DisplayPort provides four channels of data flow at up to 10.8 Gbps. Device control instructions are carried by a separate bi-directional channel. The DisplayPort connector is screwless and small, designed to offer a maximum length of 15 metres. Unlike DVI, DisplayPort will be able to carry audio data (up to eight channels) on the same (video) cable. For content protection, DisplayPort Content Protection (DPCP) has been licensed by Philips; it has advanced encryption-based authentication, and is also HDCP-capable.

DisplayPort supports a maximum resolution of 2560 x 2048 at 60 Hz. By 2009, the specifications of DisplayPort will be upgraded to support higher display resolutions like 3840 x 2400 at 60 Hz. According to VESA, DisplayPort is capable of six 1080i streams or three 1080p streams over a single connector. This means you can run multiple displays off a single DisplayPort connector.

DisplayPort is currently compatible with DVI, for which you need to buy DVI-to-DisplayPort cables or adaptors. Likewise, for HDMI, HDMI-to-DisplayPort adaptors are available. ■

samir\_makwana@thinkdigit.com



DisplayPort—will it replace both VGA and DVI?

# WE HAVE MOVED!



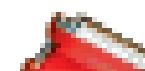
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November 2007

## Second Life

Robert Sovereign-Smith

Giving a whole new meaning to the term born again...

### Day 1

I'm not pleased. Apparently, going on leave is a bad idea—you get drafted into doing articles you would rather not, since no one else wants to do them. Ho hum, use Second Life for a month, it could be worse I guess... or could it? For those who can't already tell, *I'm already biased against the game / phenomenon that Second Life has become.* I download it, create an account and am set to start exploring. Yawn! Maybe tomorrow.

### Day 4

I'm on Prelude Island—a place all newbie Lifers go to learn how to move about and use things. Customising my character to look just like me was easy. The good thing is that since Second Life is as popular as it is, there's no dearth of tutorials out there. *Our 2 Mbps office line seems too slow when people are at work.* Oh well, I'll continue using it at home where I have 2 Mbps to myself.

### Day 5

Surprisingly, *even on my old XP laptop* (1.2 Ghz, 512 MB RAM and Intel graphics), Second Life runs beautifully. Updating your Vista graphics drivers seems to allow SL to work better on it. The game is not for laptop trackpads; hurrah for mice!

### Day 6

Very soon I realise that SL is no place for misers—*my money and me are soon parted* because I

realise I have to buy land to have a place to call home. Tired of searching for "lands" to visit, I decide to create my own. Not easy!

Warning: Experience in 3D modelling required to create anything half-decent looking.

### Day 9

I just noticed the "Mature" checkbox. Ticking that sure increased search results for everything. I also see more Lifers than I have ever seen before; seems everyone is "Mature" here. *As with the Net, there's just too much adult oriented content.* Several hundreds of ads selling male appendages later, I un-tick the "Mature" checkbox.

### Day 19

I made a few friends over the last week, though we're communicating more over IMs than in SL. I suppose that's because birds of a feather... *I'm bored.* SL is a nice getaway once in awhile, but I'm not interested in buying a penis, visiting "Mature" locations, starting a business, or blowing up buildings (yes they have terrorists in SL now!), there really isn't anything more I can do.

### Day 27

No more, I promise never to take another vacation again, just let me stop now, please. Thankfully Ed agrees. Second Life turned out to be exactly what I thought it was: a waste of my time. Don't get me wrong, there's tonnes of cool things to do in SL, and if you're into 3D modelling, a lot of cash to be earned as well. It can also be addictive, and if you like interacting with people, it's more addictive than IMs. However, *India is just not ready to embrace SL yet—the bandwidth woes are the prime cause,* bandwidth costs also play a big factor, and don't forget that we just don't have enough time to dedicate to a virtual world. We're all too caught up with our First Life. Either way, SL is a must try, because you'll either love it or hate it, depending on what you're looking for in the virtual world. Just make sure you keep your eye on the bandwidth meter at all times...

robert\_smith@thinkdigit.com

## Write to the Editor

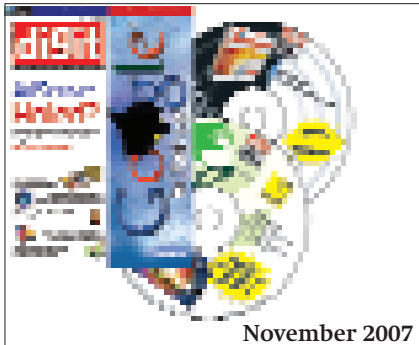
E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, KPT House, Plot 41/13, Sector 30, Vashi, Navi Mumbai 400 703

Digit will publish the best letters on these pages. Letters may be edited for clarity. **Please include your complete address in all communication.**

For subscription queries send an e-mail to help@jasubhai.com

# Inbox



## Whatever Happened To...?

I would like to compliment you on your November issue. Thanks for the Deepavali shopping tips, Open SuSE 10.3, and for the stuff on the discs. Thanks for this, thanks for that... Well, you people are really good at your work aren't you?

The part of your magazine that I personally like most are pieces on emerging technologies and cutting-edge research. When I saw your *Fast Track*, I thought of something: you've published some really very good articles in the past about some amazing technologies and products about to be released, like the article about RCLGA (reconfigurable chaotic logic gate arrays). It would be interesting to know where these technologies have gone today—has work progressed on these? Will we get to see them anytime soon? How about one or two pages as a follow up on those stories?

**Rohit**

Dear Rohit,  
Thanks for the appreciation, and I think what you've said is a reasonable idea. However, it would mean creating a new sub-section in the magazine, which is not without its difficulties. Still, I'll see what we can do!

—Executive Editor

## Rounding Off The Year

At the end of the year I would like to share some positives and negatives I have observed about your mag. First the negatives:

- I've always wondered why people only talk about Norton—after all, it's very slow (until the recent version), a resource hog, and not even efficient. Kudos to the people out there who reviewed Kaspersky Internet Security. I strongly feel you should review all anti-viruses, when security in all aspects is becoming a major concern.
- As someone wrote to you earlier, there are too many ads.

● The game reviewing is not up to the mark; I don't understand how it's going like this, but for a company that's running a mag entirely for games (Skoar!), this is no benchmark. Some of the reviews are monotonous, some dare to say that even nice games are sick.

● It's good that you talk about Linux, but it's time others get a place in the mag—like Leopard and Sky OS (definitely worth a look).

After that, the good things:

● You rule the world with your software, movies, music, and games. Be proud that you are a reason to keep piracy under control in India.

● Your editorials are top-notch!

● Your *Fast Tracks* have made my analogue brain go digital.

● Tips & Tricks, Q&A, How To... what more can any tech mag offer than this to a thirsty reader (not even some international magazines can beat you at this point!) No exaggeration—I subscribe to the e-versions of some international mags!

And well... it's time to say Merry Christmas and Happy New Year!

**Somasekharreddy Karri**

Dear Somasekhar,  
Criticism is always welcome—it makes us look at what we've been doing wrong. I'll just say a few things: firstly, it is the ads that keep the magazine at the price it's at, so they are a good thing. Game reviews are bound to be subjective—some will like a review, some will not. As regards your first point, though, we do intend to carry more software reviews in general. About other operating systems—we can carry features once in a while, but it depends on how many people will be interested.

As for the nice things you've said—all I can say is, of course, thank you—and here's wishing you a Happy New Year as well!

—Executive Editor

## Swearing By Agent 001

This is a Thank You mail to Team Digit and especially Agent 001. Because of you I have a pair of free headphones! I am a regular *Digit* reader, and my friend isn't. We both decided to get headphones for our mobiles. Our budget was Rs 1,500; we headed to Nehru Place. I remembered Agent 001 recommending the Creative EP 630.

We went to a couple of shops, then

headed to a showroom that had a lot of headphones. I asked for the Creative EP 630, and it was Rs 865. My friend was shown some Zebronics, iBall, Intex, and even Sennheisers for a whopping Rs 3,500. He then asked for lower-priced ones, and was shown very cheap but very good-looking sets. One was named Jalwa—I was impressed by the looks. It was Rs 170. My friend advised me to get a pair of these instead, but I refused to change my decision. We had a bet: the better-sounding headphones would be paid for by the other person. He was confident because his headphones looked bigger!

At home, to his surprise, his headphones had very low sound levels, and at maximum volume, there was a lot of distortion. Mine were very clear even at high volume, and the sound quality was far better. I won the bet... Thanks, Agent 001 ji!

**Akash Yadav**  
New Delhi

## We're Reaching Out

For two years I've been living in a town in Chhattisgarh where I was the only one who read your mag. The bookstall would bring in only one copy of *Digit*—for me. That was then; the picture is changing very fast. Now the bookstalls have dozens of copies... This was only possible due to your efforts, which are visible to your readers—like me—all over India.

People appreciate my knowledge about computers and mobiles. Even more, they need to consult me before they buy a new computer or mobile! You have changed my life and also my friends'. Hats off to you... when we buy anything, we ask for more details, and the shopkeeper starts scratching his head!

I suggest you have some more in-depth material on mobile phones. Most of your readers have Symbian OS enabled phones (Nokia). You must bring out a *Fast Track* to Symbian OS.

**Fakhre Alam Md. Ali Ansari**  
Champa, Chhattisgarh

Hello Mr Ansari,  
I'm pleased to know we've had so much of a positive impact on your life! Yes, we empower our readers with knowledge that the average technology shopper doesn't have. And yes, a *Fast Track* to mobile operating systems could be a good idea—thanks for writing in with the suggestion.

—Executive Editor



Free  
with Digit  
Connect

Retirement Benefits: Use Your Old PC!

Volume 7 Issue 12

December 2007

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# digit

YOUR TECHNOLOGY NAVIGATOR

# COMPUTING

Overclocking: A Comprehensive  
What, When, How

Your USB Drive As A Lock And Key

Best PC Configurations In All  
Categories

The Power Supply Unit: Yes, It's  
Important

Creating A Windows-Updated XP  
Installer

 **Jasubhai**  
DIGITAL MEDIA





# Graphics: The Way Ahead

---

**“Boasting of CPU+GPU cores in one single package, Nehalem will be a killer product for a value-sensitive market such as ours”**

---

DESKTOP COMPUTING IS at a crossroads. Until now, processor architecture was the dominant force that shaped this industry, but it's giving away to graphics.

New-age operating systems such as Windows Vista and Apple Leopard are completely based on graphical eye-candy, and need some serious graphics hardware to run. HD-quality movies demand a well sorted out graphical sub-system to deliver crisp, jerk-free video. Computer games are seeing unprecedented levels of realism, and to play them in their full glory, powerful graphics solution are needed. And as we move ahead, the need for better graphics is imperative.

The industry is gearing to deliver solutions. NVIDIA and ATI (now AMD) have already taken steps in the right direction. Even Intel has laid down the design for their new GPU codenamed Larrabee, expected by the second half of next year. It will be interesting to see how Intel handles its second attempt at graphics cards—their earlier attempt, the i740, never really accomplished much. Personally, I think they have a tough battle ahead against the likes of NVIDIA and AMD (ATI). Moreover, with the Nehalem architecture in the pipeline, Intel really *needs* expertise in graphics.

Today, NVIDIA has the best graphics card for the discrete graphics market, and the new 8800GT has raised the bar for powerful but affordable graphics. Almost all new laptops today are equipped with NVIDIA solutions, and

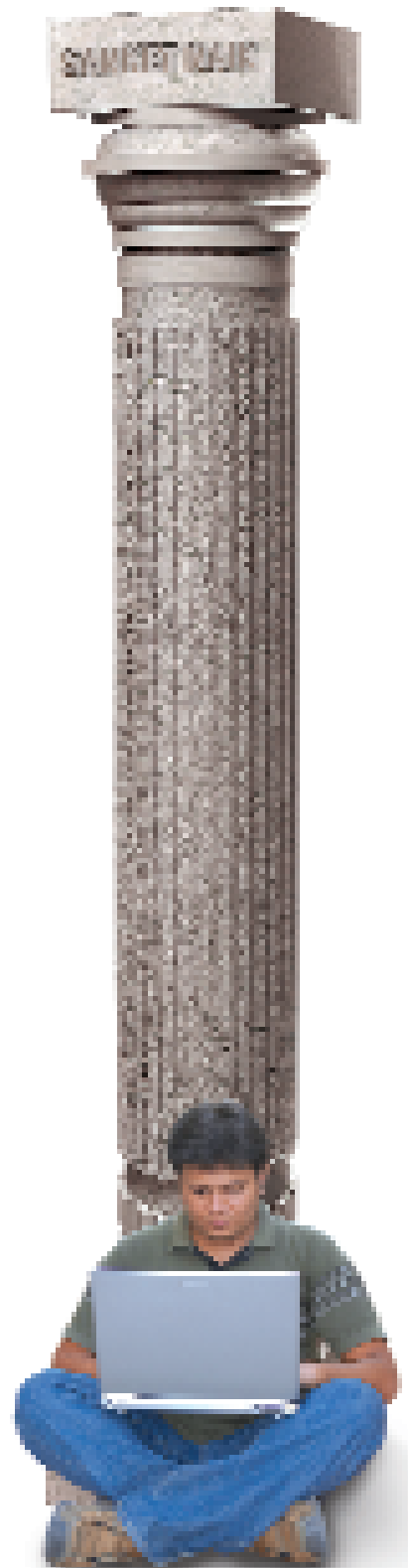
I'm sure the future will see the green logo appearing on cell phones. In a GPU-centred world, NVIDIA stand to benefit the most.

What I'm waiting for most are the Nehalem and Bulldozer from Intel and AMD respectively. Intel has already declared Nehalem the successor to the Penryn line of processors. Boasting of CPU+GPU cores in one single package, it will be a killer product for a value-sensitive market such as ours. All we'll need to worry about soon is which processor to buy—just one package will both process and play.

AMD has announced its Bulldozer architecture—a modular approach towards combining CPU+GPU cores in a single package to deliver the best of both worlds for a particular segment of consumers. After acquiring ATI, AMD is set to release Bulldozer before Intel's Nehalem. Regardless, we consumers have the most to gain from it all.

Coming back to what I said earlier, the transition to a GPU-dominated world is certain, and the promises are revolutionary. Sadly, for us geeks, the wait is torturous.

*sanket\_naik@thinkdigit.com*







## newsbytes



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Strange new espionage methods: hard disks pre-loaded with viruses

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## Go That Extra Mile

All you wanted to know about overclocking—but were afraid to ask. It's not only about getting more juice from that machine—it's also just for the sake of it!

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## Build your own PC

What computer configuration to opt for is an ever-present question with an ever-changing answer. Here are our recommendations for four types of machines, as things stand today in regards to availability and price



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## ATI Catalyst Control Centre And NVIDIA nTune

Unleash hell with your red monster or turbo-charge your green devil

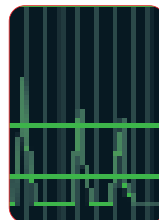
How To  
The USB Key

You can imagine the sheer convenience of being able to lock down a computer using just a USB drive. (It helps that USB drives are even just about the size of a large key.) So go ahead, make a USB lock-and-key for yours!

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Know More About  
The Task Manager

You know [Ctrl] + [Alt] + [Delete] is special in Windows; it brings up the Task Manager. So what can you use it for?



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## Plan For Retirement

The last thing you think about when you get a new computer is... what you'll do with the old one! Let's change that for you... there are several interesting possibilities. Create less e-waste, and also do yourself a favour by putting your retired machine to good use



F

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## Ashampoo PowerUp XP Platinum 2

A Digit Exclusive! Ashampoo PowerUp XP Platinum 2 takes the hassle out of tuning up your Windows computer.



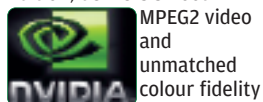
## Ultimate Boot CD

A compilation of all the PC diagnostic tools you'll ever need. Burn the ISO file and boot from it.



## NVIDIA PureVideo Decoder Platinum

NVIDIA PureVideo Decoder software, a plug-in for Microsoft Windows Media Player and Media Center Edition, delivers smooth



MPEG2 video and unmatched colour fidelity

when watching DVDs, videos, and TV programs on your PC. To activate the trial version, please use the activation information below when prompted during the installation process:  
First and Last Name: **NVIDIA**  
Trial Email Address: **dvdtrial@nvidia.com**  
Last 4 Digits of CC: 2004  
Activation Key: 7152-9346-DD6E-2CB0-79A3-5F08-AC23

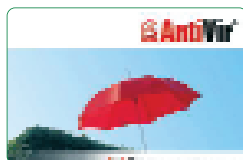


## PCMark Vantage

PCMark Vantage is the first objective hardware performance benchmark for PCs running 32 and 64 bit versions of Windows Vista.

## AntiVir Personal Edition Classic

Avira AntiVir Personal Edition Classic is a comprehensive, easy to use antivirus program, designed to offer



reliable virus protection to home-users only.

## McAfee Internet Security Suite 2008

McAfee Internet Security Suite with SiteAdvisor is a proactive 10-in-1 always-updating security bundle that protects what you value, your identity and your computer from viruses, spyware, e-mail, and IM scams, hackers, and online predators.

## ZoneAlarm Security Suite 7

ZoneAlarm Internet Security Suite protects you at every level, from the deepest layers of your operating



## Ubuntu 7.10 (DVD)

Ubuntu is a community developed, linux-based operating system that is perfect for laptops, desktops and servers.

system to the physical world.

## Also Featuring

- PerfKit (Vista and XP)
- Process Explorer v11.04
- Revo Uninstaller
- Softlock USB 1.2
- Stick 2.6.2.2
- USB System Lock
- Acronis True Image Home
- AutoMate 6.2.2.0
- CPUCool 8.0.6
- Diskeeper 2008 Administrator
- my.lock
- PC System Tweak for Windows 1.2.0.2
- Virtual Hard Drive Pro 2.0 Build 07090417
- FlyakiteOSX
- Stardock DeskScapes 1.02

- Start++ 0.7.8
- VistaMizer 2.0.0
- Aston2 Menu Beta 3
- NextSTART
- SphereXP 1.1.626
- WindowBlinds 6
- Cinebench v10
- Kaspersky Anti-Virus 7.0
- McAfee VirusScan Plus NOD32 Antivirus
- Norton AntiVirus 2008
- Panda Internet Security 2008
- Ad-Aware 2007
- Hitman Pro 2.7 RC 2 Beta
- Online-Armor 2.1.0.23
- Sophos Anti-Rootkit 1.3.1
- ATI Catalyst (Vista, XP, Linux)
- DriverAgent
- DriverMax
- NVIDIA ForceWare

## Colossus Cracker

Colossus, the famed British World War II era code cracker, has been beaten at its game by... a German. The machine, built from broken Colossus machines, was pitted against modern machines. It lost to Joachim Schuth from Bonn, whose Ada program broke the given code on his 1.4 GHz PC.



## Freebies

EA Inc. has donated the original version of *SimCity* to the OLPC (One Laptop per Child) Foundation. This low-cost laptop is intended for sale for educational purposes in developing countries like Uruguay, Peru, India, Ethiopia and Cambodia.



# newsbytes



**Marcus Schioler**  
Product Marketing Manager, Media and Entertainment Division, Autodesk

Autodesk, the creators of Maya and 3D Studio Max, recently launched, in India, the 2008 versions of their visual effects software: Inferno, Flint, Smoke, Flame, Fire, and Lustre. We asked Marcus Schioler—product marketing manager for the Media and Entertainment Division of Autodesk—some questions over a cuppa.

**You recently open-sourced a geography software that allows users to convert latitude values between geocentric and geodetic; are you committed to developing open source software?**

Supporting open standards is what Autodesk is all about. Though this is not being open source in the truest sense, we provide our customers with custom open APIs that we've developed to better integrate our products with their existing workflows.

**For how long do you plan to continue the licensed software revenue model for your products?**

We plan to continue with the current revenue model, however, everybody needs something customised to their requirements. We have a specific department that deals with such requests.

**What do you think about piracy issues here in India?**

On the high-end systems side, we don't see any piracy, but for our animation software, we do. In these we incorporate features like activation-by-phone. We are a member of the Business Software Alliance, a worldwide anti-piracy organisation founded by software vendors to educate consumers on the ills of piracy.

**Are you planning a software development team in India?**

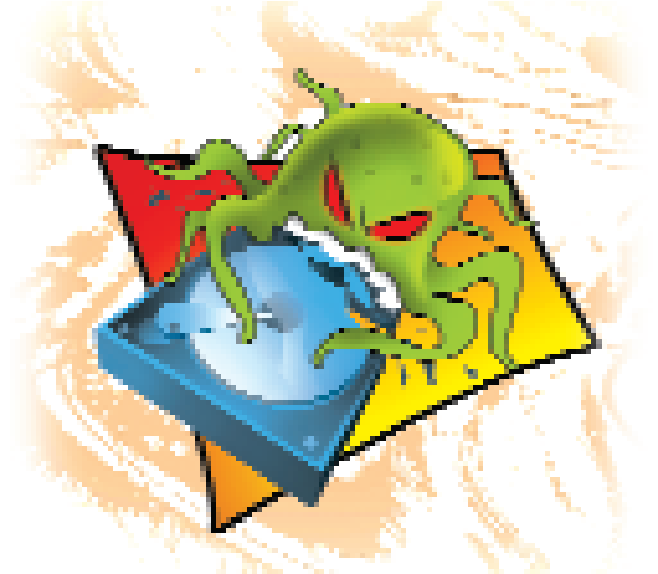
Not at the moment, but there is a lot of feedback that goes out from Indian customers to the development teams working on new versions of our software.

## LOADED

### Cans Of Worms

What do you do after getting yourself a spanking new hard drive? Unwrap the package, install the operating system, and put your data

sites hosted on a Beijing-based server. Since most of these drives were to be sold in Taiwan, local authorities there suspect a Chinese hand in what happens. (In case you didn't know,



on it? Well, if the Taiwan government is right, the first thing you need to do is to run an anti-virus scan. Especially if you bought a 400 GB Maxtor hard drive from Seagate made in Thailand...

The incident was reported by the Investigation Bureau, a Taiwan government agency. According to their investigations, about 1,800 hard drives shipped from a Seagate factory in Thailand came pre-installed with Trojans. These were programmed to report the contents of the hard drive to a pair of Chinese Web

China considers Taiwan a breakaway province, and relations between the two are not quite rosy.)

All drives from the offending batch have been pulled off store shelves, but those sold before the security warning was sounded are suspected to have had their data siphoned off. Seagate, however, claims the Trojans are not as sinister as they were made out to be: they were merely programmed to steal passwords for online games like *World of Warcraft*, so customers could expect to be blocked out of their

accounts or see their characters lose all those weapons. As a bonus for the customers who were stuck with dangerous software, Seagate has offered a 60-day trial of anti-virus software from Kaspersky Labs to scrub the infected drives clean.

As a post-script: the Chinese have had, for some time now, an unsavoury reputation when it comes to meddling in other countries' IT affairs. Might they have a fully-staffed dirty-tricks department dedicated to cyber-attacks? Not long ago, the newswires were buzzing with reports of China hacking into US military networks...

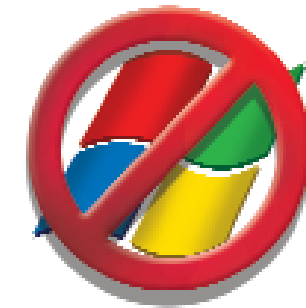
As for us, we're going to be a little edgy about buying Maxtors from Thailand. If we get one as a gift, we'll look the horse in the mouth.

## ANOTHER DISGRUNTLED GOVERNMENT AGENCY

### OpenSchool.org?

A generation of young Brits could grow up without depending on Microsoft Office and the effects of Vista's Aero, if the UK government's nodal agency for computers, Becta, has its way. The watchdog group says Microsoft's terms of use for Windows are restrictive and do not encourage competition.

According to Becta, public money has not been optimally spent on Microsoft's systems. The licensing procedure for Windows systems is cumbersome, and schools have to continue paying subscription dues to Microsoft for quite a long time—and if they don't, Microsoft could pull the



plug. Now also take into account the fact that a typical mid-sized school's software budget equals a new teacher's salary.

Microsoft, when drafting the licenses for the schools, apparently inserted some caveats that enable the company to ensure that schools use only its software and nothing else. Schools have to pay based on the number of computers they own, regardless of whether the software is installed or not. The company provides the best deals to schools with more than 250 computers and who could predict demand for the next three years. (Strange, considering Microsoft can't seem to properly plan the release dates of its new offerings.) Another issue is Vista's and Office 2007's hardware requirements and interoperability issues with older versions. The way out of this mess, according to Becta, would be to adopt open source alternatives like Linux and OpenOffice.org—the young 'uns won't grow up believing that Windows is synonymous with "operating system," while the schools would get to save valuable cash.

But on second thoughts, though, the kids would probably get schizophrenic, with Windows at home...

## TFLOP DREAMS

### Right Up There

For those who have been whining about the lack of cutting-edge, world-class supercomputers in India, now is the time to bring out the bubbly. In a recently-released list of the top 500 supercomputers, India is in fourth place in a list dominated mostly by the United States and Europe. This particular supercomputer, named Eka (Sanskrit for "one," as you should know) is installed at Computational Research Laboratories in Pune. It runs at a scorching speed of 117.9 teraflops (trillion floating point operations per second). Eka is intended for use in areas like drug design, earthquake and tsunami modelling, and crash simulation.

The system, installed by HP this year, consists of 14,240 of Intel's Xeon 53xx 3 GHz processors, and incorporates Tata's own routing technology with data transfer rates of 20 Gbps. Incidentally, this system is Asia's only entry in the Top Ten list, with the next one (from Japan) placed at 16th spot. The United States continues to have the highest concentration of systems, at 284. In Asia China, Japan, Taiwan and India together contribute 58 machines to the top 500 list.

Computer Research Laboratories is engaged in research and development in areas of High Performance Computing and like chip design, computer architecture, and systems software. It was founded in

July 2006, and is supported and funded by the Tata Group.

## UNWITTINGLY MALICIOUS

### Sign Of The Times

This Diwali could have left a bad taste in the mouth for regular users of Indiatimes.com, all those sweets notwithstanding.

According to Mary Landesman, a researcher at Web security solutions provider ScanSafe, the Indiatimes.com site is serving up a brew of Trojans, malicious binaries, and deadly scripts and cookies. Most of these threats have never been seen in the wild before, so having an updated anti-virus can't help against the threats. They target little-known Windows vulnerabilities, some of which do not have any patches. You wouldn't even know if you were to be attacked—there are no pop-ups or message boxes asking for permission to install screensavers or cursors. You visit the infected page, and bad things automatically get installed on your system, silently and stealthily.

ScanSafe has not identified exactly what the malicious programs are supposed to do, but they have speculated that the infected system might become part of a file-sharing or communication network: in other words, a botnet.

Indiatimes.com is one of India's most popular Web sites, with hundreds of pages. The only good news is that most of the 434 threats are confined to a few pages. The site was notified of the problem when the offices were closed due to Diwali, and there has been no response to e-mail queries regarding the threat scene right now.

## People Who Changed Computing

### Layer of Security

Now you wouldn't give out your credit card number, e-mail password, or medical history to any stranger, yet every time you shop online or check your



**Taher Elgamal**

mail, you type in such details without a second thought—implicitly trusting the little lock icon to keep those details safe. Every page that has that icon guarantees that the data entered there is seen only by the intended recipient; that guarantee is widely possible because of the SSL (Secure Sockets Layer) protocol. Taher Elgamal, during his years as a chief scientist at Netscape (1995–98) polished up and introduced the protocol that is now *de rigueur* for any e-commerce transaction. An alumnus of Cairo University and Stanford, this Egyptian-born American cryptologist has contributed in other ways to making online transactions secure. The Digital Signature Standard, based on the Elgamal signature scheme, is an industry standard for generating signatures that authenticate senders and receivers. Elgamal was one of the early employees at RSA Data Security, and was engaged in developing cryptographic toolkits for encryption. He is also a well-known entrepreneur who has been associated with many Silicon Valley security companies like Securify and Ektasis. He is currently CTO of Tumblewood Communications, which provides security solutions for enterprises and governments.





**Overclocking has always been considered a black art where results aren't always as expected. Safety equals information—you'll be well protected after reading this...**

Michael Browne

Overclocking as an activity seems to originate from mankind's eternal quest to continuously outdo himself. Automobiles, airplanes and now computers—we seem to like to push performance envelopes.

Quite simply, overclocking is to a PC what turbocharging is to an automobile engine—well not quite but the end result is the same—more performance. Running finely tweaked components at greater speeds than they were designed to run at is however potentially dangerous—to the components (and possibly to your person). Which is why overclocking is an art form for many.

Overclocking involves increasing the working frequencies of all performance impacting components namely the CPU, RAM, GPU and video memory, and other motherboard buses like the Northbridge, Southbridge, and PCI Express bus frequency. A processor that is rated to run at 2.4 GHz and actually running at 2.8 GHz (for example) is said to be “overclocked”.

### It's That Simple?

While overclocking its important to remember that the extent of the overclock is largely dependent on the weakest component in your PC. Components that are typically stressed are the motherboard, processor and memory. If you decide to overclock your video card as well then it's the fourth component that is stressed—we say *decide* to because by default *overclocking* as an activity doesn't include VGA overclocking.

You might have an excellent processor, but your choice of RAM may not allow you to overclock too high. Or you may be using a strictly budget motherboard.

Components have to be perfectly matched. In fact, those thinking about overclocking with a value motherboard—think again! While most people buying a PC think of the best processor within their budget and then spend the remainder on a board. Being a potential overclocker you should think differently—buy the best possible motherboard so you can reach higher overlocks with your CPU of choice.

While buying the best board within your budget is important, you don't necessarily have to splurge on the *best processor*. For example—we've got a Core 2 Duo E6600 (default 2.4 GHz) to run at 2.93 GHz which is the default speed of the Core 2 Extreme X6800—a CPU that costs thrice as much. Which means you can reach the same level of performance at one third the price!

### What You Need

The first thing you need while building an *overclockers delight* is a good motherboard. Good doesn't necessarily mean costly although as with everything you get what you pay for. Your choice of motherboard will largely determine the extent of overclocking of components possible, and also how easy it is to overclock.

We're looking at an Intel-based PC for building an overclockable system. Intel processors overclock much better, and offer better performance for the buck even at stock speeds.

### Processor

The processor is by far the simplest component you'll have to choose. Once again the costliest processor doesn't really necessitate the best overlocks. We're not looking at the highest clock speeds possible (which the best processor would give you). Rather we're looking at the biggest difference between stock speeds and overclocked speeds. Into this ratio also comes the all impor-

tant bang for the buck—overclockers aren't usually uber rich—which is why they overclock in the first place!

As mentioned you don't need the costliest processor. Just to prove our point for this exercise we're taking a Core 2 Duo E6550 (2.33 GHz core, 1333 MHz FSB) as our test subject. This processor costs around Rs 6,500 (street price) and is one of the best buys for an overclocking setup. It can easily reach the speeds of an E6850 when overclocked which is a 3.0 GHz core. For your information this processor has a multiplier of 7 (we'll look at why that is significant later).

If you want to spend a little more we recommend a Core 2 Duo E6750 at rupees 8,400—with a multiplier of 8.

If you're looking at the power of four cores—we recommend a Core 2 Quad Q6600 at Rs 11,400—it overclocks way beyond even a QX6850 (3.00 GHz).

Beyond a point, no amount of tweaking / overvolting will get your clocks higher. This is because of heat, and your CPU temperatures will climb. This is where CPU cooling comes into play. We used Intel's stock cooler for this exercise, but also had a Thermalright Ultra 120 on hand to cool things down in case temperatures got out of hand.

### RAM

The choice of memory doesn't really affect the choice of processor but it does affect the choice of motherboard. All Intel chipset motherboards (P35, X38, G33 etc) have a certain fixed number of ratio options between the frequency of the FSB and memory which has to be maintained. These ratios are like 1.5 : 1, 2.0 : 1 and so on and are called *Memory Divider Ratios*. The biggest problem Intel chipset based boards have is the memory divider ratio—simply because overclocking your FSB means automatically increasing the memory clock as well. We call this a problem because most of us are running on value memory—which doesn't overclock well.

In case your PC is running value memory on an Intel chipset based board you may well be limiting your overclocking potential.

NVIDIAs 6xx family of chipsets have a very different approach to overclocking memory and FSB—there's no relation, as they've unlinked each component—no memory dividers plaguing overlocks anymore as the memory frequency and FSB frequency is totally asynchronous.

The choice is simple—if you want to overclock higher with cheaper memory—go for an NVIDIA 680i/650i chipset based motherboard. If you have high quality DDR2 memory and are looking to overclock memory as well then you can go with either Intel or NVIDIA chipset-based boards.

Your choices are limited for *enthusiast grade* memory, unless you can buy it online or have a relative bring it over from the States or Europe. Corsair does have certain high performance kits available locally—their XMS 2 series are basically high frequency, low latency kits—DDR2 800 MHz will cost you nearly triple the price of a regular 2 GB 667 MHz kit.



As far as value goes, we recommend Corsair, Transcend and Kingston (in that order). A 2 GB DDR2 667 MHz kit would cost you between Rs 2,500 (Transcend) and Rs 2,900 (Corsair).

We used Corsair Dominators PC2 8500 rated at 1066 MHz at timings of 5-5-5-15. These sticks use the “overclocker acclaimed” Micron D9 memory chips—the speciality of these chips are in their overclocking potential and memory with these chips is 30 percent costlier than identically clocked memory based on other chips.

### Motherboard

If you're looking for an NVIDIA board, we suggest an ASUS P5N32-E SLI; for Intel, we suggest an ASUS P5K Deluxe. Both boards are priced at just below the Rs 15,000. For something cheaper we suggest the Abit IP35-E Off Limits (Intel; Rs 8,500), or the XFX 650i SLI (NVIDIA; Rs 6,500).

The 680i chipset does give a lot more control over various components than the P35-based boards, though we've seen some ASUS boards based on Intel chipsets with detailed BIOS', rich with overclocking options.

For this exercise, we used ASUS' Maximus Formula Limited Edition, based on Intel's latest X38 chipset.

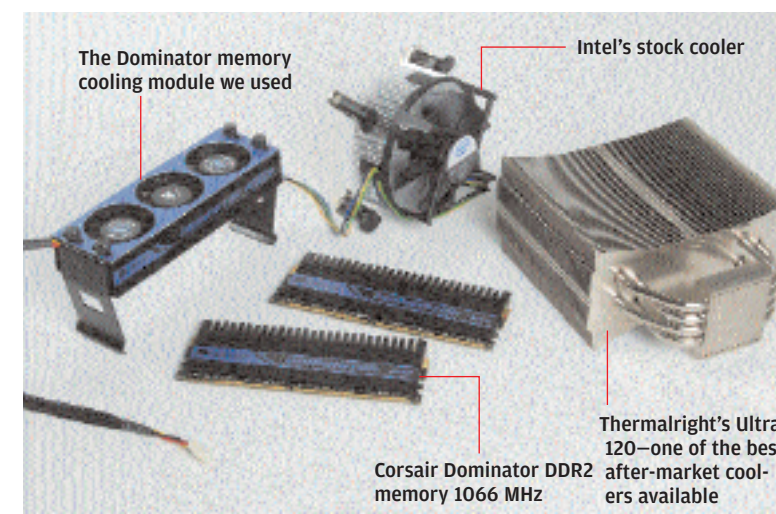
### Method To The Madness

Overclocking isn't about madly jacking up frequency figures. Although overclocking your processor will likely cause a bumping up of memory speeds too, let's take this one component at a time.

### Processor Overclocking

There are two ways to overclock a processor. The first involves increasing the multiplier which is the figure which when multiplied by the FSB gives us the CPU frequency. For example: 266 MHz FSB x 9 = 2394 MHz (2.4 GHz). This method gives very quick results but doesn't allow one to fine tune, as the frequency jump between even an increment of *one* in the multiplier value would be enormous.

All Intel and AMD processors come with upward locked multipliers so unless you have an Extreme Edition (Intel) or an FX series CPU (AMD)



Our Overclocking gear

# Go That eXtra Mile





there's no way you can interfere with the multiplier, unless you want to decrease it.

The second way (and the method we've used for the purpose of this article) is to adjust the FSB. A good overclocking board will allow increments of the FSB from the default 266 MHz (333 MHz for the newer Intel processors) all the way to 600 MHz.

We tweaked the FSB up from a default of 333 MHz to an overclocked 400 MHz. The processor which was happily running at 2.33 GHz is now *forced* to run at 2.81 GHz, a cool overclock of 477 MHz.

While an overclock of 10 per cent (FSB) isn't a big deal, anything more could result in restarts and freeze-ups. Do not make more than 1 MHz increments at a time to the FSB, just to be safe. In case your CPU refuses to boot into Windows you'll know that you've been too adventurous—tone things down a bit. Once you get Windows to boot, remember to run a CPU intensive benchmark like Super Pi, or WPrime just to make sure your processor is stable at the new clock speed.

Over-volting

After a certain overclock you will find your PC becoming unstable. This is due to the processor running out of power for which you will need to increase the voltage supplied to it. We must caution that over-volting, if done too adventurously, will definitely damage components—so be careful. But if done properly you can further increase clocks. Most motherboards will allow very fine increments to the CPU voltage to the tune of 0.05v.

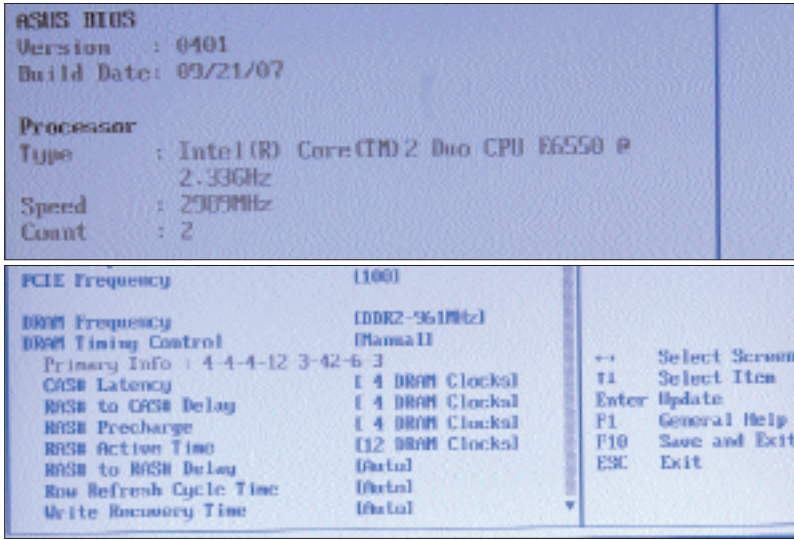
Memory Overclocking

While memory overlocks will not yield as much a performance hike as a CPU overclock, it's all about components working in tandem for overall system performance.

Remember that your CPU is fed by your memory and the faster the memory the quicker

While an over-clock of 10 per cent (FSB) isn't a big deal, anything more could result in restarts and freeze-ups

the CPU is fed. While overclocking memory, it's not just raw MHz increments we're looking at. In fact tighter timings can make all the difference. Typical timings at 800 MHz are 4-4-4-12 at the default 1.8 volts. We however got our memory to go up to 800 MHz at a timing of 3-3-3-8 at 2.2 volts. Memory voltages are not as fine tuned as CPU voltages and you can tweak them with increments of 0.25-0.5 volts without much danger. Do be careful at anything beyond 2.1 volts because some memory chips cannot stand the extra current. However, enthusiast memory (such as the sticks we used) can stand voltages of up to 2.4



Top: The E6550 runs at nearly 3 GHz at an FSB of 400 MHz  
Above: Notice how the memory speed jumps to 961 MHz at an FSB of 400 MHz

Tips

- A good practice is to start small and step up gradually. Don't overclock aggressively and be forced to reduce speeds due to heat, instability, freeze-ups etc. Use 1 MHz increments for FSB, after an initial overclock of say 10 per cent.
- Keep an eye on heat. Make sure to run a couple of benchmarks like WPrime, Super Pi and even PC Mark 2005 to see how well overclocked components do under stress.
- Remember that overclocking stresses components and reduces their life. The important thing is to keep them cool especially if you plan on a permanent overclock, or your PC stays on for extended periods. Invest in a good CPU cooler and memory cooler like out Ultra 120 and Dominator memory airflow cooler. Just as a good carpenter needs good tools to show off his craft, an overclocker needs tools to keep his PC cool.
- It may be necessary to add fans inside your cabinet after overclocking as the ambient temperature inside the case may rise. We recommend 2 inlet and 2 outlet fans—all 120 mm.
- Once you reach the maximum stable overclock your component is capable of underclock by 5-10 MHz as a safety margin. Some motherboards have support for overclock profiles in their BIOSes. This is good as one profile can be set at stock speeds and when you want an overclocked rig just select the overclocked profile.

volts. We didn't test this however and wanted to play safe—there's a fine line between speed and recklessness remember!

Since our memory was rated at 1066 MHz you may wonder why we're running it at 800 MHz. The fact is that we ran a few bandwidth tests and found that at 800 MHz (3-3-3-8) our memory gave higher scores than at 1066 MHz (4-4-4-12)—both settings were achieved at 2.2 volts.

Overclocking Graphics

Overclocking a VGA card will only benefit you as far as upping the frame rates in 3D applications, mainly games. When overclocking components we don't generally overclock graphics cards, because the performance impact is minimal in general applications, and the thermal limits of GPUs don't really provide a lot of head room for overclocking.

For ATI, use the ATI Tray Tool, while for NVIDIA we recommend Riva Tuner. When overclocking the core you can use 5 MHz increments initially, but after an overclock of 25 MHz or so, tone down to 1 MHz increments.

When overclocking memory be a little more careful as most graphics cards' memory doesn't really have much headroom. Use 1 MHz increments. Make sure to run a couple of 3D benchmarks like 3D Mark 2006, or loop it a couple of times to verify stability. ■

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# Power Users

The juice flows through all those components—don't neglect the source!

Bhaskar Sarma

So you've begun assembling your own PC—blazing fast processor, high-end video card, the works. All your dreams may go up in smoke, though—literally—if you don't power these devices right. Not many of us think too much about Power Supply Units (PSUs) when upgrading or building new PCs—but we should!

It's interesting to note that most devices will chug along at a slightly lower power than what they should be getting, but not for long. But what's worse is, a cheap power supply could be sending out too much voltage to your components, and this can result in dead components. So how should you go about buying a PSU, and what should you look for?

## The Terms

First things first: get used to the jargon you'll come across when shopping.

**MTBF:** Mean Time Between Failures is a measure of how stable a system is.

**Operating range:** The maximum and minimum input voltages within which the power supply works. The wider the operating range, the more stable it will be, and the less vulnerable to power surges.

**Load Regulation:** The change in output voltage when the output load varies from minimum to maximum, expressed in terms of nominal output voltage. A low load regulation means that the PSU delivers optimum voltage regardless of system configuration.

**Ripple:** The magnitude of AC voltage that is superimposed on the DC output voltage. PSUs that output low ripple are vital for systems with high-speed processors and memory chips.

**Hold-up time:** The time period during which output power supply remains within prescribed limits in the event of a power failure. The longer the hold-up time, the longer the PSU will power the system between the time that power fails and the UPS kicks in. This is pointless if you don't have a UPS, of course.

**PF and PFC:** A power supply that

has Power Factor Correction can efficiently convert current to power. The Power Factor is the ratio of true power (Watts) and apparent power (Volts x Amperes). Normal power supplies have a PF of around 0.7, which means there is always some wastage. A PF above 0.8 means there's a PFC, meaning higher efficiency.

**Rails:** PSUs supply voltages along the 3.3V, 5V, and 12V rails. The latter supply power to moving parts like fans and drive motors. Depending on the design, the motherboard draws power from all three rails in varying amounts. The 12V rail is the most important one, and many PSUs come with multiple 12V rails.

## Look For...

PSUs are rated in watts, with ratings in the range of 300 W for entry-level models to high-end 1.8 kW models. Don't be fooled by the wattage rating—a higher wattage does not imply better quality.

Branded PSUs, especially from Corsair, Cooler Master, and VIP are preferred. If you plan on using your system for regular surfing and some movie viewing, you don't need to be too choosy—entry-level PSUs should suffice.

If you're building a gaming rig, you need a reliable PSU for high-end GPUs, CPUs, RAM modules and the like. If you're building a multi-GPU system, look for SLI/CrossFire certified PSUs. As a rule of thumb, you should look at all the components you have, add up their power usages, and multiply the sum by 1.5 to give you some headroom.

You can use online power supply calculators to get an idea of your power requirements. These let you select your configuration and calculate the wattage rating of your PSU. A good example is [www.extreme.outervision.com/PSUEngine](http://www.extreme.outervision.com/PSUEngine). While doing your research, check out hardware-oriented sites like [www.xbitlabs.com](http://www.xbitlabs.com) and [www.tomshardware.com/us/](http://www.tomshardware.com/us/) to get a fair idea of power consumption of components at different loads. It is always better to overestimate the rating a little—that way your PSU won't be under too much strain, and will last longer.

## Also...

No matter which PSU you choose, be sure to check whether it is ATX (or the newer ATX 2.2) compliant. Also look at the connectors—your PSU should have sufficient 4-pin Molex connectors (for hard disks and optical drives) to future-proof your system. Some designs have modular connectors where the wires can be detached from the PSU—this makes for better flexibility and less clutter inside your cabinet. ■

[bhaskar\\_sarma@thinkdigit.com](mailto:bhaskar_sarma@thinkdigit.com)

## Typical Component Power Usage

|                            |         |
|----------------------------|---------|
| NVIDIA GeForce 8800 GTX    | 131.5 W |
| NVIDIA GeForce 8800 GTS    | 105.7 W |
| NVIDIA GeForce 7900 GS     | 45.1 W  |
| NVIDIA GeForce 7600 GT     | 45.1 W  |
| ATI Radeon X1950 Pro       | 65.7 W  |
| ATI Radeon HD 2600 XT      | 48.6 W  |
| ATI Radeon X1650 XT        | 55.2 W  |
| Intel Core2 Extreme QX9650 | 89.8 W  |
| Intel Core2 Extreme QX6850 | 127.1 W |
| Intel Core 2 Duo E6700     | 61.7 W  |
| Intel Core2 Quad Q6600     | 87 W    |
| AMD Athlon 64 FX-62        | 130 W   |
| AMD Athlon 64 X2 4600+     | 69 W    |
| AMD Athlon 64 X2 3800+     | 31 W    |
| Motherboard                | 30 W    |
| DDR SDRAM                  | 10 W    |
| DDR2 SDRAM                 | 7.5 W   |
| Hard drive                 | 25 W    |
| CD drive                   | 20 W    |
| Combo drive                | 30 W    |



**...For your old PC. When you upgrade or buy a new PC, don't throw the old one away—it could still come in handy**

**Robert Sovereign-Smith**

**I**t happens every two or three years, and you've gotten used to it by now. It's like the death of a pet, and it's not easy. The average dog ages seven years to every human year, but the average PC ages twice or thrice as fast as that!

So you've had your PC for over three years and are looking for a replacement: it's time the old box retired. Before you send it away to the big scrap-yard in the sky, why not let it retire gracefully? Give it a chance, let it do some social work, some odd jobs around the house. Let it earn its keep and live on in dignity—it deserves a reprieve for all those months of stable service it provided you.

### What Can It Do?

So what *can* an old PC do? Well, pretty much anything your new recruit will be able to—just a lot slower. However, it has one distinct advantage—the older the box, the less power it consumes: using your old PC for tasks that don't require speed and urgency is actually better, because you can leave it on 24/7 and not worry about huge power bills. And well, if they malfunction and die—no big deal!

There's just one problem: whether it's about space or the fact that no one usually wants to keep two monitors around the house, you're going to have to pick jobs that don't really require a monitor to be hooked up to the old bat. We've taken the liberty of suggesting a few in this article, but we suggest you use your imagination, because only you know what you need that senior citizen to do.

### Answer That

The very first thing that comes to mind is to use the old PC as a proxy server. Not only will this save you bandwidth, but because of caching, it will also speed up your browsing experience. Regular readers of *Digit* will know that we've covered this very topic in our November 2007 issue, so we can't repeat that—but for those who didn't read that article, it's on page 103 (of last month's issue). We've talked about Proxy+ ([www.proxyplus.net](http://www.proxyplus.net)) and FreeProxy ([www.handcraftedsoftware.org](http://www.handcraftedsoftware.org)) for those of you running Windows, and Squid

# Plan For Retirement

([www.squid-cache.org](http://www.squid-cache.org)) if you're willing to install Linux on the old PC. No matter how old that PC is, reading and sending data from its hard drives will always be faster than your Net connection (unless you're in Sweden or Norway), so older PCs are perfect solutions to play the role of a proxy server.

### Hold These

Another good use for the old box is as a file server. This is especially good in a house or small office where you have one set of files and multiple people using them. For example, say you and your family members do your accounting and taxes together, so you need to work on the same files simultaneously. The best solution is to use the old box as a networked file server, so no matter who is in the house or which PCs / laptops are switched on, anyone who wants to access those important files can do so easily. All you need to do is make sure your old PC has Windows installed, has File and Printer sharing enabled, and has all your shared documents stored in a shared folder. Remember to dollar-share this folder—share the folder as `documents$` instead of just documents to prevent your box from being infected with viruses over the network. Also remember to install an anti-virus that has a real-time scanner so as to protect everyone on the network—all it needs is one infected pen drive to infect a network.

If you're used to using Unix-based systems, then instead of running Windows, we recommend you take a look at FreeNAS ([www.freenas.org](http://www.freenas.org)), a FreeBSD-based OS that's built to be a fileserver. It supports RAID and can be controlled through a Web browser, so no monitor is required after installation. The beauty of FreeNAS is that it can just be run off a CD-ROM drive (loaded into memory), and thus all your hard disks can be used as storage. With low system requirements, it's a good option for really old computers.

### Print That

With home networks popping up all the time—because more and more people have more than one computer at home—network printers are the rage today. However, a lot of us went out and bought a non-networked printer a few years

ago, because we only had one PC back then. Today, with everyone wanting to print something or another on a daily basis, you're probably fed up of people switching on your PC for a printout and then forgetting to turn it off again. It's also irritating when you restart after installing some software and have people yelling at you five minutes later when they can't find the prints they sent. Here's where an old computer can step in: just connect the printer to the old PC and let it do everyone's printing. Even if your computer is so old that it only supports USB 1.1, this really doesn't mean much when it comes to printing; people will just have to wait a few seconds longer for their prints than normal, which they probably will not even notice—unless they're photo-printing 100 MB images!

### Sing To Me

One very popular use for old computers is to use them as a rather large MP3 player. For this, your old computer will need to have a decent sound card with speakers connected—you can store all your music on its hard drive. You can use Remote Desktop to connect to it from other computers and play your music if you do not want to keep a monitor. However, this is completely pointless if you want to store the old computer out of sight in a different room.

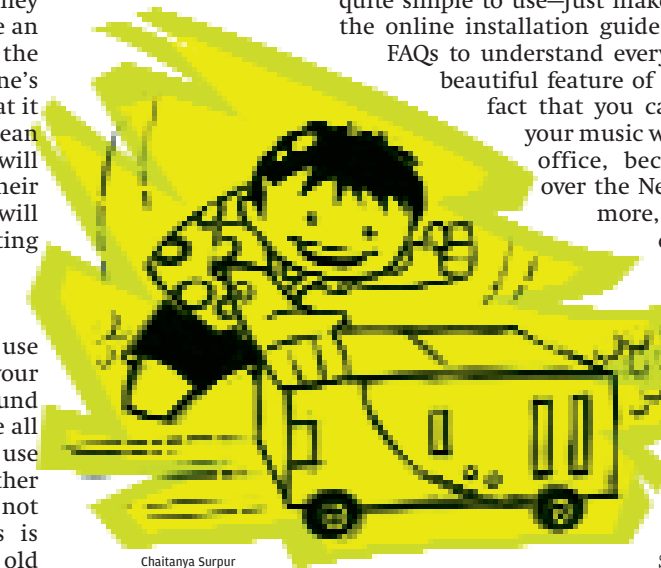
The best streaming solution for audio over the LAN as well as the Internet has to be Logitech's SlimServer (<http://slimdevices.com/pi.features.html>).

This open source software is actually made to control their SlimBox devices, but it can be used by software players such as Winamp, WMP, iTunes, etc., to listen to streaming music. All you need to do is install it on your old PC, navigate in a browser to <http://127.0.0.1:9000/> and start configuring it. It's quite simple to use—just make sure you follow the online installation guide and look at the

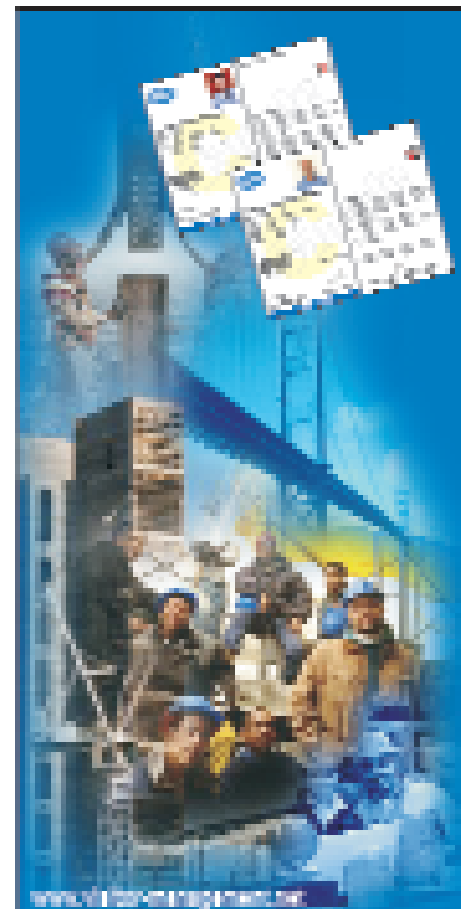
FAQs to understand everything. The most beautiful feature of SlimServer is the fact that you can even listen to your music when you're at the office, because it streams over the Net as well. What's more, multiple people can connect to the server and all listen to their own choice of music.

After you install SlimServer, make sure to go to the Server Settings > Security page

and set a username and password to access the stream. You will also need to know your old PC's IP on the Net to be able to connect to it remotely. If you have a dynamic IP—one that



Chaitanya Surpur



## Biometric enabled Labour Management System...

Anybody has business processes, manufacturing, organization, human resources? Physiological of the individual is the most unique and permanent feature which is not changeable. It is the only feature which is not changeable. It is the only feature which is not changeable. It is the only feature which is not changeable.

This biometric enabled system is a revolutionary new system which is designed to manage the workforce. It is a revolutionary new system which is designed to manage the workforce. It is a revolutionary new system which is designed to manage the workforce.

### Advantages of a Biometric enabled Labour Management System

- It is a revolutionary new system which is designed to manage the workforce.
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What's why biometric enabled Labour Management System is the only feature which is not changeable. It is the only feature which is not changeable. It is the only feature which is not changeable.



Soft-AID Computers (P) Ltd. is a revolutionary new system which is designed to manage the workforce.

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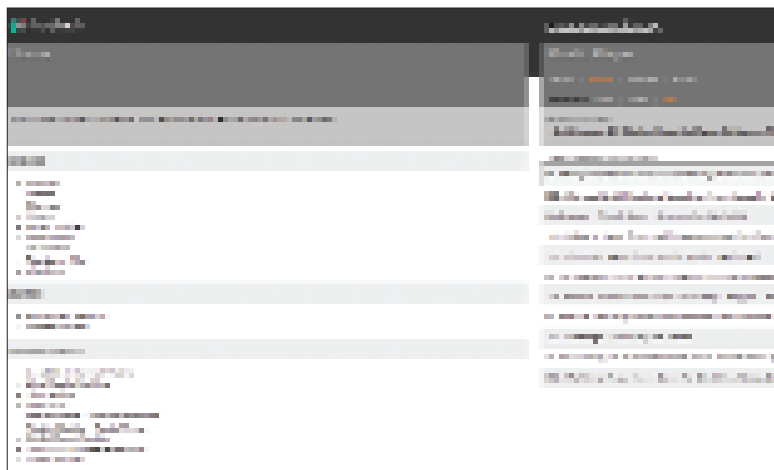
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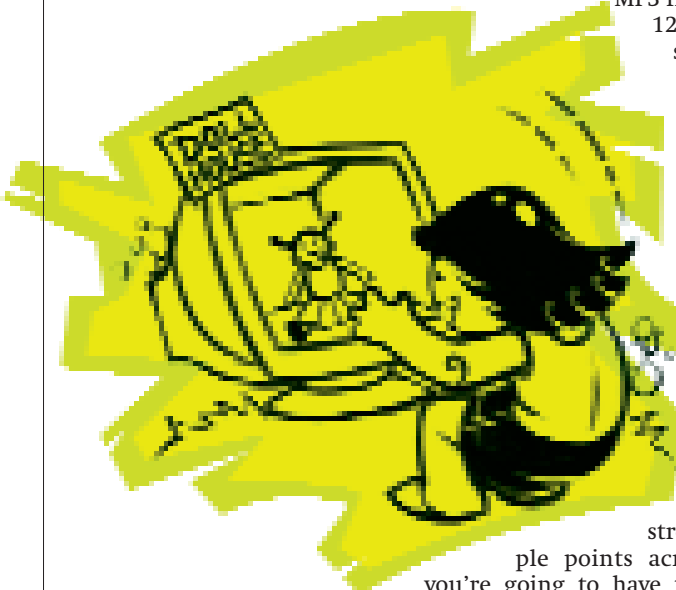


Using SlimServer to stream audio to many computers on your LAN

keeps changing—you can install software from [www.dyndns.com](http://www.dyndns.com) to get yourself a fixed URL to connect to, no matter how many times your PC's IP address changes.

### Take Me To The Movies

When it comes to video streaming over a LAN, nothing beats VLC Media Player. Video streaming is not as easily achieved as a LAN Radio—that's because of the vast differences in file sizes and streaming bit rates. Converting an MP3 from 320 Kbps to



128 Kbps and streaming is hardly noticeable by anyone. Video is another ball-game. If you want to be able to pick and choose which video you want to watch, just settle for a file server. If you actually want a movie or video to be streamed to multiple points across your LAN, you're going to have to use the VLC Wizard to set up streaming. It's child's play, really: just go to File > Wizard, select Stream to network, select the file or disc you want to stream, select a protocol to stream over, and when you finish the Wizard, your file starts streaming. Keep an eye open for the tips that will tell you how to access the stream—for example, if you chose the HTTP protocol, your stream will be available on [http://<your\\_ip>:8080](http://<your_ip>:8080), and this is where you have to point your media player in order to watch the video. Although there are some software that offer to stream video online, you need pretty good configuration servers to serve multiple videos to multiple PCs, and that sort of defeats the purpose...

### Download That

What's most of the world's bandwidth being used on? Torrent downloads. Let's not get into the legalities here, but suffice it to say, if you've got broadband, you're using BitTorrent to download anything from Linux distros to illegal pirated content. We'll save the lectures for another time, but why let your new monster PC stay awake all night working when you've got an old PC that uses half the power? Now there are two ways in which you can set this up. You either use Linux (Ubuntu) and Azureus' Web interface to set up a torrent box that you can add downloads to from anywhere in the world, or just use Azureus on Windows and your local LAN. Those of you willing to try the Linux option should visit <http://nerdica.com/?p=30> for a complete tutorial on how to set this up.

For our Windows fans out there, we'll tell you our way.

Our choice is µTorrent; it's tiny, uses low system resources and has a beta version out that includes a Web interface. It also monitors a preset folder and automatically downloads any torrent files you add to the folder. Here's what you need to do in order to get this running.

First, go to [www.utorrent.com](http://www.utorrent.com) and download their Web UI beta. The direct download link, as of writing this article is [http://download.utorrent.com/beta/webui\\_v0.310\\_beta\\_2.rar](http://download.utorrent.com/beta/webui_v0.310_beta_2.rar) (275 KB), but this might change. By the time you read this, the stable release might incorporate the Web interface, so look on the µTorrent site for information regarding the Web UI beta.

Once you have downloaded the file, you will need WinRAR ([www.rarlab.com](http://www.rarlab.com)) to uncompress the file. After uncompressing, you will find a folder, a readme, a zip file and the µTorrent installer. First install µTorrent using the installer. After you have done this, copy the webui.zip file and then press [Windows] + [R] (or Start > Run), type in "%AppData%\uTorrent" and press [Enter]. This will take you to the "C:\Documents and Settings\<User>\Application Data\uTorrent\" folder, where you should see a file called settings.dat. Paste the webui.zip file into this folder and then close it.

Now start µTorrent and go to Options > Preferences ([Ctrl] + [P] in the µTorrent window). Under Advanced, you will find Web UI. Click on this and on the right you should see a checkbox titled Enable Web Interface. Tick this and then add a username and password of your choice. If you want your friends to be able to add torrents, you can also select Enable Guest account with username. You can provide a unique username for guest accounts, and make sure you do not leave it as "guest" if you enable it. Next, you should also tick the Alternative listening port box and add a port of your choice here. If you don't know what to add, the default 8080 will do fine.

If you want to be able to access this service from outside your LAN (from anywhere on the Net), leave the "Restrict access to the following



### Tips

Because a lot of the uses mentioned here require hard drives—file server, LAN radio, FTP server, etc.—it's not wise to use an old computer's hard drive to store critical data. Especially for cases like the file server or FTP server, where the stored files might be of appreciable importance, the death of a hard drive can be disastrous. We strongly urge that if you use your old computer, make sure the hard drive is functioning well, or even buy a new one to put your data at the lowest possible risk. In cases such as the media server or LAN radio, where your digital media collection is at stake, make sure to keep a backup of your media collection on your primary PC—copy the files to the old PC instead of moving them there.

IPs" field blank. If you only want only your LAN IPs to access the µTorrent Web interface, add the IP addresses of computers on your LAN here.

That's it—you're all set. You will now be able to access the Web UI of µTorrent from your LAN or over the Net—depending on the setting you chose. In order to do so, open a browser window, type in [http://<your\\_ip>:<port>/gui/](http://<your_ip>:<port>/gui/)—where <your\_ip> is your LAN IP when accessing from within your network, or your public Internet IP when accessing remotely over the Net. If you're using the same computer to test the Web UI, use 127.0.0.1 as the IP. For the <port> setting, you have to use whatever you configured earlier—8080 in our case.

You will be given a username and password prompt. Enter the appropriate values here and then you should have access to your µTorrent Web UI. From here you can view the status of downloading files and even add new torrents for download. You can even provide a torrent's URL, and let µTorrent fetch the .torrent itself.

Interestingly, there's also another way to get µTorrent to automatically start downloads. In the µTorrent Preferences, click on Other and you should see an option for Auto-Load Torrents. Here you can specify a folder that µTorrent will monitor. If any torrent files are added to this folder, µTorrent will automatically start the download and delete or rename the torrent. Now, what you can do is share this same folder that you set here over your LAN—make sure to use a dollar share—and check the "Allow network users to change my files" option. Now all you have to do is tell people on your LAN to save the torrent file of any download that they want to queue into this folder, and voila—an automatic download box. Remember, this only works on the LAN.

If you have a limited bandwidth connection, you might not want to share your Web UI password with anyone, or you might soon end up with rather large bills!

### Rather Handy

It seems to be quite a waste—in terms of power—to run just one of the above-mentioned functions on your old PC. We suggest you choose at least three of the above uses for that old PC in order to justify the consumption of somewhere near 200 W of power—hard drives, fans, CPU, RAM, etc. If you're increasing your power bill, make sure the PC adds enough value to justify being on 24/7.

As we've mentioned earlier, these are just guidelines for a few ways in which that old PC can be put back into service. While raising the dead, let us know if you have any interesting anecdotes or wacky ways in which you use your old PCs—we love to hear about them! ■

[robert\\_smith@thinkdigit.com](mailto:robert_smith@thinkdigit.com)

# Tagan

## power of silence

### PipeRock Series



Available Models:  
500W | 600W | 700W | 800W  
900W | 1100W | 1300W

Modular design with cable management and colourfully illuminated connectors. Innovative patented "Pipe-connectors" for rock-solid locking of cables. Temperature controlled blue illuminated silent 13.5cm fan.

- Full series (500W - 1300W) meets 80 PLUS-standard - this high efficiency minimizes heat emission, noise and power consumption.
- 6 / 6+2 PCI-E connectors support up-coming 8 Pin PCI-Express 2.0.
- Extremely silent: even at full load under 30 dBA.
- Independent +12V rails for more stability and safety.
- PCIe connectors support NVIDIA SLI, Quad-SLI and ATI Crossfire technology.
- Unique zipper packaging to store cables and accessories, including screw driver, rubber frame, gloves and manual.

#### National Distributor

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Tel. +91 33 22251192 Fax. +91-33 22251276  
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# Build Your Own PC

We've been testing the best components for years. May we present the best of 2007—components that allow you to put together that dream computer?

## Home PC



It just can't get any better—a reasonably fast dual-core, 1 GB of RAM, and 250 GB of storage space: this configuration is a powerhouse of performance at a throwaway price, and redefines the term *Entry Level*.

| COMPONENT           | OUR RECOMMENDATION               | PRICE     |
|---------------------|----------------------------------|-----------|
| Processor           | AMD Athlon 4200+                 | Rs 3,200  |
| Motherboard         | ASUS M2A-VM                      | Rs 3,765  |
| RAM                 | Transcend Value RAM 1 GB 667 MHz | Rs 1,500  |
| Graphics card       | (Integrated) ATI 690G            | NA        |
| Sound card          | (Integrated) Realtek ALC883      | NA        |
| Hard drive          | WD 2500KS (250 GB)               | Rs 3,000  |
| Monitor             | ViewSonic VA1703W                | Rs 8,900  |
| Speakers            | Zebronics SW8000                 | Rs 2,300  |
| Optical drive       | Lite-on LH-20A1P DVD/RW          | Rs 1,500  |
| Keyboard            | Logitech Internet Combo          | Rs 650    |
| Mouse               | Logitech Internet Combo          | NA        |
| Power Supply (SMPS) | VIP 350 W                        | Rs 900    |
| Cabinet             | VIP Value Series 766             | Rs 900    |
| UPS                 | PowerSafe 600VA                  | Rs 1,750  |
| Total               |                                  | Rs 28,365 |

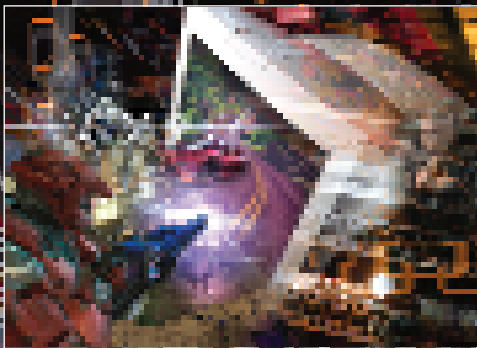
## HTPC



A powerful Core 2 Duo processor coupled with a powerful motherboard and a gig of RAM. We've even thrown in a 256 MB DX 10 graphics card. You'll want to throw your TV out the window once you've had a couch-and-popcorn session in front of 24 inches of 16 million colours!

| COMPONENT           | OUR RECOMMENDATION                     | PRICE                 |
|---------------------|--|-----------------------|
| Processor           | Intel Core 2 Duo E6550                 | Rs 6,500              |
| Motherboard         | Gigabyte GA-G33M-S2H                   | Rs 5,950              |
| RAM                 | Transcend Value RAM 1 GB 667 MHz       | Rs 1,500              |
| Graphics card       | Sparkle GeForce 8400GS                 | Rs 2,600              |
| Sound card          | Creative SoundBlaster Live 24 bit      | Rs 1,500              |
| Hard drive          | WD 5000 AAKS (500 GB)                  | Rs 5,750              |
| Monitor             | Dell e228WFP / BenQ FP241C             | Rs 15,000 / Rs 45,000 |
| Speakers            | Logitech Z5300 / Altec Lansing MX 5021 | Rs 11,000 / Rs 8,000  |
| Optical drive       | Lite-On LH-20A1P DVD/RW                | Rs 1,500              |
| Keyboard            | Logitech Cordless Desktop MX3200       | Rs 4,500              |
| Mouse               | Logitech Cordless Desktop MX3200       | NA                    |
| Power Supply (SMPS) | VIP 500W                               | Rs 2,200              |
| Cabinet             | Antec Sonata 2                         | Rs 5,000              |
| UPS                 | APC BE650Y-IN                          | Rs 2,900              |
| Total               |  | Rs 65,900 ~ 95,900    |

## Gaming Rig



Simply, a 3 GHz Core 2 Duo, 2 GB of dual-channel memory, and a mighty 128 MB GeForce 8800GTX add up to a smashing amount of Desktop power. Now, under its cavernous hood, the cabinet will cause you to drop its monstrous dimensions as the new generation of gaming rig hits the bedroom.

| COMPONENT           | OUR RECOMMENDATION                              | PRICE                 |
|---------------------|---|-----------------------|
| Processor           | Intel Core 2 Duo E6850                          | Rs 7,000              |
| Motherboard         | ASUS P5N32-E SLI                                | Rs 13,500             |
| RAM                 | 2 x 1 GB Corsair Value RAM 800 MHz              | Rs 4,200              |
| Graphics Card       | XFX GeForce 8800GT 512/8800GTX                  | Rs 15,000 / Rs 32,000 |
| Soundcard           | Creative X-Fi Extreme Music                     | Rs 7,000              |
| Hard Drive          | WD 2500 KS x 2                                  | Rs 6,000              |
| Monitor             | Dell e228WFP / ViewSonic VX2235wm               | Rs 15,000 / Rs 16,500 |
| Speakers            | Logitech Z5300 / Altec Lansing MX 5021          | Rs 11,000 / 8,000     |
| Optical Drive       | Lite-On LH-20A1P DVD/RW                         | Rs 1,500              |
| Keyboard            | Logitech G15                                    | Rs 4,200              |
| Mouse               | Logitech MX518                                  | Rs 1,500              |
| Power Supply (SMPS) | CoolerMaster Xfire / Corsair HX620W             | Rs 4,000 / Rs 5,000   |
| Cabinet             | Antec Super LANboy / CoolerMaster STACKER RC830 | Rs 5,500 / Rs 7,500   |
| UPS                 | APC BR800IN                                     | Rs 4,500              |
| Total               |   | Rs 91,900 ~ 1,00,000  |

## Workstation PC



Whether you're a serious student of the fine art of 3D rendering, an animation professional freelancing, or seriously into video encoding, you'll appreciate the power that a quad-core places at your fingertips. One of the best motherboards around with all the connectivity options you need, 4 GB of memory for all those bandwidth-intensive operations, and a graphics card that can hold its own against the mightiest of rendering jobs—it doesn't get better!

| COMPONENTS          | OUR RECOMMENDATION              | PRICE     |
|---------------------|---------------------------------|-----------|
| Processor           | Intel Core 2 Quad Q6600         | Rs 11,200 |
| Motherboard         | ASUS P5K Deluxe                 | Rs 14,000 |
| RAM                 | Transcend 4 x 1 GB DDR2 667 MHz | Rs 6,000  |
| Graphics Card       | XFX GeForce 8800GT              | Rs 15,000 |
| Soundcard           | NA                              | NA        |
| Hard Drive          | WD 2500 KS x 2                  | Rs 6,000  |
| Monitor             | Dell 2007WFP                    | Rs 25,000 |
| Speakers            | NA                              | NA        |
| Optical Drive       | Lite-On LH-20A1P DVD/RW         | Rs 1,500  |
| Keyboard            | Logitech G5                     | Rs 2,900  |
| Mouse               | Logitech Multimedia Keyboard    | Rs 500    |
| Power Supply (SMPS) | Antec True Power Trio 550W      | Rs 6,000  |
| Cabinet             | Antec PlusView 2                | Rs 5,000  |
| UPS                 | APC BR1000IN                    | Rs 6,800  |
| Total               |                                 | Rs 99,900 |

\*All Prices are Indicative





# ATI Catalyst Control Centre And NVIDIA nTune

Unleash hell with your red monster or turbo-charge your green devil

Jayesh Limaye

A good gamer needs to extract the maximum performance from his gaming hardware, the most important one being the graphics card. Today ATI and NVIDIA are the two leading graphics card manufacturers in the world, and tools that will let you overclock and optimise graphics cards from them are easily available. There are far fewer tools available to tweak ATI hardware, but this is because ATI's drivers, called Catalyst, provide more than enough options to tweak your graphics cards till they sweat. To cater to the enthusiasts, NVIDIA has released its own set of tools as well—nTune—to tweak its motherboards and graphics cards. Obviously, we prefer using tools that are made by the manufacturers, because they allow you to tune and tweak the cards to the limits, and do so safely.

In this article, we'll look at some important settings for ATI Catalyst and NVIDIA nTune, to help you quickly understand and use these software. We'll begin with ATI.



## ATI Catalyst

We assume that you are using an ATI graphics card which is no older than the RADEON. Though you can use any recent Catalyst or modified driver, we are going to stick to the latest official 7.9 version. We will attempt to cover all the important aspects of the Catalyst Control Panel (henceforth referred to as CCC). You can get the latest ATI Catalyst drivers at <http://ati.amd.com/support/driver.html>. Opt to download the Catalyst drivers along with their Catalyst Control Center (CCC). You may also need to install the Microsoft .NET Framework 1.1 (<http://tinyurl.com/73qzr>).

### Catalyst Control Panel

To open the CCC, right-click on the system tray icon and click on Catalyst Control Panel. When you open the CCC for the first time, you will be asked whether you want to use the Basic or Advanced view. We suggest that you



The ATI Catalyst Control Center

choose Advanced view since it enables greater control and also check the box "Don't show this page again" and click Next.

### Profiles

The Profiles button launches the Profile Manager, where you can save your current set of preferences under a profile name. This allows



Display Options of CCC

you to use different graphics card settings in different circumstances. Click on the Profiles button, select Profiles Manager and save your profile using any name.

### GRAPHICS SETTINGS

Now let us examine the Graphics Settings, the meat of the CCC.

### Display Options

Under Display Options, you will find the 3D Refresh Rate Override option that allows you to force a game's refresh rate to exceed 60 Hz. This can

be done by selecting "Same as desktop", and is especially useful if you use a CRT monitor.

### Monitor Properties

Next we go on to Monitor Properties. The first sub-section is Attributes, where you can choose to use "Use Extended Display Identification Data (EDID)", which is recommended if available. This option allows the display device to provide accurate information about itself to the Catalyst drivers and will therefore save you from setting inappropriate values for resolutions and refresh rates, saving your monitor from damage. The second sub-section is Adjustments, where you can adjust the position of the screen, vertically as well as horizontally and also its height and width. These controls are useful to CRT monitor users. If you are sure that your monitor supports HDTV resolutions, then you can unlock these in the HDTV Support sub-section. After unlocking here, you can add these resolutions using the Force button in the Displays Manager.

### Digital Panel Properties

If you have an LCD monitor connected to the graphics card, the Digital Panel Properties section will be visible. You can view the various details about your LCD monitor such as panel name, link type, native resolution and the

refresh rate in the Attributes sub-section. In Image Scaling section, you can choose Scale to full panel size to scale full-screen applications to occupy the complete screen even if the application resolution is not the same as the native resolution of the LCD. This may sometimes produce images that appear a little blurred though. Choose Use centred timings in such cases, which will display the application screen at the actual resolution. Thus if an application has a resolution lower than that of the LCD, it will appear as a box at the centre of the screen surrounded by black borders, and if it is larger, it will cause the screen to scroll. Lastly, there is the DVI Settings section, where you can select Reduce DVI frequency on high-resolution displays and Alternate DVI operational mode settings to reduce or remove any potential graphical anomalies when you are using a resolution above 1280x1024. Most panels may not need these options and these can be left un-ticked by default.



Digital Panel Properties can be adjusted as needed

ational mode settings to reduce or remove any potential graphical anomalies when you are using a resolution above 1280x1024. Most panels may not need these options and these can be left un-ticked by default.

### 3D SETTINGS

#### Anti-aliasing

There are many sub-sections in 3D settings, the first one being Standard Settings, where you can tick the checkbox next to "Use custom settings" and move a slider to choose from amongst five steps ranging from Performance to Quality. A preview window shows exactly how the setting that you choose will affect the image quality and this is present in each of the



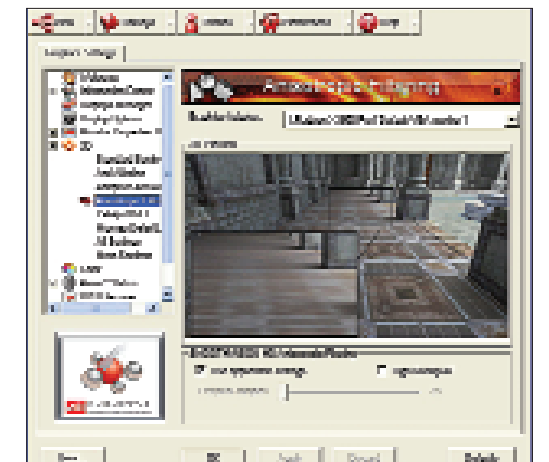
Tweak Anti-aliasing settings for smoother edges

settings in this section. This setting is for those who are not comfortable fiddling with the advanced graphics settings. Speaking of advanced settings, which begin next, we go on to Anti-Aliasing. Anti-aliasing determines how jagged the edges of an object will appear. Uncheck the Use application setting checkbox and move the slider to the right for a smoother edges. Crossfire users will see more options if this feature is being used. Enabling Temporal anti-aliasing gives the effect of a higher degree of anti-aliasing but with a lower performance hit (unlike the

normal anti-aliasing). Thus, a 2x temporal anti-aliasing will look almost like 4x normal anti-aliasing when the game runs at high frame rates. When you enable adaptive anti-aliasing, the visual quality of scenes containing transparent textures will improve. Here you can choose between Quality and Performance modes.

### Anisotropic Filtering

Anisotropic filtering is a technique that sharpens textures as they fade into the distance. You must uncheck the "Use application settings" checkbox to use it and move the slider to the right to increase the filtering. You can enable High Quality AF to enable trilinear instead of bilinear filtering, but this will have minimal effect on image quality, the performance hit will be higher though. In general, increasing the levels of anti-aliasing and anisotropic filtering will reduce some FPS and you will have to decide these by trial and error.



Anisotropic filtering results in better texture details

### Catalyst A.I. and Mipmap

Catalyst A.I. section allows you to decide the level of optimisations for certain applications. There exist certain shortcuts that enable the ATI graphics card to perform better with almost no loss in quality in certain games and benchmarks, this option allows the Catalyst to recognise these programs and automatically modify the driver settings for better performance while that application is being run. You can control the level of optimisation by moving the slider. Crossfire users should move this slider to Advanced (to the right) to force Alternate Frame Rendering mode in Direct3D games. Disable Catalyst A.I. only for troubleshooting purposes. Next is the Mipmap Detail Level, where you can move the slider to determine the level of sharpness of image. It is best to keep this slider near the middle, because you will see that the FPS will quickly deteriorate as you go higher. The All Settings sub-section contains all the settings that we have adjusted, but in a single page.

### Direct3D And OpenGL

You may have noticed that there are no separate sections for Direct3D and OpenGL settings in CCC. This is taken care of in More Settings. Under Direct3D, you will find Enable geometry instancing. This should be enabled to optimise the rendering of 3D objects that appear multiple times in a 3D scene by uploading one instance of the object and then replicating it for as many times as required. Rendering of grass, leaves and ripples are some of the classic examples taking use of this feature. Support DXT texture formats



should be enabled so that the graphics card can use compressed textures, which are faster to load. Enable Alternate Pixel Center to resolve problems such as text or texture anomalies in games. Leave this disabled unless you experience such problems. Under OpenGL, you can see two settings.

Triple Buffering should be enabled for OpenGL games to improve performance if VSync is enabled. The other OpenGL option available here is whether or not to force 24-bit Z-buffer.

### VPU Recover

VPU Recover is similar to Windows Error Reporting, but it is only for the graphics related errors. If the graphics subsystem crashes for some unknown reason, Catalyst drivers will try to reset the graphics card so that you may continue to use your computer uninterrupted. If this is not possible, a software rendering mode will be used until the computer is restarted. An error report is prepared and you can choose to send it to ATI as a bug report.

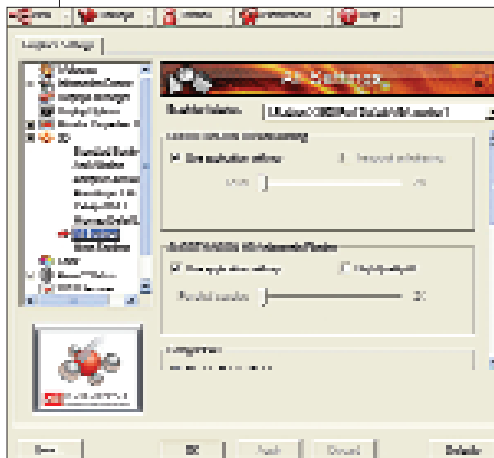
### ATI OverDrive

Depending on your card, you may or may not see this option. As the name suggests, OverDrive option is for overclocking your graphics card to make it perform better. You need to first unlock

OverDrive by clicking on the lock icon and clicking OK when you get the on warning message. You will notice that the core and the memory speeds can now be adjusted by means of sliders. To determine a stable overclock automatically, click Run automated clock configuration utility button. CCC will slowly increase the core speed, and then will increase the memory speed until it reaches the levels that CCC deems as the maximum achievable. In reality, this is by no means the maximum achievable and you can try experimenting with higher clock speeds until you can go no further. Bear in mind that overclocking may damage your graphics card and will void its warranty, you have been warned. You can achieve higher clock speeds if you use a good third party VGA cooler. Overclocking the graphics card is necessary only while you play 3D games and therefore you should mark the checkbox next to this option. Make sure that you check the Preserve ATI OverDrive settings at logon box.

### Crossfire

The Crossfire option is visible only if you have installed two ATI graphics card in Crossfire configuration. Check the Enable Crossfire box and make sure that Catalyst A.I. is enabled so that the drivers can automatically set the correct Crossfire mode according to the game being played. You will now be able to access additional anti-aliasing settings that let you use up to 14x anti-aliasing. Crossfire is still far from perfect and some games may experience glitches and crashes, in which case, it is better to disable it.



More 3D settings in CCC



## NVIDIA nTune

Before you download nTune, make sure that your system meets the minimum requirements, which as follows: Windows XP/Vista (32-bit or 64-bit), Motherboard: a version of nForce motherboard other than nForce1, mobile edition or server class, Graphics card: any graphics card based on an NVIDIA chip. Of the above hardware, you should have at least the required motherboard or the required graphics card or both. Download and install nTune from [www.nvidia.in](http://www.nvidia.in). During installation, make sure you select all the options—nTune, nTune Service and nTune Stress Test.

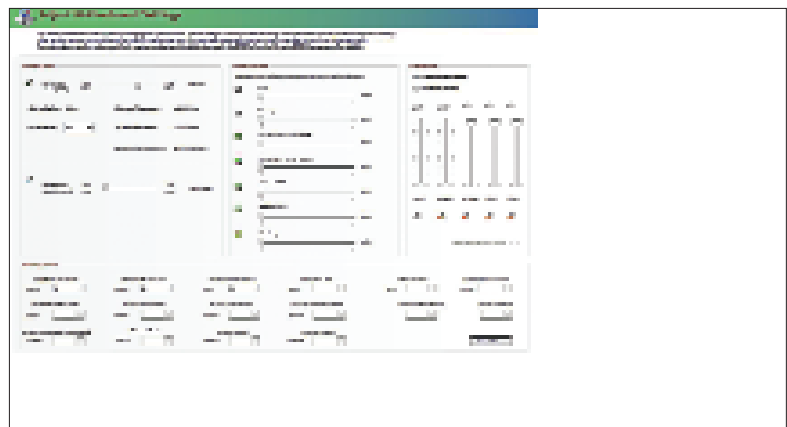
Start nTune using either the program icon or you can open the NVIDIA Control Panel in the Control Panel and click on Performance in the left pane. Accept the EULA to begin using nTune.

### Adjust Motherboard Settings

Click on Adjust Motherboard Settings in the left pane to enter this section. This page lets you adjust the system performance by changing various settings such as system clocks, memory controller timings, and system fan speeds (though not all settings will be available to you depending on your motherboard). This section is strictly for experts. Change any setting only if you know what you are doing, because one wrong setting may permanently damage your system. We recommend that you use the Tune System section instead.

### Adjust GPU Settings

You can override the stock clock frequencies of the GPU and the graphics memory in this section. Select Custom clock frequencies radio button and increment the clock frequencies of the GPU core and the memory bus in steps of 2 MHz. Press the Test button to test the stability and increment again until the system freezes. Reboot the computer and use the second-last setting that worked. You still need to play a game for a long period to test the settings even further. If you don't experience crashes or heating issues, you're fine, if you do... lower the clock speeds. You may also want



Adjust your motherboard's settings





to select the GPU fan setting to Direct fan control and set the GPU fan to always spins at the fastest speed regardless of the GPU temperature.

## Tune System

nTune allows you to tune (overclock) the system using NVIDIA developed benchmarks to determine the system performance level. You can see three options in this section: Coarse tuning, Fine tuning and Tune using custom settings. Coarse tuning does an overall tune-up of the system but is usually not the best that you can achieve. Here, nTune attempts to tune the system within a short period of 20 minutes. In contrast, Fine tuning allows nTune to take all the necessary time to perfectly tune the system and this may take around 3 hours on an average. If you are one of those who wish to use manual gears rather than automatic, there is a third option that lets you tune the system using custom settings.

Here you can choose to optimise the performance of either of these: CPU, Memory, PCI-E and GPU. You can also choose the amount of time within which the system is to be tuned. This ranges from 20 minutes to 12 hours. Please make sure that you know what you are doing while attempting this method. Select one of the above methods and click on Tune button. Keep in mind that during all of the above methods of tuning, the system will be taken to the limit and will invariably hang at one point of time. You will then be required to restart the computer using the reset button. The last settings at which the computer was working are saved as the settings at which the highest overclock is achieved and is restored when the computer is restarted.



Tune your system to suit your needs

According to our experience, the Fine tuning method yields better results. You can save these new settings in the form of a profile by clicking on Profile > Save.

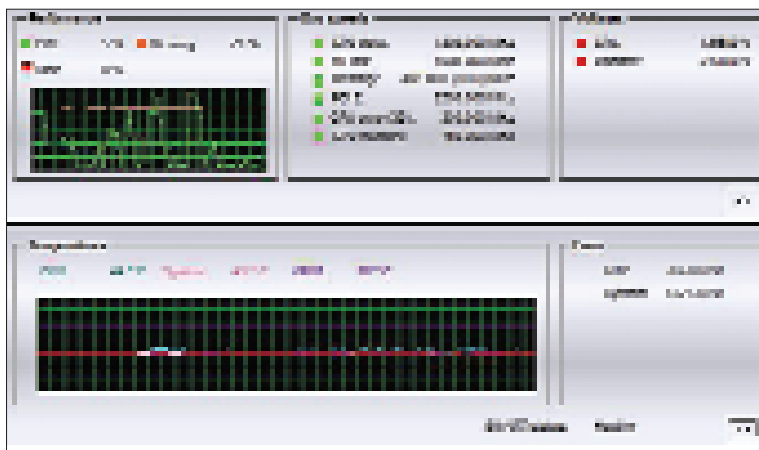
## Launch NVMonitor

nTune comes with a utility that lets you monitor the vital statistics of your system. It gives you a real-time display of a wealth of information such as the CPU, memory and disk usage, as well as the temperatures of the CPU, GPU as well as the system in the form of a graph. In addition to this, you also get the values of the

various bus speeds as well as the CPU and memory voltages. It has its own event logger that lets you find out information about system crashes.

## Adjust Custom Rules

You can decide what profile is to be loaded at what time and during what activity. This is very much similar to creating mail rules in Outlook. There are predefined sets of conditions such as



NVMonitor displays your system's vital statistics

when a certain game or application is loaded or when the temperature of the CPU or GPU reaches certain levels. There are also preset actions that are to be taken when these conditions are met with, such as to load a certain saved profile, to pop-up a warning message or signal warning tone or to launch another application. In this way, you can make sure that the system should be faster during gameplay and should save on horsepower while you surf the Internet.

## Stability Test

It is always better to double-check the stability of an overclocked system. nTune contains a Stability Test module that does this for you. This performs nothing but a stress test that stresses either the complete system or the chosen component to the limit. You can opt to stress test either the entire system or choose a component for the test from amongst CPU, memory, PCI-E bus, hard disk and GPU. You can also opt to choose the current settings or one of the created profiles. Thirdly, you can also choose the time for which this test is to be performed—ranging from 10 minutes to 48 hours.

## View System Information

You can also view your system information by clicking on View System Information. This is read-only and you can view information about your system such as the type of processor, memory, graphics card and also detailed information about the motherboard such as HT speed, HT multiplier and bus frequency, CPU multiplier, PCI-E bus speed, etc.

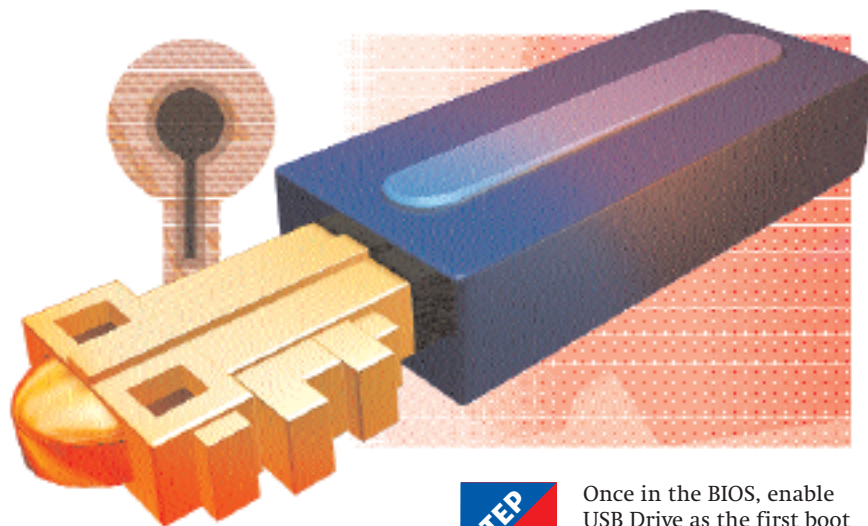
So what are you waiting for? Start tweaking your system for optimal performance now! ■

jayesh\_limaye@thinkdigit.com



# USB Key

Find how you can use your USB stick to lock your computer, among other things!



Asfaq Tapia

**T**ired of people starting your computer when you are not around and messing up custom settings? Wouldn't it be cool if you could lock your computer by just removing your USB stick from it? Read on, and we'll show you how...

## Boot Lock

This trick will allow you to use your USB stick as a key to boot into Windows. If someone tries to start the computer without your USB stick, it will display boot errors. Before we begin, let us tell you that playing with the BIOS and boot files of your computer may result in you not being able to boot into your Windows partition; so continue at your own risk! Now that we have absolved ourselves of all guilt, let's begin.

Things you need: A 64MB or larger sized USB Stick (duh!), Windows Recovery Disk (just in case).

**STEP 1** Unhide hidden and protected files: go to Tools > Options > View, check Show hidden files and un-check Hide protected system files.

**STEP 2** From the drive where Windows is installed (normally C:\), copy the files boot.ini, ntdldr and NTDETECT.COM to your USB Stick.

**STEP 3** Now, we need to go into your BIOS, so restart the computer and keep jabbing [F8] as soon as the computer starts.

**STEP 4** Once in the BIOS, enable USB Drive as the first boot device. You might have to enable USB Legacy Support on older BIOSes.

**STEP 5** Restart your computer, if all goes well, you should be able to log into Windows. If not, then unplug the USB Stick, return to the BIOS and change the First Boot device to your hard disk drive and repeat the steps above.

**STEP 6** Once you are logged into Windows, go to your Windows drive and rename boot.ini to boot.bak.

**STEP 7** To check if you have setup everything correctly, eject your USB stick and reboot the computer. You should get error messages on the screen such as "Invalid Boot.ini" or "Windows could not start".

**STEP 8** In case Windows does not load, use your Windows Recovery Disk by following the steps mentioned at <http://tinyurl.com/s9sd2>.

## The Other Way

For the less brave-hearted, instead of preventing Windows from booting, you can choose to just lock your computer with your USB stick.

## USB System Lock

A freeware program, USB System Lock works flawlessly while locking and unlocking your computer. You can find it on this month's Computing DVD. When you first install USB System Lock, it detects your USB stick and

creates a digital key on it. This key is used by the program to authenticate the user and log into the



Do not delete the Key on the USB stick—you may not be able to log in again!

computer. Strangely, the program is not included in the start-up list by default. To add it there, you need to drag Agent from the USB System Lock entry under All Programs to the Startup folder in the same menu. If you happen to accidentally delete the key from your USB stick while working on the protected computer you can re-assign a key using Start > Programs > USB System Lock > Key Disk Generator.

## My Lock 2.0

This program takes USB-based



The safest way to lock your PC using your USB Stick

computer locking to a whole new level. For Rs 400, you can lock access to not only your PC but the keyboard, CD Drive and even access to Safe Mode. You can also set a particular time for the computer to automatically lock itself. What is most interesting about the program is that you can set a passphrase so that you can use it to log into the computer even without the USB Stick plugged in. The 30-day trial of this program can be found on this month's Computing DVD. ■

[asfaq\\_tapia@thinkdigit.com](mailto:asfaq_tapia@thinkdigit.com)





# Installation Disk Hack

Why keep an outdated Windows XP installer... Your disc can include all the latest updates and hotfixes. We show you how.



Asfaq Tapia

There are thousands—maybe millions—of people out there who find that due to installing and uninstalling software and fiddling with them, Windows' performance takes a hit over time. The best way out is a format + Windows reinstall, but this usually means having to download and install all the Windows updates all over again. This can be quite a pain in the backside, and more so for those on limited bandwidth connections.

There are two things you can do: either turn off automatic updates and live with your stock XP installation, or read through the following and make your own updated Windows XP disc, so that any subsequent formats and reinstalls are considerably less painful.

The first thing you need is a Windows XP installation disc. If you

don't already have the XP Service Pack 2 (SP2) update included in the installation disc, download it from <http://tinyurl.com/7xthn>. Now you'll need to download and install the software that will help us customise the installation disc. It's called nLite, and it's available at [www.nliteos.com](http://www.nliteos.com). With these in place, you're good to go.

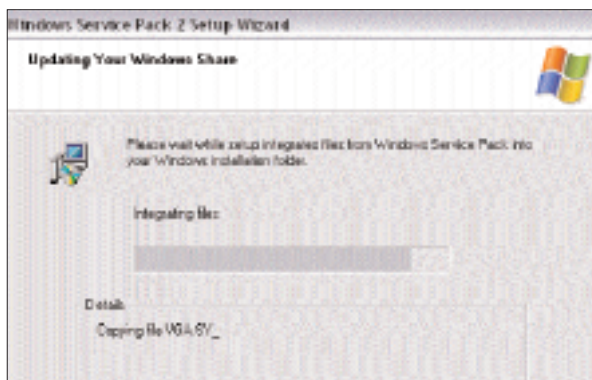
## Adding SP2

To integrate Windows XP SP 2 into the XP installation, copy the contents of the XP installation disc to a new folder in C:\ called XP. Now at a command prompt, navigate to where the SP2 download is. From there, enter this: `WindowsXP-KB835935-SP2-ENU /integrate:C:\XP`

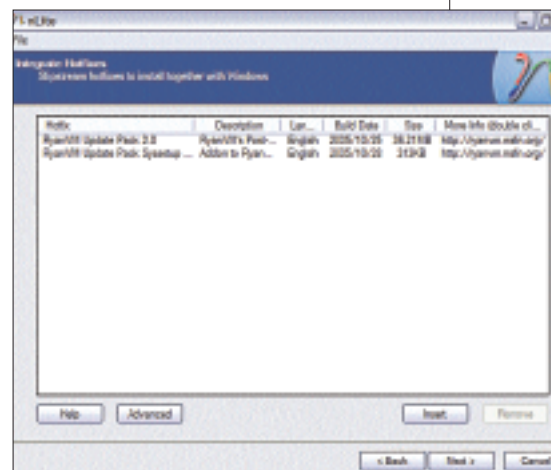
You'll see a new window showing you the progress of the integration.

## Adding Hotfixes

It's now time to include all the updates which were rolled out after SP2. There is a wonderful Windows XP Post SP2 pack that allows you to integrate all the hotfixes rolled out after the SP2 update. Download the 46 MB update from [www.ryanvm.net/msfn/updatepack.html](http://www.ryanvm.net/msfn/updatepack.html). Once you have this file, you need to install nLite. Once nLite is installed and started, select the



The Windows XP SP2 integration looks like this.

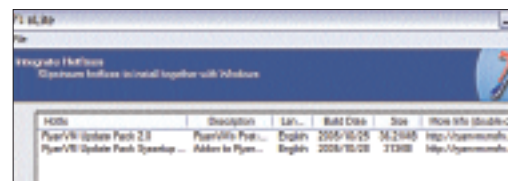


This is how the window should look once the XP Post SP2 update has been integrated

directory where your Windows XP installation is stored—in our example, C:\XP. Click on Next through the screens till you reach the Integrate HotFixes window. Here, click Insert and browse to the folder where your Windows XP Post SP2 update is saved and select it. The post-SP2 updates are ready to be integrated into your Windows XP installation.

## Adding Drivers

If you have hardware for which Windows XP does not have the drivers, you can integrate it into your installation disc using nLite. You can only integrate .ini and .inf (Windows driver) files, but sometimes you'll find drivers in the EXE format. You can extract them using WinRAR or WinZip and add the corresponding driver files into Windows.



There is support to include multiple drivers at once

## Unattended Installation

In the next window, nLite will allow you to create an installation process that requires the minimum of intervention from the user. You can choose between the various settings on the page and enter the CD key so that it is not asked for during installation, and also enter Regional Settings details, among other things. You can also change a lot of details—like removing the extra visual themes and automatically adding user accounts. The settings you enter here eventually save you a lot of time when you're going about installing Windows on a large number of computers.

## Custom Cosmetics

If you're anything like us, you won't be satisfied with just adding updates and drivers. We'll only be using nLite to burn the final CD, so for now, minimise it and get ready to do some further tweaking...

**Adding User Accounts:** To automatically add user accounts to your custom installation, open Notepad and enter the following:

```
[COMMANDS]
```

```
"useraccounts.cmd"
```

Save this as `CMDLINES.TXT` under C:\XP\%\$OEM\$. In a new file, enter:

```
net user Jane qwe123 /add
net localgroup Administrators Jane /add
net accounts /maxpwage:unlimited
EXIT
Save this as USERAC-COUNTS.CMD under C:\XP\%$OEM$.
```

This will add the user Jane with the password qwe123 with Administrator rights. The maxpwage:unlimited ensures that the password never expires. If you want to create a username with a space, enclose it in double quotes, as in "Jane Doe".

**Custom Registry Edits:** Quite a few of us spend a lot of time customising XP after installation, so here are some tweaks that you can include to save you even more time!

**Auto-Logon:** If you are the only user of a computer, you might like to skip the Welcome Screen and get logged on automatically every time you start the computer. Open Notepad and enter:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon]
```

```
"DefaultUserName"="Jane"
```

```
"DefaultPassword"="qwe123"
```

```
"AutoAdminLogon"="1"
```

Save this as `AUTOLOGON.REG` under C:\XP\%\$OEM\$. Next, open the `CMDLINES.TXT` we earlier created under C:\XP\%\$OEM\$ and add:

```
[COMMANDS]
```

```
REGEDIT /S autologon.reg
```

As you've noticed, to run a Registry file during installation, it has to be saved in C:\XP\%\$OEM\$, and a command has to be placed for it in `CMDLINES.TXT` with the prefix `REGEDIT /S <file name>`. So remember this bit—even if we don't mention it!

## Disable Windows

**Tour:** Open Notepad and enter:

```
[HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\
```

```
Applets\Tour]
```

```
"RunCount"=dword:00000000
```

Save the file as `TOUR.REG` and add its corresponding entry in `CMDLINES.TXT`.

**Disable Grouping of Similar Taskbar items:** Save a Notepad file as `GROUP-INGTB.REG` with the following:

```
[HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
"TaskbarGlowming"=dword:00000000
```

```
[HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
```

```
"TaskbarGlowming"=dword:00000000
```

Don't forget to add its corresponding entry to `CMDLINES.TXT`.

**Decrease Menu Delay:** Create `MENUDE-LAY.REG` using Notepad with the following contents:

```
[HKEY_CURRENT_USER\Control Panel\Desktop]
```

```
"MenuShowDelay"="20"
```

```
[HKEY_USERS\.DEFAULT\Control Panel\Desktop]
```

```
"MenuShowDelay"="20"
```

This will decrease the delay time for showing menus from 400 to 20 milliseconds. You can reduce this to 0, but that would open all the menus your mouse hovers over in the Start Menu.

Again, don't forget to add the corresponding entry to `CMDLINES.TXT`.

**Enable word wrap in Notepad:** Create `WordWrap.REG` with Notepad:

```
[HKEY_CURRENT_USER\Software\Microsoft\Notepad]
```

```
"fWrap"=dword:00000001
```

**Showing Hidden Files and Folders:** Create `HFF.REG` in Notepad and enter:

```
[HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
```

```
"Hidden"=dword:00000001
```

Look for more Registry tweaks at <http://snipurl.com/1ti7w>.

## Finalising The Installation

Once you are ready with all the Registry tweaks and updates, go back to nLite to create your installation disc. Click Next till you reach the final screen. Click Direct Burn under Mode and click Next. This will create a Windows XP installation disc with... everything!

asfaq\_tapia@thinkdigit.com

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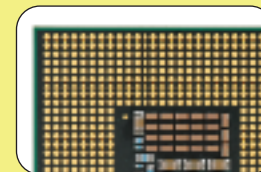
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## CoolerMaster Cosmos Cosmopolitan!

CoolerMaster (CM) has always catered to enthusiasts with their Stacker series of cabinets, which represent the upper echelon of the world of desktop cases. The Cosmos (codename RC1000) deviates from the hardcore (and pricey) Stackers, with something that offers designer looks.

Brushed steel is rare but always a hit, and the Cosmos sports panel quality and a finish second to none—even better than CMs own RC830 series. It has two aluminium bars on the top and bottom. The front door is equally attractive—tinted fibre and you can change its orientation (left or right). We also noticed the two rubber covered holes in the back of the cabinet—perfect for the tubes of a liquid cooling kit.

There's a fan on the bottom of the case handling

air intake, while the two fans on the top and one rear fan are exhausts. CM states this creates some negative pressure—which explains why they have a VGA duct without a fan—it's bang in the middle of this negative pressure region, and should divert air onto hot running graphics cards. Our 8800GTX did keep its cool even during long gaming sessions. Dust filters have been provided at appropriate areas—these are easy to remove and clean. The power supply mounts at the bottom—similar to Antec's P180.

Removing the side panels is as easy as flicking a switch.

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

There's a lot of space to work with inside, and the first difference is the six hard drive trays complete with handles—hard drives will now sit sideways (vertically), which restricts airflow—particularly since they're 3 drive rails in a row.

Everything from the side panels and power supply housing, to the HDD trays and the fan mounts have silent, rubber treatment to keep the dBs down.

The Cosmos is undeniably attractive. If you want class and have money to burn, it makes a good buy. It also makes sense as housing for an overclocked, water cooled setup. As far as air cooling goes, the better-ventilated Stacker RC830 will outperform (though it costs more). The only downside we can come up with is the choice of metal—steel—which makes the Cosmos a hefty proposition at 16.9 Kg. We're told there's an aluminium (and costlier) version coming soon.



### Specifications

Dimensions—W x H x D—266 x 598 x 628 mm, weight—16.9 kgs, Form factor—Mid Tower, 3.5 inch bays—6, No of fans—2 x 120 mm

Contact: CoolerMaster Co. Ltd.  
Phone: +91-9833870302  
E-mail: tanmay\_l@coolermaster.com  
Web site: www.coolermaster.com  
Price: Rs 14,500

## Intel QX9650 Speed buster

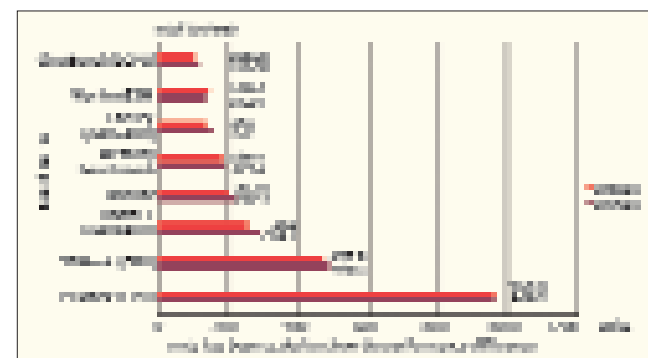
It hasn't been a month since our processor shootout, and Intel has fired yet another salvo—the QX9650—a top rung, quad core processor based on the 45 nm manufacturing process, which is the key differentiator between the QX6850 and the QX9650—the former is built on the 65 nm process.

The QX9650 runs at 3 GHz, with 1333 MHz FSB and is well supplemented with a cache of 6 MB per die—12 MB total, 2 MB more than the QX6850 per core.

Intel has also introduced 47 new instruction sets in the form of SSE4—this should improve performance in

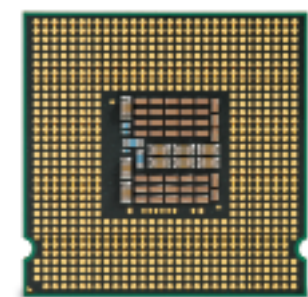
multimedia applications. In Sciencemark, the QX9650 shows a nearly 10

per cent performance improvement over the older QX6850 in all the subtests, except in cryptography, which is affected by clock speed. In games such as Doom



| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

3, Far Cry and Company of Heroes, we see a definite increase in performance by 10 to 15 per cent. 3D Mark and PC Mark also show perceivable performance



differences. We've got to say there is definite performance improvement across the board.

Price hasn't been disclosed yet, but expect it to be somewhere around Rs 50,000 when it becomes available.

### Specifications

Quad core, 3 GHz, 1333 MHz FSB, 12 MB L2 cache

Contact: Intel India Pvt Ltd  
Web site: www.intel.com  
Price: Rs 52,000 (approx)

## Kingston DataTraveler 100 4GB A no-frills pen drive

A USB pen drive is meant to carry your data. Well, that's what the Kingston DataTraveler 100 4GB is all about (also available 1, 2, and 8 GB). The drive is sleek and beautifully crafted in a black polymer casing. Unlike most other drives, this one has a retractable USB port that slides out using a thumb button at the side. The drive and the sliding mechanism exude ruggedness.

Simplicity is key here. The drive does not support Vista's ReadyBoost feature, but is compatible with different operating systems such as Windows Vista / XP / 2000, Mac OS and Linux. The drive does not sport U3 capability, so forget about carrying your

desktop with you. A disappointment for those who are paranoid about security is that it does not come with any encryption, security or backup software. The lack of (resource-taxing) on-the-fly encryption does not result in a speedier performance—instead, the drive seems lethargic and takes three minutes to transfer a 700 MB file to it, while copying it back takes just 53.1 seconds though. It is plain and simple that the Flash memory used in this drive is not very fast, but keep in mind that this is a value product and this lack of performance was anticipated. The amount of time taken to transfer the data is within acceptable



you are concerned with data security and need higher speeds, however, we suggest that you go for its mightier sibling, the DataTraveler Secure 8 GB, which we tested a few months ago.

limits and therefore, for its price, the Kingston DataTraveler 100 4GB is good value. It's backed by a solid 5 year warranty from Kingston and that makes it a very attractive option for portable data storage and transfer. If

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

### Specifications

Capacity: 4 GB; Interface: USB 2.0; Lanyard; Dimensions: 2.04 (W) x 0.9 (D) x 6.69 (H) mm; Weight: 11.3 gm

Contact: Kingston Technology  
Phone: 1800-425-4515 (Toll Free)  
E-mail: techsupport\_india@kingston.com  
Web site: www.kingston.com/india  
Price: Rs 2,272

## Xerox Phaser 6110 MFP The affordable colour laser MFD

We were drawn to the Xerox Phaser 6110 by the rather non-office looks and its price tag, which is quite attractive. It's considerably compact when compared to any laser MFD, but its 20.5 kg weight is somewhat high, we think. The easy front loading toners go straight inside the body vertically rather than horizontally, so there is little chance of your hands getting dirty.

The input tray capacity is 150 sheets—comfortable for any SoHo, and if that is not enough, an optional tray can support an additional 250 sheets. The ADF can hold 50 sheets and makes life easier while copying multiple documents using the flatbed-cum-sheetfed scanner. The scanner supports up to legal size paper. The control panel is very easy to use and the 16-character, 2-line display gives a lot of information. At the

front is a USB port that lets you plug in a USB stick and print its contents. You can even connect a PictBridge camera to this port using its data cable to print photos without a PC.

Print quality is good and crisp in both black-and-white and colour prints. It was pretty fast, too, taking just 11 seconds for black and 14.9 for the colour print. The scanner performed flawlessly—displaying excellent colour recognition and capturing fine details well. Scanning a 600 dpi, A4 photo took just 45.3 seconds. It was a bit slow at copying—14.8 seconds for black and 35.5 for colour—but the copies were so good that it was hard to distinguish between the original and the copy.

It features USB as well as network interface. The fax supports delayed fax and has 4 MB of memory for

storing received faxes in standby mode. Bundled along is the Maintenance Utility that lets you perform routine maintenance tasks, and a utility to set up the device over a network. The price is a surprisingly affordable Rs.39,900, and that makes the Xerox Phaser 6110MFP a highly recommended product.



### Specifications

**Printer:** Resolution: 2,400 x 600 dpi (effective), Input tray: 150 sheets, Output tray: 100 sheets, Buffer memory: 128 MB; **Scanner:** Type: Flatbed and Sheetfed, Resolution: 600 x 1,200 dpi (Optical), Media size: Legal, ADF: 50 sheets;

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Ease of Use     | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

**Fax:** Speed: 33.6 Kbps, Memory: 4 MB, Speed dialing: up to 240 numbers; **General Specifications:** Dimensions: 46.6(W) x 42.9(D) x 48.6(H) mm, Weight: 20.5 Kg **Power Consumption:** Max: 350W, Standby: 30W Duty cycle: Printer: 24,000 prints per month, Black toner: 2,000 pages, Colour toner: 1,000 pages

Contact: Xerox India Limited  
Phone: +91-124-2561930  
E-mail: pankaj.malhotra@xerox.com  
Web site: www.xerox.com  
Price: Rs 39,900





Your Questions, Our Answers

All your computing niggles and nags dealt with here!

### Dee-Ell-Hell

I receive the error message "Application Has Failed to Start Because Framedyn.dll Was Not Found" when I try to access Properties under My Computer. I use Windows XP.

Sriram Munde

This may happen if the file %SYSTEMROOT%\System32\Wbem\framedyn.dll is missing or damaged. It can also happen if the Windows Path variable does not point to %SYSTEMROOT%\System32\Wbem folder. To correct this problem, you need to replace the framedyn.dll file and correct the Path variable. Select Start > Run and go to %systemroot%\system32\dlcache. Copy framedyn.dll. Then open %systemroot%\system32\wbem. Paste the file you copied (click Yes when prompted to replace the existing file). To fix the Path variable, open System Properties in the Control Panel. Select Advanced tab > Environment Variables. Under System variables, click Path and then click Edit. If no Path variable is listed, click New and type Path in the Variable name box. Type the following in the Variable value box: %SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\wbem and click OK thrice.

### Teething Problems

I have Windows Vista installed on my computer. A few days ago, I enabled the AHCI feature in my BIOS and have since not been able to access my SATA Sony DVD-Writer. What could be wrong?

Prakash Taiwade

There is a bug in Vista that causes the missing SATA optical drive problem in AHCI/SATA mode. Microsoft has released a hotfix to correct this problem; find more about it at <http://support.microsoft.com/kb/928253>. There is no direct download link for the patch, though, and

you need to request the hotfix from Microsoft Online Customer Services at <http://go.microsoft.com/?linkid=6294451>.

### Keeping Track

Whenever I save any file on my office computer, the "Date Modified" of the folder changes to the date and time at which I copied the file. Is there a way to prevent this from happening such that the original date of creation of the folder would not change?

Manish Kundur

In a drive with an NTFS file system, the timestamp of the last access of a folder is updated whenever it is accessed or updated (such as a file being saved inside it). There is a way to prevent this from happening. Open the Registry Editor and navigate to HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\FileSystem. Modify or create a DWORD value with the name NtfsDisableLastAccessUpdate and set its value to 1 in order to suppress the updating of the last access timestamp of folders.

### Wiped Out...?

My 160 GB SATA hard drive crashed and I reinstalled Windows XP on it, only to find that all my older files were gone. And then, my son unknowingly formatted the hard drive! I have not been able to recover anything using Recovermyfiles. Is there hope at all?

Deepak Reddy



Recover your data using Easy Recovery Professional

There is still a chance to recover your files. You can try using a software such as Ontrack Easy Recovery Pro from [www.ontrack-daterecovery.com](http://www.ontrack-daterecovery.com) or R-Studio data recovery software from [www.r-studio.com](http://www.r-studio.com). You need to purchase one of these to be able to recover the data; the demo versions available from the sites will only allow you to see what they can recover, but you'll need to buy a license to actually recover the data.

### Bona Fide Users Only!

I tried to install Windows Media Player 11 and IE 7 from your DVD, but it asks me to connect to the Internet. I don't have an Internet connection; is there a way to install it anyway?

Ravi Dabgotra

There is no way to install Windows Media Player 11 without an Internet connection because it is part of the Genuine Windows program, which requires you to validate your copy of Windows online during the installation. But you can install Internet Explorer 7 without the need to validate online. You need to download the new installer for Internet Explorer 7 from [www.microsoft.com/windows/downloads/ie/getitnow.mspx](http://www.microsoft.com/windows/downloads/ie/getitnow.mspx).

### Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to [sos@jasubhai.com](mailto:sos@jasubhai.com), and we might answer them here! Since we get many more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!



## Ever wondered what lies behind the hood of the humble Task Manager. Wonder no more...

**Bhaskar Sarma**

The Task Manager in Windows is one of the most useful and easily accessible tools. It is virtually a window into the innards of your computer. You can: open new programs, kill running tasks, monitor CPU utilisation, get networking statistics etc. You can also use the task manager as a security diagnostic tool—to find malicious programs that might be running. Yet most people don't exploit all the capabilities of the Task Manager. That's about to change...

### Open It

Everybody knows how to do this: the (in) famous [Ctrl] + [Alt] + [Delete] key combination. Click on the Task Manager tab and out pops the Task Manager (referred onwards as TM). You could also access the TM by [Ctrl] + [Shift] + [Esc]. Right-clicking on the Windows taskbar and clicking on the Task Manager on the menu also does the job.

### Under The Hood

You will see a window with four tabs: Applications, Processes, Performance and Networking. Each of these tabs is used to get real time information about the state of your system.

#### Applications

This tab lists all the tasks that are currently running, and also their status. This is the first place to head to if your system is slowing down or has hung: Properly executing tasks have the status listed as running, while tasks that have frozen will show as "Not Responding". To end an application, select it and click on the End Task button. You have two other buttons: Switch To and New Task. Switch To brings the selected application's window to the foreground.

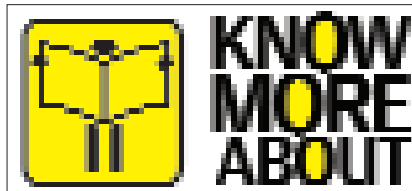
Right-clicking any task brings up a menu which pretty much does what the buttons do.

#### Processes

The Processes tab lists all the currently running processes. This is actually the most useful part of the TM. What is a process, you ask? Processes are running instances of applications. Consider the anti-virus program running in the back-

ground. A typical anti-virus program does several things simultaneously—checking for updates, scanning for threats, etc. So although you only see one anti-virus, it is running many simultaneous processes. You can set the priority for each process by right-clicking a process and selecting the Set Priority option. Selecting another menu option End Process Tree ends that particular process and any other process which it has spawned.

In the Processes tab you would typically see cryptic names like `ctfmon.exe`, `svchost.exe`, `mdm.exe` or `winlogon.exe`. They are the names of all the processes—good or bad. Some of these are critical to the system, and so cannot be changed. Since the process names are unfamiliar, this is where the Go To Process in the Applications tab comes in handy. Clicking on the option takes you to the corre-



sponding process name.

Here is a brief description of some common system processes. A point to be noted: many Trojan horses, worms or viruses can have similar names as these processes, but the real ones always run from the System32 folder.

**Svchost.exe:** This is a system process. It stands for Service Host, a generic name for processes that are run by different system services like audio services, cryptographic services, DHCP, system clock etc. There could be multiple copies of `svchost.exe` running at the same time. To see which services are using `svchost.exe` go to Start > Run, type `cmd` and then type `Tasklist /SVC`.

**Spoolsv.exe:** It is a system process which handles printing tasks. It is essential if you need to print.

**Lsass.exe:** Stands for Local Security Authority Service. It is an essential system process that deals in local security and login policies. Terminating this process will make your system unstable.

**Alg.exe:** The Application Layer Gateway service is needed if you are using a third party firewall or Internet Connec-

tion Sharing. Shut it down and you will lose connection to the Net.

**Csrss.exe:** It executes the Client/Server Runtime Server Subsystem. All the graphical commands in Windows are executed by `csrss.exe`. Terminating this process will make the system unstable.

**Explorer.exe:** Windows Explorer is what runs all the eye candy. It runs the Windows Graphical Shell which includes the Start Menu, Taskbar, Desktop, etc. If you shut down `explorer.exe` you won't be able to use the GUI.

**Smss.exe:** Stands for Session Manager Sub System. It handles user sessions on the system and should not be shut down.

**Services.exe:** It is a system process which manages the start up and shut down processes.

#### Performance

The third tab is a graphical depiction of the CPU usage and Page File usage plotted against time. It's pretty much self explanatory: the only thing to remember is that if the graphs in both the cases are continuously at half the total height then your system needs some trouble shooting. There are statistics showing the number of handles (a unique value for resources like files and registry keys used by programs), threads and processes. The Commit Charge group shows the total memory allocated to programs, physical memory means the details of memory on the RAM and kernel memory means the memory used by the operating system kernel and various drivers.

#### Networking

The networking tab is the fourth tab in the TM. It shows a visual representation of the network connection. If you suspect presence of malicious software, shut down all apps and check the networking tab. Too many spikes in the graph might indicate that programs are connecting to the Internet without your permission.

### It Boils Down To...

The TM is an easy and useful utility, though there are tools like Process Explorer which extend its functionality. So the moment you find your system acting up, don't panic. Press those three keys and become a certified geek. ■

*bhaskar\_sarma@thinkdigit.com*





# Help!

Whether it's programming, Windows annoyances or building your PC, you're covered

Prakash Ballakoor

## CodeIDE

If you're learning a programming language, and want to try your hand at it in small steps, with the advantage of having someone to chat with while you're at it, take a look at CodeIDE. It allows novices and intermediate learners to code using a browser-based interface without the need to install a compiler on the local system. The site currently provides an Integrated Development Environment (IDE) where you can code in JavaScript, HTML, Perl, C, C++, Basic, and Flex (a cross-platform development framework for creating rich Internet applications). Support for LISP, Java, and Assembler is underway.

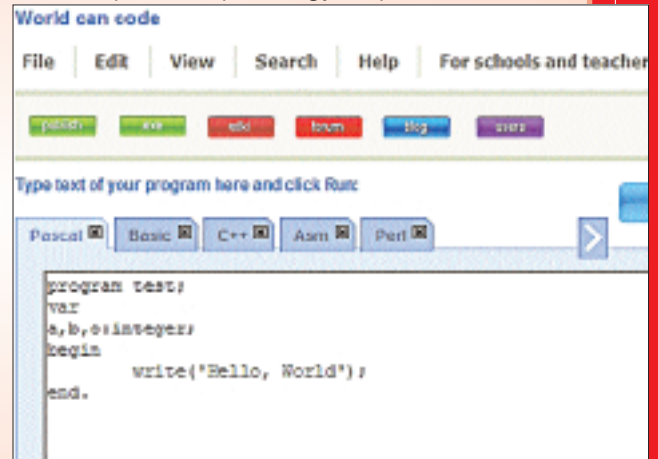
Registration is free, and allows you to save code on the server, which can be retrieved at a later point. Once you're done coding, you can build an EXE right from the browser and download the build / file. You can also publish your code and share it with others.

And then, there's the chat feature: CodeIDE.com allows chatting with any member at all—or you can create your own group. At any point, if you need professional help, there's the "On-line Teacher," which costs \$15 an hour.

Quite a novel idea, and worth trying out—primarily for small code chunks, and primarily if you're busy doing other things.

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

The best way to start on your coding journey



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

Welcome to Hell. You know why you're here...



## PC Hell

As the name says, pchell.com is one place to visit—and a good one—if you have a computer problem. The site provides exhaustive resources to deal with various problems or irritants including virus attacks, Genuine Advantage issues, removing the welcome screen in Windows XP, and more. It also goes into more advanced topics like changing a forgotten administrator password in Windows XP / 2000 / Vista, and how to run an inaccessible Regedit, which is difficult for quite a few people.

Though the site is cluttered and uncategorised at the homepage, you will excuse PC Hell.com because of the sheer number of topics covered.

You get useful and detailed information on various software, including their uses, features, and screenshots of similar software. For example, you can find here a list of free CD/DVD burning software, DVD Decoders etc. It is, actually, an eclectic site—you even find reviews of software like Spybot S&D and Ad-Aware SE with detailed technical reports.

The site accepts contributions from readers. If you faced a bug and know how to solve it, mail [pchell@gmail.com](mailto:pchell@gmail.com). The tip could be uploaded onto the site—and life will be that much easier for some people!

## Build Your Own PC

Learn how to build your own PC—even if you are a base novice. This site covers all the basics—it talks about what a PC is, some history, what constitutes a computer, etc. As an example of how thorough it is, the site tells you how the work area should be and the kind of equipment and setup required.

Then, if you do go ahead and assemble a PC, there could be instances when it doesn't start up. The site covers common problems with newly-built PCs. If your problem is not listed, you can post a message at the relevant forum: the forums at [buildyourown.com](http://buildyourown.com) have discussions on topics both in PC hardware as well as operating systems (including non-Microsoft OSes). You'll also find the more advanced topics like case modding, benchmarking, and overclocking your PC and keeping it silent... it's not just for novices.

Beyond hardware, [Buildyourown.org.uk](http://Buildyourown.org.uk) can guide you through the installation of OSes—Windows XP, ME, 98, and Ubuntu. There are articles that give insights into Fdisk and Format, ADSL / Broadband, CPU cooling, and more.

Overall, a handy resource for the would-be enthusiast—and a great place to start.

[www.buildyourown.org.uk](http://www.buildyourown.org.uk)

Some of the best PC-building advice you can get





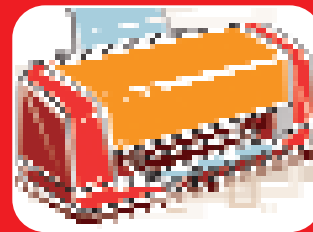
## BUYER'S GUIDE



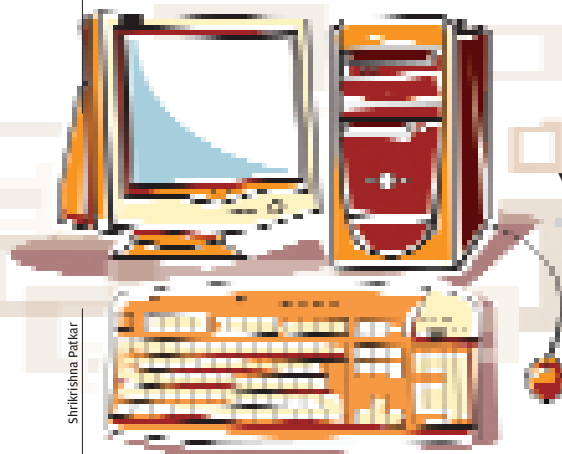
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Shrikishna Patkar

# Desktop PCs

## Your first step towards computing

**T**he PC has been evolving so fast that more often than not, you're likely to find that what you bought has become obsolete within just a few months of purchase.



### What You Should Be Looking At

**Upgradeability:** There should be upgradeability options for RAM, CPU, graphics card and hard drive. It is therefore advisable to opt for the latest CPU socket type available and also the latest RAM type, so you aren't left in the lurch when you decide to upgrade. Also check if there is a sufficient number of PCI slots to add PCI cards (such as a TV-Tuner). Don't forget to look at the comparison tests for motherboards and CPUs in our November issue for more information about things such as memory support.

**HTPC features:** If you want an HTPC, make sure it comes with the complete set of accessories, such as a wireless remote control and wireless mouse and keyboard. Newer ports such as HDMI are a big plus. If you really want to future-proof your HTPC, you should choose a HD-DVD or Blu-Ray drive (or better still,



### Agent's Tip

PCI Express 2.0 has started making an appearance in the market, so to save the hassle of upgrading later, it is better to go with this new standard now; newer peripherals such as PCIe 2.0 graphics cards are already available and offer double the bandwidth of PCIe 1.0.

a hybrid) as your optical drive as this is bound to be the future of multimedia standards. A TV-Tuner capable of receiving digital signals will be another plus.

### Features needed for video editing:

Video editing professionals should opt for a larger hard drive to be able to store raw video data and still have enough space to work on it. The PC should also have a FireWire port—this is the port most often used for transferring digital video data: IEEE 1394b should be what you should look for—this has twice the bandwidth of the older IEEE 1394a.

### Analyse Your Usage

**Entry-level usage:** Your PC should suit your needs. It just doesn't make sense to buy a high-end processor and graphics card, oodles of RAM, and a TB hard drive if you will only be using the PC to run accounting software. An entry level PC could do well even with a 2.0 GHz processor or equivalent with 512 MB of RAM and a 160 GB hard disk, and the OS could be XP instead of the heavier Vista.

**Graphics artists and gamers:** If your work requires you to use 3D rendering software, or if gaming is the primary reason for your buying a PC, get yourself one with cutting-edge components such as a high-end graphics card, a quad-core processor, at least 2 GB of RAM, and at least a 320 GB hard drive.

**Designers:** LCDs (especially the lower-priced models) are still not good enough for designers, so it is advisable to go with a CRT monitor. LCD monitors with MVA panels can be a replacement for the CRT, but they are currently very expensive.

**As an entertainment PC:** If watching movies is typical of your use for the PC, your Desktop should have a graphics card that supports hardware acceleration for HD content, such as the newer HD series

from ATI and the 8600 series from NVIDIA. A dual-core CPU would complement the graphics card, though it is not essential. Widescreen LCD monitors with MVA panels can render in 24-bit colour and are a better choice if you really want to enjoy the movie, but they are expensive. Also try to get a graphics card and LCD monitor with a digital port such as DVI or HDMI.



### Don't Forget...

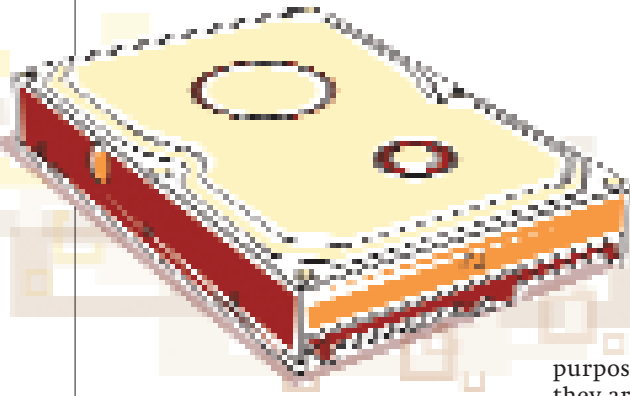
**Hidden costs:** Some PC dealers specify the price of a PC without mentioning taxes and installation charges. Ask for the total end-user cost.

**The preinstalled OS:** Some PC configurations do not come with any OS installed, or if there is an OS, it is a free OS (such as Linux). Most applications are written and available for Windows, so make sure it is included (ask for Windows Vista Home Premium at the very least); a later purchase will mean an additional investment.

### Innovations

Spearheaded by AMD, the new DTX form factor for PCs has motherboards with dimensions 203 x 244 mm, while there is a smaller variant, Mini-DTX, with motherboard dimensions of 203 x 170 mm. The benefits of DTX are the lower cost of manufacture of the motherboard, and the smaller size. This will be adapted mainly by the HTPC industry, because the upgrade options in such a small form factor are too limited. ■





# Hard Drives

Hard drive prices seem to have hit an all-time low... or will they drop again?

**S**torage capacities and speeds have constantly been on the rise the past few years, and older technologies have made way for newer and faster ones. Prices are amazingly low. But even with such a no-frills component, there's a lot you need to look at before buying one.



## What You Should Be Looking At

**Capacity:** Naturally, the most important parameter of a hard drive. Your first thought will be to just choose a capacity sufficient for your perceived needs, and when someone suggests a larger capacity, you tend to ask yourself: "Who needs so much storage space?" It is, however, a real-world observation that it is a good idea to purchase either (a) a disk of a capacity either 1.5 times what you think your requirements are, or (b) the next higher capacity drive from what you're looking at now. Purchasing later is often more expensive. Remember that even as hard drive capacities grow exponentially, so do your needs! The good news is that you can get even big hard disks (read 250 GB and above) at a low price, so if you're looking for a basic home solution, you won't need to skimp on space.

**Buffer memory and spindle speeds:** The buffer memory affects the performance of a hard drive when there is a lot of data transfer. 8 MB should be the minimum that you should opt for. The higher the spindle speed, the better the performance, but the higher the price. 7,200 rpm is enough for most

purposes; 10,000 is for enthusiasts—they are *very* expensive.

**Interface:** IDE is fast fading away; newer motherboards are doing away with that legacy interface altogether, sporting a single IDE connector for the optical drive. It therefore makes sense to go with a SATA-II drive, even if an IDE drive is much cheaper.

## Analyse Your Usage

**General home use:** 160 GB is enough for general home use. You can still store lots of movies and music and even games and still have space to spare.

**Gaming:** Most new games come on dual-layer DVDs and therefore occupy capacities in excess of 10 GB when installed. A 320 GB hard drive based on perpendicular recording technology is therefore advisable—or two smaller, identical drives in a RAID 0 configuration. In the latter case, you get a performance gain, but it's less secure than in the former case, and more expensive as well.

**AV professional:** Data capacity needs are the highest in this case, more so if the video is in HD. A 1 TB hard drive still costs too much, so it makes sense to purchase two 500 GB disks and create a RAID 0 array. Apart from space, this will mean you get the speed required to capture HD content. If you can afford it, opt for a 15,000 rpm SAS (Serial Attached SCSI) drive. Certain manufacturers have developed an AV class of drives tailored for AV professionals, but these are twice as expensive as regular drives.

**Internal / external:** An internal drive is the default choice; an external one is useful where data needs to be transferred from one computer to another, or when a system administrator requires to back up data from several computers that are not on a network.

## Frills

Some drives come with frills such as cooling fins and clear-glass cover that lets you look at the hard drive in action. While the cooling fins are essential in a high-speed hard drive to dissipate the excessive amount of heat generated, the clear-glass cover is simply a "luxury" feature—cosmetic, if you will.

## Innovations

It looks like solid state hard drives will soon phase out the magnetic-media-based drives of today. Samsung has announced the development of the first 64 Gigabyte NAND Flash memory chip using a 30 nm production process, which paves the way for

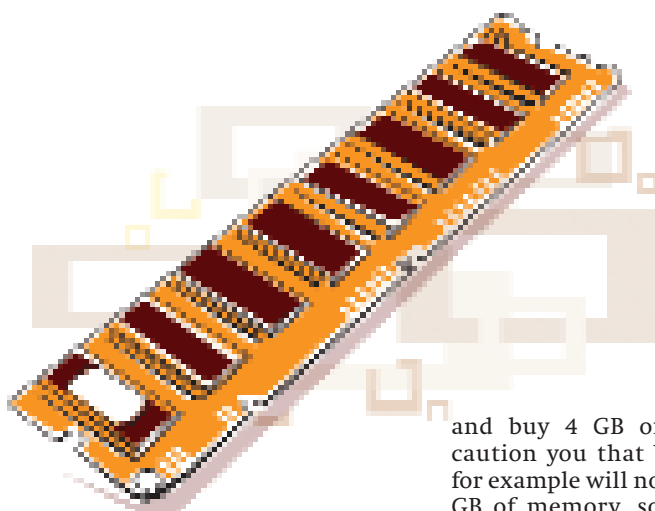


companies to produce SSD (Solid State Disk) drives with capacities up to half a terabyte. The advantages are the very high speeds as well as extremely low power consumption. There aren't any moving parts, so there's no "spin-up" time (you know the sound—that annoying whine when you start up)—expect your OS to start faster because of this, and even faster thanks to the significantly higher data access speeds. Several vendors have started selling these drives, though they're targeting laptop users more. Unfortunately, you can't get your hands on drives over 160 GB in size—and even if you could, you should know that just the 32 GB drives cost \$350 (Rs 14,000), bringing the cost per GB to a whistle-inducing Rs 437! All we can do is wait, for now... ■



## Agent Tips

As of now, 320 GB is the sweet spot for internal hard drives in terms of price. A drive with 8 MB of buffer memory costs around Rs 3,200, while one with a 16 MB buffer costs about Rs 4,000.



# Memory

**We all know its significance, but do we all know it's dirt cheap now? Go on, your PC could always use more...**

**M**emory is the most-often upgraded part of any PC. The reason is usually that a huge increment in performance can be gained by just upgrading memory rather than changing a processor or swapping a hard drive. This is because memory is the expressway via which your processor talks to your graphics solution and Northbridge—since there's huge amount of data that flows back and forth from these processing centres (both CPU and GPU), your memory had better be up to the task. If you visualise memory as an expressway then it's easy to understand the concepts of its speed (i.e. frequency) and the amount of it (megabytes, gigabytes etc). In short the faster the memory the better, but what really gives a significant boost to performance is more memory. Just upgrade from 512 MB to 1 GB under Windows XP and you'll notice the difference.

There has always been a sweet spot for the amount of memory needed. It used to be 512 MB a couple of years ago. These days multimedia being the memory hog, it is 2 GB. Some games and video rendering / editing work will even scale up in performance at 3 and 4 gigabytes of memory. Does this sound a costly proposition? At Rs 2,600 for 2 GB, memory is no longer a wallet-busting proposition. We feel the prices of DDR2 memory fill fall further. It's easy to get carried away

and buy 4 GB of memory but we caution you that Windows XP 32-bit for example will not use more than 3.2 GB of memory, so if you must have more memory go 64-bit for your OS, else stick with 3 GB.

Talking DDR2, it's mainly available in two flavours—667 MHz and 800 MHz (clock speeds). The difference in performance in memory-hungry applications will justify the premium the faster memory commands. DDR is officially out of production and supply—and will be costly due to dwindling supplies. DDR3 promises to become the new standard in another year or so, and scales above DDR2 in terms of speed—we've 1333 MHz DDR3 samples, with up to 1800 MHz being promised soon. The only issue with DDR3 right now is the relatively higher latencies which detract from performance—clock per clock, DDR2 is still faster.

## All About Timing!

Will all DDR2 800 MHz memory be equally fast? No. Will 1066 MHz memory necessarily be faster than 800 MHz memory? No again. It all depends on the latency of the memory. Latency, as you know, is defined as *wasted clock cycles*, and memory latencies read something like 4-4-4-12 at a particular frequency. Latency and clock speeds are directly proportional. Of course, higher latencies are slower, so the relationship is inversely proportional.

## Is All Memory Created Equal?

The sad fact is that most vendors do not know much about memory (other than the density of the stick, and the brand). Even memory chips have premium brands and lower brands—this is aside from the brand. In fact the big memory chip manufacturers are Micron, Samsung, Infineon, Quimonda, Hyundai, and Kingston—most of these brands don't actually market memory, and aside from the latter two, they're solely OEM players. But keep in mind

that there are differences in performance, overclocking capabilities, and stability between different chips of memory even if their clock speeds and timings are the same.

## Hoard Up Or Wait?

Intel has announced support for DDR3 as a memory platform due to the increased bandwidth it provides (eventually, DDR3 will scale up to 2 GHz). However DDR2 is as strong as ever, with prices at an all time low. We expect DDR3 to become mainstream in late



2008. For one, the astronomical prices, and secondly, there aren't any significant performance gains as yet. We say upgrade to 2 GB of DDR2 memory to ensure your PC runs everything properly, but don't spend more than 5,000 bucks on memory right now. We estimate DDR3 will become really affordable by early 2009.

## What Makes The Best Buy In Terms Of Speed And Quantity?

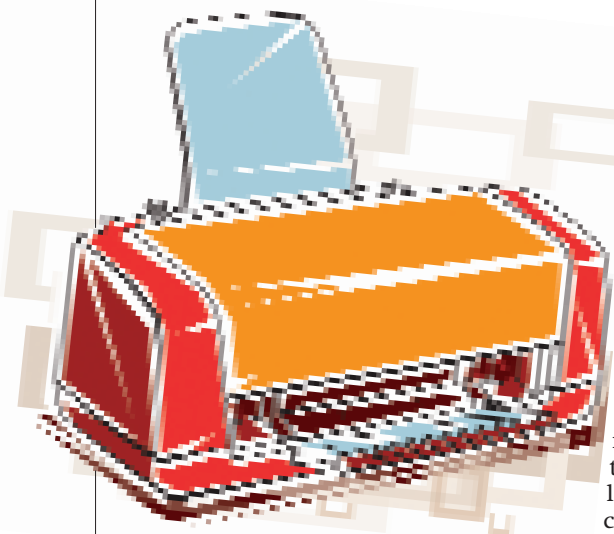
In terms of speed, DDR2 800 MHz hits the sweet spot between price and performance. Priced at around 600 bucks more for a 2 GB kit, DDR2 800 is a more viable option than the older DDR2 667. Look for latencies of 3-4-4-8 for 667 MHz memory, and 4-4-4-12 for 800 MHz memory. Just make sure to buy a kit, or to buy your 2 GB together (same brand and speed) so that you can use them in dual-channel mode—which makes a difference of 5-12 percent depending on the application. ■



### Agent Tips

Don't buy unbranded or locally-branded memory. It's a very stressed-out component in your PC, and the number one cause of freeze-ups and restarts. Invest wisely—a few hundred bucks more for peace of mind is worth it.





# Inkjet Printers

Even though laser devices are cheap, inkjets still thrive—here's why

**Y**ear after year, it's been speculated that the days of inkjet devices are numbered, but each year, that's been proved wrong. Inkjets are still holding on and still in the race. This could be attributed partly to the considerably lower cost of investment and partly to the much lower cost of running. Also, they don't demand much space. Home users prefer inkjet printers but are facing increasingly stiff competition from inkjet MFDs, which are becoming available at prices rivalling those of the printers.



## What You Should Be Looking At

**Printer speed** is usually advertised by the manufacturer in bold letters. You should keep in mind that these mentioned speeds can never be achieved in real-life situations, and as the quality is increased, the speed drops dramatically. A typical mid-range inkjet printer can never exceed even 10 pages per minute at draft quality, even though it is usually advertised as 20. If you print a photograph, the time taken can range from a minute and a half to over 10 minutes depending on the printer.

**Print resolution** is another feature that is talked about a lot by the manufacturers. More important is the hardware

print resolution, as this defines the hardware limits of how fine the printer can print. Interpolated (also sometimes called enhanced) resolution is a software resolution that tries to emulate a higher resolution than the printer's hardware capability, though the results are never as impressive. This difference is something like that between the optical and digital zoom of a digital camera.

**Media handling:** Most printers can handle A4 size media, and if you require larger size media, check for that before buying. Also make sure that the printer is capable of handling heavy media—this is important especially in case of photo paper.

**Interface:** Many offices still have old computers with legacy interface such as parallel port. If your office happens to be such, make sure that your printer supports such an interface.

**User interface:** It is always better if the printer has an LCD to view different status messages. For a photo printer, a colour LCD should be preferred.

**Number and type of cartridges:** Printers aimed at normal printing, usually come with two cartridges—one for colour and other for black. But if you are into photo printing, then it is better to have separate cartridges for each colour. The latter case is economical too because you need to change only that cartridge which is spent, so it becomes less expensive. Certain photo printers support Photo cartridges that are specialised for printing photographs.

## Analyse Your Usage

**For a photographer:** If you are a photographer, or if printing photographs is your primary need, the printer needs to be good at printing high resolution colour photographs. Some printers have up to six cartridges to produce vivid colour photo prints. Some have photo-paper cassettes to hold photo papers. There are some with connectivity options such as Bluetooth, WiFi, and PictBridge, while

some have slots for memory cards or USB drives to print images stored on such devices. There are some which can even let you manipulate images prior to printing by previewing the effects on a colour LCD screen on the printer.

**For a SoHo:** A printer with a single colour and single black cartridge should be OK. The cost per page will matter more in this case. If your requirements are high volume and high speed, then it is better to go with a laser device.

# Canon

Delighting You Always

**Inkjet or laser:** Inkjet printers are a lot cheaper than laser printers. They also consume a lot less power and have a lower running cost. But the cost per page is usually over twice as much as a laser printer and therefore laser printers are less expensive in the long run, as you print more and more pages.

**Network:** A dedicated network printer (with a RJ-45 port) can usually cater better to more than 10 computers on a network. Though a network printer is more expensive, you should get one, especially if your business is growing.

## Innovations

A new technology in inkjet printing promises to rival the speeds only possible with laser devices until now. The trick is to eliminate the moving head—rather, the movement—and instead use a head as wide as the paper. This head delivers a blast of ink across the length of the paper and this repeats line after line. It is therefore a lot faster than conventional inkjet printing. Silverbrook has already showcased a prototype of such a printer; HP will soon introduce such printers. ■



## Agent Tips

The cartridge should be easily available when needed. Some vendors provide the facility to order cartridges over the telephone or over the Internet. As any inkjet owner will testify to, this saves a lot of hassle, and besides, you get original cartridges.





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# A Fascinating Fascination

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“The Gadget is an extension of you—because you own it. That’s where “toy” comes from: our toys were our first extensions of ourselves—when we were kids”

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COMPUTERS ARE IMPERSONAL—plainly speaking—but there is such a thing as personal technology. So you come to an interesting question: why do gadgets—that is, “personal technological items”—fascinate us the way they do?

Now in case you aren’t aware, go to gadget blog Gizmodo and you’ll see the tagline: “So much in love with shiny new toys, it’s unnatural.” I’m guessing it’s *not* unnatural. Also note that we tend to call them “toys”; it’s not a casual word for lack of something better. Why do we call them toys? And where do those dreamy desires to possess them come from?

Right, so you’re wondering why I’m asking all this. It’s like this: it’s plain that beyond utility, beyond aesthetics, beyond form, beyond function, beyond beauty, beyond all the words associated with gadgets, there’s something so totally irrational about the whole thing, it begs to be grasped. It *must* be grasped, in fact, if you can see how odd it is: so much passion poured into something non-human.

One idea comes from the simple fact that we want to own gadgets, not just see and use and touch them. Yes, we do those things when a friend gets one over, but much stronger is the desire to possess.

Then, here’s Michael Heim, in *The Erotic Ontology of Cyberspace*: “We love the simple, clear-cut linear surfaces that computers generate. We love the way that computers reduce complexity and ambiguity, capturing things in a digital network, clothing them in beaming colors, and girding them with precise geometrical structures.” And

then: “Our love affair with computers... runs deeper than aesthetic fascination and deeper than the play of the senses. We are searching for a home for the mind and heart.”

What you get, then, is this: The Gadget is an extension of you—because you own it. That’s where “toy” comes from: our toys were our first extensions of ourselves—when we were kids. And now, these extensions are mini-universes; being free of apparent complexity, they let us make sense of things. When we use them, we’re navigating a structured universe of our own—which is delight.

This is true for everything digital—computers, connectivity, and everything else—but it rings loud when you think of gadgets. But then, everything is getting smaller, and everything is getting personal anyway: we’ll soon wear them, implant them. “Man-machine convergence” is the obvious thought, but this isn’t the space for that.

Or is it? Let’s see: as *The Matrix* told you, you unknowingly create your own universe: what natural conclusion but that we’ll merge with our machines, seeing as that act will give you the ability to *knowingly* create your own universe?

Our current craze or obsession or love for The Personal Gadget is just the sign of where we’re headed. It won’t forever remain the toy.

It’s vaguely fearsome, I must admit, and I’m wondering what our toys will be at that stage of our technological maturity. (We’re kids now.)

[ram\\_mohan@thinkdigit.com](mailto:ram_mohan@thinkdigit.com)





## newsbytes



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A story about mobile OSes: Sun doesn't like what Google just did

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New software auto-tags faces in photos!

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## PERSONAL TECHNOLOGY



### Memoirs In Motion

For our annual handycam test, we've decided on individual reviews of a chosen few. Now whether you want a camcorder for show-off value or because you want to pick up a new hobby—go ahead, choose one!



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### 2020: A Love Story

Yet again, we look into the distant future, and see a lot of tech all around us—in the much-hyped year 2020



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### Can I Play With Madness?

It could be on your mind right now: "All those media files on my hard disk—just when do I get round to organising them?" Well, there's no really easy way, but we can give you some excellent pointers

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### How To Make Your Own Flash Diffuser

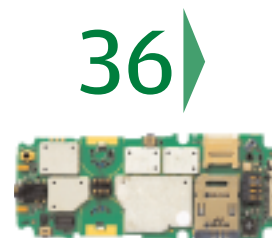
You can control the lighting your camera's flash provides, for when you're shooting indoors—use a diffuser. It doesn't cost anything to build, either. Get ready for better-lit photos!



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### Tips & Tricks

In this, one of our five instalments this month of our T&T regular, we tell you what extra you can do with your Windows Mobile or Symbian S60 phone—tweak things, make everyday tasks easier, and generally take more control



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### Feature The Inside Story

The workings of a mobile phone are a synergistic effort of several different kinds of components. Find out what's going on under the keypad while you talk away

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### Dr. Web CureIt!

A standalone anti-virus and anti-spyware scanner that scans your PC for viruses, trojans, adware, spyware, hack tools, rootkits, and other malware. The program does not require installation and can be run from a USB drive. It can detect and remove virus infections but does not provide real-time protection.

### EssentialPIM Portable

A U3-compliant appointment and information manager that allows you to organise your daily, weekly or monthly schedule. It can be installed directly to your USB drive. Features include an address book, a tree-style notes manager with support for rich text notes, a To-Do list

and Contacts. The address book supports pictures and lets you add/remove fields to customize it for your needs. The program supports single and recurring events, priority settings, colour-coded categories, and reminder alerts. It can import data from Outlook, iCal, CSV and vCard formats, and supports password protection with strong encryption.

### Miranda IM



A multi-protocol instant messenger client with support for ICQ, MSN, Yahoo, Jabber and other protocols. Miranda is much smaller and not nearly as resource consuming as ICQ, MSN, AIM etc., yet it offers most of the basic functionality. There are also more than 170 free plugins available for download.

### iClone Studio Edition 2.1



iClone 2 transforms any desktop into a complete virtual movie studio. Create 3D characters, scenes, and special effects for films inside a total 3D real-time environment. It is designed for users of any skill level.

### OxygenOffice Professional 2.3.0



eXtreme Movie Manager is a powerful software to manage your movie collection. eXtreme Movie Manager will let you catalog any video formats such as DivX, XviD, VHS, DVD, VCD, SVHS, DVD-R, or LaserDisc with detailed information. eXtreme Movie Manager is not just a movie/video collection



### winPenPack Flash 1GB

A collection of free and open source portable programs optimised for use with a USB pen drive, but which can also be copied and directly executed from a hard disk. The winPenPack collection contains the best open source and freeware on the Internet.

manager, it's also a movie and actor database and a cover manager. You can record extensive information about your favourite movies and actors.

### Windows Server 2008 R2 Standard Edition

Helps IT professionals increase the flexibility and reliability of their server infrastructure while offering developers a more robust web and applications platform for building connected applications and services. You will need to use Microsoft Virtual Server 2005 to run this virtually.

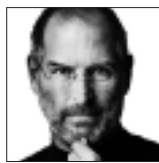
### Also Featuring

- AIDA32
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- IZArc2Go
- Jarte
- KeePass Password Safe
- LockNote
- Omziff
- PC Decrapifier
- PStart
- Qm - The Quick Mailer
- Quick n Easy FTP Server



## Steve Jobs gets raise

Steve Jobs, Guinness World Record holder for lowest paid CEO, drawing \$1 a year, will finally get a raise from Apple's Compensation Committee in accordance with the 10-K annual report for its fiscal year 2007.



## Touch Cruise to sport 3G, GPS

HTC's new smartphone, the Touch Cruise, sports TouchFlo technology, which helps menu navigation by finger swipes. It is expected to compete with the iPhone on grounds of 3G for high-speed Internet access.



# newsbytes

## Whatever Happened To...

### The Segway

We wonder if you recollect Ginger... the Ginger scooter, a.k.a. Segway the Human Transporter, unveiled in December 2001. It looked like a pogo stick on wheels. It was invented by Dean Kamen, who was probably bothered by skyrocketing oil prices and pollution issues. The Segway, a self-balancing scooter, was available for \$4,500 (Rs 1.8 lakh) was over-hyped as a "revolutionary" invention.

It weighed about 40 kg and used 260-cell custom-designed NiMH packs that produced 72 volts, the highest power of any currently-available chemistry. Twelve high-power, high-voltage field-effect transistors helped the user balance on the basis of the electric field generated.

The speed was determined by how far the user could lean forward or backward. But the scooters kept throwing users backwards at its maximum speed of 20 Kmph, thanks to a software glitch.

The human transporter got banned on footpaths and roadways—in fact, any public place, in countries like the UK and Japan—on the grounds of transport regulations.

A blogger named Maddox has slashed the hell out of the Segway, calling it a piece of junk. Read the post at <http://tinyurl.com/dahxg>—and get ready for inflammatory language. You know how bloggers are. So when will the Segway kindly step out?

## LICENSING ISSUES

## Google Locking Horns With Sun?

Google's heavily-anticipated mobile project was (finally) recently announced after bloggers, the developer community, and the phone industry players speculated to their wits' end about it. A new operating system for mobile phones called Android OS has been announced. To support the development of Android, 33 phone industry giants formed the Open Handset Alliance (OHA). Members include big names like Qualcomm, T-Mobile, Motorola, and HTC.

Android is Linux-based, and lives under the modified open source Apache license. Google wrote its own virtual machine for Android, named Dalvik. The developer community says Dalvik does have its technical merits and demerits, but they believe Google's didn't sufficiently emphasise the development of an entirely new platform. Google also released Android SDKs under a contest, offering \$10 million as rewards for cool apps from third-party developers.

But this has invited a reaction from Sun: it's about Sun's JME (Java Micro Edition). Apache Labs Developer and board member, Stefano Mazzochi, believes, "Google most likely built Dalvik as a way to get

around licensing issues with Sun that would have come with using JME."

A phone maker who wants to incorporate JME as the middleware platform on its handsets needs a license from Sun. However, any phone maker can make free use of JME freely under the open-



source

license if they share the applications they develop with the rest of the community. With Android, phone makers can make merry; licensing woes with Java might end if Android becomes mainstream.

The major concern is porting of applications on Android. Rich Green, executive vice president of software at Sun, shared a statement on this: "We're reaching out to Google and are anticipating they will be reaching out to us to ensure the software and APIs will be compatible so deployment on a wide variety of platforms will be possible. Sun wants to work with Google to prevent creating a

fractured mobile development environment."

Microsoft CEO Steve Ballmer was harshly critical of Android, calling it nothing more than a press release: "Well of course their efforts are just some words on paper right now, it's hard to do a very clear comparison (with Windows Mobile)." Symbian OS CEO Nigel Clifford has commented, "There's 10, 15, 20, maybe 25 different Linux platforms out there. It sometimes appears that Linux is fragmenting faster than it unifies."

The future of Android is dependent upon overcoming the technical demerits, enabling easy application porting, and eventually, making phone makers happy by easing licensing issues.

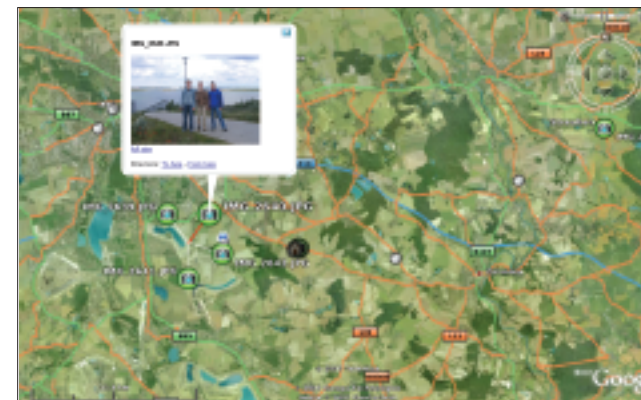
## A NAME TO A FACE

## Tag-You're It!

With thousands of photos being taken and stored, tagging photos—which is very good for retrieval—becomes a mammoth task. After taking multiple shots of the same person, it's hard to tag them all. What if your camera could recognise faces? FotoNation, a research and development company in the field of imaging and connectivity for the digital photography industry, recently announced a software that will make digital cameras

smarter, able to identify 25 to 30 people who are often photographed. The camera attaches tags as the picture is taken. This is a great leap for digital cameras—they can now recognise that there's a face in the frame and set focus, aperture and colour balance for a better picture. Also, face identification and tagging needs to happen before the next shot (usually within a second) and before the image is stored on the memory card, which again is a challenge.

FotoNation, which supplies face detection software to camera manufacturers, says the software can run on existing configurations, since it's trained to identify only a limited set of people. Panasonic, one of the camera manufacturers interested in auto-tagging, wants to go a step further—into the process called geotagging. This is used to look up photos the location of which you know, and check out the location of the



photos you have. Geotagging is a laborious manual task, which can be automated with GPS-based auto-tagging cameras.

With more efficient algorithms and increasing processing power, it probably won't be long before your camera starts to identify more than people—everyday objects, say? How about linking to a server, doing some matching, and tagging everything? But we can dream on...

## DIY

## Lock 'em Up

In the past, in countries like the US and the UK, cellular service providers decided upon network support for only specific cell phone models. But now even handset makers come out with customised phone models to work with different networks. Demand for such customised models rises outside the geographic confines of their release. A recent example is the iPhone. The world condemned Apple for customising it to only work with AT&T networks.

A few enthusiasts, however, found a loophole in the iPhone's SIM Lock and eventually hacked it to work over any network. Though providing support for such "unlocked" phones is a headache for service providers, they don't actively oppose unlocking. In certain countries, the handset makers themselves offer support for unlocking

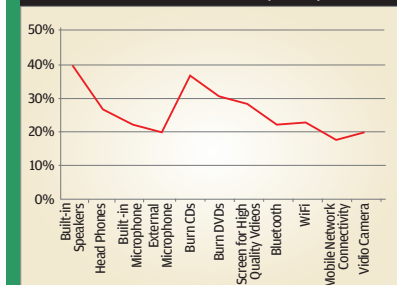
their customised phone models.

So we're wondering what it's all about: what's the point depriving customers of their dream phones? Is it a marketing strategy on the part of the handset makers? If so, why do they happily sacrifice their share of revenues to grey market merchants and exporters?

And then they get humiliated by college lads who hack their phones—

## STAT ATTACK

Features in a PC that notebook buyers expect to use



Britons send more than 1 billion text messages weekly. The same number of messages was sent in all of 1999

With 6.7 million unique PS3 users in the Folding@home project, the network passed the one petaflop mark. The Guinness Book of Records recognised it as the most powerful distributed computing project

In a survey of both teens and adults in November, 43% of teens used IM for personal communication, 22% used it to ask people out and/or accept them, and another 13% to break up with someone

there are tutorials on the Internet, and local phone shops can help, too, to unlock phones to work with any network. And so it goes on, with the gadget freaks managing to purchase US-only and UK-only models from the grey market or wherever else—and using them. No-one seems to care.

## CLEAN SCREEN

## Oil-free, Dirt-resistant LCDs

A cleanliness drive comes to the mind of any laptop user when the hands are dirty. Commuters often find dirt, mud, and oil stains on their notebooks. Having lunch and dinner and coffee and beverages while working on the notebook can lead to damage at worst, but very often, stains.

Now, you can damage your notebook screen if you use certain generic

chemicals to clean it. To make the cleaning process easy and make the screen more dirt-resistant, LG Philips has announced a new "dirt-resistant" LCD panel for notebooks.

LG Philips says they'll employ a new coating at one go, which reduces glare and resists dirt at the same time. The new coating will even facilitate ink stain removal! Compare this to what it's like now: a special coating is used on LCD screens to reduce glare, but this one leads dirt and oil to easily stay on it. Applying a second coating for dirt resistance would be a time-consuming and expensive process.

Ahn Byung-chul, who leads development of advanced technology at LG Philips, has stated, "Our new panel employs a principle similar to that used on non-stick frying pans. Dirt and oil can easily be wiped away." The new dirt-resistant panel technology will be implemented first on 15.4-inch laptop screens made by LG Philips, which will go to production in the first half of 2008.





# Memoirs in Motion

A holiday abroad, the sights, the sounds, the atmosphere...whether you want to preserve the moments, or show off to less fortunate friends, a camcorder is something you just can't afford *not* to buy.

Michael Browne

Let's face it. Digital cameras are for capturing the moment, but we live our lives in motion, not in stills. A video gives that much-needed extra dimension to a memory..

Things have changed a lot from the bulky VHS camcorders that needed a professional touch to operate. The biggest hurdle to acceptance of any device is usability and, of course, pricing—especially in India. Camcorders are *there* as far as both these points go—you'll therefore see a lot of them in malls, showrooms and such.

## Canon DC230

### The Biggest Brother Syndrome

Following the same colour combination as the Canon DC210, the DC230 even has the same bright blue sticker showcasing the 35x optical zoom, and the On/Off button is located very conveniently—and works mighty well. We really like the idea of placing the 5-way joystick at the rear, where it is right under your eye—you can access it one-handed quite easily. The Auto/Programmed mode select button is right on top and very visible—in fact, everything feels so easily accessible and transparent. Once again, the detailed menu on the DC51 makes another appearance—lots of settings to tinker with—but it's all very easy to get into, and you'll never feel intimidated by the sheer number of options available.

The LCD viewfinder is widescreen (16:9) and quite clear—in fact, a pleasure to work with, overshadowed only by the LCD viewfinders on the Panasonic models.

The slightly higher specifications don't really make a difference to the DC230 as far as distinguishing it from the DC210 goes. The IS system works identically, which is to say, *not* satisfactorily. Outdoor shooting was a real joy with the DC230, and such videos really come to life—you won't know the lack of a 3 CCD sensor. Once again, the issue with indoor shooting rears its ugly head:

They're smaller (palm-sized or thereabouts), idiot-proof to use, offer stunning results, and cost much less than they did a year ago.

When people ask us if they can use a digital camera as a decent camcorder and quote our favourite word *convergence* as a reason, we don't bat an eyelid when rejoining: "Cameras are for still images; they dabble with video, that's all. You want photos—get a camera, videos—get a camcorder." And if you want both, buy one of each...

We've selected ten of the most widely-available models in our markets and brought them together for the first time.



the same noise was noticeable—the DC51 did much better than both its cheaper siblings.

At Rs 24,995, the DC230 performs very similarly to the DC210—we'd figure a positive difference of around 10 per cent. There's nothing other than its on-paper specs to justify shelling out six thousand rupees more. If you don't mind a cheaper Canon camcorder, buy the DC210 and save some cash.

#### Specifications

1 / 6-inch CCD sensor (1.07 megapixels); 2.7-inch LCD viewfinder (123,000 pixels); Digital (Electronic) Image Stabilisation; Weight: 405 gm

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7.5 |
| Ergonomics               | : 7   |
| IS effectiveness         | : 6   |
| Video Quality (Indoors)  | : 6   |
| Video Quality (Outdoors) | : 8   |
| Photo Quality            | : 5.5 |
| Audio Quality            | : 7   |



#### How We Tested

| Parameters               | What We Looked At   |
|--------------------------|---|
| Menu/OSD Usability       | The intuitivity of the menu, its logical structure, how difficult individual features were to find  |
| Ergonomics               | The feel of the camcorders buttons, their location on the body and how easy it is to access them during use, how conducive button layout is to one-handed operation   |
| IS effectiveness         | At the long end of the zoom, focusing on on-screen and on-paper text, watching for clarity. Zooming in on certain objects and watching for jitter—normal hand shake is omnipresent, but the finer, sudden little shakes should be absent if the IS system is doing its job properly |
| Video Quality (Indoors)  | Shooting in our test labs, focusing on various objects to ascertain clarity, speed of lens focussing, presence of casts under artificial lighting, and, of course, noise  |
| Video Quality (Outdoors) | How quickly the lens adapts to sudden changes on brightness, as in changing focus from a well-lit object to a dimly-lit one. Overall clarity and detail while zooming in on distant moving objects like vehicles  |
| Photo Quality            | A still image of the dial of a watch, studying the image for noise, casts, image resolution, clarity, blur, and colour rendition  |
| Audio quality            | Indoors and outdoors. Indoors, how well the ambient sounds away from the recording were isolated; outdoors, how well wind noise was kept to a minimum   |



## Sony DCR-DVD608E

### Vaio! Vot Style!

Sony's been known to make some gorgeous-looking products (read Vaio), and frankly, while the DCR-DVD608E didn't disappoint, we expected more. Ergonomics are good, though, and everything feels convenient and easy to reach during regular operation.

Juice is provided by an Info Lithium-ion battery, and your viewfinder actually displays how much power remains and how many hours of shooting time is left—at the touch of a button, even when the camcorder is powered off. Both video and still image shooting buttons feel very comfortable to use, and there are no ergonomic issues, at least with largish hands.

Sony's LCD viewfinder is good, crisp and clear—something we've come to expect from all their products—but not as good as the LCD on the Panasonic SDR-H20. It's a touchscreen, however—a nifty add-on and a definite plus for usability. There's also a night shot switch (On/Off). The menus are very well-laid-out and intuitive, particularly since each option has a small, one-line explanation that improves usability greatly, especially for newbies.

Sony uses a digital IS system that works reasonably well; however, it isn't comparable to the excellent optical IS system employed by Panasonic

on the SDR-H20, which remains the benchmark for the way IS systems should work as far as we're concerned.

The DCR-DVD608E gave us pretty good results with after-dark shooting. Audio quality was rather good, and the noise caused by wind atop a terrace (for example) will hardly be noticeable.

At Rs 19,990, the Sony DCR-DVD608E makes a strong statement for itself. It's got that remarkable sense of style, performs well especially considering the price, and makes a really good buy if you have 20-odd grand for a camcorder.

#### Specifications:

1 / 6-inch CCD image sensor (0.8 megapixel); LCD viewfinder 2.5-inches (123,000 pixels); Weight: 390 gm

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7.5 |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 7   |
| Video Quality (Indoors)  | : 7   |
| Video Quality (Outdoors) | : 7.5 |
| Photo Quality            | : 6.5 |
| Audio quality            | : 7.5 |





## Canon DC51

### Camera 'n' Corder!

Canon's DC51 is a Mini DVD camcorder with an attractive silver / grey colour tone. It's attractive-looking with softly curved edges. Build quality is also good..

We didn't like the function button being on the side of the body—you have to turn the unit around to see what you're selecting, or turn your head around if you're shooting a subject in front of you. The 5-way joystick is well-placed. If you have long fingers, you'll need to bend your index finger a bit to reach the zoom.

Canon's menu is quite detailed, especially considering the simpler menus on the Panasonic and Samsung camcorders. Despite the extra options, we never once felt overwhelmed—very intuitive. PictBridge support is built in. The zoom is very smooth and focuses quite fast, unlike some of the Samsung camcorders. But it's a measly 10x optical, so you won't be doing

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7.5 |
| Ergonomics               | : 7   |
| IS effectiveness         | : 7.5 |
| Video Quality (Indoors)  | : 7.5 |
| Video Quality (Outdoors) | : 8   |
| Photo Quality            | : 7   |
| Audio quality            | : 7.5 |

any long-distance shooting with this. We were unable to focus on an object 14 inches away at a zoom of approximately 6x—not something that plagued the other camcorders. The IS system works well—although with just 10x of zoom, it's not really being tested a lot.

Canon has a good software bundle that includes Roxio MyDVD, Zoom Browser EX5.7 (which allows you to browse, organise and print your still image albums), and even the latest DV WIA drivers—which is basically a newer standard than the traditional TWAIN. There's a small EOS utility as well, which allows you to even use your camera remotely. We noticed most of Canon's suite seemed geared towards still images rather than video—peculiar.

With a 5-megapixel single-CCD image sensor, still image quality on the DC51 was quite good as expected, as was shooting in dimly-lit conditions—mainly due to the immense size of the image sensor chip (1 / 2.7-inch as opposed to the de facto 1 / 6-inch on most consumer models). Noise was nominal, particularly indoors—a good thing considering that this model is predominantly meant for indoor shooting (given its lack of a longer zoom). Maybe Canon could have gone with a smaller megapixel rating and a 3 CCD sensor system to boost indoor shooting. Outdoor video clips were clear, crisp and vibrant, with the soft colour tones that is patent Canon.

At Rs 58,995, the DC51 is costly—more than double the price of its siblings, but it's a good camcorder. We recommend it if you plan on doing a lot of shooting at birthday parties, weekends at pubs with friends, weddings, and so on—basically indoor stuff, which it excels at.

#### Specifications:

1 / 2.7-inch CCD sensor (5 megapixels); 2.7-inch viewfinder (123,000 pixels); Optical Image Stabilisation (Shift Type); Weight: 480 gm

## Canon DC210

### Style Meets Functionality

The DC210 challenges the norm as far as colour tones go, and uses a sporty silver grey / dark grey / dark metallic blue. Based on Mini DVD media, the DC210 is sufficiently compact; it never feels large, no matter how small your hands. It's built very well, similar to its elder sibling, the DC230. Design-wise, the power button and the 5-way joystick are well laid out—right under your thumb, making one-handed operation a snap. Similarly, the Record and Photo buttons are conveniently located, and have a nice positive feel.

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7.5 |
| Ergonomics               | : 7   |
| IS effectiveness         | : 6   |
| Video Quality (Indoors)  | : 6   |
| Video Quality (Outdoors) | : 8   |
| Photo Quality            | : 5.5 |
| Audio Quality            | : 7   |

Once again the Lithium-ion battery is accessible when the LCD viewfinder is opened—unlike the DC51, there's no one-touch PictBridge support, and no USB port. Canon's provided the same detailed menu as we've seen on their other camcorders; it's excellent, but the number of options will be appreciated by all, and the simplicity of those options will make even newbies feel at ease.

Although the zoom is slow and progressive (a good thing), the DC210 does have a slight issue at the long-end of its zoom—it simply takes too long to focus if the subject happens to be a bit closer. In fact, all the other camcorders—including its Canon siblings—were faster, making us wonder what exactly was causing the problem. While zooming on a subject 10 feet away, the DC210 actually took six to seven seconds to focus properly (this usually takes around four seconds).

The real issue with the DC210 is shooting indoors, that is, in less-than-ideal lighting, where graininess, noise, and colour casts become apparent.

At Rs 18,995, the DC210 is very affordable as far as a camcorder goes. The issue we see is the value/performance trade-off (an ever-present evil). Recommended if you cannot spend any more (it's a great buy for the price)—but it does lose out to the Sony DCR-DVD608E, albeit by a small margin.

#### Specifications:

1 / 6-inch CCD sensor (0.8 Megapixel); 2.7-inch LCD viewfinder (123,000 pixels); Digital (Electronic) Image Stabilisation; Weight: 400 gm





## Panasonic VDR-D160

### Basic, Painfully So!

Sporting a bright silver and dull grey colour tone, the VDR-D160 is compact for a Mini DVD camcorder. The sticker on the side sporting the 30X optical zoom moniker puts across a subtle statement rather than screaming style. Build quality is extremely good—even the slightest play from the Mini DVD drive bay after two weeks of usage. Even the outer surface treatment seems excellent—well-set to weather the passing of time.

If anything, we found ergonomics even better than that of the SDR-H20, which we'll harp about a little later. The Record button is a little closer to one's hand than on the bulkier HDD-based SDR-H20, as a result of which large-hand-

ed people will find their index finger and thumb getting cramped. If you've got smaller hands—perfect! The joystick has a nice positive feedback and works well. The simple menu is well complemented by the easy one-handed operation—others should take note of the way Panasonic has worked on usability; you never need stop shooting to access any of the menus. The SD card bay lock seems a little cheaply built, not like the SDR-H20.

Immediately, we noticed slight graininess while shooting indoors—there was noise that became apparent especially at the long end of the zoom. The IS system does work at up to 15x magnification, but at 25x and beyond, you'll notice small jitters—something which we couldn't notice on the SDR-H20. However, outdoors, with better natural lighting, this won't be a problem—and you'll hardly ever use the entire zoom indoors.

At rupees 19,990 the Panasonic VDR-D160 quickly establishes itself as an alternative to the Canon DC210 and the Samsung VP-D975Wi and while we can easily recommend it over the latter it gets neck and neck with the former. Of course danger from the excellent value for money

Sony DCR-DVD608E is ever present.

#### Specifications:

1 / 6-inch CCD image sensor (0.4 megapixel); LCD viewfinder 2.5-inches (105,000 pixels); Weight: 480 gm

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7   |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 6   |
| Video Quality (Indoors)  | : 5.5 |
| Video Quality (Outdoors) | : 7   |
| Photo Quality            | : 5.5 |
| Audio quality            | : 7.5 |

## Panasonic VDR-D220

### A Functional Performer

This one, the bigger brother to the VDR-D160, looks very similar and shares the subtle look that attracts without really meaning to. Beauty is in the detailing and the fine body sculpting here—Panasonic wins hands down in that department. Build quality is top-notch, something else the siblings share—once again, two weeks and never a creak could we get out of her.

The VDR-D220 has double the megapixel rating and also foregoes the cheaper Digital Image Stabilisation for the more effective Optical IS. However, the image sensor is very much the same at 1 / 6-inch—typical consumer stuff.

Sharing the same sensor should mean very similar performance—and it's easy to spot. There is noticeable graininess when shooting indoors, but to be honest, you're always going to encounter such issues with single CCD sensor camcorders. Noise is something we've become accustomed to indoors, and we found quite a good deal; once you're shooting in the bright sun, these niggles disappear. At the long end of the zoom, we found some minor issues with focusing: the VDR-D220 isn't as fast at getting into focus as is the Panasonic SDR-H20 or the Canon DC51. However, the optical IS system proves its mettle—it's marginally better than the VDR-D160 in this regard, though miles behind its HDD-



media-based sibling.

At a price of rupees 21,990, the Panasonic VDR-D220 makes a good buy—its better than the cheaper models, and has a good IS system. Highly recommend for its price.

#### Specifications:

1 / 6-inch CCD image sensor (0.8 megapixel); LCD viewfinder 2.7-inches (123,000 pixels); Weight: 510 gm

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7   |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 6   |
| Video Quality (Indoors)  | : 5.5 |
| Video Quality (Outdoors) | : 7   |
| Photo Quality            | : 5.5 |
| Audio quality            | : 7.5 |





## Panasonic SDR-H20

### When Beauty Meets Brains

"Drop dead gorgeous" comes to mind here. Although the SDR-H20 isn't as curvy as some of the other models, it has a unique shape—it's a little wide, but fits perfectly in the hand. Silver and black looks classy.

The menu layout is very simple, based around a single menu button and multi-function joystick that retains the intuitiveness. Even the menu button is conveniently located near the record button; in fact, none of the "essential to use while recording" buttons are located anywhere else but right under your thumb... in a word, brilliant! The zoom switch exudes a slick feel. There's a button on the viewfinder recess called "Power LCD Plus" that allows you to set the brightness of the LCD viewfinder in five stages. Our only gripe (yes... we always manage at least one!) was the bulky battery pack that sticks out of the back.

Since the SDR-H20 uses a massive 30 GB hard drive to store video, you won't need to be spending on media, or transferring video to your PC to clear up media space very often. Equally important, less moving parts makes for drastically reduced chances of a breakdown—anyone who's spent time with DV Tape based camcorders will agree.

As we'd expected, the SDR-H20's IS blew us away. Hand-shake is normal, but the minor jitter that is usually apparent at the



#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7.5 |
| Ergonomics               | : 8.5 |
| IS effectiveness         | : 8   |
| Video Quality (Indoors)  | : 7.5 |
| Video Quality (Outdoors) | : 8   |
| Photo Quality            | : 6   |
| Audio quality            | : 7.5 |

long end of the zoom (32x optical at the long end) was absent—excellent results as far as the effectiveness of the IS system goes. The zoom works very well in tandem with the optical IS system that Panasonic employs.

We were very impressed with the image quality that the SDR-H20 was able to provide both indoors and outdoors. At a price of 29,990, the SDR-H20 is an excellent product. Good output quality, an excellent IS system—the best we've tested, and a feature rich offering that looks as good in the flesh as it goes the SDR-H20 should be your only choice if you have 30K to burn.

#### Specifications:

1 / 6-inch CCD image sensor (0.8 megapixel); LCD viewfinder 2.7-inches (123,000 pixels); Weight: 430 g



#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7   |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 6.5 |
| Video Quality (Indoors)  | : 6.5 |
| Video Quality (Outdoors) | : 7/5 |
| Photo Quality            | : 5   |
| Audio quality            | : 7   |

## Samsung VP-DC575Wi

### Designer Looks, Killer Style

This Mini DVD-based camcorder looks the part of a super-model. A shape complemented with the right attire: dark and light grey tones never get stale, no matter how common they are. Completing the designer look is the build—solid to hold, in fact, better-built than its siblings. The button layout seemed unnecessarily complicated, though, and for the life of us we couldn't figure out the need for a Record button on the LCD viewfinder's outer frame. Once you get used to the button layout, however, the menu is very simple to get around. There's a 5-way joystick on the left that allows menu

navigation. The Zoom and Record buttons seemed very intuitively-placed, and feel excellent to use. So compact is the VP-DC575Wi that the zoom switch actually feels too close to your hand—a little cramped like the Canon DC51; of course, its forgivable since that model was much larger to begin with, and given the Samsungs compactness, we don't really have anything to complain about. There's a nicely-tapered, full-featured remote control unit for your convenience.

Samsung is known for brilliant LCDs, but we were a little disappointed with the viewfinder on the VP-DC575Wi.

The VP-DC575Wi allows still images to be saved to the memory card only—so your mini DVD will be used purely for video shooting. Indoors we noticed a little discoloration, especially around light pastel-like colours, which themselves had dappled sunlight falling on them—our window draperies to be exact. Although we found no casts, and although the IS system worked much better than those on the other two Samsung camcorders, we weren't satisfied with the amount of jitter that crept into our recordings. Once in bright sunlight, the jitter isn't very noticeable—this is a typical problem with nearly all consumer camcorders, which is why indoor testing is more important than outdoor testing.

At the long end of the zoom, noise was noticeable in all our indoor recordings—while this isn't apparent on the viewfinder during playback, the moment you connect your camcorder to any sort of large screen like a monitor or TV, it becomes glaring.

At Rs 24,500, the VP-DC575Wi is reasonably well-priced, and is suitable for a wide variety of tasks. Just don't buy it for a lot of indoor or after-dark shooting—you'll be sorely disappointed.

#### Specifications:

1 / 6-inch CCD sensor (1.0 megapixel); 2.7-inch widescreen LCD (112,000 pixels); Weight: 1.05 kg



## Samsung VP-D975Wi PAL

### Smooth Operator!

This is the best-built Samsung camcorder in our collective opinion, and it feels very solid to hold. The VP-D975Wi PAL uses DV tapes. The gun grey / dark grey colour combination has spawned a million followers, and Samsung doesn't deviate from the beaten path—why change a winning combination? Everything is very ergonomic, and the Samsung VP-D975Wi PAL seemed built for our hands. The menu layout is somewhat of a trendsetter—intuitive, well-laid-out, and simple to understand—you won't spend much time getting easy with it.

This model supports digital IS (as opposed to optical IS), which doesn't do much in the way of preventing or even minimising hand shake; even minor jerks are noticeable. We also

had issues with focussing at the long end of the zoom, where the sensor would focus properly and lose focus—and this would continue. Incidentally, this happened when focusing on on-screen text. Very irritating, but this might actually have been caused by the lack of a really effective IS system too.

The viewfinder could have been better, and after the Panasonic models, the Samsung VP-D975Wi PAL disappointed. The illumination assist bulb works reasonably well to a distance of 4 feet,

after which it loses effectiveness, particularly in dim conditions. Night Mode wasn't very effective on this camcorder, and we don't recommend the Samsung VP-D975Wi PAL if you plan on a lot of late-hour shooting. That said, indoor quality was pretty decent (but far from perfect)—there was noticeable noise, and some discolouration around certain objects. This was due to a strong yellow cast indoors at Auto

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7   |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 6   |
| Video Quality (Indoors)  | : 6   |
| Video Quality (Outdoors) | : 7   |
| Photo Quality            | : 6.5 |
| Audio Quality            | : 7.5 |

settings; once we used manual settings, we were able to rid the video of this cast, but the point remains that most users will shoot at Auto settings.

Rs 18,900 means the Samsung VP-D975Wi PAL is affordable, but a little expensive for a DV tape media based camcorder. Canon's DC210 makes a stronger statement at the same price.

#### Specifications:

1 / 6-inch CCD image sensor (1.0 megapixel); LCD viewfinder 2.7-inches (112,000 pixels); Weight: 1.05 kg

## Samsung VP-D371Wi

### Entry Points Never Were So Low!

The VP-D371Wi is Samsung's entry point to the world of consumer camcorders, although it doesn't look like a value part. On the contrary, the matte finish looks very classy in comparison to the glossy finish on the VP-D975Wi PAL—and if Samsung deliberately intended *matte* on the VP-D371Wi to look cheaper than a glossy finish, they failed!

Ergonomics are identical to the VP-D975Wi PAL. Interestingly, the VP-D371Wi misses out on SD memory expansion, which means any photos you take are saved directly to the tape drive, which isn't a good thing. There is no audio-out; you'll need to make do with an AV-out and a

#### RATINGS OUT OF 10

|                          |       |
|--------------------------|-------|
| Menu/OSD Usability       | : 7   |
| Ergonomics               | : 7.5 |
| IS effectiveness         | : 5.5 |
| Video Quality (Indoors)  | : 6   |
| Video Quality (Outdoors) | : 7   |
| Photo Quality            | : 5   |
| Audio quality            | : 7   |

FireWire port, the latter being mainly for PC connectivity, of course.

Despite its value orientation, the image sensor at 0.8 megapixels and the 34x optical zoom onboard won't really give its pricing away. While shooting indoors, we immediately noticed the lack of clarity, especially in improperly-lit areas (when we played back the output on our test PC). Sure, the VP-D975Wi wasn't that great either, but the price difference is noteworthy if we're talking about performance. The VP-D371Wi also has focusing issues; we found we couldn't focus on closer objects (up to 12 feet) when using more than 15x optical zoom. At the longer end of the zoom, we couldn't prevent jitter from entering the recording no matter how hard we tried; in fact, jitter became noticeable at around 25x, and by 30x, you won't feel like zooming in further. There's also a lot of noise present, and we noticed a slight yellowish cast under fluorescent lighting.

The VP-D371Wi is damn cheap (Rs 13,900). However, compromising on price invariably compromises on quality as well—in this case, quality of output. If you consider that the Samsung VP-D371Wi is in a price league of its own and if your wallet is severely constrained then *go buy it!* If you had a larger budget to begin with, don't change your mind looking here.

#### Specifications:

1 / 6-inch CCD image sensor (0.8 megapixel); LCD viewfinder 2.7-inches (112,000 pixels); Weight: 1.05 kg







Ahmed Shaikh

I knew I was in trouble the instant I met her. No, that's not entirely true—even before we met.

My office lies in what can generously be described as the ass end of the city. It's all I can afford, but while space might go for a premium in this age, technology has never been cheaper.

The first I knew of her was through my custom RSS feed. The feed updates itself with the names and details of any person who pings or queries for me on the Big G. I installed it to tweak my avatar for greater visibility in the social matrix—the idea was to ensure that keywords by potential clients would lead them straight to me and not to competition. Since then, I have tweaked it further. Through it, I can now learn everything about anyone who would ping me online: every detail of a person's publicly-shared personal, professional, and medical history would be laid bare even before said person had added my waypoint to their communicator.

The Big G maintains a profile on everyone that queries it. And everyone does. It is, after all, the only source of information familiar and accessible to most. While none of the personal information is meant for public consumption, it only takes a few weeks of hacking to spider the threads of information off the Big G. Not close to legal, but it keeps the money rolling. While my feed

scrolled all manner of information on her—tax returns (or lack thereof, I wasn't paying attention), phone bills, credit card transfers, travel details, grocery lists, blog entries (I detected some crappy poetry here)—what really caught my eye was her image feed. She was all legs and curves. My eyes just flowed off her and kept coming back for more. I pressed a button on my communicator and the thousands of images comprising her feed—taken by herself, or friends, love interests, or otherwise—were stitched together by software, real-time, and into a three-dimensional image. Her body seemed to shimmer with a hundred different dresses as I moved the 3d image and the compositor compensated by stitching dozens of images per second. Gorgeous!

My communicator buzzed for attention: she was now moving and visible via GPS on the Geo Map. As her communicator beamed her position skywards and into the data web, I could tell that she was a kilometre away from my office but thankfully drowning in unforgiving traffic. I was ten minutes away myself, enjoying a vada pav. Before she would get there, I needed to clean up the mess that was my office. I rang up my office's AI, gave it instructions to clear the pizza boxes and half-eaten schezwan meals, and tried my best to ignore the 30-second advertisement for fully-automated maid-bots which was inserted in the middle of the call.

Communicators are freely distributed by telecoms. These otherwise nigh-unaffordable pieces of hardware are given away for 'nothing'. Since no lunch is for free, their costs are recuperated via ads. Lots. Of. Ads. Rumour had it that a telecom made back the money in the first week of operation itself, thanks to the glut of

advertisements bombarded over the data waves. If communicators weren't so indispensable, the ad traffic would be considered a crime. This would change with time—the telcos knew—the ads would fade from annoyance, to irritants, to normal.

After the ad-dled call, I cursed myself for not buying that softmod I had pinged yesterday. It was being hawked by a Chinese hacker of some infamy. The mod would disable all ads, apart from adding some nifty features to the communicator (such as projecting a caller's face as a hologram—Star Wars style!). I wasn't averse to illegally hacking the communicator, my reasons were more practical—I simply could not afford it. The comm chirped for my attention again: she was due in six.

With a quick flick of the wrist I turned my comm to its side and aligned its handshake pod with the vada pav stall's credit pod. The two machines talked in chirps and beeps and after 1.5 seconds I had paid Rs. 200 for the vada pav. With this cheap breakfast inside me, I briskly made my way back to the office.

There is a trick to living in 2020. Information is pervasive—the air at times literally crackles under the weight of the bits and bytes. At any instant you are likely to be bombarded by everything from global and local news events, to ads, to messages broadcast by people like so many classifieds in the wind: people looking for a date, or for cheap tickets to the latest concerts, or to sell their chinaware collection, or looking to satiate every vice and habit imagined, or best left unimagined. It is a data jungle out there. The trick is to ignore.

I believe the communicator to be the cause of this malaise. It is literally the hub of one's digital life and since the digital and organic are so blurred in this age—it defines you. With the communicator, you can satisfy all your social, emotional, and physical needs: you can post blogs, invite friends, shop and make purchases (both locally and globally), ask for remote diagnoses and medication if you are sick, take photos,

shoot videos, virtually visit far-off places, and oh-that little feature about being able to call other people up-up to six people simulcasting; either voice-only or voice and video feed simultaneously. It's a marvel of engineering and at times I hate it for being so effective at what it does.

Maybe I am just getting old. As I neared my office building, the communicator chirped (again!)—this time blinking red to indicate low power. Sigh. Batteries never did catch up with the insatiable hunger of such a portable monster. The problem was successfully ignored when one enterprising company introduced the charging stations: you never really owned your communicator; you were always borrowing someone else's unit. When a communicator ran low on power, you simply dumped it to a charging station and picked up another! Since your personal data was never local but pulled from an online bank—no matter whose comm unit you picked, it was always yours: its data port shook hands with an RFID chip embedded just under your skin; what followed was an authorization, and then a data download at about 1 GB/s, and voila—your communicator never left you!

Only the paranoid and the rich would invest in a personal comm unit, the rest of us were quite happy dancing this communal dance.

My office. The door automatically opened after a two-stage authorization process: it first talked to my RFID chip to confirm ownership and payment of rent, for the second step it scanned my hand for prints as I turned the doorknob. The prints were checked for my identity and for any criminal flags raised by Central. On an all-clear, the door was opened. The entire process took two seconds.

Traffic had played its part in further delaying my beautiful and future client. Time enough to settle down then. I gestured to the data-wall and the news that was erstwhile playing, switched off. I then called up the office AI—actually, AI was a rather generous label, it was little more than a glorified home automation system—the AI



chirped acknowledgement as I asked it to play some Bach. Tocatta and Fugue in D minor. Normally, the music would stream since it was rare to own physical media in this digital day, when even local storage drives were uncommon. Bach however, owned me, and I merely returned the favour.

About 30 seconds into the piece, the AI notified me of a request to take part in a virtual concert. The request was from a friend, and while I would have normally jumped at the chance to play a piece of organ music, I had to decline. My client was fast approaching.

Instead, I sat behind my desk and slapped my communicator on to the hand-rest of my chair: it instantly dumped all data points to my desk and shut itself down, charging.

My desk's surface is a giant OLED screen, arrayed with projectors and capable of taking in multi-touch inputs. It allows me to interact with data in a more tactile manner, something a computer of old could never offer.

It now showed a river of media, a torrent of data feeds around my pretty client. I resisted the urge to do a more thorough image search and chose instead to ping her social aura. It was bright! She must be really popular in the social matrix for her aura to shine so—easily a 10 on the social scale. If I could make a positive impression on her today, her e-prop would surely be a huge boost to my business. I needed to make a good first impression.

I turned up the Bach and decided to pull in data on the government versus Big G case that was the raging meme online. The government was trying to shut down public access to data gathered from satellites; the argument was one of national security. The issue had thrown up all manner of discussions, all revolving around the ubiquitous nature of data—from personal privacy, to information terrorism, to freedom of information. While I hadn't exactly followed the intricacies of the debate, I planned to quickly skim over its entry on WikiWiki—it would be enough to pretend thorough knowledge and

# 2020

## A love story





impress the client. I loved the data stream! And so did, I imagine, thousands of students and researchers the world over, who no longer had to actually 'research' or truly understand a topic, to write a paper...

Too late! Here she comes...

A soft knock. I hurried to the door, smoothing my shirt and adjusting my tie. I opened the door and there she stood-radiant! She brushed past me and stepped into my office without invitation. Ah! The luxuries of youth! This part was crucial. Everything depended on the next 30 seconds; research was conclusive on the matter. I calmed myself, brushed my right palm lightly against my pants to dry off the sweat as I offered it for a handshake, "Hi, welcome to Bell service center 007. My rep ID is 711. How may I be of service?" Smooth delivery, textbook perfect!

Instead of a friendly smile, as was the predicted result, the woman's lips (full and kissable as they were) turned to frown. DOOM! Sweet, Bountiful G, where did I go wrong?! She then reached for her breast pocket and pulled out something flat and rectangular. It was a visiting card. How quaint! She must be really rich. I suppressed an urge to grin.

The card identified her as Miss Ekta Kaput, producer of the hit show *Kyu ki Al bhi kabhi BAI thi* my eyes swam in tears. I was in the presence of a celebrity! My social matrix will surely gain a few levels thanks to this, but how did I miss this detail from my feeds. No time for that... "How may I be of service Miss...", "...Drop the script", she said plainly and helped herself to a seat, casually playing with her long, silky, and surely pleasantly-smelling hair. Sigh.

I slapped her card on to my table and the table greedily scanned and assimilated her contact details, synching it with my online data repository for anytime / anyplace access. I slowly descended into my chair, maintaining an air of dignity and hoping that this divine integration of curves would notice and appreciate the Bach... "Turn that insipid noise off!" Ah. The thought to strangle her lived and died as briefly as a particle-antiparticle pair in quantum space. If jobs weren't so hard to come by, and even harder to keep, in this ever-implosioning global market—I would have told this... thing... just what I thought of the mental-spam that masqueraded as her show.

No one insults Bach!

"What do you want?" I asked instead, through clenched teeth.

"I have a problem..." I noticed her slightly yellow teeth for the first time; disgusting creature—"...my search queries indicate that you are the only one old enough to be able to help me." Did she just... "I recently bought..." "Call me old! Why, that little..." "It is a gift for..." She had such awkward cheekbones "...Ebay..." And I think I saw the ghost of a moustache. Eww. "... It seems broken. I want it fixed by New Year's..."

I nodded, not really listening to her babble. She sat with a blank expression. I stared back. Silence stretched. Old, it seems...

"So?"

"What?"

"You coming?"

"Sorry?"

"TO FIX THE MACHINE"

"Ah, yes"

I pushed back on the chair, slapped its side to release my comm and twirling it between my fingers, I holstered it on to the Velcro patch on my right thigh as I stood up. It was Clint Eastwood cool—a move that any Bach-loving lady would have melted at the sight of. But not this wicked witch. No sir.

Just then, a thought struck me: this could be potentially dangerous for me and my career. She had mentioned search queries just before wrongly categorising me as old; a query could spell trouble. You see, I, err, have indulged in information engineering in my recent past. Everyone does it! It's just a little white lie and the only way to maintain a decent standing in the social matrix. It's like lying about your weight or your age, so what if I had falsified professional information comprising my online avatar? I could be out of a job, that's what-in jail for a few months, and fined to boot—that's what! I could be in trouble. It all hinged on my ability to be able to repair this machine of hers. If it was... no, it couldn't.

Those things were ancient beyond age.

I began to sweat.

We stepped out of my office and into her car. Her driver drove us home while she wordlessly put on a VR band and logged into another world. The WHEEE VR unit is not "virtual reality" as defined by sci-fi flicks of old, although it intentionally borrows its design from a popular movie. The WHEEE is merely a portable game console which projects an MMORPG in front of the player's eyes. Player movement is controlled by motion sensing RFID chips. Judging by the level display on her helmet, the Bach-hater here had been playing this game for quite some time. No wonder she was so fat and ungainly!

Before long, we reached her place. I was too pissed to be impressed by her opulent bungalow and its verdant grounds.

You could call it a home, if you had no taste.

She led me inside, without a word. We took an elevator to the sixth floor, without a word. It opened to a thickly-carpeted corridor which ended in a red door. We walked towards the door and she stopped inches from it—"this is the room where I keep it. I want it fixed." I looked into her eyes and saw equal parts trepidation and frustration. She seemed so vulnerable, so huggable; maybe I had judged her too harshly.

She opened the door to a Celine Dion song—my heart will go ooooooon. The bungalow suddenly seemed an abomination—a twisted Taj erected as a monument to bad taste. Maybe I ought to burn this place down.

"Please," her eyes implored, "fix it". I surveyed the room, tried to drown out the music by mentally reciting Pi to its 100th decimal place. The machine sat in the middle of the room, with wires sprouting from its body and snaking every which way. It was a computer! An old model too, judging

by the metal decay and its cathode ray display. Nothing seemed wrong to my trained eyes.

"What's wrong with it?"

"WHAT DO YOU MEAN WHAT'S WRONG? CAN'T YOU SEE THAT IT'S BROKEN AND STUCK?"

I slowly turned, taking in each element of the room. I still couldn't... WAIT A MINUTE! I had seen its kind before. As a kid I had spent a healthy percentage of my life staring at them. Could this really be her problem? "I don't know what's wrong", she interrupted: "Sometimes it says 30 minutes remaining, sometimes it says six minutes remaining, and then it jumps back up to 30! 30 MINUTES REMAINING FOR WHAT?!"

I nodded sagely. It was a progress bar. This one was indicating some sort of installation process. This half-brain, tasteless client of mine was obviously too young to have ever seen one.

In 2020, progress bars have given way to progress—software was no longer installed. Indeed, personal computers were an archaic concept. Software was everywhere and immediately available on the massive data-grid. The personal computer had broken up into a hundred different network-aware appliances—be it communicators, data-walls, furniture, or one's clothing! To a creature of this age, a progress bar would appear alien. This was her problem? THIS? I wanted to break into laughter and rub her smug face into her lack of knowledge, but isn't it written—"Verily! Your ignorance is my job security".

I put on my best tech-support face, dropped my voice to the softest possible timbre "this is indeed grave. Please leave this room immediately". She began to protest but I silenced her with my tech-support eyes "I am a veteran of the 2015 Data Wars, do as I say and without question," her eyes shone with awe at this lie—a necessary fabrication to garner more hits and pings. "How long?" I looked at the progress bar—it said 24 minutes, I asked her to leave for an hour. Should be time enough. "But will you..." "Yes." She hugged me then, out of relief. God, she smelled great. "Thank you", she said and flowed out of the door. Beautiful!

I closed the door gently, picked up a packet of chips from a nearby counter and plopped myself onto a comfy sofa. I planned to do absolutely nothing for the next hour. *My heart will go on* gave way to *Nothing's gonna change my love for you*.

I looked at the progress bar and couldn't help but laugh. ■

[readersletters@jasubhai.com](mailto:readersletters@jasubhai.com)







With ever growing media collections, organising it all can be a real pain. Or not...

# Can I Play With Madness?



Can I play with madness, The prophet stared at his crystal ball,  
Can I play with madness, There's no vision there at all,  
Can I play with madness, The prophet looked and he laughed at me,  
Can I play with madness, He said you're blind, too blind to see...  
—Can I play with madness, Iron Maiden

Robert Sovereign-Smith

With gigabytes (sometimes terabytes) of digital media files on the average PC today, we all have trouble making sense of the clutter. For most of us, sorting ends at segregating video from audio and storing them in different folders. Then one day you're in the mood to listen to that favourite track, and you can't find it.

Those who use Windows Media Player (or iTunes, etc.) can still get away with this by just letting the media player search through the hard drive(s) for media files and add them to the library. Unfortunately, when media files are scattered across the place, some of them inevitably go missing. While installing a large game, copying more media from friends, downloading those HD videos, and so on, you end up seeing the infamous "...running out of disk space on..." error message. So what do you do? Promptly delete folders you *think* you don't need. Then you start seeing errors in your media player, and some of your favourite videos or songs have gone missing... Now although modern media players try to take away the hassle of organising for you, it's not wise to allow them to spoil you. The scenario can be even worse if you end up deleting some important work video, or the background MP3 for your latest presentation...

## No Vision There At All

That's for all of us, let's admit it. We have neither the time nor the inclination to sit around searching through our hard drives looking for audio and video files and then sorting them into folders. As usual, we want software to do this for us. The problem is, can software do this satisfactorily? Sadly, the answer is no. Software can help, but it's not going to take over your thinking process just yet.

There is one basic problem with organisation—one user's organised files are another's mess. The best way to illustrate this is to look at the way two different people might want to organise, say, their music collection. One might want to organise the collection in a traditional way—Artist > Album > Song. The second person, however, might prefer Genre > Artist > Album > Song. Some of you might even just like to sort music into, say, moods—Fun Stuff, Head-banging, Mushy Stuff...

Since it's your media collection, you should first sit and decide how you want to sort it all. Remember, even if you sort it all the traditional way, you will probably use a media player to play it all back to you when you want it, so it really doesn't matter that much unless you add and subtract from your collection on a regular basis. For those of you with multiple hard drives, you might want to take the planning a little further and sort media to different hard drives—all audio to D:\ and all video to E:\, or something like that. Some of us like to plan the organisation process with even more gusto—making sure all the videos are on the 7200 rpm SATA hard drive, while it's OK to store music on the IDE drive...

## The Prophets

You're in dire need of help. You've probably been looking for software to help you out



MediaMonkey is available as freeware and as a paid version. If you're regularly ripping and burning, and adding to your collection, the paid version is worth it at Rs 800



## Sorting Everything

A lot of us have not just media, but everything lying about in utter chaos—documents, installers, Zip files, media, Web pages, flash movies... the works. MediaMonkey will not be able to help you here. However, for Rs 1,600, you can get Universal File Organizer (UFO—Unidentified Filed Objects?) from [http://www.mp3musicorganizer.com/about\\_UniversalFileOrganizer.html](http://www.mp3musicorganizer.com/about_UniversalFileOrganizer.html), which will do the job for you. The trial version is not crippled, so you can actually use it, but we warn you, it's quite irritating—the trial version only sorts 100 files at a time, and then pauses for 10 seconds, then 20, then 30... you get the picture. If you have thousands of files to sort, using the free version will take quite a while—mainly because after 1,000 files, you have to wait two minutes or more to be able to click continue. The software does its job beautifully though, even sorting the audio just as well as MediaMonkey.



already. For music, there's MediaMonkey—it's famous, and with good reason too. What most people don't know, however, is that by installing a plugin built for Winamp, you can actually get MediaMonkey to sort and play video files as well.


First up, get MediaMonkey from [www.mediamonkey.com](http://www.mediamonkey.com). Then, find your way to <http://rc4wa.narod.ru/download.html>, and

download the VID4WA plugin. Install MediaMonkey (MM) and unzip the VID4WA plugin to the MM plugins directory—usually C:\Program Files\MediaMonkey\Plugins\.. You can use the free version of MM, but the paid version is a mere Rs 800 and gives you a lot of added functionality: it monitors folders and automatically updates the library, lets you sync with portable devices and provides on-the-fly format conversion (important for an iPod sync), provides CD burning up to 48x, and much more. If organising is all you're interested in, the free version will do just fine.

When you start MM, it asks you to specify folders to search for audio. If you unzipped the VID4WA plugin to the right place, you will also be able to select video file types to search for. If you have no clue where your files are, just let MM search through all your hard drives.

Let's tell you what we did to test MM.

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## Blind, Too Blind To See...

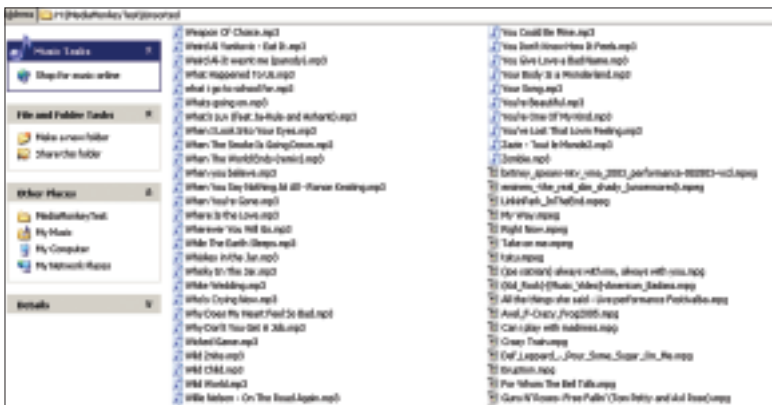
We created a folder, dumped all the stray MP3s and videos we had into it, and then went through it carefully to gauge what problems MM might face when sorting it all. We had a few duplicates, with just a letter or two differing in the filename. As with most MP3 files, ours were very poorly tagged—with some field or other missing in the ID3 tag. Then there were the videos, which were random enough to confuse anyone. Overall, we ended up with over 900 files (5.5 GB) of pure chaos. We then scattered these files all over our system's six partitions.

We started up MM, told it to search all drives, set it to search for audio and video formats, and then let it search. It found every file, but then this was expected. We then decided to first organise all the files by bringing them all into one folder (again).

After selecting all the files in the library, Tools > Auto-Organize Files... (or [Ctrl] + [R]) brought up the box we wanted. MM uses tags to denote variables—<Artist> for the artist, and so on. You can organise files easily this way by providing it a path to organise your files to. In our example we used "H:\MediaMonkeyTest\Unsorted\<Filename>". It recognised all the duplicates, and asked us to rename or specify a different path to organise those files to. We just unchecked one of each duplicate to ignore them—they were easy to spot, since they were highlighted in red.

Getting back the unsorted collection from across six partitions. We still did end up with a (very) few duplicates because of spelling errors in both the file name and the tags

Next we decided to try and properly sort the files. We chose H:\MediaMonkeyTest\



Getting back the unsorted collection from across six partitions. We still did end up with a (very) few duplicates because of spelling errors in both the file name and the tags

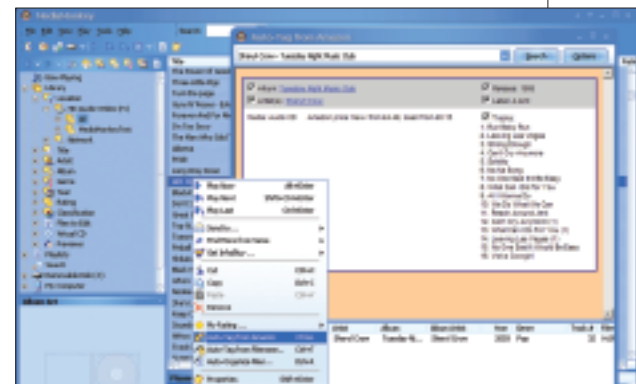
Sorted\<Artist>\<Album>\<Title> as our destination directory, and let MM do its thing. We ended up with over 500 folders! Apparently, ID3 tags can really play spoilsport. We brought all the files back to the "Unsorted" Folder and decided to see what would happen if we took a little trouble fixing ID3 tags first.

We also tried out MM's "Auto-Tag from Amazon" feature ([Ctrl] + [L]), which



seems to work only if both the artist name and album name tags are correct. Sometimes it did work with just the album name, and just never got the right results when the ID3 tag had no album name. What was good, though, was the fact that popular music was easily found, and a complete ID3 tag, including the album cover, could be added by just a single click per song.

After we found all the tags we could, and filled in the blanks in the ID3 tags with Unknown (if artist, album or song name were missing), we tried sorting again, and found that we had just about 430 folders this time—very



Using the tags from Amazon only works if the existing ID3 tag has an album name

good considering that our collection was filled with random stuff by around 450 artists anyway.

## Yes, You Can Play With Madness

When it comes to organising, there's nothing left to say—we told you it would be easy. Remember, if you have your media files strewn about across several hard drives, MM is a very quick fix. If you really want to sort your collection immaculately, gather it all in one place and then use MM to quickly and easily edit ID3 tags and tag your music correctly—[Shift] + [Enter] in the library view will let you edit tags while browsing through your collection. If you do the tagging right, MM will sort it flawlessly for you.

Now apart from being able to organise your media collection, MM is also a very good audio player. With an interface that's not much different from any of the popular media players, you really should give MM a whirl!

robert\_smith@thinkdigit.com





Your Questions, Our Answers

Questionable licenses and truant uninstallers—all dealt with right here!

### Kaput...?

**Q** I have an MP4 player on which I store media, but I am not able to play them. The keys simply do not respond.

**Ashish Bhatia**

**A** Check if the Hold switch on your MP4 player is set to the On or Lock position. If so, Unlock it. If this doesn't work, try to reset your MP4 player using the reset switch. And if that doesn't work, you may need to get it replaced.

### Old Things, Old Ways

**Q** I have a Polaroid Fun Flash 640 digital camera. I'm unable to download photos to my PC.

**Rakesh Shreshta**

**A** Turn off your PC and any peripherals such as scanner, printer, etc. Connect the camera to the PC using the serial cable. Connect the AC adapter to the camera to turn it on. Turn on your computer and turn on your camera. Double-click the PhotoMAX icon on your Desktop to open the Polaroid PhotoMAX image maker software. Click Get photo. Click From album or camera, then Download from camera. It should work.

### Very Communicado!

**Q** I want to access my e-mail on my Internet-enabled Java mobile phone. How do I go about this?

**Parag Desai**

**A** Flurry is a free mobile e-mail client that lets you send as well as receive e-mails on a J2ME mobile phone with a GPRS connection. Download and install it from [www.flurry.com](http://www.flurry.com). You need a valid e-mail address to register Flurry. You can add e-mail accounts either



Check your mails using Flurry on your mobile

at the site or from your phone—POP3, IMAP, or Webmail.

### Step By Step

**Q** I got the Largan Chameleon digital camera free as part of a Digit subscription offer. The problem is that my Windows XP PC refuses to recognise the camera.

**Shriniwas Sharma**

**A** You have probably installed the camera the wrong way. Uninstall the drivers you installed. Open the Device Manager and select View > Show hidden devices. Look for any unknown device, right-click on it, and click on Uninstall. Restart your computer and install the drivers for the camera from the accompanying CD. After the installation is complete, connect the camera to the PC and turn it on. Your camera should now be recognized by XP as a removable drive from which you can copy the photos you clicked.

### Modus Operandi

**Q** When I connect my MSI P610 media player to my PC, it does not get recognised as a removable drive, and I am not able to view the songs on it or modify its contents.

**Keshav Sinha**

**A** The MSI P610 has two modes of connecting to the PC. The first one is known as the MTP or the Media Transfer Mode, in which the player is recognised only by Windows Media Player 10 or higher as a media playback device. You can synchronise it only using this player. The second mode is known as MSC or Media Class Storage mode, in which the player is recognised as a removable drive. These modes can be selected from the setup menu of the player. You should select the USB mode to MSC to recognise the device as a removable drive.

### Sloth!

**Q** My Sony Ericsson K750i has become noticeably slow over the past few months. Even when I switch it on, it takes a long time, sometimes up to two minutes, to start. I have a 2 GB memory card. What could be slowing it down?

**Chetan Raghuvanshi**

**A** Your phone could be slowed down because of many different reasons. The phone slows down as you install more and more applications and games. It is a good idea to delete applications and programs that you do not use. Move the programs to the memory card after installation—by default they get installed into the phone memory, which is not much. Try not to use animated wallpapers: these consume a relatively large amount of memory.

Scattered data in the memory card is also one of the reasons why a mobile might slow down; try removing the memory card and start the phone. If it starts faster, this is the cause of the slowing down. Delete unnecessary data from the memory card, back it up to your hard drive and format it using the phone. Copy back the necessary data to the card. ■

### Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to [sos@jasubhai.com](mailto:sos@jasubhai.com), and we might answer them here! Since we get many more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!





# Make Your Own Flash Diffuser

In order to get professional looking photographs, you need to manage your flash better

Samir Makwana

Clicking pictures is a favourite pastime these days, and everyone and their uncles own digital cameras. Most of us here at Digit have entry-level cameras, which do their job quite well, providing you shoot outdoors or in brightly lit scenarios. A lot of us seem to have one complaint: why can't we get natural looking photos when using the flash?



Here's the over-exposed picture that we showed to our photographers



This is the end result using an ice cream cup, while below is the result where we used a cigarette pack to diffuse light



You can see the difference in skin tones when you cut out the harsh flash

We took a picture of a willing colleague, and enlisted the help of our in-house professional photographers to find out what was wrong. We were told that the photo was over-exposed with too much light from the flash. We decided to solve this problem once and for all by making a flash diffuser, and made sure we did it in a cost effective way. This was to ensure that anyone of you could replicate it at home quite easily. In what follows, we'll walk you through what we did.

## Getting Started

We came up with two ways in which to go about making our own flash diffuser: the first involves using an ice cream cup, while the second uses a regular cigarette packet. We're going to tell you how to go about doing both so that you can choose the solution that you find easier.

## Equipment

- Transparent Ice Cream Cup / Cigarette packet
- Scissor / Paper Cutter
- Butter-paper / Aluminium foil
- Cellophane tape (transparent or translucent)



**STEP 1:** We sliced off the base of a transparent Ice-cream cup. For the cigarette pack, we



Chop the cup's bottom to open up at one end



Slice the bottom of the cigarette pack open

sliced off the bottom of the packet using a paper cutter.



**STEP 2:** We then cut a piece of butter-paper to fit the cup and pasted it on to the inside using cellophane tape.



Place a suitably cut piece of butter paper



Stick the butter paper properly using cello-tape

We removed the silver foil from the cigarette pack, cut aluminium foil and pasted it on the inside.



**STEP 3:** We lined the lid of the ice cream cup with butter paper; if you have one without a lid, just cover the opening with butter paper.



The top cover also needs some butter paper

A little smoothening of the aluminium foil and the cigarette pack diffuser was ready.



Fix it proper



Line the cigarette packet with the aluminium foil



**STEP 4:** We then mounted the cup flash diffuser on the pop-up flash of the camera.

The cigarette pack flash diffuser has the advantage of being adjustable so as to offer us more or less flash as per requirements.



Mount the diffuser properly on the Digi SLR



Mount the cigarette pack diffuser properly



Your flash diffuser is ready!



Here's the effect we got when lining the inside of the cup with coloured gelatin paper

## The Results

Both the flash diffusers were a snap to make. The resulting photographs are displayed at the beginning of the article so that you can compare the differences. All pictures (before / after) were clicked in exactly the same ambient lighting within minutes of each other. You can also use coloured gelatin paper and line the insides of your cup diffuser to get some psychedelic filter effects. Happy clicking! ☑

samir\_makwana@thinkdigit.com

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McCam/B/Intel c/464/07





## WINDOWS MOBILE 5

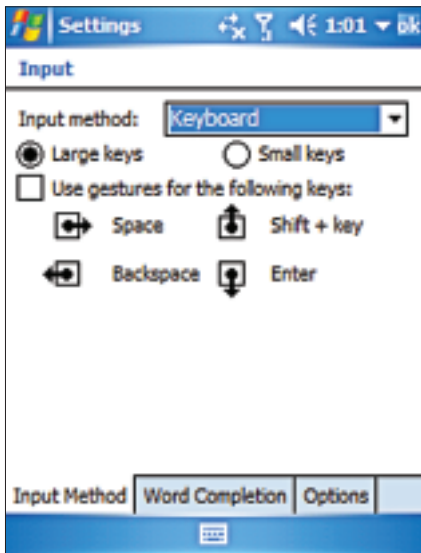
Prices for Windows Mobile phones have dropped well under the Rs 15,000 mark, and there could be no better time to get you one. Here we are, back with more tips for your Windows Mobile 5 handheld.

### Multitasking

Multitasking in Windows on a Desktop is no problem, but with Windows Mobile, what do you do? Go to Start > Settings > System > Memory > Running Programs. This is a really long way to do this. Probably the easiest way to switch programs is download a third party application such as Vbar, from [www.vieka.com/vbar.htm](http://www.vieka.com/vbar.htm). Uncompress the ZIP file and run it. On your mobile you'll be asked where to install the program. Start vBar from Start > Programs. You'll see a small icon at the right top of the screen. Click on it and you can quickly jump to any application—or easily close one or all the programs.

### Getting A Bigger Onscreen Keyboard

For PocketPC users without a QWERTY keyboard, you'll be stuck with the touchscreen keyboard which, although fairly easy to use, has really small keys. There is an option to enable a bigger version of that keyboard. Click on the drop-down menu at the centre bottom of the screen. Click on Options. From the dropdown menu for Input Method,

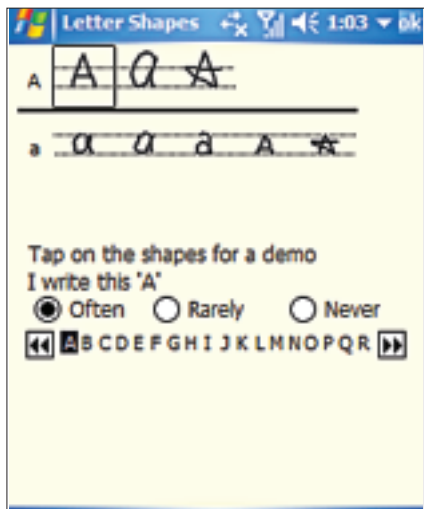
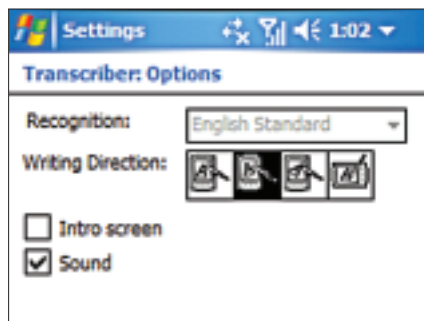


The larger keyboard in Windows Mobile is best suited for typing text messages.

select Keyboard. Click the Large keys radio button, then OK. You will now have the larger keyboard without the numerical keys. To access the other keys, click the 123 button.

### Getting Transcriber To Work Better

The transcriber is easy and a very quick way to type in text, but most people don't find it to be very accurate. There are few things you can do to improve this. First enable the Transcriber by clicking on the drop-down menu of the input icon at the centre bottom of the screen. Click on Options in the same menu. Click on Options for the Transcriber. The first thing you tell it is the direction you normally write on it. Choose from one of the four options. Then click on the Inking tab. Click Match Letter Shapes to your writing. Here, for every letter, you can select the style that you write in, and you can



The transcriber can be tweaked to your writing style

select whether you always use that style or sometimes or never. Do the same for all the letters and for upper and lower cases. When done, you can choose to save that profile by selecting File, entering a filename, and clicking Save.

### Alternative Browsers

There's Internet Explorer on your Windows Mobile phone, but you can have third-party browsers installed. Two of the most known ones are the Opera Mobile browser, which is commercial—but it supports tabs. The free alternative is Opera Mini, a Java application. The latest release is 4, and can be downloaded for free from [www.operamini.com](http://www.operamini.com).

### Disable SMS Sent Confirmation Messages

You can disable that message by making a few changes to the registry. Download a registry editor for Windows mobile such as PHM Registry Editor (<http://www.phm.lu/Products/PocketPC/RegEdit/>) or Mobile Registry Editor ([http://www.breaksoft.com/Blog/Utilities/2005/1/Mobile\\_Registry\\_Editor.aspx](http://www.breaksoft.com/Blog/Utilities/2005/1/Mobile_Registry_Editor.aspx)). Once you have one installed, go to HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Inbox\Settings. Here, double-click SMSNoSentMsg Dword and enter its value as 1. To enable it again, set the value to 0.

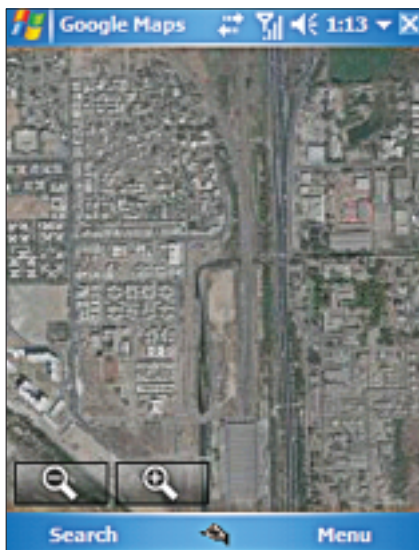
### Getting Rid Of Entries In The Start Menu

Sometimes, you might uninstall a program without shutting it down completely, or something might go wrong during the uninstall process—and you end up with an item in the Start menu that doesn't work. You could reinstall the program and then uninstall it again. The other way is to use the File Explorer and delete the entry from the \Windows\Start Menu folder. You may have to remove the entry from the registry as well.

### Converting Your Phone Into A GPS Unit

Standalone GPS units are costly—normally well over Rs 10,000, but Bluetooth GPS receivers are much cheaper. Some of the cheapest GPS units can be around Rs 1,400, although availability in India can be a problem. Be sure your phone has Bluetooth.

Turn on the GPS receiver and the Bluetooth on your phone as well by going to Start > Settings > Connections > Comm Manager, and



Google Maps is one application that works well with a GPS receiver by guiding you everywhere you go.

then clicking on the Bluetooth icon. Next, in the Connection Settings window, click on Bluetooth and then on the Devices tab. Click Add new device... The phone will look for any Bluetooth devices in the area. Click on your GPS receiver and click Next. Enter a name for the device and the service—Serial Port, and click Next. Now click on COM Ports and then on New Outgoing Port. Select the device and click Next. Choose the port and click Finish.

Your GPS receiver setup is complete. Install free GPS software like Google Maps to show your location on the map. You will, obviously, need a GPRS

connection to download the maps. In Google Maps, select Menu > Track Location, and a little glowing circle will appear at the location. Select Menu > Track Location Settings to set the port and the baud rate manually if Google Maps doesn't detect it automatically.

## SYMBIAN S60

Symbian leads the mobile phone OS market—much more than Microsoft with its Windows Mobile platform—mostly thanks to the complete domination of Nokia and Sony Ericsson in the Indian mobile phone space. Almost every mid-ranged phone has the Symbian S60 OS running on it, which is why we've compiled yet another list of simple as well as advanced tips for it. We tried these out on a Nokia N73, but they should work just fine with almost all Symbian S60 based phones.

### Select Apps By Pressing A Number

Launching applications is a pain, and scrolling through the list using the joystick makes it even more painful. When you switch to the main menu, the easiest way to go around applications and run them is to directly press the number of the application. For example, the left topmost application is 1, the right topmost one is 3, and so on. If you don't like the grid-styled view, you can move to the list view: go to Options > Change View > List. The shortcuts can be used here as well, with the topmost item being 1 and the ones below 2, 3, 4, etc.

### Quick-launching The Media Player

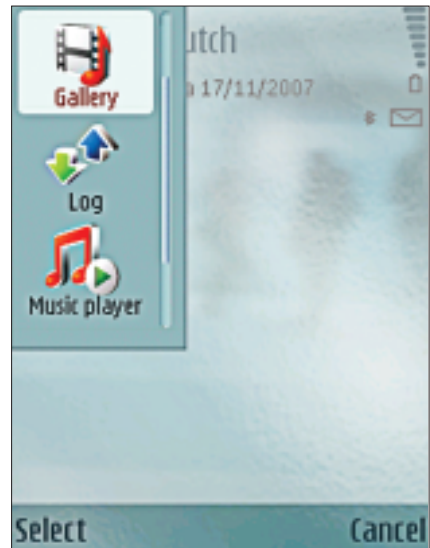
On most Nokia phones, you'll find a dedicated Media button which, when pressed, gives you the list of multimedia applications. To launch your default media player, simply hold down the key and it will open directly. You can go about adding music tracks and playing them.

### Launching The Browser Using A Single Key

Many phones have a dedicated Internet button. The (i) button on some phones might not do much other than entering the number. Hold down the same button for a longer period and you'll find that the default browser loads up.

### Multitasking In Symbian

We love to Alt-Tab between applications because it makes life easier—it's lucky Symbian-based phones have this feature as well. The Menu key, which normally launches the menu of applications, if held down for a longer



Multitasking is built into most Symbian phones

period, shows a list of open applications currently being run (on the left). You can scroll and use the application, and shut them down if you want to.

### Entering A New Line

While we type messages or notes, we often want to start a new paragraph or new line. Pressing 0 only enters a space, and if you press it again, the number 0. To start a new line, press the 0 key thrice!

### Voice-mail Setup

The default key for voice mail is 1. Hold down the 1 key and you will be able to access your voice mail. It's very likely it won't be set up by default, so the first time you do this, you'll be required to enter the voice mail number.

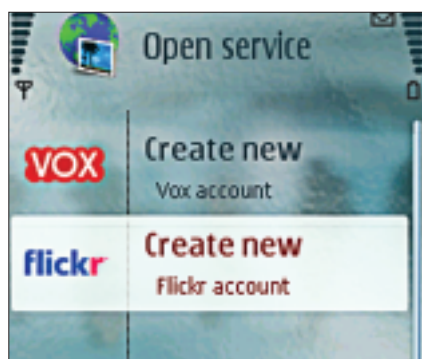
### Speed-dial Setup

Speed-dial numbers are a single-button-press shortcut to call up those you call most often without accessing the phonebook. It can be done by holding down the number you want. If you haven't set up speed dial, hold down the number you want to use. It will ask you to assign a number. Choose Yes. Next, select the number from the list and choose Select. The number 1 is usually dedicated to voice mail, and the number 0 for services.

### Flickr On Nokia Phones

Nokia has joined hands with Flickr with their N series phones. This collaboration allows Nokia users to quickly click, upload, and access photos from Flickr through their phone without using a computer. To log into Flickr, go to the Gallery and then to Images & Video. Choose Options and then Open Online service. If you don't see an option to create





Users can setup and then access their Flickr accounts from their phones

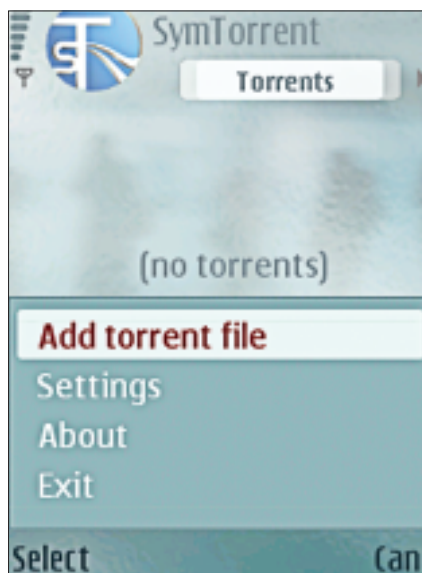
a new Flickr account, then you need to download the configuration file from [http://www.flickr.com/services/atom/config/nokia/nseries/flickr\\_configuration\\_file.cfg?dl=1](http://www.flickr.com/services/atom/config/nokia/nseries/flickr_configuration_file.cfg?dl=1). Copy the file to your phone and run it through the File manager—or you can also send it through Bluetooth, for example.

You'll see the entry for creating the Flickr account. Open it and you will be prompted to enter the authentication information for the account.

## BitTorrent on the phone

Torrent downloading is no longer limited to your PC. Yes, it's available for mobile phones, and more importantly, it's available for Symbian phones. This means you can now use GPRS and WiFi to download torrents. One such client is called Symtorrent; you can download it from <http://symtorrent.aut.bme.hu/>

Download the installer for your version of S60 and copy it to the phone through a cable connection or over Bluetooth. Go to Menu > Applications and you will find SymTorrent installed. Start it and choose Options > Add



SymTorrent brings Bittorrent to mobile phones

Torrent to add new torrents. You can use the left and right direction with the joystick to look at statistics such as download speed, number of connections, etc.

## Zooming In And Out

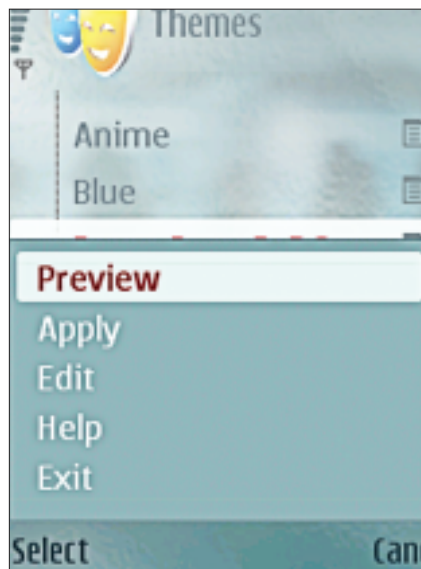
Using the image viewer on Symbian phones is fine, but being able to navigate and perform basic operations without any guidance is a different thing. Use the 5 key to zoom into the image and 0 to zoom out. To move the image in different directions, use the 2, 4, 6, and 8 keys.

## Quick-delete Messages

Deleting of files on a Symbian phone normally means you need to go to Options and choose Delete. A quicker way is to use the C button. This will delete the file. All you need to do is confirm the delete command.

## Installing New Symbian Themes

It's always nice to have a change in look. There are plenty of free sites with theme downloads for Symbian phones. First find the download for your Symbian version and phone. Copy it to the phone via cable or Bluetooth. Once you're done, run the installer and the theme will be installed. To enable the theme, go to Menu > Tools >



Themes can be downloaded, previewed and applied to give your phone a facelift.

Themes. Move to the theme you want to install. Choose Options > Preview to get an idea of what the theme looks like. If you like what you see, choose Apply and the theme will be set.

## Quick Silent Mode

Generally, to switch profiles from normal to silent and so on, one would

press the power button and then select a profile from the list, but many S60 phones have a feature that allow the user to switch to Silent mode with just a single button press. Hold down the # key and the Silent mode is turned on; hold it down again and you'll be back to the General profile. The power button also works as a toggle—pressing it multiple times allows switching to different profiles.

## Automatically Locking Your Phone

For some reason, some phones don't lock or turn themselves off when not in use. This results in the battery being drained. To fix this, download software such as Autolock—

<http://fuse.stc.cx/autolock/>. Copy the file to your phone and run it to install it. You'll soon notice your phone keeps locking itself up every few seconds. To change the timeout value, go to the Menu > Applications > Autolock. Here you can choose to enable or disable it and set the inactivity time. You'll find yourself looking for the unlock sequence as the screen would be off. Press the power button to light up the screen.

Another well-known software is called Active Lock, and can be downloaded from the Symbian Developer Network—<http://developer.symbian.com>.

## Better Alarm App

Many users complain of having to enable a single alarm every single day. Using a third-party alarm software seems to be the only way around this problem. There's software like Y Alarms from [www.drjukka.com](http://www.drjukka.com). Copy and install the program, then go to Menu > DrJukka.com > Y-Alarms.

To create a new alarm, choose Options > New alarm. Here you can set the frequency, time, and type of alarm along with a message that you want to appear when the alarm goes off. You can set many such alarms in the same manner for different reminders.

## Quick Numerical Input

You don't always have to go to the number mode to enter a number while entering text. Holding down a key in alphabet mode will enter the number directly.

## Quick Voice Dial

Many a time, there's not enough light to scan through your phonebook and make calls. Instead of trying to look through your phone, you can use the voice dialler. While your phone is in standby mode, hold down the right soft key and you'll be prompted to speak out the name of the contact from the phonebook. ■





## ASUS P525 Full PDA, Half Phone

ASUS has brought their full line-up of PDA phones to India, and the P525 is a PDA with a number pad—something of a rarity. It's a touchscreen running Windows Mobile 5 and the charcoal grey that made the P535 such a good looker makes another appearance. The P525 is a beautiful beast—all smoky grey with chrome buttons down the side panel in sharp contrast. We also liked the screen—crisp, clear and good contrast, visible even in daylight.

The number keys look like sculpted buttons that have been integrated into the body—they give just the right amount of feedback when used, and never feel tacky. We don't like the joystick, though—it's too small and smooth and there's insufficient tactile feedback. We also didn't like

the fact that the joystick's in between the number keys 2 and 5—this affects access to the number 2.

Voice Commander makes another appearance—a really excellent piece of code, this—that allows you to do so much more with voice commands. The excellent business card scanner is also preinstalled. There's also a password protected security application called My Secrets that allows you to protect your files by encrypting them. All the usual Windows Mobile applications are present as well.

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★☆ |
| Performance     | ★★★★☆ |
| Bundle          | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

There's a dedicated button for the camera, which is surprisingly good for a PDA. The volume button is very ergonomic, as is the *hold* button—which prevents keypad, button and screen use.

While the loudspeaker offers decent volume, we lament the volume levels on the hands-free kit—it's just too low, be it music or a voice call. While on the topic of calls, signal quality could have been better—a patent weakness of most PDAs. If you need a good phone, please look elsewhere.

Where the P525 scores is in PDA functionality (even though it foregoes a QWERTY keypad), looks—nobody will disagree here—and, of course, the software package that improves productivity by quite an extent. At Rs 19,000 the ASUS P525 is a good PDA, but a strictly average phone. It's flashy for sure, and will draw glances anywhere. You'll have to decide what is



more important to you—PDA features, or a phone.

**Specifications**  
Weight—160 grams, Screen—2.8-inches, 240x320 pixels, 65K colours, 128 MB inbuilt memory, 2 MP camera with autofocus

Contact: ASUS Technology Pvt. Ltd  
Phone: 022-6766 8800  
Web site: <http://in.asus.com>  
Price: Rs 19,000

## BenQ-Siemens Q-fi EF71 A Stylish Multimedia Clamshell

Supporting a stylish brushed aluminium exterior, the BenQ-Siemens Q-fi EF71 looks elegant and has a pleasant feel. The hinge of this ruggedly-built phone allows little play and feels very strong. When opened, it's all jet black; only the 4-way rocker and the border of the keypad sport a metallic finish.

The blue backlit keys are well-spaced and extremely comfortable when SMSing. The icon-based UI is easy to use and the colour LCD is good, as is the external white OLED display used for various status messages.

The Q-fi range is music-focused, and this is one of the first phones in this series. Media playback keys are present on the lid, and

there is also a music button at the side to start the media player. The 10-band equaliser makes listening to music a pleasurable experience. The 2.0 MP camera does not feature auto-focus, but still does a good job. You can't zoom while taking still photos at the highest supported resolution.

The phone has a paltry internal memory of just 24 MB, so adding a microSD card becomes compulsory. The memory is not hot-swappable—you need to open

| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★☆ |
| Performance     | ★★★★☆ |
| Ease of Use     | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |



the phone and remove the battery to access the slot. PC connection has three modes: mass storage device, Modem / PC Sync, or Webcam.

Voice quality is satisfactory, and the speaker is loud enough. There is a

special Q-fi mode that disables the mobile network connection and lets you access only multimedia features along with FM and Bluetooth. The FM Transmitter lets you wirelessly transmit your calls or music to an FM receiver up to two meters away. There's also an Answering Machine feature. The price, though, is a little on the higher side at Rs 12,955.

**Specifications**  
GSM900/1800/1900; Display: Internal: 2.2-inch TFT 176x220 pixels 262K colours, External: OLED 128x64 pixels; Camera: 2.0 MP, 9x digital zoom; Weight: 100 gm; Dimensions: 47(W) x 18.5(D) x 90(H) mm.

Contact: BenQ India Pvt Ltd  
Phone: 1800-22-0808  
E-mail: [benq.mobile@benq.com](mailto:benq.mobile@benq.com)  
Web site: [www.benq.co.in](http://www.benq.co.in)  
Price: Rs 12,955

## Computer Kitchen MP4 Watch 1 GB Bonsai From The Orient

This watch is solidly constructed and encased in a rugged steel case, with very firm rubber straps. It's just as comfortable to wear as any other watch, but due to its rather large size, you better have large wrists to carry it around in style.

This ultra small PMP (Personal Media Player) boasts of a capacity of 1 GB, which is not much, especially if you want to watch movies and videos. There are 2 and 4 GB versions that are better options in such cases. It shows up as a removable drive in XP and you can easily copy files to it using Windows Explorer.

Learning to use the controls takes awhile. The

buttons are hard—it would have been better if they would have come with some kind of soft padding that would have increased their surface area and added to comfort. Navigation is not intuitive, but once you get used to it, you can find your way around.

The display quality of the 1.5 inch colour OLED is nothing to brag about. You can't just play MP4 files directly, and need to convert them using the

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★☆ |
| Features        | ★★★★☆ |
| Ease of use     | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

## Cowon iAudio 7 4 GB Miniscule Music Monster

Cowon's always been preferred by music lovers on the go for one reason—sound quality. Their PMPs have always been regarded as works of art, and the iAudio 7 is true to the heritage. A piano black (smudge magnet!) finish, four beautifully backlit buttons on the front bezel and a host of attractive matte-chromed buttons on the right side add to the looks and retain total functionality. The tiny iAudio 7 feels solid in hand—build quality is exemplary.

A 1.3 inch, 18-bit colour (262 K) screen allows for 7 lines of text and looks crisp, but a video player this is not—in our opinion a video player needs to have a much larger screen. There are numerous little features—direct line-in recording from multiple sources like CD players, TVs etc, a clock with alarm and support for scheduled

recordings, FM radio and lyrics display support.

The music quality is—in a word—terrific! With great clarity and deep bass that sounds tight, mids and highs are also very prominent. Most PMPs have a tendency to highlight bass and mute trebles—not here. The iAudio 7 brings out the best of instrumentals and we thoroughly enjoyed out sessions with Vanessa Mae and Kenny G—in fact the iAudio 7 is very suitable to classical stuff—all Bhimsen Joshi aficionados take note. Vocals are well defined too—we tried a variety of artists from The Doors to Alan Jackson and Charlotte

| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★☆ |
| Performance     | ★★★★☆ |
| Build Quality   | ★★★★☆ |
| Value for Money | ★★★★☆ |
| Overall         | ★★★★☆ |

provided software first—even then, playback stutters—it drops a video frame every now and then.

MP3 playback is quite decent, and the bundled earphones do a rather good job. There are preset equalisers to adjust music to suit your taste. There is an FM Radio, a photo viewer, voice recorder, small games and even an e-book reader.

The battery lasts for around 6 and half hours of MP3 playback, which is a little less than an average MP3 player. When you watch video, the battery lasts for just under 2 hours—you should therefore not hope to watch movies, but watching music videos is a better usage option. Yes, it also has a watch (analog-cum-digital). It costs Rs 5,990—too high for what's on offer.



**Specifications**  
Capacity: 1 GB; Display: 1.5-inch 262K colour OLED; Audio: MP3, WMA; Video: NXV (converted using bundled software); FM Radio; Dimensions: 39 (W) x 12 (D) x 39 (H) mm; Weight: 66 gm

Contact: Compute Kitchen  
Phone: 080-41131001  
E-mail: [info@computerkitchen.com](mailto:info@computerkitchen.com)  
Web site: [www.computerkitchen.com](http://www.computerkitchen.com)  
Price: Rs 5,990



Church. No complaints, except you'd better get yourself a good set of earbuds—like Creative's EP630 or Bose's Intra Ears—maybe even a noise cancelling set. The default earplugs are better than most regular stuff—and easily kill the iPod's bundled earplugs—but the mid-range seems a touch recessed. Of course how much you want to spend on cans depends on how serious you are about your music. This tiny player drives most headphones—except for audiophile grade headphones which are real high-impedance stuff.

To be honest, we'd reckon Cowon's own D2 and Apple's iPod Video and Nano would just squeak ahead on sheer music quality—but the difference isn't much.

At Rs 10,000, the iAudio 7 is costly—especially since the new iPod Nanos are significantly cheaper.

**Specifications**  
Output rating 52 mW (26x2), 3.5 mm jacks (in and out),

Contact: Lipap Systems Pvt. Ltd  
Phone: 022-28743457  
Web site: [iaudio@lipap.com](mailto:iaudio@lipap.com)  
Price: Rs 10,000



## Creative Zen

### Now That's What I Call... A Media Player

The Creative Zen media player looks cool with its glossy front finish and a shiny pixie-dust speckled black matte finish and scratch-resistant back. The glossy front does not collect too many fingerprints, contrary to what we've seen thus far. It is available in a variety of colours, so you can choose according to your taste.

It comes with 4 GB of Flash memory and is detected as a portable device that you can sync with using Windows Media Player or Winamp, or even transfer files using the Windows Explorer. It is also compatible with iTunes Plus Music and lets you download music and videos from subscription services. There is also an SD expansion slot for additional memory capacity.

The buttons are very responsive and react in an instant. There are dedicated buttons for context menu, playback / pause, back, and there is a four-way rocker to go forward and back and

control volume as well as navigate. The interface is extremely easy and intuitive—it's a joy to see the menus glide effortlessly as you click the buttons.

As is the case with most media players, you need to transcode your videos before they can be played by the Zen—this is achieved using the bundled Creative Media Explorer. Video is amazingly clear, crisp and vibrant, thanks to the 2.5 inch TFT display and the playback was smooth and comfortably easy on the eyes.

Music playback is definitely one of the best we have heard in a long time. The bundled earphones do an amazing job in reproducing even the bass, which is the most difficult to achieve for earbuds such as

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★● |
| Performance     | ★★★★★ |
| Value for Money | ★★★★● |
| Comfort         | ★★★★● |
| Overall         | ★★★★● |



these. We must add that they are a bit large and may trouble smaller ears. You can customise your own equaliser settings, or choose from eight presets. Bass Boost enhances bass and you would probably want to leave it turned on. Smart Volume, when turned on, protects your ears by normalising the volume in case of extreme loudness.

Now for some nuances: though the battery lasts for around 18 hours of MP3 playback, it could have done better if the LCD completely turned off during music playback (it dims, but stays on). There is not much to complain about, but a TV-Out option would have completed the package. The Zen has FM Radio with 32 preset stations and a voice

recorder. Other features include the organiser, with a calendar, tasks and contacts. It costs Rs 9,999, and we recommend it.

**Specifications**  
Capacity: 4 GB; Display: 2.5-inch 16.7M colour TFT; Audio: MP3, WMA, AUDIBLE 2,3,4, AAC (unprotected); Photo: JPEG, BMP, TIF, PNG, GIF; Video: WMV9, MP4, DivX (converted using bundled software); FM Radio; Dimensions: 53 (W) x 10 (D) x 81 (H) mm; Weight: 60 gm

Contact: IDLDPL  
Phone: +91-11-46096400  
E-mail: [contactus@idldpl.com](mailto:contactus@idldpl.com)  
Web site: [www.creative.com](http://www.creative.com)  
Price: Rs 9,999

## Palm Treo 750

### Palm-dows?

The Treo 750 is a Windows Mobile-based PDA phone that promises one handed operation. The new phone is tad slimmer, feels lighter and the curvy design helps hide the bulk. The dark midnight-blue finish with sliver highlights gives it an executive look. The volume control rocker is on the left hand side, while the IR port and memory slot is recessed on the right hand side of the phone. Other control buttons are neatly arranged around the navigational key.

The 2.5-inch LCD screen dominates the front, but we've seen bigger. The screen is sharp and completely legible in direct sunlight. The dinky QWERTY keypad still remains one of the best

we've seen so far.

The phone is powered by Windows Mobile 5—with a 300 MHz processor, it's a smart choice: Windows Mobile 6 requires a faster processor. In the memory department, the Treo 750 is definitely anaemic, and Windows' dodgy memory management doesn't help.

Palm has done its bit to revamp the interface and make it easy to navigate without touching the stylus; something we admire about Palm devices. The phone is

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★● |
| Performance     | ★★★★★ |
| Ease of Use     | ★★★★★ |
| Value for Money | ★★★★● |
| Overall         | ★★★★★ |



generally zippy and applications open in a snap, but opening multiple applications takes its toll. We had no signal issues and voice clarity was good. The speakerphone quality is good, but the ringer volume needs improvement. The camera's image quality is merely average.

At Rs 22,990, the Treo 750 is expensive—competing models offer better feature sets at lower prices. Palm is giving away a free foldable

Bluetooth keyboard along with this phone, but it still doesn't make it worth it.

**Specifications**  
7200 rpm SATA; USB 2.0; TurboUSB; Dimensions: 4.6 (W) x 16.3 (D) x 20(H) cm; Weight: 6.2 kg

Contact: Brightstar Telecom India Pvt Ltd  
Phone: 011-41725228-9  
E-mail: [myil.nathar@palm.com](mailto:myil.nathar@palm.com)  
Web site: [www.palm.com](http://www.palm.com)  
Price: Rs 22,990

## Sahara AL 096

### Low On Frills, High On Price

The Sahara AL 096 is very solidly built and has a business-like look, with a grey-black finish and no decorations. The hinges are well-built and offer little play, which is a good thing. It weighs over 2.5 Kg—making it a little heavy to carry around.

Equipped with an older Core Duo processor and 1 GB of RAM, of which 256 MB is reserved for sharing, there is still enough power to handle normal office applications. The 120 GB hard drive offers ample storage space. A DVD multi-write drive takes care of backups. There are three USB ports for expansion, but no FireWire. WiFi and Ethernet ports are there, but Bluetooth is absent. A D-Sub port lets you hook up a projector for presentations.

The 17-inch widescreen LCD looks good and has a wide horizontal viewing angle, the vertical angle is a bit narrow. It has a matte finish, so it is easier to view it

even if the light source is at the front, as there is very little distracting reflection. The ATI RADEON Graphics label (mis)leads one to believe that there is discrete graphics inside, but it's really an onboard ATI XPRESS 200M graphics chip—good for 2D display, and decent for 3D (not for any new generation games, though).

The keyboard has a very positive feedback and feels good to type on for long download. A separate numeric keypad would be more than welcome, and there are just a few shortcut keys. The touchpad has a slippery finish, which is a bit irritating to move your fingers over. As far as response goes, though, the

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★● |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★● |
| Overall         | ★★★★● |



touchpad does fine.

The Sahara AL 096 costs a surprisingly high Rs 36,999. It lacks a webcam, a card reader, and even a microphone (so you need to connect an external one). Even the sound level of the speakers isn't audible even when there isn't much ambient sound. The battery life lasts two and a half hours—again, not impressive. The steep price isn't justified by Windows Vista Home Basic; there isn't any worthwhile bundled software either. To sum it

up, the price is just not right.

**Specifications**  
Intel Core Duo T2250 1730 MHz; ATI Radeon XPRESS 200M (256 MB shared); 1 GB DDR2 533 MHz RAM; 120 GB 5400 rpm SATA hard drive; DVD multi-writer; Ports: 3xUSB 2.0, D-SUB, RJ-45, Modem; WiFi: 802.11g; Windows Vista Home Basic

Contact: Sahara Computers & Electronics Ltd  
Phone: 95120-4397235  
E-mail: [info@saharacomputers.co.in](mailto:info@saharacomputers.co.in)  
Web site: [www.saharaglobal.com](http://www.saharaglobal.com)  
Price: Rs 36,999

## YES YMP45

### You've gotta touch this one!

Featuring a rather large 2.4-inch colour touch-screen with a neon-red border, the YES YMP45 is encased in a black plastic case. It comes with 2 GB of internal memory, expandable with a Micro SD card (sadly, not hot-swappable). The device connects to the PC via USB and gets recognised as a MTP device if you have Windows Media Player 10 or above and lets you easily arrange and synchronise media content. You can also drag and drop content to it from Windows Explorer.

With the stock headphones, the YMP45 does quite well in the mid range, a little below decent in the highs and a little disappointing in the lows—it sounds a lot better with better cans. The highest volume levels aren't too

high though. Despite mentioning that lyrics are supported, MP3s with embedded lyrics didn't show any sign of the lyrics. There are only four preset equaliser settings, and you can't customise them.

Video playback is a bit choppy at 25 fps sometimes, but the YMP45 scores full marks with brilliant image quality. The player doesn't come with any software to convert your videos into a compatible format—disappointing. Do we even need to say that photos too look splendid?

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★● |
| Overall         | ★★★★★ |

The icon-based GUI is very easy to get used to and is very responsive to the accompanying stylus. Navigation in the video mode is a problem—no controls are visible (the video plays full screen) and you have to frantically keep moving the stylus around to figure it out for yourself.

Other features include an FM Radio that supports RDS (Radio Data Service—a European radio standard that lets the radio receive digital information about the content being transmitted). You can use it as a memo-recorder with the voice recorder feature, and can even read e-books! Fasten the accompanying Lanyard and it turns into a flashy pendant. The Li-Ion battery take around 3.5 hours to charge from the PC's USB port and last for just under three hours for video playback. The price—Rs 6,499—is fair.



**Specifications**  
Capacity: 2 GB; Micro SD; Display: 2.4-inch 262K colour TFT touch-screen; Audio: MP3, WMA, WAV, OGG, AAC; Video: AVI, WMV; FM Radio with RDS; Dimensions: 76 (W) x 53 (D) x 13.3 (H) mm; Weight: 60 gm

Contact: Redington (India) Limited  
Phone: +91-9380303950  
E-mail: [hemachandran.m@redington.co.in](mailto:hemachandran.m@redington.co.in)  
Web site: <http://ap.viewsonic.com/in>  
Price: Rs 70,000





# The Inside Story

Here's about how your phone works its magic

Samir Makwana

Even a seven-year-old knows how to make and receive calls using a cell phone, but not too many of us know how a phone processes voice and then sends and receives it digitally over the cellular network.

In fact, the question is this: whenever you make or receive a call or text message, what exactly happens in the body of a cell phone? Well, a lot of things: there are several components—and therefore several functions—that work together to deliver what has become very routine. So here's what happens.

1. When you enter numbers via the keypad, a circuit behind it records the key-press sequence as commands in a certain order. These commands are sent to the CPU via firmware located on the ROM.
2. Once the Call button is hit, the CPU sends the sequence of commands to the SIM reader (which reads information from the SIM card). The CPU checks if there is any information about the number on the SIM. The command code is also communicated to other components like the ROM, RAM, and display.
3. Once the process of checking the entered information with the SIM and phone memory is entered, the commands are passed to the DSP (Digital Signal Processor). Along with the voice processing done at the DSP, a highly sophisticated compression of the audio takes place. After that, the processed voice signals are instantly transferred to the transceiver chip in the RF Unit for transmission via the antenna. (A transceiver chip is a combination of transmitter and receiver in a single package for transmission and receiving of signals.)
4. When the cellular base station receives the request for a call, the request is passed

through switches. It is then routed to the destination to check if the destination cell phone is active. Upon this confirmation, the base station routes back the call request to the caller's antenna in the form of modulated signals (radio waves).

5. The cell phone antenna transfers the modulated signals to the transceiver chip (in the RF Unit). RF amplifiers convert the modulated signals to digital instructions, which ride to the CPU.
6. The CPU gives out multiple instructions upon receiving the request. On one side, it gives instructions to the screen to display the relevant information (call being connected, in progress, etc.) On the other side, the OS records the call entry in the "Outgoing Calls" list.
7. Once the call is being connected, the CPU sends the modulated signals to the analogue-to-digital convertors, and the digital voice signals are converted to analogue voice signals that will be sent to the speaker. Ultimately, the dial tone will be audible from the speaker. Once the destination cell phone user presses the Call button, the call request is active and the communication between both the phones begins.
8. When the call is in progress, voice signals in analogue form are sent to the DSP unit according to the instructions of CPU. Those voice signals are processed and converted into digital form by the DSP along with an audio codec. Then, they're instantly transferred to the RF unit. The RF unit amplifiers then process those to transmit via the antenna through the transceiver chip.

The antenna finally transmits the modulated signals on the network in the form of radio waves.

This process sounds lengthy, but it takes just a couple of milliseconds! Let's now take a look at the components of a cell phone.

**PCB.** Basically, the firmware allows the CPU to talk with the other components of the phone. The phone also carries a customised and compact operating system. Proprietary OSes like Windows Mobile, Palm (only with Palm phones), and Symbian are pre-loaded on smartphones and PDAs.

## Keypad

The keypad layout matrix differs from one brand to other. Usually, cell phones have ABCDEF-style keys with numbers on them. When a key is pressed, a command is sent through the rubber- or fibre-made keys to the Keyboard Integrated Circuit for executing the function. Naturally, there's more... but you should have developed a little respect for your mobile phone by now!

## Battery

The batteries, too, have a processing mechanism, which keeps track of the charge status and communicates this to the CPU.



The phone's LCD Display

## LCD Display

Once the data calculations to be displayed on the screen are processed through the microprocessor, the image gets displayed on the LCD screen connected to the processor. The majority of cell phones in use today use LCD and OLED (Organic Light Emitting Diode) technology for the display screen.

Better displays with lower power consumption is the next step; Hitachi recently displayed its IPS-Pro-Prolleza technology, claiming that display screens will appear 1.4 times brighter than existing displays without increasing power consumption.

## Firmware And Operating System

A cell phone's firmware is a hardware-level programming language, mostly a C variant. All major cell phone brands use customised firmware in accordance with the requirements of the hardware. The firmware is hard-coded assembly language that triggers a special user interface and is written on the ROMs of the cell phone's

## RF Unit

Whenever radio frequency is transmitted in or out of the antenna, the RF amplifiers in the RF unit handle them. The RF and power section manages the power, recharging, and also FM channels. The frequency ranges allocated to the GSM networks for sending and receiving data over radio waves differ from country to country. The RF unit also communicates with the GSM/GPRS as well as Bluetooth chips for transmitting voice and data respectively.

## Microprocessor

A specifically-designed microprocessor that performs all computations in keeping with the features. It is connected with the display and keypad inputs, deals with commands and controls signal with the base station, and also handles computing chores for other functions. Today, besides the main CPU, other microprocessors like Mobile Media Processors are used in cell phones for carrying out multimedia functions (those dealing with digital audio, video, and images). The majority of the cell phones have ARM-based processors along with Digital Signal Processors. Smartphones require faster processors supported by ROM and RAM, as well as Flash memory to boot the phone into the OS.

## SIM Reader

The basic purpose of a SIM reader is holding the SIM card so that the information (numbers, SMSes, and other data) on it can be read. When a working SIM (Subscriber Information Module) is inserted in the SIM reader system, a 6-pin mechanism is used for reading the information on the SIM. This is transmitted digitally over the network via RF unit. A similar process takes place when the Call key is hit—the number fed is digitally transferred to the network for call processing.

## Digital Signal Processors (behind)

All the voice, SMS, MMS, e-mail, and data/fax features of the cell phone are co-ordinated by the DSP, the most critical unit for signal manipulation. The voice processing by the analogue-to-digital converter is done in tandem with the DSP using either Half Rate (5.6 kbit/s), Full Rate (13 kbit/s), or Enhanced Full Rate (12.2 kbit/s) codecs for identification of the critical portions of the audio, protection, and prioritisation of those parts of signal.

## Inbuilt Memory

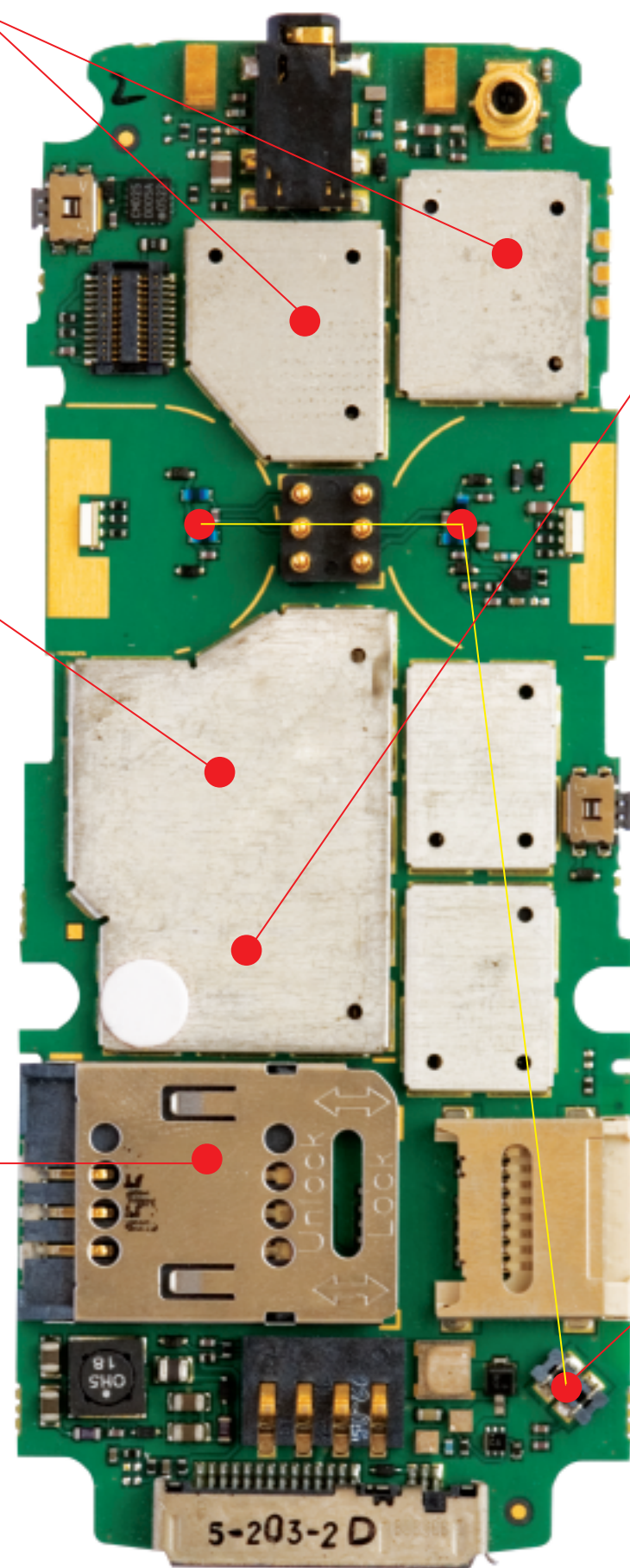
Various types of phones offer varied functionalities and diverse features, meaning they need different memory solutions. The ROM is permanently on the microprocessor and can run without battery power; the ROM chip initialises the other chips on the circuit board to carry out instructions for running a program. The ROM then copies the boot loader from Flash to RAM and the program is run.

The RAM on the circuit board exists in the form of SRAM, PSRAM or Mobile SDRAM depending upon the mobile design—basic, feature-rich, or smartphone. Their density, system architecture, and read-write operation determines the selection of the memory solution to be used. (RAM is faster than Flash).

Better and faster-to-read Flash memory chips are used in cell phones to hold data like telephone numbers, SMSes, themes, ringtones, images, and videos. The Flash memory serves as the housing for the OS of the phone. Upgrading the firmware means writing an entire new version to the Flash memory. Tasks like transfer phone numbers as well as SMS from internal phone memory to SIM module is possible in majority of the cell phone models.

## Speaker and Microphone

Any signals transferred to the speaker and from the microphone have to pass through the Analogue-to-Digital Converter, which communicates with the DSP.

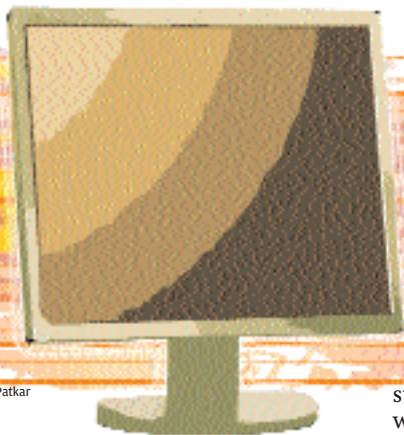






40 Flash Drive

# BUYER'S GUIDE



Shrikrishna Patkar

## LCD Monitors

**They're slim, they're affordable, and better than ever. Stop wasting time... get one!**

**I**f we had to choose one product line that's made the most inroads into our markets this year, it'd have to be flat panels. They've been hanging around the fringes for a while, their accessibility restricted mostly by price, and partially by ignorance on the part of us consumers.

LCDs are eye-friendly, power-friendly, space-friendly, not to mention getting embarrassingly close to CRTs with regards to what they can do with colours and contrasts. So why the hesitation from consumers in India? One word—price. Ours is a value driven market, and why would someone spend 15-odd grand on a 19-inch LCD monitor when a CRT of the same size is available for half? The scenario has changed drastically this year—a trend we see continuing.

### Types of LCD Panels

The most common LCD panel type—TN (Twisted Nematic) panels have experienced sharp declines in pricing, and our markets have been flooded with such panels. Twisted Nematic panels are basically the cheapest to manufacture and the most widely available of all LCD panels. These panels were scorned earlier for the fact that they're typically 18-bit panels capable of displaying only 262,000 colours. To bump up the colour count a technique called "dithering" is used which allows them to get to the magical figure of 24-bit colours (i.e. 16.7 million). The other types of LCD panels

are the super costly but brilliant S-IPS (Super In-Plane Switching). S-IPS panels are mostly used by photo studios or any imaging applications where CRT-like colour accuracy is required. They are also very costly.

The other kind of panel is PVA (Patterned Vertical Alignment) which is the panel type that good LCD TV screens use—mainly because of the amazing contrast ratios that these panels sport.

The new buzzword it seems is widescreen which is understandable with all the hype surrounding High Definition content which is a widescreen format. We've seen 19-inch monitors based on these TN panels become mainstream, and with prices falling even lower the larger 22-inch panels seem well on their way becoming the new mainstream!

Unfortunately the costlier (read better) panels like PVA (Patterned Vertical alignment) and S-IPS (Super-In Plane Switching) panels are still prohibitively costly, but we're positive that 2008 will see price inroads there as well.



### What You Should Be Looking At

**Gaming:** If you're a gamer you'd probably shy away from the term "widescreen." Not any more—nearly all games these days support proper widescreen resolutions. Just keep in mind the performance of your graphics card before going for a really big monitor. You may find your card inadequate to run games at such a LCD's native resolution. For example, for running the latest games at a resolution of 1680 x 1050 with details on maximum and AntiAliasing enabled will require something like a GeForce 8800GTS—a costly proposition. If you want a screen for gaming with the occasional movie then you have a big dilemma. Twenty four-inch PVA panels are the best buy—your monitor will really stress out your graphics card, particularly at a resolution of 1920 x 1200 pixels. You need to choose something like a 19-inch or 22-inch widescreen depending on your graphics card.

**Home Entertainment:** Keywords—widescreen, and big. If you're serious about using your PC as a High Definition multimedia station, take a serious look at PVA panel based monitors. They have much better contrast ratios and brightness levels, and wider viewing angles as compared to cheaper TN panels. Just watching a PVA and a TN panel running side by side will make you see the light (pun intended). We suggest a 24-inch monitor, which should set you back by around Rs 35,000—costly, but the results will blow you away. You



will get a full HD (1080p) supporting resolution of 1920 x 1200 pixels.

If you want something cheaper—more bang per buck—look at cheaper 22-inch TN panels. Expect to pay anything between 14,000 and 17,000 for a 22-inch monitor. Choices are unlimited as all vendors have offerings in this category, and the market is full of these panels. Resolution will be 1680 x 1050 pixels. Conversely if you have more money to burn look at 27-inch monitors from the likes of Dell. These offer HD 1080p resolutions—and they're much clearer than an LCD TV of the same size which will offer a resolution of 1366 x 768 pixels.

**Basic Multimedia PC:** Look for a 19-inch monitor—we recommend a widescreen simply because they're cheaper, and are so much better for watching movies: other applications don't matter either way (wide or not). Nineteen-inch monitor prices have crashed, thanks to the falling prices of bigger panels. A 19-inch will cost you anywhere between 10,500 and 12,000 rupees. The screen resolution will be 1440 x 900 pixels. ■



### Agent Tips

Take a look at the colours and contrast of an LCD before buying one. If possible take a pen drive with DisplayMate on it. It's a wonderful way to check what each monitor can do.





# Flash Drives

Convenient, durable, fast

Speed", is faster with 480 Mbps. If you have an older PC with a USB 1.1 interface, then make sure that your Flash drive is backward-compatible with it. Drives, which are not compatible will only work with USB 2.0 ports and will not show up at all in older PCs.

**Ruggedness:** Flash memory is shock-resistant, but it still needs to be protected from extreme shock (dropping on a hard surface, for instance). Some drives are encased in rugged shock-absorbing rubber jackets, while some are even water-resistant. Though these are a bit expensive, they are worth the investment if you have a carefree way of handling these gadgets.

**ReadyBoost:** Windows Vista has a feature known as ReadyBoost, which lets you use a connected USB Flash drive as RAM. This allows the OS to create a page file on the drive, and this considerably speeds up memory-intensive tasks. Drives marked as ReadyBoost capable should therefore be preferred.

## What You Might Need

**Data security:** Some Flash drives come bundled with software that lets you password-protect the contents. The usual drawback is that these are a little slower due to the on-the-fly encryption and decryption of data. Some drives have biometric security in the form of fingerprint recognition, though these are a bit expensive. There is a write-protect switch on some drives and this is a sure-shot way of making sure that your data remains safe in the read-only mode even if the drive is plugged in and accessed.

**U3:** This is a technology that lets you take your Desktop with you on your Flash drive. When you plug in your U3 drive into any computer, you'll have your complete Desktop with all your settings and documents at your disposal. You can download U3 software from the Internet to add to the usability of the drive, but for that, you need to buy a U3-capable Flash drive.

**Bootable:** Though you can boot through most USB flash drives, some of them (such as some supporting data encryption) may not support this feature. A bootable drive is very useful in scenarios where the hard drive refuses to boot and you need to get that urgently important file from the hard drive.

**Accessories and features:** Here are some of the accessories and additional features that you may find useful. USB extension cables are very useful in case, your PC does not have a front USB port, as it is very inconvenient to plug it in behind your PC cabinet. A neck strap or lanyard is very useful at times, espe-



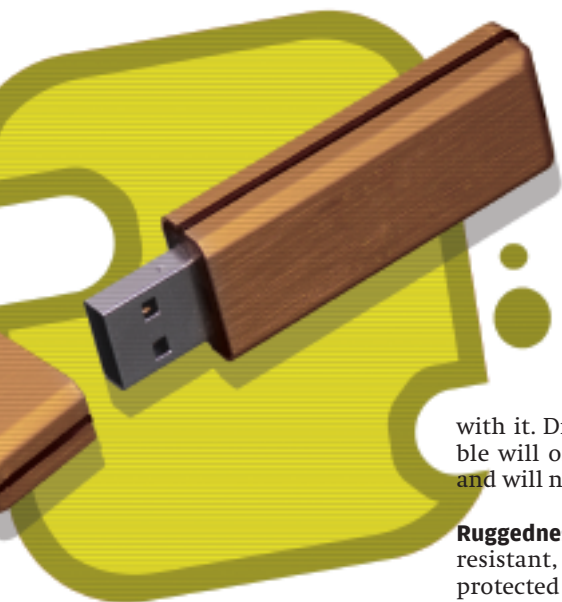
cially for people who are paranoid about losing their Flash drive.

**Backup and synchronisation software:** In addition to the security software, quite a few drives also come with software that lets you backup as well as synchronise the data between the drive and your PC. Used in this way, it becomes a really fast and convenient backup device—just plug in and backup or synchronise.

**Going beyond storage:** Some Flash drives go beyond just the function of storage—they can have additional functionalities such as voice recorder, MP3 player, etc.

## Innovations

Innovations *do* happen in this product segment; take a look at the OCZ USB 2.0 Rally2 which at first look seems like just any other USB Flash drive. Internally, it uses dual-channel technology, and that makes it one of the fastest drives out there. □



**F**lash drives have been around for quite some time now, having completely replaced floppy disks. The fact that they are more reliable than CDs or DVDs is another big plus. Available in capacities ranging from 128 MB to 16 GB, they are very affordable. They come in all shapes, sizes, and even colours, and choosing the right one can be difficult.



## What You Should Be Looking At

**Capacity:** While anything less than 256 MB is a definite no-no, if you need to transfer music, a 512 MB drive should be the minimum to opt for. Transferring larger files such as games and movies may require larger capacities. The price of Flash drives increases with the capacity, but 4 GB seems to be the sweet spot at the moment, with drives available at around Rs 1,500. Higher capacity drives are a lot more expensive.

**Interface:** All PCs today are equipped with a USB 2.0 interface, but PCs more than 5 years old will generally have a USB 1.1 interface. The USB 1.1 interface is slower and has a speed of 12 Mbps, while the 2.0, also labelled as "High



## Agent Tips

Drives larger than 4 GB will not always help you carry DVD images greater than 4 GB. This limitation is due to the fact that most larger Flash drives can only be formatted with the FAT32 filesystem (which does not support the storing of files greater than 4 GB).



# Solve, learn and enhance

Boost your personal productivity and knowledge through these comprehensive sites

Samir Makwana

## Zolved

To err is technical and to fix is human. There's a place where you can get easy solutions for your tech problems—log on to Zolved.com. This is quite a comprehensive service where you can search from among huge number of solutions submitted by the community. You can find solutions to hardware, software, Personal Media Players, wireless networks, gaming consoles, and even generic Internet problems.

You have troubleshooting solutions, "How To" solutions, and more. The "troubleshooting" ones cover specific problems such as syncing iTunes to Windows Vista. The "How To" ones help you find manuals and guides for mobile phone models, routers, media players, etc. Stuck with a setup? Just follow the setup solutions listed, and also find links to software as well as drivers!

If you're still not able to find a way out of your problem, you can ask a guru for help. (You'll have to wait, of course!) You can discuss your problem with other users as well as technical experts on the forum.

Go ahead—next time you're about to break your monitor or something, try and zolve the problem first!

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

Step-by-step solutions to your everyday tech problems



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

Learn the in and out of Symbian to customise your phone better



## All about Symbian

You'd do well to take a good look at Allaboutsymbian.com, a one-stop-shop to know about Symbian as an OS in detail. Need help understanding Symbian-based phones in detail? This is one of the best reference sites, and it claims to be the world's biggest community site for the Symbian OS.

You get to read the latest news by hardware, software, industry, or developers' point of view, which can be further narrowed down to be platform-specific. Features on different phones running Symbian help you get to know the device better. Even developers can find something here to interest them!

You'll soon be tempted to download and install software on your phone: currency converter, e-book reader, ... why carry multiple gadgets when you can get it all on a Symbian-based phone?

There's a section where you can choose from freeware, trialware, or paid software for your phone, by model. And if you have issues finding, installing, or even developing software for a particular platform, hit the forum, which has over one lakh members.

## PDADB.net

Dive into PDADB.net and explore the devices you can't stop drooling over! You'll get to know all about different models of PDA, PDA phones, PNAs, and smartphones. Start browsing the database from the Quick Lists on the home page to explore PDAs. The Quick Lists help you browse devices with specific features such as GSM and CDMA, as well as smartphones, handheld PCs, etc. Choose a specific model for specs quoted—and you can also see a detailed datasheet of the model.

If you're looking for a PDA or a smartphone with certain specs, use PDAMaster, which suggests a best match for what you've specified—like physical attributes, memory, OS, display, etc.

You can go a bit technical if you'd like—for example, you can look for a PDA microprocessor that offers specific CPU features like clock speed, more SRAM, 24-bit addressing, and more.

Interested in knowing how the PDA and its components evolved over a period of time? Hit the PDAhistory menu. Right from the first Psion Series 3 released in January 1990 to the upcoming models, it's all there. The site claims to have the best PDA database ever, and we agree!

[www.pdadb.net](http://www.pdadb.net)

Worth reading and refereeing comprehensive PDA database







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Hellgate: London, CSI: Hard Evidence

 **Jasubhai**  
DIGITAL MEDIA





# It's not real. Get over it.

---

"The problem with realistic games is that just when you start to get immersed, something reminds you that it is, in fact, just a game"

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I'M PRETTY TERRIBLE at racing simulators. As I headed on for my billionth date with the wall in an F1 simulator a long time ago, I was chided for loving the *Need for Speed* and *Burnout* series with the childish enthusiasm that I do. To paraphrase, "How could you like that unrealistic crap? You're missing out on the true driving experience!" Protest a bit, and you get this: "It's the closest you're going to come to the real thing!" more often than not accompanied by, "The realistic graphics make it so immersive!" This tripe even extends to fans of FPS games, so don't sit there looking all smug.

The truth is, as games approach realism, the gaming *experience* drifts farther away from it. Today, you get your "true driving experience" sitting in front of a TV with nothing to look at behind you. You can view a car from above (!) and drive it with an analogue controller. Er... which part of that reflects your real-life driving experience? The latest FPS games are no better—accurately-rendered models of real-life weapons, single head-shot kills, ragdoll physics... But look down, and surprise, surprise—you have no feet! The problem with realistic games is that just when you start to get immersed, something reminds you that it is, in fact, just a game.

The latest attempt at realism—highly amusing, methinks—is the introduction of the moral dilemma. In *BioShock*, after you take down the Big Daddy, you can choose to rescue the Little Sister (a wispy, pathetic little girl),

or kill her and harvest her ADAM to upgrade your powers. In role-playing games like *The Witcher*, you have the option to be a goody two-shoes or a vile child of Darkness, and every choice you make "will have its consequences." Don't be fooled—no matter what you do, you'll always be taken to; oh, let's be optimistic—one of three or four possible endings, if not just the one.

Game developers aren't reading this, so it's hardly likely that they'll see the Light. You, on the other hand, can—forsake this fruitless quest for gaming realism and go back to the real reason people play games—to escape reality. The ultimate in immersion—plain old Fun.

That's what I (and millions more) love about the Wii—it's unabashedly unrealistic, and so much fun it scares me. When I played baseball on it, I found myself forgetting to pause the game while I rested—I then realised I'd expected the pitcher to wait for me to be ready. When you forget that it's really bobbing heads you're playing with, *that's* immersion. I try to imagine a world without the Wii, and I'm profoundly disturbed.

The game I'm currently immersed in? It's a classic called *Gish*—you play a ball of tar (tarball! Just a bit of geek humour there...) on a quest to save your girlfriend from a mysterious sewer-infesting captor. Can't go much farther from reality than that, can I?

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## newsbytes



**6**  
Hot (female) game producers aren't too fond of immature gamers, evidence suggests

**6**  
Sony realises that the PS3 isn't all that; tries to save the ship

**6**  
What's the whole DirectX 10.1 controversy about?

**7**  
AMD launches the Spider platform—run four cards in CrossFire!

## GAMING

08



If 2007 was the year of the gaming platform, 2008 promises to be the year of games (well, for now, anyway). Here's what to expect on your PC / Xbox 360 / PS3 / Wii in the months that lie ahead!

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## Strategy Guide

Land more frags in *Quake III*, become a deadly force in *Counter-Strike*, race better in *NFS: Most Wanted* and master *Portal*



## Reviews

Tread the path of good (or evil) in *The Witcher*, roll on exotic wheels in *Project Gotham Racing 4*, take on Dark Forces in *Hellgate: London*, put one through the goal posts in *FIFA 08*, solve a murder or three in *CSI: Hard Evidence*, and when you can't take it any more, kick back for some healthy family fun with *Fuzion Frenzy 2*. It's been a busy, busy month for our crack team of reviewers!



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## How To Install Game Mods

If you've mastered your favourite game, perhaps it's time to give it a new spin. Here's how to install the best mods for *Quake III*, *Doom 3*, *Unreal Tournament 2004*, *Half-Life 2* and *Max Payne 2*



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## Know More About Gaming Engines

You keep hearing about the latest games being "based on the so-and-so engine," but what does that *mean*? Here's the dirt on what makes games tick—right from the AI to weather, sound and other graphical bells and whistles



## Buyer's Guide

You've thought about it, you planned it, you budgeted it, and now you're finally building your own gaming rig? As is our tradition, we bring you all you need to know before you hit the market for your new graphics card and processing powerhouse

F

## Contents

## JOHN WOOD PRESENTS STRANGLEHOLD

The Stranglehold PC demo will allow players to get a taste of the intense, non-stop action, cinematic gunplay and massively destructible environments that their itchy trigger fingers have been waiting for.

## Crysis Demo

Set in 2020, Crysis' plot follows Jake Dunn—codenamed "Nomad"—a Delta Force operative.



## NFS Pro Street Demo

Build the ultimate battle machine, take it to multi-disciplinary showdowns and



pit your skills and reputation against the world's best street racers. This is your chance to prove you have what it takes to be crowned the next street king.

## Pro Evolution Soccer 2008

The most recent title in the Pro Evolution Soccer series. A new adaptive AI system entitled "Teamvision" will be implemented into the game.



## Call of Duty 4



The latest in Activision's smash hit series, and also the first to abandon the traditional Call of Duty WWII theme, *Call of Duty 4: Modern Warfare* heads for an altogether more topical setting: the Middle East.

## Death Illustrated

Built on the CUBE engine, DI has totally awesome 3D graphics, and the theme for the game is "Death-matching inside a three dimensional Comic Book."



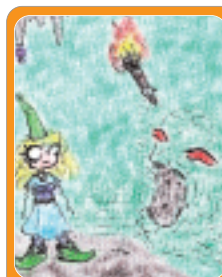
## Marble Arena

The idea of the game is that you're a ball and you need to collect stars. Throughout the level you will encounter various obstacles in your path.



## Gish

Gish isn't your average hero—in fact, he's not your average anything... see, Gish is a ball of tar. A Sunday stroll with his lady friend Brea goes



## Narbacular Drop

This is the predecessor to Valve's excellent *Portal*, released in October. In *Narbacular Drop* you explore a 3D dungeon and overcome obstacles using unique portal gameplay. Its non-violent, low-intensity, simple gameplay will appeal to gamers of all ages

and skill levels. The unique portal gameplay makes for a very fun and memorable experience indeed!

awry when a shadowy figure emerges from an open man hole and pulls Brea into the ground below.

## BMW M3 Challenge



new heights. BMW M3 Challenge, which is the official game to BMW's all-new M3 Coupé, features the original high-detailed BMW

M3 in all its available exterior colours—and the original Nurburgring GP-track in a hyper-realistic racing world.

## Also Featuring

- HoloRacer (Linux)
- Trepidation
- JelloCar
- Kaboodle
- Little Fighter 2
- Probed
- RetroVaders
- Guitar Hero III: Exclusive Launch Trailer
- TimeShift Official Trailer



## Nintendo Battling Wii Shortages

The Wii is the hottest selling console around, but having a product sell like hot cakes around the world can cause a whole new set of problems—Nintendo is battling to produce enough Wiis for the upcoming holiday season, and factories are working overtime. They're not complaining, though!



## Hell Freezes Over

The Xbox actually outsold the PS3 in Japan in the second week of November! It's true though, and apparently, the Xbox was able to beat PS3 sales for the week (17,673 vs 17,434 units) mainly because of Namco's game, *Ace Combat 6: Fires of Liberation*.



# Newsbytes



### DirectX 10.1

#### What is it?

DirectX 10.1 is a revision of the DirectX 10 (DX10) graphics specification, due out soon with Vista Service Pack 1.

#### Which systems can run DX10?

DX 10.1 can only be used on Vista systems with SP1. Those without SP1 use DX 10.

#### How significant is it?

DX 10.1 adds specs that were optional in DX 10—for example, 32-bit FP filtering.

#### When will you use it?

With next-generation games based on it, on supported hardware, DirectX 10.1 will offer a new level of graphics quality. Currently, ATI has released graphics cards that are DX 10.1 capable, but games that utilise the DX 10.1 specification properly are yet to be built. Currently, we're still waiting for Vista SP1, and hoping that the rumours of Microsoft trying to make DX 10.1 compatible with XP are true.

#### Who developed it?

Microsoft, of course, and beta testing of Vista SP1 and DirectX 10.1 is underway, with a final release date of early 2008.

#### Why all the hype?

Enthusiasts have spent hundreds of dollars buying top-of-the-line cards, and are worried that their cards might be obsolete. But DX 10.1 games will function on DX 10 cards, but new features of DX 10.1—if a game utilises them—will fall back to the DX 10 method of rendering. Basically, games will play, but will not look as good as on a DX 10.1 card.

## CONSOLE WOES?

# Sony Attempts To Rescue PS3

The console wars continue. While the Xbox 360 is riding the *Halo 3* wave, and the Wii is enjoying tremendous sales because of its revolutionary new style of controller (being the cheapest console helps too), the Sony PS3 has been struggling...

Consider the sales figures: Microsoft's Xbox has been on the market the longest—two years—and has sold close to 13.5 million units thus far. The Sony PS3 and Nintendo Wii were launched at approximately the same time—one year ago—with the PS3 selling a mere 5.6 million units thus far. The Wii, however, is king of the console ring by a huge margin. Nintendo has shipped over 13.2 million units—and will soon overtake the Xbox 360 in terms of total sales.

The Wii has never had to cut prices, or even depend on huge game titles

to increase sales—being unique has always paid off. The Xbox sales have doubled because of *Halo 3*—so even though Microsoft sells its 360 at loss (as do most console manufacturers), they're more than making up for this with huge titles such as *Halo 3*—they made \$170 million (Rs 680 crore) on *Halo 3* sales, on the day of the launch alone!

Meanwhile, the PS3 languishes with no real console-selling games and the distinction of being the most expensive console. Recently, however, they decided to cut the price of the PS3, and the 80 GB model is being sold for \$100 (Rs 4,000) cheaper than the original \$599 (Rs 24,000) price. But a price cut is not all they need, and execs at Sony knew they needed some great games to help sell their console. Even right here in India, despite

all the consoles being available—officially or in the grey—as are a lot of the games, people are buying more Xboxes and Wiis than PS3s, because they aren't really interested in the games that are available on Sony's platform.

Sony decided to combat this by cutting prices on its PS3 Software Development Kit—by 50 per cent! The "Reference Tool" (Sony's nomenclature

of the PS3 SDK) is now available to game developers for \$8,600 (Rs 3,44,000) in Japan, \$10,250 (Rs 4,10,000) in North America and \$11,250 (Rs 4,50,000) in Europe. They're hoping that this lowering of the bar will bring in newer game developers, who will hopefully increase the number of games for the PS3.

Incidentally, those who already own PS3s need not worry about the future of the platform, because Sony's not likely to give up on their technological marvel in a hurry. Besides, it's still the best deal you can get on a 1080p Blu-Ray DVD player!

## GIRLS N GAMES

# Why Girls Don't Like Gamers

If you haven't heard of Jade Raymond, we congratulate you. You're one of the few gamers left who couldn't care less about anything but the game you're playing. You're not interested in the name of the developer, or how good she looks. Unfortunately, most of us geeks and gamers seem sexually starved to the point of desperation.

Jade Raymond is the producer of Ubisoft's popular game *Assassin's Creed*. Now it's customary for the producer or head developer to talk

about the game to the media, so Jade is the one everyone interviewed. Unfortunately, people noticed that she was "hot", and every search you do for Jade Raymond online will inevitably point you to a blog or forum that says something like, "Jade Raymond is hot".

Conspiracy theorists and the generally paranoid, however, feel that Ubisoft is exploiting Jade's stunning looks to cause a stir and promote the game, and always making sure that all interviews regarding

ate.. tiv.. influence behind *Assassin's Creed*. Please buy my game" It then depicts her providing...err... "lip service"—the most tasteful way we can say it—in exchange for gamers agreeing to buy the game. The cartoonist may have been trying to express how he feels Ubisoft is fooling gamers into buying a game based on how hot the producer is, but there's a line he crossed.

Jade's not happy, and with her game a runaway success, Ubisoft is not too happy either. Lawsuits



*Assassin's Creed* are held with her. Now we're not naive enough to think that Ubisoft's management didn't realise that Jade has above-average looks, and marketing campaigns the world over use beautiful people to sell their products—we're not crying foul, it's just business.

Now Jade was probably a little embarrassed with all the publicity her "hotness" got her, or maybe she wasn't, and actually enjoyed it—we don't know her to be able to tell you. However, no woman would like to be depicted pornographically—except for porn stars of course.

Unfortunately, a sexually overcharged member of the [www.somethingawful.com](http://www.somethingawful.com) forum decided to make a sexually explicit cartoon depiction of the way he thought Jade was promoting her game. The cartoon has Jade in a bikini saying, "Hi boys! I'm Jade, Producer and crate... uh...crate.. erm.. cray-

were filed, the offensive image was removed from the Something Awful forums (not from the member's DeviantArt page), and blogs everywhere crying fair or foul.

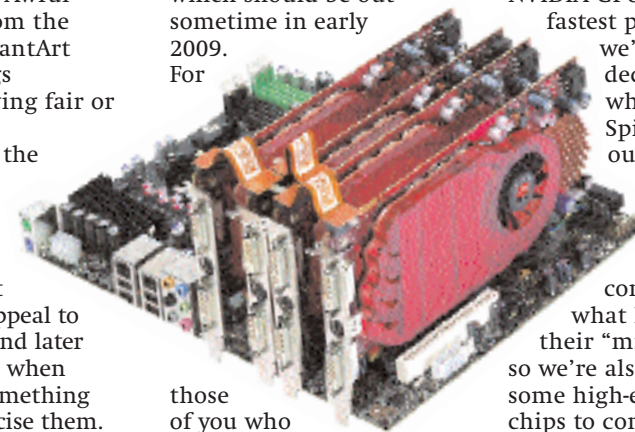
Some are of the opinion that Jade and Ubisoft are being hypocrites—first using her sex appeal to sell the game, and later acting offended when someone did something creative to criticise them. Others even go so far as to say that it's all a publicity stunt, and Ubisoft is the one behind the offensive cartoon in the first place. Some are defending Ubisoft and Jade vehemently, using abusive language on forums where members have discussed her "hotness" before. It's become such a big issue that even we're

forced to report it to you. However, make no mistake. Through this article, through the millions of others online, in print, on TV even, where ever this development is being discussed, there are some Ubisoft executives rubbing their hands together in glee—although unfortunate, sick even, the "Jade cartoon" is giving Ubisoft some great publicity for *Assassin's Creed*.

## THE PHENOM

# AMD Launches Spider

AMD's much awaited quad-core, the Phenom, was launched last month. However, AMD also launched its Spider platform—which is basically an AMD (or ATI) graphics card, a CPU and a chipset that work together to provide higher visual quality and better graphics. Spider is the first step that AMD is taking towards their Fusion platform, which should be out sometime in early 2009. For



those of you who don't know, Fusion is AMD's futuristic chip that can take on both normal processing and graphics processing, making it a hybrid chip of sorts.

To coincide with their Phenom launch, AMD released the ATI Radeon HD 3850 and HD 3870 cards. The 3850 features 256 MB of RAM

**HOT**  
**Core Control**  
New games are finally making use of the dual cores and quad cores that people have been buying for over a year already. Now it is making sense to opt for that quad core if you're a serious gamer.

**Upgrade Woes**  
None of the 8800s and 8600s that gamers have bought so far will run DX 10.1-based games the way they should be run. In a year's time, all those folks are going to have to upgrade again...

while the 3870 has double that. These are among the first cards to support DirectX 10.1, and AMD hopes that with Spider, they can start getting their graphics and processor engineers to start working more closely together to bring out a better platform for gaming and HD video.

Early benchmarks still showed Intel chips with NVIDIA GPUs to be the fastest performing, but we'll reserve our decisions for when we get Spider to test for ourselves.

Interestingly, the new cards are priced in comparison to what NVIDIA prices their "mid-range" chips, so we're also waiting for some high-end AMD / ATI chips to come our way.

For general computing and us technology consumers, AMD seems to be sticking to its plan of building its Fusion platform. This is good news for us because it mean cheaper chips and lower power bills. We're hoping performance will improve as well. You're going to have to watch this space for more though.



# Let There be 2008

Shrikrishna Patkar

## Ahmed Shaikh

**W**e interrupt the adverts to bring you the gaming report for 2008: platform exclusives are thin, the Xbox 360's rolling thunder continues to gain momentum, third-parties continue to miss the Wii wave, and the PS3 is coming back in style and in force. And now, back to our sponsors...

### Devil May Cry 4

Feb 2008

Hack and slash, Action

PS3 X360, PC

After the demon-ass kicking prequel that was *Devil May Cry 3*, Capcom is bringing back the franchise with a sequel. Ass kicking, now in glorious HD, comes to the next-generation consoles and the PC. In *DMC4*, a new character called Nero is being introduced. Also joining Dante is a female character called Kylie. While Dante from previous games would also be playable in *DMC4*, the main protagonist is hinted as being Nero this time around.

The game will feature the same insane combat and enemies of the previous iterations as also the over-the-top dialogues and cut-scenes. The game's difficulty would be tweaked in this outing, however, as Producer Hiroyuki Kobayashi has made changes to the gameplay so that controlling characters is less difficult. The game will, in general, have a more forgiving

learning curve—it will start off easier but will ramp up in difficulty as the player progresses, eventually surpassing *DMC3*'s difficulty.

New combat elements will be added thanks to Nero's devil arm and his "Devil Bringer" Power. The arm, for example, would be used to pull in and push out opponents during combat, trigger special moves, or even travel short distances. Dante, the primary character in the rest of the series, will also be playable, and will have updated versions of the core animations used in *Devil May Cry 3: Dante's Awakening*, as well as that game's four basic fighting styles: Trickster, Royal Guard, Gunslinger, and Sword Master, which can be switched at will.

*This game is Rajnikanth approved! You dare not miss it!*

### Army of Two

March 2008

Third Person Shooter

PS3 X360

Co-operative action and gameplay seems to be the focus of this third-person game from EA. Unlike most games in the past which have an option for co-op, *Army of Two* has been designed to *only* be playable in a pair. The second player can either be controlled by a friend or by the game's AI. The co-op action takes a range of activities: a player can boost another up a wall, the second player can then pull the first one up, one can hold a rope while the other ripples down a wall, or both can cover each other's back and shoot at the enemies; two players will also be required to man the vehicles—one drives while the other shoots, and so on. The developers have also borrowed a book from popular MMORPG titles and introduced an "aggro" system via an "Aggrometer". Aggro measures the aggressiveness that the enemies feel towards the game's characters. The idea is for one of the characters to rake in the aggro—this makes the other character less visible to the enemy and the other can then take them down in stealth. The game will also allow a great deal of customisation for the weapons which include: changing stocks, adding silencers, grip handles, extra-large magazines,

2007 was a joygasm for anyone remotely into gaming. The consoles shone bright, the PC returned with a bang... or three, and the world seemed less slightly cruel. What glories does 2008 have in store? Read on to find out!





**Alone in the Dark**

TBA 2008  
Survival Horror  
PC Wii PS3 X360

**Soul Calibur IV**

TBA 2008  
Fighting game  
PS3 X360

**L.A. Noire**

Q4 2008/2009  
Detective Action  
PS3

**Penny Arcade Adventures: On the Rain-Slick Precipice of Darkness**

TBA 2008  
Adventure, RPG  
PC X360

**Tom Clancy's Endwar**

Feb 2008  
Real-time Strategy  
PS3 PC X360

**King Story**

TBA 2008  
Life Simulation, RPG,  
RTS, God game  
Wii

**Mario Kart Wii**

TBA 2008  
Kart Racing  
Wii

**Dynasty Warriors 6**

February 2008  
Hack and slash  
PS3

**Battlefield: Bad Company**

February 2008  
FPS  
PS3 X360

**Silent Hill 5**

TBA 2008  
Survival horror  
PS3 X360

**White Knight Story**

TBA 2008  
RPG  
PS3

new barrels, silver, gold, platinum and chrome plating to the various pistols, shotguns, sub-machine guns, RPG launchers and assault rifles found in the game. The player will also be able to customise their armour to make it better, stronger and personalised. Multiplayer gameplay will also be done in pairs—two teams of two each will go up against each other.

*It takes twoooo baby, it takes twoooo baby, me and you, just takes two.*

**Grand Theft Auto 4**

TBA (To Be Announced)  
Action, free-roaming  
PS3 X360

The 13th title in the GTA series and the fourth main episode is set to release sometime before April next year. The developers at Rockstar hope to take GTA to an all-new level



of interaction, freedom and interactivity with this iteration. To that end, the game is set in a redesigned Liberty City, based heavily on New York City. While the new city will be smaller than San Andreas of past, the amount of detailing and the ability to enter some buildings will add a more immersive dimension, Rockstar has said. To add to the immersion, the pedestrian AI will now allow for more diversity in action as they are much more intelligent—using mobile phones, cash machines, eating snacks, drinking soda, reading newspapers, and so on. The player's interaction with the world will also be deeper, and he will be able to perform actions such as climbing telephone poles and fire escapes, pushing people who bump into him, and calling a woman for a date. The calling bit will be handled via an in-game cell phone, which will also allow you to start a multiplayer session with up to 16 people online. The player is also said to be able to use the Internet inside the game: as an example, the player can mail a résumé to a potential employee from various cybercafés in the game world.

*A next-gen GTA!? The very thought turns us into giggly school-girls.*

**Fable 2**

TBA 2008  
Action RPG  
X360

As a sequel to a hit game, *Fable 2* is quite an ambitious and daring title. First, it hopes to redefine combat in RPG games by implementing one-button action and context-sensitive combat moves. All melee combat is mapped to X—press X to hit, press X next to a bottle to hit with a bottle, press it next to a tower wall to throw the enemy over, or next to a chandelier to jump and swing and then hit the enemy—just like in the movies. Furthermore, combat can also be stringed by pressing X rhythmical-

ly—follow the audio cues while landing your melee attacks and they will chain into combos and land with greater effectiveness. A similar structure is also extended to its magic (B button) and ranged combat (Y button). Death due to combat is also uniquely handled. Instead of starting from a previous checkpoint, or

reloading—the game's enemies will pummel you bloody if you lose a fight. The more you're hit, the more scarred you'll get; boss fights will be especially gruesome in punishing you at this. A scarred hero will be less successful in some social situations—you can of course avoid the scarring by either handing over gold, or losing reputation, or by losing experience points. Helping with combat will be a faithful sidekick in the form of a dog. You will first find the dog as a puppy and will then adventure with him for the remainder of the game. The dog will assist the player by alerting him to threats and attacking whatever enemies the player is weakest to. The dog can also be taught some tricks and be rewarded or punished through toys and food. Every dog will be unique in some way and will morph according to the alignment of the player (*a la Black & White*). Peter Molyneux, the game's designer, states that the dog will get the player to care, to experience love or hate. Love of the more romantic type will also be possible in the game with the player able to flirt with anyone—of either gender—and marry and have kids. Having unprotected sex with a member of the opposite sex will result in a child, who would inherit the parent's looks and abilities, as also his actions and alignment. A player playing a female protagonist will be able to adventure while pregnant. The game aims to offer some truly unique features while streamlining traditional RPG elements and we hope it succeeds in offering the unique gameplay that shines through in its design.

*That Molyneux sure is kooky... in a good way ^\_^*

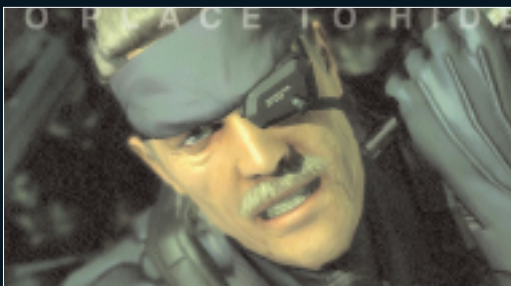
**Metal Gear Solid 4: Guns of the Patriots**

Q2 2008  
Stealth  
PS3

MGS4 puts you in the aging shoes of Solid Snake and this time around there is "No Place to Hide!" As with previous iterations in the series, it will utilise the traditional third-person view. This outing, however, will also allow for a first-person perspective as well as an over-the-shoulder camera. The Close Quarters Combat system will also be completely revamped and MGS4 will introduce a new form of camouflage called







"Octocama" which will allow the wearer to literally blend in with his surroundings. The player will also be able to interrogate guards for information and supplies. With the motto of nowhere to hide, the game throws you in the middle of several battlefields, and stealth and combat are equally important. Apart from Octocama, Snake will employ a monocular device called Solid Eye which acts as binoculars and image intensifiers, and a drum to complement the cardboard box disguise. Snake will also partner with a robot called the Metal Gear Mk. II, which will stand in for the CODEC system of old and allow communication between game characters. Mk. II will also offer a degree of anti-personnel combat via your ability to remotely control it and engage enemies using an electric shock. *Metal Gear Solid 4* will take place in five locations around the world, three of which have been revealed to be: the Middle East, South America, and somewhere in Eastern Europe. Four new bosses were also recently introduced: Screaming Mantis, Laughing Octopus, Raging Raven, and Crying Wolf, of The Beauty and the Beast Unit—all four women suffering from post-traumatic stress.

*Only thing more badass than Snake is a geriatric Snake. We're serious!*

## Spore

TBA

Life simulation

PC

An entire magazine could be devoted to talking the scope and feature of *Spore*—perhaps the most ambitious game to come out in this decade, and certainly the most ambitious title from Sim superhero Will Wright. The game can best be described by its once-code-name: Sim Everything. In *Spore*, the player guides a multicellular organism to sentience and ultimately to space travel and world conquest! Each of the game's various phases offers a different type of gameplay: for example, as a simple protean microbe, you are required to move in a 2D environment, dealing with fluid dynamics, being eaten, and weaker microbes—this particular phase is akin to *Pac-Man*. Later, you can control tribes which have evolved from the same multicellular organism in a gameplay experience similar to an RTS game, and finally you can take to space, conquer different planets by



force or diplomacy, destroy worlds, create worlds, and so on...

What makes the game truly unique is that it calls itself a Massively Multiplayer Single Player Game. Everything that the player creates (and the game allows you to create everything—from the creatures, to its houses, to the worlds) is shared with other players playing *Spore*, but within a single-player environment. Thus, you may find that your world is populated by creatures created by others, or you might be offered to opportunity to buy items made by others, or to visit planets created or populated by others. For example, if there is a lack of predators in your world, the game will automatically download creatures from another player into your world to balance out the ecosystem. The final galaxy phase of the game is claimed to offer over half a million different stars, each one having its own planets! The game will never really end (much like Will Wright's other Sim titles) and the Space Phase continues for as long as the player wishes.

*This is blasphemy! This is madness!*

*Madness...? THIS... IS... SPORE-TA!*

## Far Cry 2

Q2 2008

First-person shooter

PC

Ubisoft is handling the sequel to the hit *Far Cry* games, now that Crytek sold the rights to the French studio. This time, the game will not feature any supernatural or sci-fi elements, and will further veer from the first part by offering not one, but 12 different mercenaries to play as. Set in Africa, the game will be entirely open-ended and non-linear. After you choose from one of the 12 mercenaries, the remaining will be encountered in the game as friends. The game will feature terrain ranging from savanna to jungle and the weather will depend upon how well you do in the game: sunny skies when everything is going well for you will give way to thunder and lightning when you are in trouble. Various factions and vehicles will be featured, and the gameplay area will be around 50 square km.

*Will it be a far cry from its sequel? Ha ha, punny...*



## Wii Fit

Early 2008

Simulation, exergaming

Wii

The Wii series of games have enjoyed immense popularity the world over—both Wii Sports and Wii Play have been well-received. Hoping to continue the winning formula, Nintendo will introduce Wii Fit (called Wii Fitness in Europe) sometime next year outside of Japan (Japan release is this December). Wii Fit, just like the other titles in the series, will integrate Miis into its presentation and gameplay. The game

## Singstar

February 2008

Music

PS3

## Infamous

TBA 2008

Third person shooter, open-ended

PS3

## Killzone 2

TBA 2008

First-person shooter

## The Agency

TBA 2008

Massively Multiplayer Online Shooter

PS3

## Lost Oddysee

February 2008

RPG

X360

## Banjo-Kazooie 3

TBA 2008

Platformer

X360

## Harvey Birdman: Attorney at Law

TBA 2008

Visual Novel

Wii PSP PS2

## Sonic Riders: Zero Gravity

February 2008

Racing

Wii PS2

## Dragon Quest Swords: The Masked Queen and the Tower of Mirrors

TBA 2008

RPG

Wii

## Opoona

TBA 2008

RPG

Wii

## Endless Ocean

January 2008

Adventure

Wii



will also introduce a new peripheral to the Wii family, called the Wii Balance Board. The board is a unique piece of hardware designed to measure a user's body mass index and their centre of gravity. The game will require the user to interact with the Balance Board in various ways—from doing sit-ups on it, to controlling balls by leaning each side while standing on it, to doing push-ups using the board as support. The game will have about 40 different activities falling under one of these categories: Aerobic Exercise, Muscle Conditioning, Yoga Poses, and Balance Games. Wii Fit will also allow players to compare their fitness by using Wii Fit's own channel on the Wii Menu. While no immediate content is planned for release over WiiConnect24, Shigeru Miyamoto has suggested that there could be possibilities to take advantage of the feature in the future, such as using the service to keep in contact with a doctor to help with rehabilitation, or with a fitness specialist to help with training exercises.

*The Games giveth, and The Games taketh away—our fat. Amen.*

### Alan Wake

TBA 2008

Psychological Action Thriller

PC X360

From the creators of Max Payne, comes Alan Wake—a “psychological action thriller.” The game engine is designed to take advantage of multi-core processors, and it has been demonstrated at a press event to offer photo-realistic graphic qualities (a sweet-ass tornado), and dynamic shadows that change according to the position of the sun. Gameplay in *Alan Wake* revolves around the concept of light and dark—the game's enemies are vulnerable to light. As such, the flashlight you conveniently just happened to leave the house with turns invaluable. You will also be required to place booby-traps

and creatively take advantage of any and all light sources within Alan Wake's world. The world itself is vast and allows for free-roaming similar to the *Grand Theft Auto* series. With a free reign over his environment, the game hopes to offer the player open ways to achieve specific goals. Unlike *GTA*, though, *Alan Wake* is more character-driven and story-oriented and follows the tribulations of the protagonist Wake as he suffers from insomnia and tries to make sense of bizarre events which have taken over his waking world. Lead Designer Petri Järvillehto puts forth that the game should not be directly compared to what Max Payne offered, stating, “...intense cinematic action is something that we love to do, and Alan Wake features tense combat gameplay as well, but all things considered the game has a lot more emphasis on adventure and exploration than what Max Payne did.” Driving, for example, would be an integral part of the game as well.

*Just for giggles, this should have been developed by Insomniac Games. We are easily amused*

### Fallout 3

Q4 2008

Action RPG

PC X360 PS3



The torch to the venerable *Fallout* series has passed on from Black Isle Studios to Bethesda Softworks, and regardless of whether you hate or love the idea of Bethesda getting the hands on the IP, we all await *Fallout 3*'s release sometime next year—bouquets and brickbats in hand. Similar to the previous titles, *Fallout 3* will be set in a post-nuclear United States. You will take on a role of a resident of one of the underground nuclear shelters—Vault 101, residing in Washington D.C. Starting the game as a child, you will first be asked to choose you features and looks and as you grow up, you will then be able to distribute points to key attributes defining you (such as Strength, Agility, Luck, Perception, etc.). The game will later see you leaving the vault in search of your father, focusing on non-linear gameplay, a good story, and black comedy. *Fallout 3* will be rated M for Mature, and will have the same sort of adult themes, violence, and depravity that are characteristic of the *Fallout* series. (If you haven't played the previous games, now is a good time to rectify that—these are two of the best games ever made!) Combat will be a mix of real-time and semi-turn-based and will feature slow-motion decapitations, exploding heads, and

Alan  
WAKE



general goriness. The game will be playable from either a first-person or a third-person perspective. If Bethesda can successfully marry the detailed world of Oblivion to the great personalities and story found in the Fallout universe, we may be in for a S.P.E.C.I.A.L. treat come 2008.

Marcus says: *Been there. Seen that. Got the scars. We say: PLEASE BE GOOD!*

### Too Human

Feb 2008

Action RPG

X360

*Too Human* is an ambitiously-planned trilogy from the creators of such great titles as *Blood Omen: Legacy of Kain* and *Eternal Darkness: Sanity's Requiem*. The first in the planned trilogy will be released next year. The game is an action RPG drawing inspiration from Norse mythology. It tells the tale of technology's effect on mankind—the hero, for example, is constantly looked down upon for being “too human” and



not as laden with tech implants as his contemporary peers. The story features many Norse gods including Thor and Loki and every event, character, and location in *Too Human* has a direct parallel to Norse mythology. As an example, Yggdrasil—the Norse tree of life—is portrayed as the gateway to an alternative world known as Cyberspace. Combat in the game is a mix of twitch gameplay and RPG elements. The game hopes to marry the excitement and depth of a combat system similar to the *Devil May Cry* series, with traditional role-playing elements such as dungeon crawls and skill-tree progression. Melee combat is exclusively executed via the right analog stick, whereas camera is controlled by the AI; the automatic camera will be scripted to offer cinematic angles while fighting or interacting within the game. The game has several classes to choose from, each presenting a unique fighting style and skill tree, thus adding to replayability. Some of these are: Bioengineer, which focuses on cybernetics and combat; Champion, which is a warrior-class focusing on force field and anti-gravity based attacks; and Berserker, which is the class that has the highest hit-points and wear heavy armour. As a trilogy the game will allow the character to level up to 50 in the first part, from level 50-100 in the second and from 100-150 in the third. *Too Human* will also feature online gameplay via Xbox Live.

Pun Master says 'This game has been surprisingly Loki since E3 2006'. We hate Pun Master

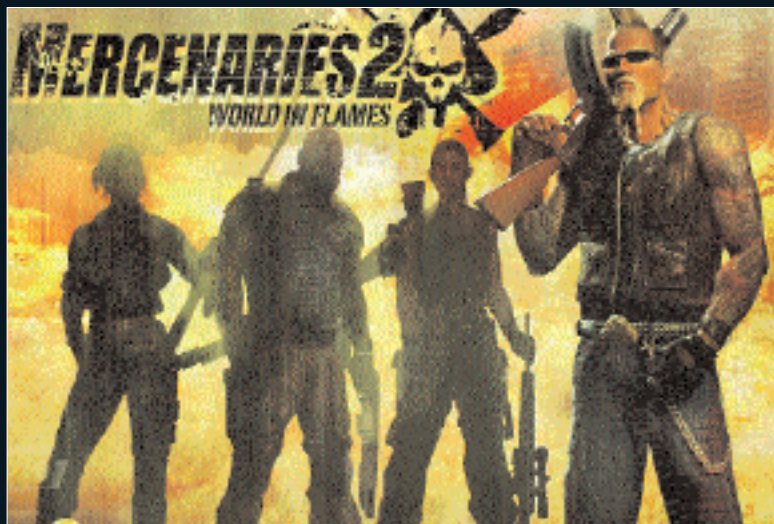
### Mercenaries 2: World in Flames

TBA

Action Adventure, Freeroaming

PC PS3 X360 PS2

The sequel to the 2005 hit, *World in Flames* offers completely destructible environments, a unique “fire” engine which the player can use to ignite oil or foliage, and new vehicles including planes and helicopters. Hijacking a vehicle is now done via a minigame: hijacking a chopper would involve grappling on to it using the grappling hook, opening the door of the chopper, pulling the pilot out and smashing the door into him, and then throwing the pilot out



and taking his seat. The game will feature many new environments ranging from massive, densely-packed urban environments, to the sprawling expanse of the Amazon jungle.

### Splinter Cell: Conviction

Q1 2008

Stealth

PC X360

Sam Fisher returns as a 53-year-old, no longer working for the government, in *Conviction*. The game is set almost entirely in open, urban areas and the player will now have to use crowds and other environmental elements for cover. Almost every object in the game will be interactive—including chairs or printers, some interactions might involve blocking a door with a chair or a



bench. The game will be split across 15 episodes with an estimated game time of one hour per episode. The first episode will bridge the gap between *Double Agent* and *Conviction*.

## Turok

February 2008

First-person shooter

PS3 PC X360



Big guns versus dinosaurs—with such a winning formula, can the title go wrong? The 2008 title sees Joseph Turok, a former Black Ops commando, sent on a mission to take down his former mentor, Roland Kane who has escaped to a genetically-altered planet. You must thus take down well-trained soldiers, giant insects, man-eating plants, and, of course, dinosaurs—including the Tyrannosaurus Rex!

## LittleBigPlanet

TBA

Platformer

PS3



*LittleBigPlanet* aims to continue what *Super Mario Galaxy* has begun—a reinvention and a fresh take on the platformer genre. The game is unique in the aspect that players can actually affect the game world around them—either through their unique abilities, or by creating and adding elements into the game world. This creation process can either be co-operative or competitive.

## Disaster: Day of Crisis

TBA

Action-adventure

Wii

*Disaster* is a survival game from Nintendo. The game puts you in various dangerous situations—either man-made or natural disasters—and requires you to survive in order to progress. Natural disasters include a tsunami, a volcanic eruption and an earthquake. The game will ask



you to survive these disasters as you seek to thwart a group of terrorists.

## No More Heroes

Feb 2008

Action-adventure

Wii



An erstwhile normal person, you win a beam katana in an Internet auction, then proceed to kill a hitman with it, and must now kill the remaining top 10 assassins in order to... do what? Who cares?! Suda 51, creator of the excellent *Killer7* claims that this game has a social message where *Killer7*'s was political. With a gameplay that mixes sabre-like combat, Wii Remote slashes for special moves and special wrestling manoeuvres, and takes place in an open-ended city; this is another Wii title to look forward to.

## Ninja Gaiden 2

TBA

Action

X360

Sequel to the excellent action game on the Xbox, *Ninja Gaiden 2* sees Ryu Hayabusa return with a new arsenal to cut with and new enemies to chop up. New weapons revealed have been a scythe, a pair of three-bladed claws (think Wolverine), and bladed shoes. The game will also feature beheading, cutting of the torso from the waist, chopping off arms and legs—the dismemberments will add a layer of strategy as chopping off limbs will slow or incapacitate an enemy without killing him. ■

[readersletters@jasubhai.com](mailto:readersletters@jasubhai.com)



**Nimish Chandiramani**

## The Fling

## Beat The Turrets

Sometimes, you don't need to deal with the turrets at all—in the Test Chamber 18 advanced challenge, for example—if you time yourself well, you can fling yourself off the inclined wall and reach the spot with the cube directly. Remember to hide behind the cube, though.

## Look Beyond

While a lot of the test chambers require you to complete all aspects of the puzzle to reach the final elevator, you can cheat your way out of some situations—Test Chamber 14, for example, can be completed with just two portals, one of which goes next to the elevator. We'll leave you to figure out where the other goes. No need to bother with the cube or the energy pellet!

## Play HL 2 With The Portal Gun

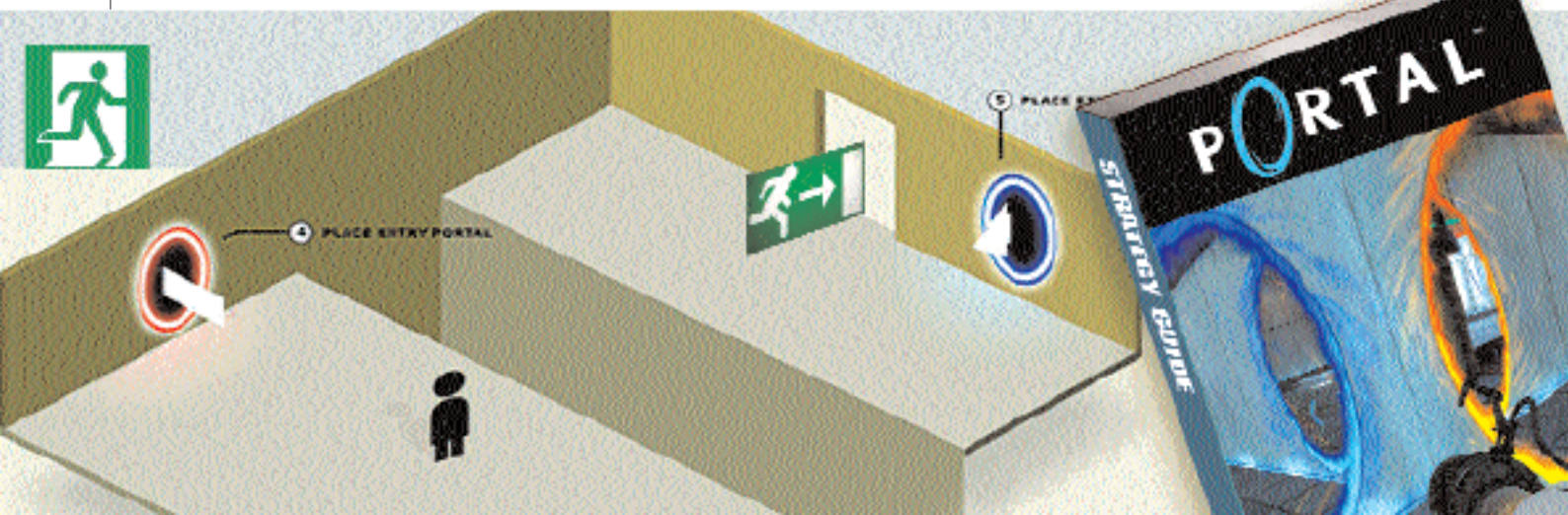
- With GCFScene, open half-life 2 content.gcf in your Half-Life 2 directory. From the folder tree, extract the “maps” and “scenes” folder to your Portal directory([your steam install folder]\\[your username]\\portal\\portal) and merge with the existing maps folder.

- Fire up Portal and enter the console (hit [~]). Type `"maps *"` to see a list of maps available to you—some of them should sound familiar. Type `"map [map name]"` to start playing!

- In the console, enable cheats (`sv_cheats 1`) and type `"impulse 101"` to get all the weapons—including the Portal gun.

## More Fun

Get yourself more maps and mods for Portal at <http://www.portalmaps.net/> and <http://www.portal-mods.com/>. And finally, to play the game that started this madness—Narbacular Drop—pop in this month's Gaming DVD! ■



# Counter Strike

By far India's most popular game, CS is played by millions across the globe. We'll try and help you get a little better and frag your friends

Rossi Fernandes

Counter-Strike is still one of the most-played games in our country, despite its age. It's really cheap now, and there is no shortage of servers to play on either—there's V-Street, Indian Gamers League, FragShack, Indian Gamers Community and many others. You can find most of them in the server list for the Asian region.

## Group Rush

One of the most effective ways of defeating the enemy is to rush them—it's both useful and great fun, too! The rush should be either at the very beginning of the round or a delayed rush at a set time. Use in-game voice chat to communicate with the rest of your team.

## Managing Resources

Weapons require money, and there's not a lot of it to be had if you keep on losing rounds, so don't unnecessarily stock up on clips that you won't use. Keep the team's economic situation in mind before buying anything. If required, choose to go through a round on only pistols, or if a member is really good at sniping, for instance, let him buy an AWP and let the rest give him cover.

## Using Weapons Sensibly

Every weapon in Counter-Strike has its characteristics—firing rates, recoils and so on. Single shot sniper weapons like the AWP and AWM for example can't be used effectively while moving or jumping. So make sure you have your feet on the ground—even better, crouch—while taking shots. While zoom-

ing with the AWP / AWM, the sensitivity is generally slower. You can choose to change the ratio with the command `zoom_sensitivity_ratio [value]`. Other weapons: the AK47 and the M4A Carbine have a recoil—the AK47 generally more than the M4. Use short burst of bullets to get more accurate kills.

## Connection Settings

You should set Counter-Strike up to work well with your Internet connection—there are a few commands that you can use in the console to get shots better.

The `/rate` sets the limit on the speed that the game downloaded. Use `cl_updaterate` to tweak the rate at which the client receives updates from the server. Increasing this will increase the download rates. `cl_cmdrate` is like `cl_updaterate`, and is used to specify the rate of refreshing the server with your moves. The default value of `cl_updaterate` is usually 20, 30 for `cl_cmdrate` and 9999 for `rate`. Increase these settings to suit your connection, but don't go overboard—you'll end up with a plenty of lag on your connection. To get an idea of how well your connection is coping with the settings, type `net_graph 1` in the console. There are 2 other `net_graph` views that can be used—`net_graph 2` and `net_graph 3`. `net_graph 0` turns off the `net_graph` completely.

## Fast Switch

You can switch to weapons using the numbers on the keyboard, but this isn't always convenient. If you use the mouse's scroll-wheel, you have to scroll to the gun you want and then click to

confirm—another waste of time. To switch guns quickly without needing the confirmation click, enable fast weapon switching—type `hud_fastswitch 1` in the console.

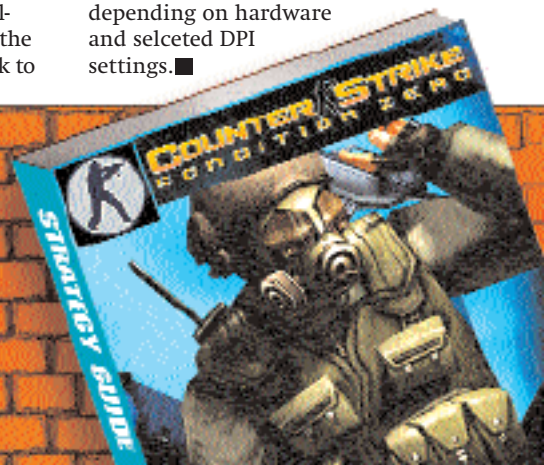
## Widescreen Counter-Strike

Even the latest games can have problems with widescreen displays, so it's refreshing that you can enable widescreen in *Counter-Strike*. Thanks to Steam, it has the advantage of getting regular updates. Go to on `Options > Video`. Under aspect ratio, select Widescreen. On the right, you'll see the list of widescreen resolutions. Select the best one for your screen and click OK.

## Counter-Strike Controls

Like in *Quake 3*, you need to get your sensitivity and acceleration right in *Counter-Strike*. First, disable mouse acceleration: go to `Start > Control Panel > Mouse` or by starting your mouse driver's application. Disable any mouse precision options that might be present in the mouse settings. From within Steam, you can set Counter-Strike to have no acceleration in-game as well. Once Steam is running, right-click on the Steam icon in the system tray and select Games. Right click on Counter-Strike and choose Properties. Click the Set launch options buttons. Enter: `-noforcemaccel` `-noforceparms` `-noforcemspd` and click OK. Then start *Counter-Strike*.

To set a sensitivity, type `sensitivity [value]` in the console. Counter-Strike players generally use low sensitivities—around 1.5 to 5—depending on hardware and selected DPI settings. ■







# Quake III Arena

By far the most popular game at our offices, QIII: Arena has been out for gaes, but fun never stops being fun.

Rossi Fernandes

**Q**uake III Arena (Q3A) is old, really old. Even *Quake 4* has started becoming old for some people, but Q3A is still blazing fast, loads of fun, runs on pretty much any machine and there is still a very loyal community online and an offline (well us here at *Digit*, at least) can't finish a day without few rounds.

## Performance And Quality

Maximum quality might be a treat for the eyes, but performance is more important when you're playing with ten players in-game, with gibbs and blood flying all over the place. To remove the gore, bring up the console (``) and enter `/cg_gibs 0` and `/com_blood 0`.

To reduce the confusion in multiplayer team games, you can use the command `/cg_forceModel 1` and then `/cg_EnergyModel` (this only works for the OSP mod. The first command will make all the models in game the same as yours. The second command makes all the opponents the TankJR model. You can choose whichever model you wish. `/cg_enemycolors` sets a colour to the enemy's model. Eg. `/cg_enemycolors 2222` will force the enemies to look a bright green.

## Controls And Key Layout

The default 1 through 0 keys for changing weapons aren't the best, assuming you're using the default WASD setup for moving about. Using the mouse scroll to scroll through the weapon list can get you killed, so use the keys around the WSAD keys—Q,E,R,1,2,3,4, etc.—for weapons like the plasma gun, lightning gun, and the rest. The most important weapons, the Rocket Launcher and the Railgun, can be bound

to your mouse's middle click and right click respectively. The new changes will undoubtedly take time getting used to, but you'll eventually strike gold.

Your mouse settings need to be set right as well. Preferably, it's good to have the mouse sensitivity set to around 2, assuming that you're using an 800 dpi mouse. You can set values by typing the command `/sensitivity 2`. Low sensitivity will give you the accuracy you need but still won't get quick reactions. Set the acceleration to around 0.5 using the command `/cl_mouseaccel 0.5`. Play around with friends, until you have the settings just right for you. You should end up with a setting where you can make one swing of the mouse and make a 360-degree rotation in game without having to lift the mouse.

## Strafe-jumping

Strafe-jumping is a way to improve your speed while jumping about in game. To view your current speed, bring down the console (press ``) and type `/cg_drawSpeed 1` (this only works with the OSP—Orange Smoothie Productions—you'll see the speed meter on the right top of the screen. You'll soon notice that default player speed in *Quake 3* is 320 ups.

To begin strafe-jumping, hold down the strafe key and start jumping continuously; move the mouse gracefully in the direction of your movement. You will notice that your speed will increase slowly, but will definitely exceed 320 ups (units per second). Make sure you time every jump perfectly—any breaks, and you'll be left without any speed. If there's enough space to run about, it's possible to get your speed all the way up to 1000 ups and beyond!

## Opponent Gyaan

Experiencing years of mindless carnage and playing with the weirdest of characters for close to a decade has made us wiser; while these may sound silly and obvious, they are very effective. Aiming is one thing, not everything. You could buy the costliest mice and mouse pads, make a thousand tweaks, but there is nothing more effective than truly understanding your opponent(s).

Observe and remember each one of your opponents' running patterns, his rocket dodging patterns and his favourite camping spots. Use this knowledge to your advantage to predict and react well in advance. Wait at his camping spots and dominate. Do it well, and you will soon find your opponent beginning to lose it. To avoid finding yourself at the receiving end of these tactics. Keep changing your patterns and style. It's all

## Playing QIII online in India

For FPS multiplayer games, low pings are absolutely important. FragShack is a gaming community that has two *Quake III* servers. You will need to download the latest update to play on the server. First update to 1.32 and then download the small 1.32c patch and extract the EXE to the *Quake III* folder. The complete OSP 1.03a mod with maps for *Quake 3* can be downloaded from <http://www.orangesmoothie.org/download.html>. The *Quake III* OSP server address is 202.88.131.139, Port: 28000.

about moving - keep making random strafing movements in no one pattern. ■







# Need For Speed: Most Wanted

Fast cars, one the run from the fuzz... ahh this is the life

**Nimish Chandiramani**

The ninth in the ever-popular *Need for Speed* series, *Most Wanted* (NFSMW) brings you fast cars and brutal police chases. What's not to love?

## The Best Pursuit Car

You're entitled to differ, but in our experiences, the Ford Mustang GT (considerably upgraded, of course), is a very wise choice for bounty, cost to state and other such pursuit challenges. Its propensity to go flying into the air after collisions with the cops is considerably less than other cars, for one. In the heart of the city, you can get it to execute some neat drifts around corners, so you won't lose too much speed as you weave in and out of streets—and considering that the cops don't do so well with long and winding roads, this is ideal for putting some road between you and the fuzz. On the highways, this quality lets you easily pull 180-degree turns and befuddle the police while you make good your escape. Finally, it's not too fast, so you won't end up "accidentally" evading the police before meeting your targets.

## Busting Roadblocks

When you encounter a police roadblock ahead of you, look for the wooden fence with the stop sign on it (use SpeedBreaker if you have to)—this is the weakest spot, and you can barrel through it without losing too much speed. Alternatively, aim for the gap between two cars and use your Nitro boost; try to hit the back of a pursuit car rather than the front—for some reason,

they give way easier. At higher heat levels, watch out for gaps in roadblocks—that's where the spike strips are.

## Save Yourself The Shame

If you do get busted by the police, end the game immediately ([Alt] + [F4] or [Ctrl] + [Alt] + [Del] > End Task; if it means very much to you not to get busted, just reset your PC—don't blame us for the consequences)—your game won't be autosaved, and you'll be rid of the embarrassment. As a bonus, your heat level will have gone down a couple of bars when you get back to the game.

## More Pursuit Strategy

When you've got a Pursuit Time or bounty challenge to meet, or just want to raise your heat level, hit the freeways—the cops won't lose you easily (not at the higher heat levels, anyway) and when the battering SUVs come along at heat level 4, you have plenty of room to dodge them, not to mention the myriad roadblocks and spike strips. Freeways are also great places to find trucks: use the SpeedBreaker to come close to a truck (especially the logging trucks) and break away at the last possible moment—pursuit cars will most likely crash into them, strewing logs all over the road and hampering more police cars behind.

Once you've met your target or are getting bored, dive into the city. The police cars slow down around corners and S-curves, so try to shake them off there. You'll be closer to Pursuit Breakers, so use them to your advantage. Don't bother wasting a pursuit breaker if you're only being

chased by two or three police cars, though.

## Playing Dirty—1

Computer opponents won't give you moral lectures, so feel free to hamper them any way you can. In multiplayer circles, however, Hate and Revenge are words you need to remember when pulling off some of these stunts:

In older —NFS— games, you could nudge opponents in the backside and watch them swerve off the track, leaving you to your glory. In —NFSMW—, however, cars stick to the road with renewed zeal, but you can still do your bit to help them off. When an opponent in front of you is negotiating a sharp corner, use nitrous and barrel into his car's back—when done right, you can dislodge him from his racing line. On the other hand, you could go just a teensy bit off and ruin your chances at a win.

## Playing Dirty—2

You might have noticed that if you hit a wall while taking corners, you bounce right off if you don't stick to it too much. The idea here is to make sure your —opponents— stick to the walls, though. If you're taking a corner with an opponent at your side, let up on the steering a bit and drift into your opponent. You'll both move towards the wall; at the moment of impact, you'll bounce off his car, so nitrous away immediately, leaving him in the dust. This only works on 90-degree turns, though, and takes a while to get right. ■







# PGR4

PROJECT GOTHAM RACING

Another one. Whee.

Nimish Chandiramani

Last year's *Project Gotham Racing 3* (PGR3) was the best looking racer we'd ever played, but even at our most bored, we'd never accuse it of being an adrenaline-pumping joyride you can just pick up and play. The *PGR* series isn't for fans of the less-realistic (but so much more fun) *Need for Speed* series, clearly. In all fairness, *PGR4* is definitely less boring than its predecessor. The purpose is the same—race the world's most exotic sports cars in the world's most exotic cities to earn Kudos and unlock more exotic sports cars. Pull stunts like drifts and power-slides with skill to earn even more Kudos and unlock stuff faster. Not complex at all, you see. The twist in the story this time is the addition of motorbikes, which you can race alongside the cars.

Fans of the series love it because of the cars' realistic handling, but as with the rest of the series, the realism factor of the game itself is rather hypocritical. AI drivers are still flawless, but at least they're also trying to drift and earn Kudos this time round. During a race, colliding with an opponent will take away some of the control you have over your car, but if you're trying to play dirty and knock an opponent off the track, get ready for a nasty surprise—the blighters don't budge! Even *NFS* is more realistic. What you have now is a racer in which your car controls realistically, but in a frustratingly unrealistic setting. Call Freud, I smell identity crisis.

Yes, the game looks good. Car and track detail is impeccable, and I'd never have figured that I'd enjoy racing to the sound of Liszt's *Hungarian Rhapsody* (look up Tom and Jerry's *Cat Concerto* and you'll know the tune). The weather can change in the middle of a race, which is a nice touch. Playing the game on Xbox Live is also more enjoyable than the single-player races. This is definitely not a game you can just pick up and play—you'll have to invest a couple of hours getting used to the fact that speed isn't everything—so think before buying. Oh, and the bikes? They're there. Enough said. ■

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**Rating: 6/10**

Platform: Xbox 360

Developer: Bizarre Creations

Publisher: Microsoft

Distributor: Redington

Contact: [xbox360@redington.co.in](mailto:xbox360@redington.co.in)

Price: Rs 1,895







# CSI:

## CRIME SCENE INVESTIGATION<sup>™</sup>

### HARD EVIDENCE

Just another day at the crime lab

Nimish Chandiramani

When I played *CSI: 3 Dimensions of Murder* last year, it was a breath of fresh air—almost like being in the show itself. *CSI: Hard Evidence*, in turn, proves that there indeed is such a thing as too much fresh air.

Apart from the stories that you'll be playing through, hardly anything's changed—you still are the new rookie in the crime lab and you still have to solve five mysterious murders using the forensic tools at your disposal. The graphics—quite pathetic, but will run on most PCs—are still the same, and the voice acting by the cast of the show is very good. Like the mysteries in previous games, you'll find characters from a previous mystery making an appearance in the final story. The same old point-and-click gameplay returns—you have to explore crime-scenes for clues and use forensic tools to analyse the evidence you pick up. Connect the evidence to the suspect and the crime scene, and you make a bust.

While it does feel like you're in an episode of the show, there's hardly any real detective work for you to do—just move your mouse around your screen, and it'll turn green at points of interest. Collect your evidence, move on. You can turn off these assists in the difficulty settings, but there's really no incentive to do so—you'll get a Master rating if you uncover all the clues, no matter what. You can unlock items such as concept art and storyboards by completing missions, but unlike other games, you don't have to play at higher difficulty levels here to do so—nothing to motivate you to play a mission again.

There's not much to say about *Hard Evidence*: for first-time investigators, it's a welcome break from the more run-of-the-mill games you see today. If you've played a CSI game before, don't expect too much—even the stories aren't as engrossing as the show's new season. ■

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**Rating: 6/10**

**Developer:** Telltale Games

**Publisher:** Ubisoft

**Distributor:** E-Xpress Interactive

**Contact:** [info@expressgames.in](mailto:info@expressgames.in)

**Price:** Rs 699

You'll never get anything out of me!  
NEVER!



▼ Hmm... So, you think this might be murder?



▼ No, you didn't leave your keys inside the body. Go away.





**Rating: 6.5/10**

Developers: EA Canada

Publisher: Electronic Arts

Distributor: Excel Interactive

Contact: [customercare@excelinteractive.co.in](mailto:customercare@excelinteractive.co.in)

Price: Rs 999

# Disappointment++ ?

**Rossi Fernandes**

**F**IFA 08 is here and are we excited? Not really; we're a little disillusioned thanks to the cocktail of the games we've been treated to over the past month—*The Witcher*, *Call of Duty 4*, *Crysis*, *Unreal Tournament 3*, *Gears of War*, and there are more to come. So *FIFA* this year needs to be extra special to please us—and other gamers.

Graphics? Well, they're pretty weird to say the least. The detail isn't there; most of the players don't look like the real ones. Instead they've tried to stuff in things like depth of field and HDR. The depth of field works horribly and everything, be it in

focus or not, is blurred out. So you have giant blurred-out blobs running all over the field. The players end up as pale, washed-out characters against the dark background of the field.

The crowds go wild when you expect them to, but the commentators still blabber the same dialogues over and over again. The *FIFA* series would have great intro cinematics, and no-one skips them when they first play the game. These videos have been replaced by rendered in-game videos that run at a low resolution and end up being a screen full of pixelated madness. The songs are still pretty catchy, and there's a decent variety—a total of 50 tracks. One of *FIFA*'s strengths is the coverage of the leagues, players, and teams, and that stays.

The gameplay has become a little more difficult than before, which is a good thing. The controls react fast, and the traditional controls remain. There are a few video tutorials—if you need any. Then there are a few interesting gameplay modes—one is "Be a Pro," which allows you to play a single player on the field. You can play a zone or a line of players. There's also a manager mode, where you intervene and play the game yourself. There's online and LAN multiplayer as well.

What do we think of the whole *FIFA* series now? It seems to be getting worse every time. There's nothing super-innovative about the new 08 over the previous years. Go to online forums and you'll find *PES* and *FIFA* fanboys arguing about which is better, but you'll also find the occasional *FIFA* fanboy saying he's had enough of the rubbish and that he's moving to the other side; we're hoping you'll see many more. Having played older *PES* games, it's obvious it is the more technical series, and probably the preferred choice for anyone looking for a good football game today. For less hardcore players, *FIFA* will remain a favourite pastime. ■

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Watch me save in style... NoOooooOO!!!!



Where to, comrade?



I SCORE?!!



Wellllll? Kick it already!



Mmmmm, must catch red and white ball





## Where El Diablo Dares...

Michael Browne

After *Diablo 2* I haven't seen much in the way of good hack and slash RPGs. Games like *Harbinger* went the Diablo-like isometric way, while others like *Severance: Blade of Darkness* went 3D, only to fall flat due to game-play issues. Then came *Dark Messiah of Might and Magic*, and my interest was piqued again although it was a very different game from the Diablo series.

Enter *Hellgate*—from Flagship Studios, formerly a part of Blizzard and knowing these guys we knew we were in for all the hacking, slashing, and spellcasting goodness of its spiritual predecessor.

In *Hellgate* you'll choose from one of six different classes that are unique from ground up, heavy melee specialists: guardians

(defence) and blade-masters (offence); long range warriors: marksmen (snipers) and engineers (gadget maestros), and the magical cabalists: evokers (energy manipulators) and summoners.

The beauty of the character development lies in the unique skill

trees of each class and subclass, and unique weapons that each class wields and tactics that each class must employ.

For example as a guardian, you will have enemies surrounding you a lot. Most Guardian skills are actually more beneficial to you or devastating to enemies when you're surrounded as the effects stack with each additional enemy! As a marksmen you need to nimbly avoid melee attacks while pumping the baddies full of lead (poison, fire, whatever!)—else you'll find yourself on the wrong end of a horny tentacle!

Set in post apocalyptic, (and demon infested), London you are a Templar Knight, fighting warrior monks and engaging the enemy from hidden bases. Typically RPG-like, there is a main quest which you can follow, and a lot of side quests which will net you currency, weapons and armour, and most importantly, experience points. An interesting spin-off from *Diablo* is the weapon upgrades—you need to slot upgrades into weapons that are upgradeable, thereby increasing their power or giving them new damage types.

I spent a lot of time deciding which upgrade to use where, and which skill to choose when my character levelled up. Thankfully, you can get back all your items by deconstructing them from the weapon—so you needn't worry about losing valuable items on older, less powerful weapons. Gameplay is quite balanced for all the character classes, though some classes like cabalists and engineers are weaker earlier on in the game. The great thing about skills in *Hellgate* is that you can actually use the abilities you uncover, and make use of every skill—unlike traditional RPGs, where skills are hidden behind numbers and die rolls.

The developers have spent effort modelling the environs around London (obviously!) and it shows although environments do get a little repetitive after awhile. Infinite customisations to weapons and your skills, and plenty of baddies to crush make *Hellgate* one pleasant joyride! My only complaint is the action tends to get repetitive over a period of time—which is not a complaint against the game, but the overall genre of *hack n slash* RPGs in general.



C'mon baby light my fire



That's a good boy cujo...now down



'Won't you step into my portal' said the demon to the templar.

michael\_browne@thinkdigit.com

Rating: 8/10  
Developer: Flagship Studios  
Publisher: EA Games







# FUZION FRENZY 2



## Who said only Wii families had fun?

**Nimish Chandiramani**

For such a long time, casual “party” games like the original *Fuzion Frenzy* stayed well under the radar—everyone was only out for the latest RPG, FPS or racing title, but all that changed with the Wii. Regular people realised that it’s possible to have fun even if you’re not a gam3r, and game publishers realised that there are a lot of regular people out there—with a lot of regular money. Casual Gamer, your time has come. But I digress.

*Fuzion Frenzy 2* for the Xbox 360 is loaded with mini-games that you can—rather, *must*—play with other humans, preferably ones in your home. The background story—obviously written just because it could be written—is rubbish, and boils down to the fact that you have to complete challenges on seven different worlds to take them over; this encourages the human race to emigrate to outer space, so you’re doing them a favour. Don’t read that again—I *told* you the story was rubbish.

The mini-games don’t require you to have any experi-

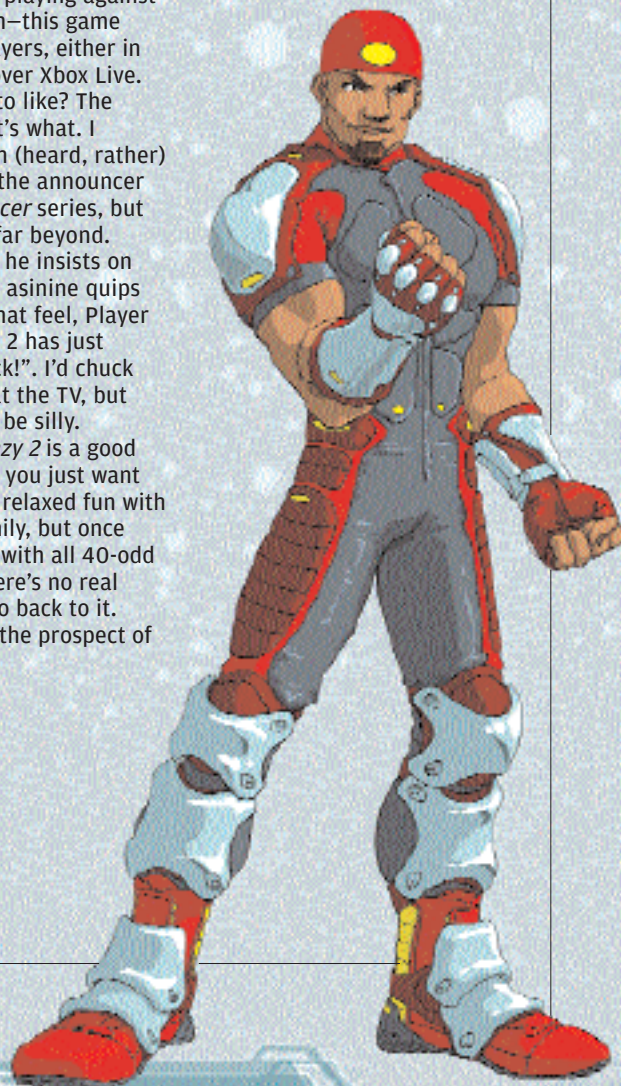
ence with the X360 controller—at most, you’ll have to memorise two buttons to use, not including the analog stick. Battle it out with flamethrowers and tanks, run around a moving turbine collecting gold coins and trying not to fall off, or just punch out a button-sequence faster than your opponents—the games are varied, and fun for the most part. They’re really boring if you’re playing against the CPU, though—this game wants many players, either in your house or over Xbox Live.

What’s not to like? The announcer, that’s what. I thought I’d seen (heard, rather) the worst with the announcer in the *Ridge Racer* series, but this idiot goes far beyond. During a game, he insists on chiming in with asinine quips like “How did that feel, Player 1?” and “Player 2 has just landed an attack!”. I’d chuck the controller at the TV, but that would just be silly.

*Fuzion Frenzy 2* is a good game to have if you just want to have a bit of relaxed fun with friends and family, but once you’ve finished with all 40-odd mini-games, there’s no real motivation to go back to it. Especially with the prospect of

facing that damned announcer again. And *especially* not at this ridiculous price. ■

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Rating: 6/10  
Platform: Xbox360  
Developer: Microsoft Game Studios  
Publisher: Microsoft  
Distributor: Redington  
Contact: [xbox360@redington.co.in](mailto:xbox360@redington.co.in)  
Price: Rs 2510





# THE WITCHER

## Sapowski's *Last Wish* Comes True

A dark and atmospheric world. Every choice has repercussions... face yours!

**Rating: 9/10**

Developer: CD Projekt Red

Publisher: Atari

Distributor: Milestone

Interactive

Contact: sales@

milestoneinteractive.com

**Michael Browne**

**F**rom Polish developers CD Projekt comes a unique tale spun in a very unique way. Wrapped in a superbly immersive atmosphere that's both gloomy and foreboding, the *Witcher* comes alive with both danger and opportunity. Add memorable and believable characters, and stir well. Sound tasty? The *Witcher* adds radically different and superbly crafted gameplay mechanics to the bundle as well as a superbly atmospheric and scary soundtrack and eye-popping graphics (an *Oblivion* killer is born!).

You're *Geralt of Rivia*, the protagonist of this little tale—a monster hunting *Witcher* who's recovering from a nasty case of amnesia (how original!). You're sent to hunt down some mysterious cult members who raided the witcher fortress where you were resting up. You'll end up choosing sides between a *priest* and a *witch*. Not difficult, eh? The priest actually turns out to be a misogynistic idiot and one of his good *friends* is a rapist. The witch isn't *Snow White* either, having helped a local kill his brother with some hocus-pocus. One of the merchants you'll come across who'll help you a lot with powerful items is actually in cahoots with the cult you're hunting. *Nobody's innocent*, you'll discover.

However you can't just kill everyone, but choose the lesser of two evils—or choose the more profitable path—not that these are always mutually exclusive, mind you...

This is what makes the storyline (and the game) so compelling for me—every action has some sort of repercussion, however mild or serious and you'll find everything you do, every decision you take—however mundane it may seem—coming back and biting you in the hindquarters somewhere down the line.

We mentioned a different combat system right? No more rhythmic clickety-clack sword swinging thank you...Attack by left clicking on an enemy and watch for the exact moment the attack cursor starts to glow before attacking again—this'll bring up a combo move—and you can chain combos together—to produce a more powerful, and gorier, combo.

The *Witcher* tells a memorable and engrossing story, set in a gritty and highly-believable world with very believable characters. It also does away with the concept of pure good and evil, introducing instead elements of grey. It's one of those mature RPGs that raise the bar for what I've come to expect of the genre. If you're any sort of RPG fan—indulgence is the best form of worship! ■

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Ooh! Did that hurt? Lemme make it go away...



The *Witcher* looks better than *Oblivion*—see it to believe it



Geralt is *just* one amnesiac, kickass witch hunter with a greatsword and an appetite for destruction





## HOW TO

## Install Game Mods

**Multiply the fun by adding new dimensions of gameplay to an existing game!**

Samir Makwana

Play the same game again and again and you'll master it, but then what? This: give it a new lease on life by installing "mods" (short for modifications) that are easily available for download off the Web. Mods are software alterations to game data files such as sounds, graphics, and animations, and even characters, models, enemies, textures, levels, maps, and other aspects.

In certain cases, mods can be entirely new games on their own—the best example is *Counter-Strike*, which is a mod for *Half-Life*.

More often than not, you will find mods for first person shooter (FPS), role-playing (RPG) and real-time strategy (RTS) games. We'll tell you

### Counter-Strike

#### Mod: Zombie Horde

Here, you and your team have to survive against the bots playing as zombies eager to make mincemeat of your team. You'll have to deal with different classes of zombies that carry

different powers. It's an exceedingly challenging co-op shooter. Players can even join the server and lead the zombie hordes via radio commands. *Zombie Horde* is not exactly a mod but a server plugin, but it rocks! Just install it on a system, create a server and enjoy. To install:

1. Unzip zhplugin-1.1.zip to a separate folder of your CS game directory.

2. Ensure that your CS game directory has a file named server.cfg. Rename the server.cfg-recommended file to server.cfg and place it in the game directory.

3. In the folder named cstrike\addons of the CS directory, rename the file zhplugin.vdf.RENAME\_ME\_IF\_NOT\_USING\_SM\_M to zhplugin.vdf.

4. Make sure you have the latest zh\_info.txt, or download it from <http://tinyurl.com/345qvk>.

If your CS server crashes, refer to INSTALL-ZH.TXT and READ-ME.TXT in the ZIP package. Download URL: <http://tinyurl.com/29hvvu>

### Max Payne 2

#### Mod: Elements of Style

The much-awaited sequel to *Max Payne* just didn't woo fans, but well, the *Elements of Style* mod enables exciting gun-play, using which you can perform cinematic kills. Also bundled is *Super Kung Fu*, which allows cool combat moves, dodges, and even launching enemies into the air. To install it:

1. Unrar the contents (.mp2m) of the Elements-Of-Style-Version-1.5.rar file into the Max

here about the best mods for the most popular games in these genres, and how to install them.

Before you begin installing the mods, make sure you've done the following:

1. Defragged your hard drive partition
2. Made sure the original game is installed (duh!)
3. Installed WinRAR (our recommendation, but WinZip or others should do as well) to decompress ZIP or RAR files.
4. Backed up your game files
5. Register yourself at [www.moddb.com](http://www.moddb.com) so you can download the mod files.

Although most mods are really easy to install, a little negligence might cause your game to stop working, or even cause repetitive computer crashes when you try to run the game.

*Payne 2* directory.

2. Right-click the *Max Payne 2* game icon on the Desktop, and in the Target box, add -developer -developerkeys. This will enable console, cheats, and most importantly, using the Super Kung Fu combat moves.

Download URL: <http://tinyurl.com/39cwan>

### DOOM 3

#### Mod: Last Man Standing Co-op

The idea is to survive as a team when faced with swarms of demons. You can play on both normal *Doom 3* maps or even on *Doom 3: Resurrection Of Evil* maps.

Just download the LMS installer / ZIP file to your *Doom 3* directory, and double-click the EXE. You can just unzip the contents of the EXE directly to the *Doom 3* game directory as well.

To play, launch LMS from the single-player menu, or just join an LMS Mod server to play custom LMS Mod maps. There are three basic types of maps—Killfest, where you kill as many monsters as you can and try to be the last man standing; Progression, where your goal is to complete a level; and Defense, where you hold off enemies for as long as possible while protecting an area or VIP—or just waiting for the timer! Download URL: <http://tinyurl.com/yvetrj>

### Half-Life 2

#### Mod: Hidden Source

One of the best-known *HL2* mods. You can choose to play as the invisible killer, Subject 617, or as a member of an Intercept squad, IRIS, sent to capture him. Subject 617 is only visible in the form of a silhouette, and can move very fast. IRIS members need to work as a team to catch him. If a player kills the "Hidden" (Subject 617), he takes over and becomes the Hidden. You'll need to update Steam to the latest version first. Then, to install the server package:

1. Install HSB4b-full.exe to the HL2 directory. If you want to run a dedicated server, unzip HSB4a-serverfull.zip to the HL2 folder.

2. Install hidden-beta4b1-server.zip to patch the issues of the sonic alarm sound effect and the missing heads of the IRIS team members.

#### Download URL:

<http://tinyurl.com/35cxra>

#### Dedicated Server:

<http://tinyurl.com/2ym4az>

Server Fix: <http://tinyurl.com/2jzwku>

### Unreal Tournament 2004

#### Mod: Killing Floor

The *Killing Floor* mod will convert UT 2004 into a game where you play as a marine squad working to survive against hordes of bloodthirsty monsters. You must use each bullet wisely, and you move slower when you're hurt. The stream of monsters is never-ending! To install it:

1. Ensure that you've installed the latest patch for UT 2004. If not, download it: ut2004-winpatch3369.exe to the game directory.
2. Install the Editors Choice Edition Bonus Pack in the game directory from <http://tinyurl.com/4sbnc>.
3. Apply the ut2004-winpatch3369 again and run UT to ensure whether it runs correctly. Then exit the game.
4. Unzip the contents of KF20.zip to the UT2004 directory. Make sure to replace the UT files with the KF2.0 files.
5. Apply the patch from <http://tinyurl.com/3659q8>

Download URL: <http://tinyurl.com/2khttps>

Community Patch: <http://tinyurl.com/2fkjp8>

UT 2004 Patch: <http://tinyurl.com/y5lee9>



I can seeee youuuuu!

### Quake III Arena

Mods: Orange Smoothie Productions (OSP), Rocket Arena 3, DeFRaGxxx

Quake III Arena is the most popular LAN game at Digit, and with good reason—it runs on almost any system. We've listed some of our favourite mods here for you to enjoy.

OSP *Tourney* enables competitive and flexible match-play. The latest version has Challenge Pro Mode capabilities inbuilt, which makes the game faster and more exciting. With OSP you can connect as a spectator and watch from different camera settings and angles.

The *Rocket Arena 3* mod is meant mainly for one-on-one matches; it takes away all the power-ups, gives both players full health and armour, then lets the better player win.

DeFRaG is a basic training module. Learn, practise, and master the meanest tricks of the game—radical trick jumping, shooting, circle strafing, and every other aspect of game.

1. Unzip all the ZIP files and install all the EXE files to the game directory in separate folders.
2. Start quake3.exe and choose the Mods option to load the mod.

#### Download URLs

#### Rocket Arena 3 Installer:

<http://tinyurl.com/25uall>

OSP Installer: <http://tinyurl.com/3c398m>

DeFRaG Installer: <http://tinyurl.com/3c398m>

There are literally thousands of mods for scores of popular games available online. Browse through that old game collection, then look for mods on ModDB.com—you're sure to love some of them! ■

samir\_makwana@thinkdigit.com



The undead come alive in *Zombie Horde*

**P35A-S**

- Supports Intel® Core™2 Quad, Core™2 Extreme, Core™2 Duo Processors with 1GB/2GB/4GB/8GB/16GB of RAM
- All Core™2 X Processors Multi-Channel Support
- 100% SOLID Capacitor design with Foxconn Sustainable Engineering
- Intel® Matrix Storage Technology and Rapid Response Technology
- Display: 1.8V, 2.1V/3.3V/4.5V/5V/6V/12V
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# Bazaar

We test the latest hardware and software products available in the market



## Xbox 360 Messenger Kit

Text and voice chat just got easier!

Console gamers need not worry about being deprived of keyboards anymore—well, not Xbox 360 owners, at least. Microsoft has thought it all out and designed a keyboard that works with the Xbox 360.

The keyboard—which is rather pretty—easily attaches to the bottom of the controller. It has a grey colour theme highlighted with white, orange, and green characters to denote special characters and punctuation marks, which can be accessed using the two (orange and green) function keys at the bottom. Unlike the [Shift] and [Alt] keys on a PC keyboard, these are toggle keys and don't require you to keep them held down. The keys are sturdy and give good feedback, much like those of good cell

phones. They are also backlit, which adds to the visual appeal—more importantly, this allows you to chat with the lights out.

Completing the kit is the headset (with only a single headphone). The headband is adjustable, but the length of the microphone's band isn't. It's flexible and you can change its direction, though. Comfort level is decent, and the set should fit most people. There's a small dial and switch for switching the microphone on and off, and for the headset volume.

### RATINGS

|                 |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



The headset connects to the keyboard using a 2.5 mm connector for voice chat on Xbox Live. Don't expect to use this for in-game sound, though.

The Xbox 360 Messenger Kit is priced at Rs 1,600, and we think it's worth it. It brings a whole lot of flexibility to the console without being too

bulky, and blends in perfectly with the controller's shape. And chatting on Xbox Live will never be a pain again!

Contact: Redington  
Phone: 1800-425-3718  
E-mail: vivekul@microsoft.com  
Web site: www.microsoft.com  
Price: Rs 1,600

## MSI NX8600GT T2D256E OC Edition

Overclocked, but not overpriced

The MSI NX8600GT follows MSI tradition with a fiery-red PCB. The single-slot cooling solution looks a little flimsy, but does the job well. The memory slots aren't cooled, but we didn't see that as an issue. The cooling solution itself is pleasing enough. MSI hasn't used an all solid-state capacitor design here.

This version is overclocked; with a core speed of 580 MHz, it isn't the highest overclocked

8600GT part we've seen, though. Of course, the credit goes to NVIDIA for creating such an overclockable core, but we've seen the ASUS EN 8600GT at a core speed of 650 MHz. MSI clocks memory at 1600 MHz, and the shaders themselves run at just over 1.5 GHz.

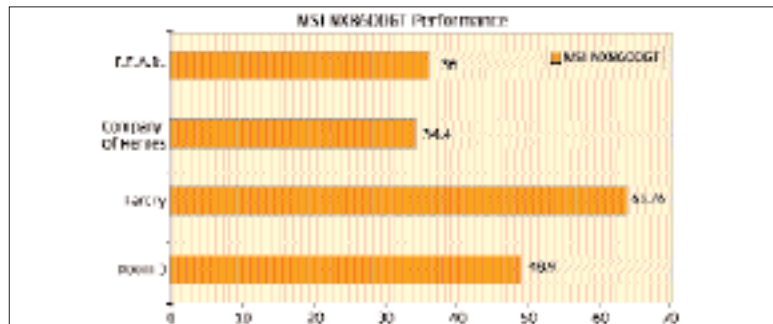
This one from MSI is a very good, slightly cheaper alternative to our mid-range gold winner this year—the ASUS EN8600GT.

### Specifications

Core speed 580 MHz; Memory speed 1600 MHz; Shader Clocks: 1508 MHz



Contact: Micro-Star International  
Phone: 011-41758808  
Web site: www.msi-india.com  
Price: Rs 7,500



### RATINGS

|                 |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Bundle          | ★★★★★ |
| Value for money | ★★★★★ |
| Overall         | ★★★★★ |

## XFX PV-T88P-YDD4

A (Ge)Force to be reckoned with

The new 8800 GT core is a fire-breather of a GPU based around a 65nm process. A significant change in this chipset (codenamed G92) is the new video processing engine, which should do wonders for hardware HD video decoding.

XFX's PV-T88P-YDD4 is based around an overclocked (670 vs 600 MHz) 8800GT core and is pegged their "Alpha Dog Edition," following the fraternity of vendors who like to name their top-end parts. The cooling solution is stock, with a funky-looking XFX sticker. A single-slot cooling solution for such a powerful card seemed like a recipe for fried GPU—and we did

notice temperatures close to an 8800GTX; not good.

Not only did the overclocked XFX PV-T88P-YDD4 come really close to the Manli 8800GTX card (which runs at stock speed), it actually defeats the mighty G80 core in two benchmarks (check the table)! In 3D Mark 2006, we figure this is due to the higher shader clock

| Specifications    | 8800GTX | 8800GTS | 8800GT  | 8600GTS |
|-------------------|---------|---------|---------|---------|
| Stream Processors | 128     | 96      | 112     | 32      |
| ROP               | 24      | 20      | 16      | 8       |
| Core Speed        | 575     | 500     | 600     | 675     |
| Memory Speed      | 1.8 GHz | 1.6 GHz | 1.8 GHz | 2.0 GHz |
| Memory Bus Width  | 384-bit | 320-bit | 256-bit | 128-bit |

speed—3D Mark benchmarks are typically shader-heavy. *Company of Heroes* is (surprise!) another shader-intensive game—another triumph for

Contact: Rashi Peripherals Pvt Ltd  
Phone: 022-67090909  
Web site: www.rptechindia.com  
Price: Rs 19,500

## Manli 8800GTX

Do you really want it?

Another 8800GTX, different vendor. Manli is somewhat of a new entity in Indian markets, and this is the first graphics card from the Hong Kong-based firm that we're testing. The Manli 8800GTX looks identical to a stock 8800GTX.

Manli provides a very skimpy bundle with this card, and apart from the usual connectors, all we got was a driver CD. This, we assume, is just in order to keep the price down.

The Manli 8800GTX is no worse than other 8800GTXs we've tested. However, our demeanour has changed towards the

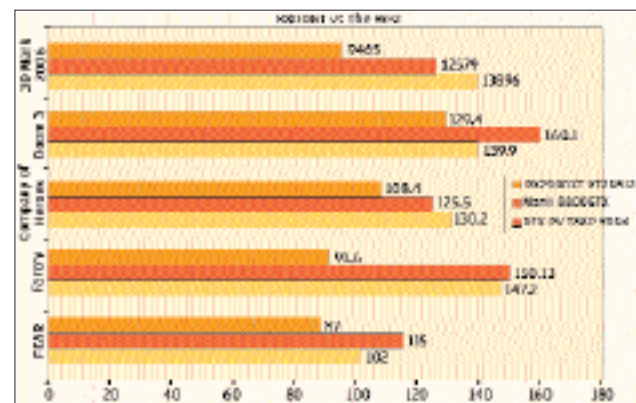
8800GTX. And with the aggressive pricing on the XFX PV-T88P-YDD4, other manufacturers won't be too far behind with equally competitive prices. At the current pricing, you could get two 8800GT cards (read SLI) for the price of a single 8800GTX, and their performance would—quite obviously—blow a single 8800GTX card out of the water.

### RATINGS

|                 |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



the XFX PV-T88P-YDD4. We expect stock 8800GT cards to be a bit slower than this card, but the biggest shocker of all is its price. Rs 19,500 is nearly half the price of an 8800GTX GPU based card—unbelievable!



Now isn't the time to be buying an 8800GTX card, unless you want the fastest and the best and are willing to pay the premium.

Contact: Shree Semiconductors  
Phone: 022-23800951  
Web site: www.shreesemi.com  
Price: Rs 29,500





# Start Your Engines!

Game engines are behind all that's pretty in your favourite games. But how do they work?

Bhaskar Sarma

So how does a game run? Well, games have terrain maps, sound files, executables, etc., among other components. But what makes all these and more work together to give a seamless and immersive experience is the gaming engine. To understand the significance of the game engine, consider a car-without the engine—all you have is a big metal-and-plastic hulk. Similarly, without the game engine, a game is only a collection of files.

As today's games become more and more complicated, the capabilities of engines have increased. However, the functions of a game engine can be boiled down to a few basic areas which are explained below.

## The Renderer

This is what transforms millions of lines of codes into eye candy that we see in the game. It is where the heaviest part of the CPU processing is involved. The renderer works actively with the hardware (graphics cards), drivers, APIs (Direct3D, OpenGL) to get those pixels to work their magic. Since the games are all 3D, there is a lot of high-level 3D mathematics involved in terms of angles, polygons and so on. In modern games polygons make up the game world—everything you see is made up of hundreds of thousands of vertices and surfaces. The sexy Lara Croft was all polygons, and so are the bad guys and the monsters that she fights. Magnify the game to its highest level, and what looked like smooth surfaces begin to look jagged. The renderer creates the view, depending on the position of the camera in the game world, which changes constantly as the character moves about. It has to load terrains every time the camera angle changes, and therefore performs on-the-fly—it won't create the objects in the next room until you enter it—ditto for those objects that are out of sight.

## Physics And AI

Consider this scenario—you shoot a bad guy who is standing above you, and his body rises up to stick to the ceiling, like a helium filled dummy. That is not the way things happen in real world—which brings us to game physics. Realistic physics effects are very tough to simulate, and if done well, make the gameplay all the more interesting. In fact, games use specialised software called physics engines to handle effects like gravity, collision, inertia and acceleration. Physics engines like Havok and PhysX have been used in games like the *Halo* series, *Company of Heroes*, *Half-Life 2*, *BioShock* and *World in Conflict* to deliver real life effects.

Artificial Intelligence (AI) is another component of the game play that is very crucial. We're talking about non-playing characters—or bots—who are supposed to exhibit human like behaviour, like getting aggressive when a comrade is shot, taking cover and so on. The bots would not be able to

see through walls, and what's more they won't walk through them. In fact, game world navigation by bots, which essentially means not walking through windows, travelling across corners and ignoring staircases is an important aspect of how advanced the game is.

## Lighting And Textures

Games focus on realism, and without lighting effects there would be none. Imagine a world where light didn't reflect off smooth surfaces, and no shadows are thrown by objects. It's unreal, not to mention drab. Game engines handle the task of lighting and shadows using a combination of techniques. Sometimes, the polygons are lit differently depending on the placement of light source in the world. Again, this changes dynamically with the camera angle, and is what lets water bodies reflect light continuously, or allow for shadows. This is also memory intensive, as FPS games change camera angles quite fast and a fair amount of number crunching has to be done by the CPU.

Another area where light effects create realism is in texture. A game world has a variety of surfaces, some smooth and others rough. The technique used to display these textures is called bump mapping, and it differs from light effects in that the bumps don't change their positions with camera angles. Bump mapping provides depth to the images and creates variety in terrain—the surface of the earth in a flight simulator, for example.

## Sound

Sound effects are one of the most important factors that make today's games the immersive experiences that they are. FPS games place a lot of emphasis on sound and it takes a fair bit of work before all the effects are aurally displayed. In most of the cases the sound that one hears in a game depends upon the position of the camera, and obstruction and occlusion play an important role here. When a conversation is taking place in another room the voices appear muted and muffled. This is occlusion, while obstruction is when the obstacle between the sound source and the player is something like a pillar. This difference is determined based on the calculation of presence of obstacles in the world, and can rapidly change. Sound effects can also be tweaked depending on the environment—for example in a corridor, underwater or in a cinema hall.

## Network

Today's games are designed to be played over a network, and also incorporate online multiplayer options. Over a network, there are two models in which a game can be played—peer-to-peer and client-server. In peer-to-peer if a game is set up on four machines, each machine will play its own copy of the game while incorporating updates from the other machines—they all connect to each other. In the



client-server model, all computers still run the game, but the server handles and decides the location of players, who killed who, etc.

Multiplayer games use UDP packets to exchange information between machines. Since there is always the risk of loss of packets across the network, there are methods to handle packet loss and let the players carry on. One method is client prediction where the game engine on the client side—in the absence of updates from the server—would predict what would happen depending on the input. Game engines reduce the size of packets by restricting players to a world view that is nearest to them, and also check and ban cheaters who employ unfair means to score hits.

## Game Control

Game control is how you use inputs to control your game. This is a very important area and unless controls are intuitive and simple, the player won't be comfortable playing the game. The game engines take inputs from the input devices like keyboard, mouse and joysticks and transplant them into the game world. Good game engines also automate a lot of game control actions, like enabling the player to pick up weapons, ammo and medpacks without any clicks and key-strokes. The game engine controls and records all the camera positions in terms of coordinates in the game world which is then used for restarting saved games.

## Weapon Systems

Different weapons are used in different ways in a game, and they kill in different ways. A sniper rifle kills instantly, while a rocket would take some time to travel. Again, weapons like grenades kill or hurt anyone within the blast radius. The game engine uses preset routines called traces, which checks each polygon in the trajectory of the projectile for collisions to determine if something has to be hit or not. It also has to look out for obstructions and cover—it would be pretty dumb if you got hit while hiding behind a wall. Then there are things like trajectory to consider: missiles and grenades usually fly in projectile motion, and how far they travel would depend on the angle at which the projectile is thrown. Simple number crunching, but when lots of guns are being fired and grenades lobbed the engine has to be pretty nimble.

## Memory Management

Running a game is very memory intensive, and memory is an extremely limited resource, even with the oodles of memo-



This bazooka will hit its target, thanks to weapon trajectories



ry which modern computers and graphics cards have. Textures and light effects are only a few of the tasks that hog memory, and the game engine needs a few aces up its sleeves if the game does not have to display as a slideshow. Many games have a lot of fog and smoke effects, which simulate real life situations. These fog effects are created by techniques called volumetric fogging, alpha testing and blending. Volumetric fogging creates the effect of going through a cloud, while another type of fogging depends on the distance of objects from the camera. This saves a lot of memory from having to store unnecessary texture maps.



Notice the realistic fog effect, along with sparkling waters

Another approach to saving memory is the alpha testing and blending technique, along with depth testing. Game worlds are in 3D, with distances along the Z co-ordinate giving the appearance of depth. Depth testing and alpha blending works in almost the same ways—basically, testing the Z distance of the polygons and rendering those that are nearest on screen, and not rendering hidden pixels. This speeds up frame rates because pixels don't have to be drawn and redrawn too many times, especially useful in games like *Heretic II*, where characters threw multicoloured spells. Without depth testing this would have resulted in a pixel being drawn multiple number of times for the same frame.

## Game Over

Game engines are like SDKs, which offer a set of readymade tools that enable game creators and programmers to concentrate on the more creative aspects of the game instead of doing grunt work. They are built in such a way that multiple games can use the same game engine, much like different cars that are built around a single internal combustion engine. Game engines started off in *Doom* and have been in use since then in many ground breaking games. Most games are built around a few game engines like the *Doom* engine, *Unreal* engine, *Cube* engine and the *Quake* engine. Game engines can be both proprietary as well as open source (*Crystal Space*, *Open Dynamics Engine*). Though any type of game can be built around game engines, they have been extensively used with the FPS genre as this requires interaction at human scales.

Game engines are highly technical, and the ways in which they influence game elements can fill several tomes. Game engines are constantly being upgraded with each generation, and it does not take long for a feature to become mainstream from niche. ■

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## WIDESCREEN GAMING

An increasing number of people are opting for widescreen LCDs. Almost all games released these days have native support for widescreen resolutions, but a few older ones, which are still popular, do not support them. But there are workarounds to get them working in a widescreen aspect ratio.

### America's Army

This is a realistic computer game that gives you some insight into how the US Army operates. Since it lacks native widescreen support, you'll need to force the resolution. Open the ArmyOps.ini file present in the System folder inside the America's Army folder and search for FullscreenViewportX=. You will find a block of commands which you need to change to the following:

```
FullscreenViewportX=1440
FullscreenViewportY=900
MenuViewportX=1440
MenuViewportY=900
```

...where 1440 x 900 is the widescreen resolution. You can replace these values with what you need.

### Battlefield 1942

Using Wordpad, open the file Video.conf present in the Battlefield 1942\Mods\bf1942\Settings\Profiles\Custom folder and search for game.setGameDisplayMode. This line should look like the following (on one line): game.setGameDisplayMode 1440 900 32 60 (where 1440 x 900 is the resolution, 32 is the colour depth, and 60 is the refresh rate).

### Brian Lara International Cricket 2005

This game originally did not support widescreen, but Swordfish Studios have since released an unofficial expanded configuration utility that can be launched to choose the widescreen resolution of your choice. Download the utility from <http://tinyurl.com/3yd3b6>.

### Doom 3

One of the most frightening games ever, *Doom 3* sported cutting-edge graphics and the most immersive directional sounds at its time. Enabling widescreen requires you to install the patch 1.3. Using Wordpad, open the file DoomConfig.cfg present in the Base directory of the game. Find lines that look something like this:  
seta r\_customHeight "Y"  
seta r\_customWidth "X"  
and change the Y and X to match your resolution (remember you won't see numerical values in place of "Y" and "X"). Find the line with seta r\_mode and make it seta r\_mode -1. Similarly, find the line with seta r\_aspectRatio and make it seta r\_aspectRatio 2 where 2 is for the 16:10 widescreen aspect ratio. You can also use the above methods for *Quake 3*, *Quake 4*, as well as *Prey*.

### F.E.A.R.

In the F.E.A.R. install folder (typically C:\program files\sierra\FEAR), there is a file called Shortcut to User Directory. Click on it to link to a Documents and Settings folder with F.E.A.R. settings files. Edit and save the settings.cfg file with the 1440 x 900 resolution in the ScreenWidth and ScreenHeight entries. Next time you start the game, it will launch in the widescreen resolution. Do not click on Display after you start the game—this

will reset the resolution to a value lower than what you set, and you will also lose the widescreen aspect ratio.

### Need for Speed: Carbon, Underground I, Underground II

*NFS Carbon* needs a third-party patcher called the Universal Widescreen Patcher from <http://www.widescreengamingforum.com/downloads/uniws.zip> to patch the game executable to enable widescreen resolutions. Extract the contents of uniws.zip to a folder, open the file patches.ini using Wordpad, and add the following text in the appropriate sections.

```
[Apps]
version=1.03
```

```
a0=Need For Speed Carbon
```

```
[Need For Speed Carbon]
details=Select the 640x480
resolution in game to use your
custom resolution.
checkfile=nfsc.exe
modfile=nfsc.exe
sig=8002000C701E0010000
sigwild=0000110000
xoffset=0
yoffset=6
occur=1
```

*NFS Underground* and *Underground II* do not require changes to patches.ini and can be patched directly. You can later choose the widescreen resolutions from the game control panel.

### Prince of Persia: Sands of Time and Warrior Within; Star Wars: Knights of the Old Republic; Star Wars: Knights of the Old Republic II—The Sith Lords

Use the Universal Widescreen Patcher mentioned above.

### Unreal Tournament 2004

Go to [www.unrealtournament.com](http://www.unrealtournament.com) to download the UT2004 Mega Pack. The game engine is updated by this service pack, and native support for widescreen resolutions is added. This is a 200 MB download, and the file is named UT2004MegaPack.exe.

### Warcraft III: Reign of Chaos

Open the Registry Editor and go to HKEY\_CURRENT\_USER\Software\Blizzard Entertainment\Warcraft III\Video. In the right pane, change the value of resheight to 900 and reswidth to 1440 (both in decimal). This game does not let you change the aspect ratio, but it is surprising that the horizontal stretching is barely noticeable—possibly because this is an RTS with no close-up views. You can also use the same method for *Warcraft III: Frozen Throne*. ■





# One With The Clan

Socialise, cheat, modify... or all of the above!

Samir Makwana

## Gamervision

Finally, gamers, too, have embraced Web 2.0 and social networking and all things new. Gamervision is a social networking site with an interesting tagline: "By Gamers, For Gamers."

Gamers willing to share their thoughts with other gamers can create their own communities: just register and create a profile—then start writing your own articles. All the rest is Web 2.0—save drafts, publish whenever you want, create or browse blogs... you get the idea.

All content on the site is entirely gaming-related. Gaming news on the home page includes reviews by Gamervision as well as community-based reviews. Members can create groups for discussing anything they think about any game. Sort of lends a perspective... Join any gaming group—such as "Halo 3"—to learn and discuss ways and tricks from other members.

You'll find everything that makes for a useful Web 2.0 site—commenting, rating, bookmarking, sharing, etc. of the content. For example, you can comment on news, articles, and even blogs.

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

Meet gamers, talk gaming



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

Just keep playing...



## Mod DB

Once you've completed all levels of a game and almost mastered them, what next? Junk it? Actually, you can still have hours of fun. Add modifications (mods) to your games and multiply the fun. Moddb.com has a large database of game mods—2,000, to be precise.

The site has simple, well-classified content to browse through—read about, develop, and discuss mods. Check out galleries of in-game screenshots and details about the game as well as the mod used. Register if you want to download and be part of the growing community.

Loads of mods, skins, maps, models, and other files for most popular games are available for download. If you're bored of playing the same old maps for multiplayer games like Counter-Strike, then why not make a one on your own? There is a good number of tutorials (basic / intermediate / advanced) and help for creating mods, maps, skins, models, and various other gaming elements to feed your hunger for more fun. Also listed are the tools that were used for creating the mods.

If you want develop mods along with an elite group of developers, join groups such as Source Developers or Valve—or start your own. And if you've made a mod on your own, submit it along with a tutorial. Discuss your mod-creation problem with other members... this is a very focused site!

## Ultimate-Cheat.com

Everyone loves to cheat—it's good, clean fun, of course, because not everybody is born a pro gamer.

Head to ultimate-cheat.com: this site is entirely for cheat codes, news, and tips and tricks on a huge number of games on different platforms. You get cheats for titles on the Atari 2600, Lynx, and Sega—all the way to the Xbox 360. The site is updated daily, so you can find cheats and hints even for the latest titles.

The coolest thing here is that you can leave your feedback (if a cheat doesn't work, for example) at the end of the cheats and hints for any game across all platforms. Along with the cheats, you'll find news related to the game platform and genre, and game titles similar to the one you're looking at.

[www.ultimate-cheat.com](http://www.ultimate-cheat.com)

Help for those who don't want to work too hard







# BUYER'S GUIDE

40 Graphics Cards



## Motherboards

**A facilitator, the motherboard is one hot category this year... New chipsets, features, and better value than ever before!**

**A** motherboard is one component which you'd not like to change for your processor's tenure. Its important to think of a motherboard as more than a hunk of PCB that connects your CPU, GPU, and memory. Your choice of motherboard dictates upgradeability, stability, extent of overclocking, and, to a lesser degree, performance.

A motherboard is never the first preference while shopping though. All of us prefer to CPU-shop first and then decide on a board. Be that as it may, don't neglect selection of this component and let your vendor play God with your cash.

Today's motherboards are every bit as personal as a cell phone, and vendors have spent a lot of money designing boards that actually have a number of feature add-ons. Imagine having a motherboard with a remote control that lets you control all the important functions—like shutting down, hibernating, playing and controlling multimedia content—movies and music.



### What You Should Be Looking At

**Storage:** Besides compatibility for at least a future iteration of processors, motherboards will always have a certain amount of expansion, internally and externally. Internally, look



### Agent Tips

Don't allocate a budget for a motherboard after splurging on a CPU and RAM. Instead decide on a budget for the board at the beginning... and stick to it!

for the number of SATA ports and also the number of PATA ports. Four of the former should suffice, though if you already have three or four HDDs and plan on a SATA DVD burner, then look for a board that has six ports—the latter in case you've got a couple of working PATA drives with you.

**Memory:** Look for four memory banks. Two reasons for this. One—memory is dirt cheap and 4 GB is a possibility now, and will be a necessity later. Two—single 2 GB DIMMs are very costly.

Some vendors will try to sway you saying "This board supports 8 GB or 16 GB". While their claims will be true you need to see how much memory you are actually going to install which will be based on what you're using the board for. The support for extra memory will be there on 99 percent of all motherboards—you needn't worry about it.

**Chipset:** A motherboard is never more than the sum of its Northbridge and Southbridge. Take note in particular of the Northbridge (as the Southbridge is usually paired with it). You should know the basic differences between common chipsets and more importantly the features and the age of the chipset. This ensures future compatibility. This is where consumer education becomes important. Remember an informed decision is one you will hardly ever regret.

**Connectivity options:** Look for the number of USB ports on the rear (four is good; some newer boards have six, which is better). This is especially useful since most devices like thumb drives, printers, memory card readers,

game controllers all use USB connects. We recommend at least four USB ports, six would be great, and if your motherboard supports extra ports via add-in cards—all the better. If you are looking at external drives and such, look for a FireWire port and E-SATA ports (which most high-end boards come with). A few boards may also come with Wireless access points inbuilt. If you have a notebook or Wi-Fi-enabled PDA, this is a definite plus as you'll be able to surf the Internet or even transfer data to and fro without



having to worry about investing in a wireless access point or router—this is a definite plus.

### Enthusiast Features

Look for Reset, Power and CMOS clear buttons on the board—a real boon when dealing with freeze-ups due to overclocking or general instability. Also look for POST debuggers—very useful for (duh!) debugging during boot-up problems. Overclockers will also want to look at BIOS options, which determines the extent of overclocking shenanigans possible. Layout of motherboards is also important for overclockers as you will probably look at better cooling solutions such as aftermarket CPU coolers, or even water blocks and liquid cooling solutions. ■





# Graphics Cards

**They're faster, cheaper, and an entry point to the world of virtual realism... Welcome!**

**G**raphics cards! This probably gets you thinking about 3D games, pixel shaders and so on. Well, graphics cards today aren't necessarily *only* for gaming. In fact one of the biggest myths is that graphics cards benefit only games and do nothing when you're surfing the Internet or playing some music (for example). The fact is just having a discrete graphics solution speeds up all PCs/notebooks/PDAs by a significant margin by reducing processor overheads for working with 3D images and rendering.

This is perhaps the most volatile product category, where we have something new every six months or so. If we look at the number of generations of graphics cards (let alone the number of models) that both vendors NVIDIA and ATI have spewed out over the last five years, you'd be shocked to learn that four generations spanning some 50 odd graphics processors have passed by.

Perhaps the biggest reason to buy a graphics card this year is the sharp decline in prices. The latest DX10 parts from both NVIDIA and ATI are stunningly affordable—would you consider a price point of under 4,000 rupees costly for a 256 MB, DX 10 ready graphics card expensive?

Of course it doesn't hurt that you can do more to enjoy the goodness of your new graphics card—especially since today's multimedia content like HD movies and even the hottest 3D games do bring you a lot of immersive realism if you've gifted your PC with a graphics card!

## Enthusiast Options

If you're a hardcore gamer looking to



### Agent Tips

If you want HDMI connectivity, look for an HDMI port on the card. Many vendors will be vague with terms like "HD ready," or "HDMI compatible." Please don't be fooled... use your eyes!

splurge on the fastest DX10 card out there, we suggest you hold your horses:

In fact the 8800GT outperforms the 8800GTS 640 MB in many situations, not to mention it's a much cooler 80nm based GPU!

DX 10 titles are slaughtering even 8800 Ultras and HD2900XTs! Both vendors have promised faster DX10 parts soon—while this is subject to the demand for DX10 titles, we expect NVIDIA's 9xxx series and ATI's HD3xxx series by mid-2008. Please wait...it'll be worth it!

If you really need a mid-range to high-end DX10 part right now, we'd recommend a card based on NVIDIA's just released 8800GT chipset—at a price of about Rs 15,000, cards based on this solution redefine affordable horsepower. For those looking at higher options, NVIDIA's older 8800GTX/Ultra chipset based cards are available, but the law of diminishing returns applies—and these cards will cost you in the region of Rs 30,000.

## Mid-range Options

As of now, the mid-range is where all the meat is—the best value for money, and extreme value. If you're looking to spend Rs 8,000 to 10,000 bucks on a mid-range solution, think again! You can actually spend Rs 6,000 and get the same bang: thanks to tremendous price cuts from both vendors, the new mid-range cards now cost a couple of thousand rupees less!

For a graphics card that can do it all, look for solutions based on NVIDIA GeForce 8600GT cores. These cards make for decent gaming solutions for all the current DX9 games, and add headroom for DX10 (even though their performance on initial DX10 titles is poor). Just bear in mind you can't go insane with the in-game detail and resolution settings! Such cards also make powerful additions to an HTPC, and do take a lot of load off the CPU when it comes to frame buffering of HD content, particularly at 1080p resolutions (1920 x 1080 progressive scanned).

The NVIDIA GeForce 8500GT and ATI's HD2600 also make very good mid-range options—in fact if you don't plan on gaming much then choose the 8500GT over the 8600GT and HD2600 cards as this one is cheaper and performs identically as far as HTPC usage goes

## Entry-level Options

Entry-level solutions have been caught between the proverbial rock and hard



place as far as pricing goes. Who would spend on a 2,500-rupee graphics card when you can get 2.5x the performance by spending a meagre 1,500 rupees more? The two graphics cores bringing up the entry level are NVIDIA's GeForce 8400GS and ATI's HD2300 series. These cards make ideal purchases for those looking for a good multimedia PC on a shoestring budget. If you're not into gaming, then save some money for more RAM (or just save) and opt for a card based on these chipsets—you can't get better value for money!

## Innovations

The latest thing is HDMI (High Definition Multimedia Interface), and all LCD/Plasma displays support this new interface. If you want a true HTPC, look for a graphics card that has an HDMI port (all major brands should have a model that does). DVI-out is essential, too. Most cards today come with digital connects and this is the way to go... avoid analogue connects like the plague when looking for a card to go with a large screen. ■



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# ENTERTAINMENT



A Home Theatre PC: Build Your Own!

What Goes Into Video Compression?

The Weirdest Gadgets We Could  
Hand-pick

Back Up DVD Movies - For Free

Create Stop Motion Animation!

 **Jasubhai**  
DIGITAL MEDIA





# Unfair Use

---

“The danger of all this DRM mess: artists are irritating people like me—people who are willing to pay for their content, but just not so keen on being told how to use it”

---

AUDIOGALAXY AND Napster started it all; the powers that be in the entertainment industry need to end it. Piracy brought about lawsuits, billions of dollars apparently lost and stricter Digital Rights Management (DRM) rules. However, as usual, the rules have become stifling.

Apple's flavour of DRM is called FairPlay. It only allows you to play songs downloaded from iTunes on up to five PCs. Now why does Apple get to decide which computer(s) I listen to my music on? I upgrade my PC regularly. Then, over the last two years, I've switched between six computers—two at home, three at work and one laptop. But what I find most stupid about FairPlay is that I can load the same MP3 on to as many iPods as I want... So basically it restricts the number of PCs that can play a song, and yet allows unlimited transfers to the world's most popular portable music device? Genius! If I ever buy music from iTunes, you guys are all invited over to my place... don't forget to bring your iPods.

Confused? Don't worry, I'm just as messed up about this as you, as are the artists, recording companies, distribution conglomerates, and even the seeders on the torrent network. For example, I have a backup (in MP3 format) of the Van Halen *For Unlawful Carnal Knowledge* CD that I bought years ago. Now it's illegal for me to e-mail the MP3s to my sister, but apparently, it's OK for me to transfer it to her iPod. Right? Who knows—depends on how good your lawyer is, I suppose.

It's not just music. If I miss a TV show and the re-run is at some ungodly hour, what do I do? Download it from, shall we say, questionable sites? Apparently, that would be breaking the law. However, if I had a TV-Tuner card, it would be perfectly legal to record the episode and view it later. Shouldn't the bottom-line for what's legal or not be to allow me to watch (or listen to), without any hassles, content that I pay for? And yes, I *am* paying my monthly cable bills.

I've found myself gravitating to the musicians we're showcasing on our DVDs. Free music has its advantages: there are no hassles, I'm encouraged to share it with my friends, or even make Torrents and share them with the world, and I find no difference between the number of songs I have to listen through before I find one I like—90 per cent of the music out there, free or by grossly-overpaid “stars” isn't to my taste anyway. That's the danger of all this DRM mess: artists are irritating people like me—people who are willing to pay for their content, but just not so keen on being *told* how to use it. Digital music on my phone, PC, portable media player or portable hard drive has replaced my Walkman and CD player. I just want to enjoy my music and movies, so stop bugging me with buggy DRM policies and laws that have more holes in them than the cheese on the *Tom and Jerry* show.

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## newsbytes



**6** "Thank you, thank you!" That's approximately what a movie producer said to pirates...

**6** In case you don't have the dope on DRM, here's how to bluff your way through it

**6** Guess what: the HD-DVD and Blu-ray thing is getting more complex

**7** Amazon came up with something obvious. Find out!

## ENTERTAINMENT

## The Homecoming Of HD

You can't turn a corner without tripping over a "get your HDTV cheap" ad, but where's the content? When do we see our *saas-bahu* serials in saree-pattern-identifying high definition?



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## The World's Craziest Gadgets

Stuff that'll make you do a double-take and go, "Wha....?"



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## Trimming The Flab

**12** You compress movies like the dickens, but do you know which codec to use for what type of movie (yes, it matters)? Here's all you need to know (and a little of what you didn't, but we put it in anyway) about codecs and the effect they have on your movies

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## How To Make Your Own Stop-motion Animation

Those awesome animations in *Star Wars*? That's the work of stop-motion animators. If you want to get started on your own, all you need is a webcam, some patience and this handy guide!



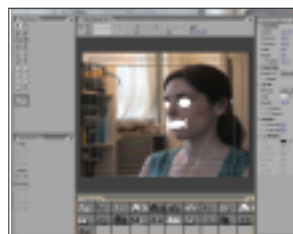
## Know More About The Flash Plugin

99 per cent of the world's wired population has it installed on their PCs, but few *really* know what makes it tick. Presenting the definitive guide for the YouTube / Flash game / animation junkie!

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## Tips &amp; Tricks Premiere Pro And Soundbooth CS3



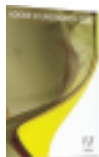
If you create or edit multimedia content, you scarcely look beyond Adobe's tools. If you've had trouble learning Premiere Pro, we're here. Also featuring tips for Soundbooth CS3—the tool that takes you from bad sound to good sound in a flash!

F

## Contents

## Adobe SoundBooth

Adobe Soundbooth CS3 software lets you take command of your audio in film, video, and Adobe Flash software projects. Use on-clip controls to make fast edits and intuitive, task-based tools to clean up recordings, polish voice-overs, customize music, modify sound effects, apply high-quality filters, and much more.



## MediaPortal

MediaPortal is an Open Source application ideal for turning your PC / TV into a very advanced Media Center.

## Andy Blurry by Andy Blurry

This album is a picture of the

evolution of the group. Indeed, there are songs that are both a little "simplistic" like the Stop The Future Generation Screen, and the more sophisticated songs like Fate Square

## Chains of a martyr by Countdown



Countdown is a French band heavily inspired by Megadeth and Metallica.

## to years two long too day by pharmacopia



Pharmacopia's fitting title and interesting play on words to mark sole band member Pete Dragotta return to what he calls his "personal music."

## Anachronox: The Movie



Based on the computer role playing game (RPG) of the same name, *Anachronox: The Movie* is a feature-length "machinima" motion picture. In the 2002 Annual Machinima Awards, *Anachronox* was awarded: first place for best picture, first place for best writing, first place for best technical achievement, first place for best visual design and first place for best editing.

## The Scene, Season 2

Instead of focusing on warez



## Reign of the Fallen

*Reign of The Fallen* is a *Star Wars* fan film. In the times since great wars laid

waste to Prias, its people have learned to embrace a simple life, away from the perils of technology and war. As the mighty Sith army spreads across the galaxy, subjugating every planet in its path, all the people of Prias can do is wait, their world protected by an energy shield held in place by ancient towers.

culture, the second season of *The Scene* takes a look at illicit weapons trade online

## Also Featuring

- Wallpapers: Ferrari, sports cars, Vista, and a massive collection of widescreen wallpapers
- *Cactuses*: the movie
- Nosferatu
- BloodSpell
- *secret garden* by Moving sand
- *A night in Istanbul* by Birds of fire
- *Rain* by Jampy
- DVD Shrink
- MythTV (Linux)
- Aurora Media Workshop
- Aurora MPEG To DVD Burner 5.1.6.9
- JetAudio Basic 7.0.3.3016
- MediaMonkey Standard
- *Demo-noid E.P.* by Of The I
- *Electric Ride* by NMDV
- *Just a catwalk from heaven* by HYPE
- *Listen by t r y ^ d*
- *Midnight Finger Painter* by The Kazoo Funk Orchestra
- *So Little Time* by Jaimina Johnston
- *The Art Of War* by Maniax Memori
- Jaugernaut/ContraMantra
- Songs for the Wild-At-Heart by DOUG the Eagle



#### Location-based Photos

Flickr has announced a service called "Places," wherein images can be mapped to the location where the picture was taken. You "open up the Map tab, find the place you took the photo, and then drop your photo on the place you took it."



#### TV Channels Via The Internet

Sync TV recently launched a test to offer viewers the ability to download content from the TV channels they subscribe to. Programmes are broadcast through the Internet, and the subscription fee ranges from \$2 to \$4 per month per channel or \$2 per episode.



## newsbytes

### Bluff YOUR WAY THROUGH

#### DRM

Welcome to the world of DRM—Digital Rights Management. We Indians haven't felt the full impact of it yet, but we do sympathise with the poor fish that do...

#### DRM (The Other Acronym)

Digital Restrictions Management, as the Free Software Foundation likes to call it—the idea is that DRM doesn't tell you what your rights are, but what they *aren't*.

**FairPlay** Possibly the one that started this mess. FairPlay is Apple's DRM solution—every song bought from iTunes comes with it, making the song unusable on more than 5 PCs, but usable on any number of iPods.

**WMDRM** The Windows Media DRM scheme, which you will find on all music downloaded from the Zune marketplace. Microsoft even stays a step ahead of the pirates, updating the DRM algorithm regularly, so even if it got cracked, it rarely stayed cracked.

**FairUse4WM, DoubleTwist** Intrepid young hackers decided that they'd had enough, and developed these schemes that would rip the DRM out of Apple and Microsoft's music downloads respectively.

**Usage** I like my music DRM-free man, but even if I had to, FairPlay seems to be...well...the fairest. And before I upgrade and all my music turns to junk, there's always FairUse4WM and DoubleTwist to get me out of *that* nonsense!

#### BLOOPER

### Steal This Film Gets Stolen

BitTorrent is a technology that uses peer to peer (P2P) technology to share files between users, and it is most commonly used to download movies and music illegally over the Internet. Last year, the first half of a two-part documentary called *Steal This Film*, highlighting the raids on top BitTorrent sites and the effect it had on its users, was released. In true-blue BitTorrent style, Part 2 leaked onto BitTorrent sites before the release date.

The illegal recording is speculated to have occurred during its first screening at Oil For The 21st Century conference in Berlin.

Excuse us whilst we take a moment to L our collective As off—talk about the mother of all ironies! Of course, this would have been a lot funnier if the creators ran around screaming "You stole my movie! To the courtrooms!", but no—that only happens when children do something silly like film a few seconds of *The Simpsons Movie* on their cell phones. Compared to that, producer Jaime King's attitude is remarkably less entertaining: our hero is actually happy that the movie got was released on the BitTorrent networks—and this is what he had to say: "We think people should better not watch it, as we'll track them down via haxxoring their IPs and sue their asses off," he continues "Seriously, we're

delighted anyone would want to make a cam of *STFII*. We hope anyone that keen to watch it will enjoy it despite the dip in quality, and for those that want to wait, it's only a few days until release."

Warning: spoiler ahead!

Part 2 features the administrators behind the top two BitTorrent sites, their opinion of the P2P and BitTorrent revolution, and how file sharing will be a part of the future and shape the world we live in. Let's hope this one features more interviews of people other than those from The Pirate Bay.

#### MANIA

### Movie Producer Thanks Pirates

Ah, if only we had more film-makers like these... First there's Jaime King saying "wait till we put it on the torrent network ourselves", and now, continuing with the P2P love, Eric Wilkinson, producer of *The Man From Earth*, recently wrote to the BitTorrent site [www.rlslog.com](http://www.rlslog.com), thanking them for stealing his film and putting it up for download. Confused yet? Read on...

It's not always smooth sailing when you're an

independent, low-budget movie producer, even more so when you have no advertising budget to promote your film. For these very reasons, Eric found the going tough for his recently-made movie. Then something strange happened—his Web site clocked 25,000 hits in a fortnight, the International Movie Database (IMdB) ranking of his movie went from being an obscure 11,235 to fifth-most popular movie. It so happens that his film got ripped and uploaded to the BitTorrent sites from where users downloaded the movie. Not only that, they bumped up the IMdB ranking of the movie too!

Wilkinson seems very pleased with the whole experience—and has this to say: "What you guys have done here is nothing short of amazing. In the future, I will not complain about file sharing. YOU HAVE HELPED PUT THIS LITTLE MOVIE ON THE MAP!!!!"



When I make my next picture, I just may upload the movie on the net myself!"

One happy soul for all the wrong reasons, but it's the result that matters...

#### WHAT'S GOING ON?

### One Size That Fits None

As the war between HD-DVD and Blu-ray intensifies—not to mention get more boring, tedious and maybe even pointless—the customer is at the receiving end of all the bovine excreta (as, let's face it, he has always been). Potential customers are as confused as ever, and early adopters are losing their money. Traditionally, a single layer Blu-ray disc would have 25 GB capacity, and HD-DVD, 15 GB. With the use of dual-layer technology, these discs have been pepped up to 50 GB and 30 GB respectively, and can be played in supported players. Today, 44 per cent of Blu-ray titles use the 50 GB disc, and 56



per cent use the 25 GB disc. Almost all the HD-DVD movies available in the market are in the 30 GB dual-layer format.

While major Hollywood production houses and manufacturers themselves are divided on what format their movies and hardware will support, the early adopters have no option but to go with one of the technologies and watch only movies released by the supporting production houses... at the price, that's a terrible thing to do, if you're a true movie buff. And so many are...

There were also a bunch of "better than Blu-Ray / HD-DVD" optical technologies—one of our favourites is Warner's Total HD disk, which features Blu-Ray on one side, and HD-HD-DVD on the other. Early 2008 should tell us how those fare. Then there's China's EVD standard, which claims to be able to squeeze an HD movie on to a DVD using the same old red laser technology. Turns out that it wasn't developed to compete with the Big Two, but was a (rather sneaky) way to get Chinese disc player manufacturers to avoid shelling out the hefty royalties they must to be able to manufacture players that'll play Blu-Ray or HD-DVD disks. As such, even if it does meet with success (unlikely), it'll only be in China.

Other optical disc manufacturers, on the other hand, have been upping the capacity of the two competing disc

technologies by adding layers. Ritek, for example, recently demonstrated the possibility of adding 10 layers to both kinds of discs, to bring the capacity of Blu-Ray to 250 GB and HD-DVD to 150 GB respectively. But the catch: current players do not support such layers. With the DVD Forum recently having approved the 51 GB triple-layer HD-DVD specification, owners of current HD-DVD players are left to fend for themselves due to incompatibility issues. And then, with HD-DVD reaching Blu-ray capacities, it won't be long before Blu-ray goes ahead to become, well, 250 GB. So when is the right time to buy the right player? We don't know. Sorry.

#### AGAINST PRECEDENT

### The Pirate Bay Set For Shutdown?

Swedish prosecutors recently announced the date for shutdown of the world's most popular torrent tracker The Pirate Bay—end of January next year. The announcement comes when investigations are underway relating to financial involvement by Carl Lundstorm, who is also a major financier of the Swedish Democrats. Pirate Bay's administrator Peter Sunde, too, is being prosecuted for copyright infringement.

The Pirate Bay is likely to say, in its defence, that it is a search engine that only directs users to downloads—a popular loophole that torrent sites exploit ("Torrent files don't contain the movie, so we're in the clear"). That statement was earlier used by Alan Ellis, founder of Oink, the world's largest pirate music file sharing site, to bail himself out. But the question is, obviously, can BitTorrent and the likes be really shut down?

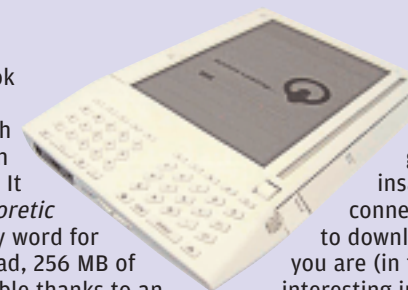
Think back: early last year, The Pirate Bay at Stockholm was raided by Swedish police, who took their servers away and put the site offline for three days. When it came back online, its new hosting site was in The Netherlands, and this time round, they had even taken measures to reduce restoration time. The seizures also prompted The Pirate Bay to plan to buy 550 square metres of a self-declared nation called Sealand—formerly a British naval platform in the North Sea, nominated a "micronation." This, outside the jurisdiction of any country, could be a safe haven for hosting the site.

Renewed charges have now given rise to new ideas—those that make it even more difficult for the law enforcers—changing the BitTorrent protocol itself! The new protocol is supposed to avoid malware, spam, and mainly, the attention of the law.

It's been fun to watch for quite some time now, and it's just going to get even more fun.

### Kindle

Amazon's just given e-book reading a shot in the arm with the new Kindle, which should place a nasty thorn in the Sony Reader's side. It sports a 6-inch *electrophoretic* display (that's just a fancy word for e-paper), a QWERTY keypad, 256 MB of internal storage—extendable thanks to an



SD slot—mini-USB connectivity, and best of all, it'll connect to the Internet using *EV-DO* (that's high-speed Internet via CDMA)! So you've got an e-book reader that can store an insane number of books, and can then connect to Amazon's impending Kindle store to download more e-books—no matter where you are (in the USA, at least)! This should be very interesting indeed...

### Buzzword of the MONTH





Asfaq Tapia

**C**learer, crisper, and more lifelike: adjectives we most often encounter when High Definition (HD) video content is being talked about. So what exactly is HD? According to the Advanced Television Systems Committee, the group that developed the industry standards for digital TV in the US, it is the broadcasting of digital content at resolutions as great as 1280 x 720 or 1920 x 1080, which is higher than that of traditional television systems like NTSC (720 x 480) and PAL (768 x 576). The higher resolution means the picture captures more detail, and so is crisper and more vibrant. HDTV is steadily gaining mainstream acceptance in many countries—in the US, most TV Studios have an HD channel to their name, and in the UK, there's Sky HD and BBC HD. Here in India, things are just starting to hot up. The introduction of new players in the Direct To Home (DTH) service space—like Reliance and Bharti Telemedia—has renewed talk of HDTV channels being introduced here. Is that talk to be believed?

There is quite a lot of uncertainty surrounding the



Shrikishna Patkar

providers and content broadcasters. The content providers have to migrate to new equipment that allows them to record and broadcast HD content, and also receive it on their ground stations, and the content broadcasters need to upgrade their infrastructure too. So where does the difficulty lie?

The biggest obstacle for the delivery of HD content is that production houses need to change to equipment which can record at higher resolutions. First, storage capacity needs to be scaled up; and second, HD content also requires a lot of bandwidth for broadcasting—something that is scarce in India. The bigger companies like Reliance ADAG and Bharti Telemedia have set up optical fibre networks across the country. This should address the bandwidth problem for end users, and in the future pave the way for triple-play services: videoconferencing, VoD, and VoIP. The successful launch of India's Insat-4B satellite is also helping to ease the transponder congestion that Indian channels currently face. It currently supports the beaming of Prasar Bharati's DD Direct, a freely available (or "free-to-

# The Homecoming Of HD

We have heard too much for too long about High Definition Television in India—let's take a look at the ground realities

delivery of HD content in India for the next two years: there is ambiguity on how the broadcasters will eventually deliver content.

## The Current Setup

Our first experience of network television was thanks to the local *cablewala*. When the DTH operators stepped in, they promised to bring with them digital TV clarity—which would be free from snow and noise, and having better contrast ratios. They also promised ancillary services like VoIP, Video on Demand, and Interactive TV. Even after a year, most of these have remained just jargon on paper—for the common man at least.

The successful entry of HDTV content in India depends on two key entities—the content

air") DTH service across India, and will include more players soon.

The Eleventh Five-Year-Plan has mooted the allocation Rs 5,000 crore based on the recommendations of a sub-group comprising private and public broadcasters called "Going Digital" to roll out HD content across India in an eleven-stage process starting with Delhi (2008-09) (and extending to other metros, and eventually other cities and towns). The aim is to cover and broadcast the 2010 Commonwealth Games in HD.

## The Compression Issue

HDTV requires compression during broadcast and reception; the problem here is that it employs either of two alternative forms of

compression—MPEG-2 and MPEG-4 AV. So the Set-Top Box (STB) will have to support both technologies unless HD broadcast standardisation takes place. Providers currently supply STBs that support only one of the two compression technologies.

## The Hardware

Moving to HD will mean that most households in India will have to change their TV sets. The hardware has, as you can see too well, overstepped the content. Walk into any TV showroom and you will find a range of HD-capable TVs and video players, with there being hardly—if any—HD content available.

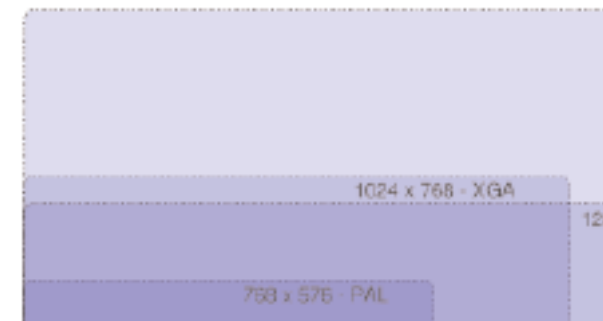
On the content provider's side, the HD equipment is expensive, and requires an overhaul of enterprise-wise workflow systems—an exercise not all content production studios are

willing to go through just yet. Still, new production houses like NDTV already have HD-ready infrastructure like cameras and video switchers. DishTV and Network 18 are also in the process of making their systems HD-capable, and plan to provide HD content when it is required. According to Piyush Gupta, the Head of Operations at Network 18, "We are currently using SD equipment, which will be phased out to make the facility HD compatible. We will achieve this gradually, starting from replacing equipment used for content acquisition right down to the studio and production chain"

The prices of HDTVs are also falling every month; buoyed by this, Indian movie studios are actively considering the distribution of HD content on dual-layered DVDs, a recent example being the distribution deal of HD-format Bollywood movies between New Medium Enterprises and leading Bollywood studios in January 2007. Ten titles and an HD player capable of playing HD-VMD titles are available for \$299 (Rs 12,000) through Indian retailers and at various Indian e-commerce sites.

## The Rollout

Everyone we spoke to was optimistic about the future of HDTV in India; however, they all agree that HD content will not be available for at least two more years. During the initial entry years of HD, the normal tradition worldwide had been that the Standard



An illustration of the resolutions at which HD TV is broadcast compared to the regular broadcast system



Standard definition TV in India is 'good enough' according to most Indian consumers. Currently, there is limited willingness to pay for the incremental improvement offered by HDTV"

**Neha Gupta**  
Senior Research Analyst  
Gartner, Inc.



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Hereafter, please send all correspondence to the address mentioned above.





Definition (SD) format continued to be available to customers, and a few niche services were added to HD and placed in a different price tier. The same model will be applicable to our market. According to a senior spokesperson at DishTV, customers who wish to continue with their present STBs and programme packages and do not want to subscribe to special HD content—which can be movies or sports—will continue to receive it at the price that prevails, and HD will be available to those who wish to subscribe. The impetus for HDTV will come from Prasar Bharati's plans to roll out HDTV content for the Commonwealth Games in 2010.

According to DG2L Technologies, a STB manufacturer, you can, in the future, expect STBs supporting both HD compression standards. These will also have external USB connectivity support and will support up to three tuners for video stream playback. They will also support the ancillary triple-play services—VoD, VoIP, and videoconferencing.

### Other Services

Apart from HDTV, companies are looking at other forms of content delivery platforms too. IPTV and Mobile TV are the future contenders for the delivery of HDTVs in India.

Along with Aksh Optifibre Ltd., MTNL offers IPTV in Delhi and Mumbai for as little as Rs 300 a month. IPTV uses optic fibre networks; this ensures faster transfer rates and therefore a better viewing experience. In spite of the prices being so attractive, the only problem is that optic fibre networks are not available everywhere. The deal between Reliance ADAG and



**The services that will be offered five years down the line will be more user-specific. DVRs will be common in every household, thereby eliminating prime-time broadcasting to a large extent"**

**Anindya Poddar**  
GM, Sales & Marketing  
DG2L Technologies

Microsoft to provide IPTV to its customers is important, because Reliance ADAG has last-mile fibre-optic connectivity in all major cities and towns in India. Combined with DTH offerings, these will ultimately reduce the end-user's dependency on the smaller cable operators, while the larger ones move towards digital delivery with better picture quality.

Currently, what hinders IPTV is that there are no regulations in place with regards to the content, and nor are there any guidelines for the delivery of media content over fibre networks. Once these are finalised by the Government—which will happen by next year, when the TRAI enacts a draft modification it proposed to the existing Cable Television Networks (Regulation) Act—the commercial launch of IPTV will be possible.

Another emerging form of media convergence is Mobile TV; according to Juniper Research, India and China will account for 36 per cent of global Mobile TV users by 2011. At 232.87 million mobile phone users (July 2007 TRAI figures) and a nation crazed by Bollywood and cricket, this means a real lot of money for the telecom companies. Mobile TV uses the either of two forms of technologies, Digital Video Broadcasting—Handhelds (DVB-H) or 3G. DVB-H is a technology that is embedded into the mobile phone that allows it to receive terrestrial broadcasts while 3G refers to third generation mobile phone networks capable of offering high-speed Internet access and multimedia communications at minimum transmission rates of 144 Kbps.

There is, however, a glitch—DVB-H based Mobile TV uses terrestrial broadcasting technology, the rights of which are only available with Doordarshan, this makes it impossible for other networks to beam their content in India right now. 3G services, on the other hand are not yet ready in India.

To view Mobile TV, the end user also has to have a DVB-H or 3G-compatible handset—something only available on the very latest mobile phones. Mobile TV will therefore take some time to go mainstream—unless mobile carriers like Vodafone and Airtel bundle different tariff plans with DVB-H or 3G compatible handsets based on agreements with video content producers, and if the Government makes terrestrial broadcasting free for everyone.

### In Parting

The HD tale in India reads like a chicken-and-egg story. While the range of available HDTVs is increasing every day, most consumers are putting off the purchase for later citing the lack of HD content on their telly. On the other hand, the production houses and other content producers are delaying the production of HD content citing the lack of HDTV owners in India. From a Juniper Research report in November 2007, titled "Mobile TV: Executing the vision"—and from what we've gathered—HD will at least take another three years to arrive in India. ■

asfaq\_tapia@thinkdigit.com

### Jargon Buster

**Direct To Home:** (DTH) Satellite broadcast transmissions aimed directly at individual households, to be received with a small dish.

**Blu-Ray:** A high-density optical disc format used to store mostly high-definition video.

**HD-DVD:** A competing format to Blu-Ray.

**HD-VMD:** Another competing format that uses red laser technology as opposed to blue laser technology used by the former two.

**VoIP:** Voice over Internet Protocol is the technology used to route voice conversations over a computer network. This provides significant cost benefits when used instead of traditional phone line services.

**Video on Demand (VoD):** A service that allows users to watch video over a computer network. The user can choose to both stream the content in real-time or download and watch it later.

**Interactive TV:** Allows users to choose and watch premium content like new movies, or change view angles in a cricket match, or play games on a TV.

**NTSC and PAL (also called SD):** The leading colour-encoding systems used in broadcast television systems around the world. India uses PAL.

**MPEG-2:** A compression standard; it is used to distribute movies and other media on DVD and similar discs.

**MPEG-4 AV:** MPEG-4 AV incorporates many of the MPEG-1 and MPEG-2 features while adding support for new ones such as better 3D rendering and support for externally-specified Digital Rights Management. This is a developing standard.

**IPTV:** A service where digital television is delivered over computer networks, ideally those that support broadband speeds. Contrast with DTH services.

**DVB-H:** Digital Video Broadcasting—Handhelds is the technical specification used to transfer digital media content to handheld devices.





HOW TO

# Back Up A DVD Movie

It's simpler than you might have thought

Prakash Ballakoor

If you've ever tried to take a backup of a DVD movie using the disc mirroring feature of DVD burning software, you've realised you can't—because of the security feature on the DVD that prevents replicating. That's where DVD Shrink comes in: it's free-ware that helps you to back up DVD movies. You can make a backup on your hard drive, or use DVD Shrink in conjunction with DVD burning software to replicate the movie on a DVD.

*According to "fair use" policy, which is applicable in India, you can take backups of movie DVDs that you've purchased for personal viewing, and also change the region setting. You cannot, however, take backups of movies you don't own, or distribute your backups.*

## DVD formats

DVD movies come in two formats—the regular DVD5 single-layer DVD, or DVD9, also called dual-layer DVD, which has almost double the capacity. Movies in the DVD9 format cannot, of course, fit on a recordable DVD5 (DVD-R, DVD+R, DVD+RW, or DVD-RW). To fit a DVD9 movie onto the cheaper DVD5 recordable DVDs, DVD Shrink allows you to compress the video file and, if need be, re-author the movie from the source disc: remove extras like trailers, subtitles, advertisements, warnings, "the making of the movie," etc., and only select the parts you want. Re-authoring also allows you to make your own compilation from one or more source DVDs.

The official site for DVD Shrink is [www.dvdshrink.org](http://www.dvdshrink.org), where you can find support forums. You can download the software from many sites, one of which is [www.afterdawn.com/software/video\\_software/dvd\\_rippers/dvd\\_shrink.cfm](http://www.afterdawn.com/software/video_software/dvd_rippers/dvd_shrink.cfm). You can also get it off this month's Entertainment DVD.



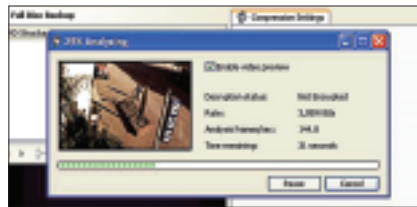
## Installation

DVD Shrink takes up only 1 MB of space. Insert the source DVD into the DVD drive and launch the program. Click the Open Disc icon to select the drive. DVD Shrink analyses the DVD for disc errors.



## Full Disc Or Re-author Mode

After DVD Shrink is done analysing your disc, you'll



It takes a couple of minutes to analyse a movie DVD, and longer if the DVD is scratched

see a detailed DVD structure—the movie menu, main movie, extras like advertisements, etc. and also unreferenced material like title menus.

You can take a backup in two ways—Full Disc (the default) and in Re-author mode.

## Full Disc backup

Here, you can uncheck the extras or menus you don't want so as to reduce the file size of the backup. You can also change the compression settings of video to No Compression, Automatic, and Custom Ratio. If you choose Automatic Compression, the video size is set to fit DVD±R (4.3 GB). However, if you want to compress the video further (or decrease the compression ratio), you can choose the Custom Ratio option from the drop-down menu under Video. The slider can be dragged to select the desired video compression percentage.

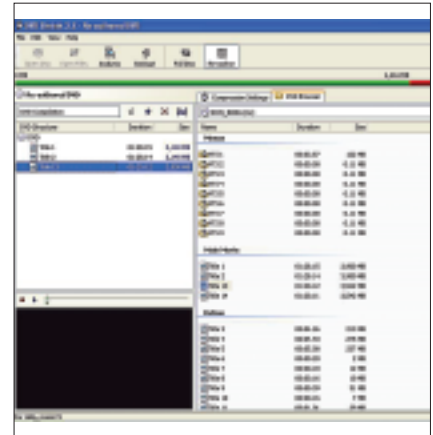


You can change the default target DVD file size

If you want to, you can change the default Automatic Compression to DVD9 (8.3 GB) or a custom default size. To do so, go to Edit > Preferences > Target DVD Size.

## Re-Author Mode

Clicking the Re-author button opens up a DVD browser that contains a list of movie menus. You can select the movie titles you want to back up by dragging and dropping the titles from the browser to the DVD Compilation window. The Compilation window now contains your new DVD movie structure. Note that in this mode, you can also



This mode gives you more control of what goes into the backup

build a compilation from more than one movie DVD source.



## Fine-tuning

Once the DVD movie structure is ready, click the Backup icon to view the Backup DVD dialog box. The first tab, Target Device, allows you to choose the destination of backup—a folder on the hard disk, an ISO image, or a blank DVD (where you use your burning software).

The next tab is DVD Region; you can choose your backup to be region-free (see note above).

The Quality Setting tab offers various options to improve the quality of backup, which can be useful because video is being compressed (assuming you're burning onto a 4.3 GB DVD). There is the Deep Scan Analysis option, which encodes your DVD in two passes—this improves video quality but takes longer. In addition, when video is compressed, some errors can be introduced; to prevent this, Adaptive Error Compensation (AEC) compares the source and the compressed video to rectify any introduced errors.

## Back Up!



Once you're through with the settings, your movie DVD is ready to be encoded. You can choose to watch a preview of the movie while it's being encoded. If you chose to burn a backup onto DVD, DVD Shrink opens the DVD-writing application after the encoding is done. □

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# Trimming The Flab

Bhaskar Sarma

How many DVD-quality movies would 160 GB hold? 85, you'd suppose. But there happens to be a universe where 160 GB holds just one—that's the world of uncompressed video, which you never get to see. We're going to talk about just how we can get away with never having to deal with it.

Most media, including video and audio on the Internet, in portable form on CD/DVD, or beamed over the airwaves, is compressed. That is, the original media is reduced in size without any appreciable degradation in quality. Compression is especially necessary for video—storage and retrieval would be prohibitively expensive, and in many cases, infeasible.

## Things To Know

There are a wide variety of compression algorithms for images, audio, and video; these work in different ways to shrink the original file, but they all rely on the imperfection of the human senses. The whole concept of video depends on persistence of vision, where still images appear to move when shown fast enough. Related to this is psychovisual compression, which takes advantage of the way in which the human brain "sees" video—minute differences in colour and position, for example, are not discernible to the human eye and can be discarded, reducing file size. Since a video clip has, more often than not, sound elements, an allied principle called psychoacoustic compression is employed to shrink portions of sound by discarding data that the ear can't hear. Think of a when a loud noise

**Video is compressed before you get to view it. Understand what happens...**

like a slamming door blanks out softer sounds like whispers: the latter are discarded. These two examples of compression strategies can be clubbed under lossy compression, in which there is loss of data when the media is compressed. Lossless compression is a different method in which data on media is zipped to occupy smaller sizes without loss of data. It is not widely used in distribution of media, and we're only going to talk about the lossy type.

Another very important thing to note here is bitrate, which is the amount of information in bits present in one second of the data stream. So, an MP3 file with a bitrate of 160 kbps means that one second of the data stream contains 160 kilobits of data. The bitrate is fixed during compression, and different algorithms output data streams with different bitrates. Higher the bitrate of the media, higher would be its quality and correspondingly bigger would be the file size.

## The Inside Scoop

To understand how video compression or encoding works, we need to look at the structure of a video clip. At the rudimentary level, video clips are made up of a large number of still images called frames. So a clip can be thought of as being three-dimensional—two dimensions in the frame and the third dimension being time. Video compression algorithms work in two ways—intra-frame and inter-frame.

Intra-frame compression algorithms like MJPEG encode each frame using methods similar to JPEG compression for still images. This approach does not take advantage of the information in the preceding and succeeding frames,

but each frame can be recreated individually during decompression (or decoding). Each frame is divided into blocks of 8 by 8 pixels, and a series of mathematical operations is executed on the blocks. Look at Figure 1 to get an idea of how the encoding as well as the decoding of video is done. The infographic below talks about MPEG2, but you can get the general idea.

The details of the steps are highly technical, but as a series of simple steps, first, the data in the block is transformed into frequency values depending on the level of features in that block, using a mathematical function called the Discrete Cosine Transform (DCT). These values are then changed into some fixed values using another function called the quantiser (Q). The quantiser creates a lot of zeroes in the data stream, as well as large and small numbers, most of them occurring with regular periodicity. This information is then coded using as few bits as possible by a method called Variable Length Coding (VLC). This is carried out in the encoder, and the opposite sequence of steps goes on in the decoder—Variable Length Decoding (VLD), Inverse Quantisation (IQ), and Inverse DCT (IDCT).

The steps in the encoding process consume system resources, so taking advantage of the correlation between data in individual blocks, a process called motion compensation prediction (MCP) is carried out. This attempts to predict the position of individual pixels based on their position in the previous frame or adjacent block to generate frequency values, so no more repetitive DCTs—which saves on processor cycles.

If the original frame from which the differences are calculated is lost in transmission or corrupted, the subsequent frames cannot be recreated. Special frames called key-frames or "iframes" are therefore interspersed in the transmission. iframes do not need information from preceding frames to get recreated, and contain more data. To get a particular frame, the decoder goes back to the nearest iframe in the bit-stream and applies motion estimation techniques to recreate it.

## Codecs And Formats

Discussion of video compression invariably involves codecs and formats: codecs are used to perform compression, while formats determine how the final data is going to be stored. "Codec" are short for coders-decoder (also, compressor-decompressor), while formats can be thought of as containers for data. Each format has a different file structure, and they have their comparative advantages and disadvantages vis-à-vis compatibility and file size. The coder encodes the raw video (or audio) stream which is distributed over the Internet, airwaves, or in portable format; at the user's end, the corresponding decoder acts on the encoded data-stream and plays back the media with reduced file size and changed quality.

Good video codecs work in such a way that the drop in quality is not noticed by the eye. Video on DVD is encoded using the MPEG2 codec. Other codecs commonly used are DivX, XviD, WMV9, Sorenson, DV, and H.264. Most of these are lossy codecs, that is, the compression that results from their use results in data loss. There happen to be lossless codecs like Huffvuv, too, though these are used mostly for special purposes like video editing and post-production work.

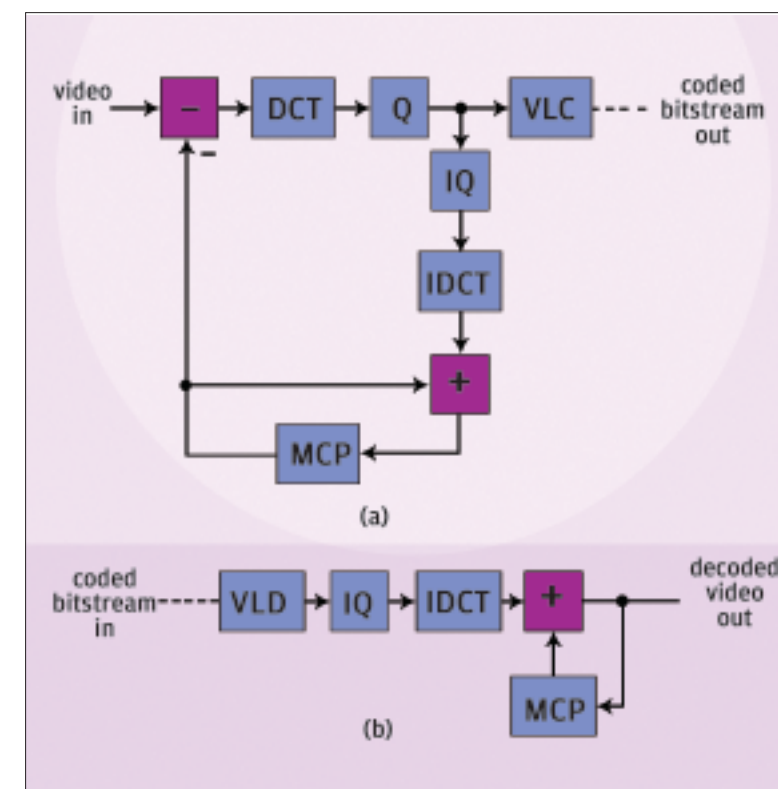
Most codecs are proprietary and need to be licensed before use, though there are open source and free codecs like XviD, whose performance is comparable to that of the best commercial ones.

Video-sharing sites and affordable video capture devices have democratised the creation of video, but videos occupy a lot of space and need to be compressed before being archived or uploaded. This is done using codecs. There are lots of codecs out there, which makes it confusing to the uninitiated as to which codec is suitable for what scenario.

The choice of codec also depends on the quality of your source: if the source file is in raw, uncompressed form, then the compressed file would be as nearly as good, depending on the situation portrayed in the clip (for example, fast moving images, or slow motion). A previously-compressed file, however, could produce good to horrible results, depending on the combination of codecs used.

## A Shootout

There are two things to note when video is compared—quality and file size. Good codecs would have a reasonably high quality in the output, while also reducing the size of the



(a) The MPEG2 encoding process

(b) The decoding process





file. In our comparison of codecs, we talk about four widely-used codecs that are supported by most media players: DivX 5.1.1, QuickTime 6.5 / Sorenson3, Windows Media Video 9, and MPEG-4. DivX videos are widely available online, as are QuickTime videos. WMV 9 encoded video is playable using Windows Media Player, and is playable on many PMPs and DVD players. MPEG-4 is compatible with consumer electronic devices like the PSP, Xbox 360, and the Apple iPod.

A typical video clip has a variety of images—fast paced action scenes, close-ups, slow motion etc. We compared four codecs in different test cases. In our first case, the DVD-quality source video, which is encoded using MPEG2, was a scene from *The Matrix: Reloaded*, with lots of fast action scenes.

In this video, the output from DivX is almost as good as the original, while the output from MPEG-4 video is the worst, with blocky images. You would have to look closely, though, for the differences to be noticeable. In any case, these differences are not very visible in motion because persistence of vision, but a good codec should not display distortion in still shots either.

We also looked at some other clips: the Green Goblin's attack on the balloon parade in *Spider-Man*, Nightcrawler's attack on the President in *X-Men 2*, and the two monsters Mike and Sully coming out for work in the morning in *Monsters, Inc.* Anybody who remembers these scenes would know that they do not always depict slow moves and gentle camera motion; there is also a lot of fast-paced action. Space doesn't permit all the screenshots, but from the decoded output in the different cases, the DivX and WMV 9 videos were almost tied, while the MPEG-4 encoding fared the worst. The DivX-encoded videos had a more detailed and sharper look, but also displayed blocks in the output. WMV 9 blanks out details, and the videos have a softer look. When it comes to speed, MPEG-4 and QuickTime / Sorenson was pretty fast, with DivX at third place.

Encoding video takes a lot of time in any case—a 4:16 minute clip of *The Matrix Reloaded* at a bitrate of 1 Mbps took 13:15 minutes with DivX, 17:22 minutes with WMV9, 8:37 minutes with QuickTime / Sorenson, and 11:50 minutes with MPEG-4.

The choice of codec comes down to the intended use of your video: if you plan on putting it up on the Net, go with DivX; WMV goes very well with devices like DVD players, and has wider industry support.

### And So...

Video compression is a vast topic, and the technical details can fill several fat books. We've only attempted here at giving a peek into what goes on behind the scenes.

Compression saves space, but the choice of codec is more important than the space the output file will occupy. Also, the codec you use should be widely supported. ■

*bhaskar\_sarma@thinkdigit.com*



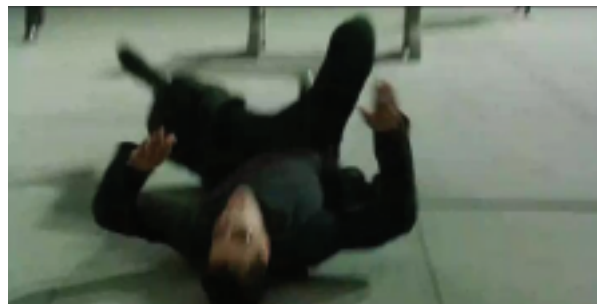
This is the original video grab. The image is blurry in some areas.



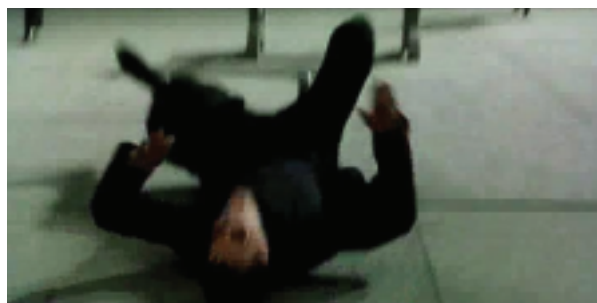
The DivX video gives the best output, almost as good as the original



The WMV video blurs out the details, and edges are jagged



The blockiness starts in QuickTime—notice the shadows and edges



The MPEG-4 gives the worst output. The image is blocky, and there is not much detail





HOW TO

# Make Your Own Stop-motion Animation

**Fancy yourself the new Nick Park? Don't know who Nick Park is but want to make your own *Chicken Run*? You've come to the right place!**

**Nimish Chandiramani**

We've done a lot of articles on making digital films, but we've always tactfully side-stepped this part: before you start reading, make sure you have some creative talent (or at least the desire to have some) handy. If you're unsure, ask someone who'll give you a straight answer. If their faces fall, it means you can safely turn the page, and we'll forgive you for it. Now, on to the matter at hand...

## What It Is

Stop-motion animation is the art of making inanimate objects seem animated—by physically manipulating them, photographing them frame-by-frame and then stringing the frames together. Remember the AT-AT walkers in the *Star Wars* movies? Making them move was the work of stop-motion animators—very, very good ones.

## What You Need

**A plan:** What's your scene going to depict? Do you need a specific setting?

**The cast:** Since you'll be animating the inanimate, anything that doesn't move of its own accord will work—your old G.I. Joe figures, a coin, scrunched up pieces of paper; if you want to animate your router's antennae twirling about, you can. You can even star in the video yourself for a quirky look.

**The hardware:** A respectable PC that can handle basic video editing should do fine—if your PC was bought less than a year and a half ago, it'll do. You'll also need a capture device like a webcam or camcorder.

**The software:** MonkeyJam—a little weird to use at first, but pretty neat after about ten minutes of use. Get it at [www.giantscreamingrobotmonkeys.com/monkeyjam/](http://www.giantscreamingrobotmonkeys.com/monkeyjam/) (love that URL).

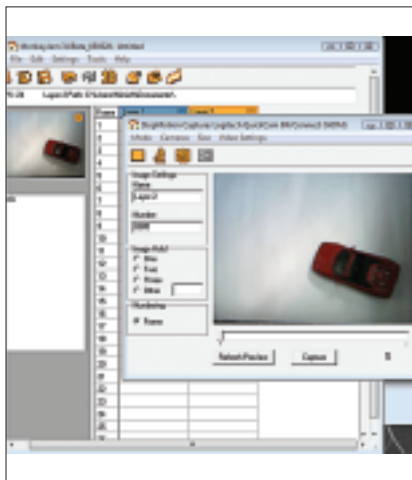
**A set (optional):** A big cardboard box.

Once you've placed all your characters and props, set up your webcam or camcorder for the shot and ensure that

it's not disturbed. Now, all that you need to do is start capturing frames and animating your characters.

## How Monkeys Jam

In MonkeyJam, you'll be working with *Exposure Sheets* or, simply, Layers. When you start capturing frames, they're stored as frames in these layers—four frames per capture, to be precise. Hit [F6] to get to capture mode (Vista users: this causes Vista to unload Aero and use the Vista Basic theme—don't panic), and select Mode > Stop Motion. In this mode, you're presented with a slider at the bottom of your video so you can see what the previous frames looked like (to choose how many frames you want to



Use the slider to view preceding frames

see, make a choice under Image Hold) and compare it with the shot you're taking. This will help you ensure that your animation progresses smoothly.

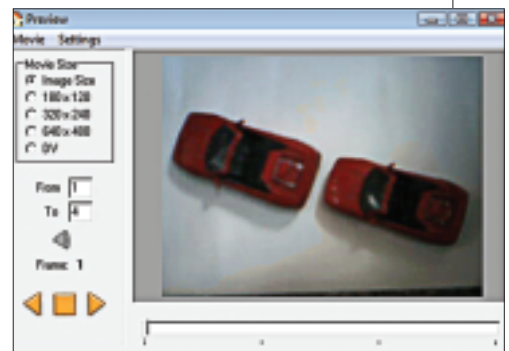
## Preview

By default, MonkeyJam gives each capture three frames in the exposure sheet—you can change this by dragging the handle at the bottom of the captured image. Keeping images around for longer will lengthen the animation, but the transition to subsequent images will be painfully noticeable. On the other hand, keeping images restricted to two frames will result in smooth motion, but a very short video. You'll have to play with

these settings to strike a balance. To preview your movie so far, hit [F7].

## The Shoot-the-last-frame-first Trick

To make sure your animation is progressing in the right direction, start by shooting the final pose of your character—this helps most with walking patterns,



Shoot the last frame first to make sure you're progressing properly—even for the silliest things

dances, and so on. Capture this image on to Layer 1, hit [Ctrl] + [L] to create a new layer and go to Composite > Blend. Now start capturing from the character's first position—all the captures should now go on to Layer 2. When you now preview this video, you'll be able to see the final frame blended over the animation—this will help you gauge whether you're approaching that final frame right and let you make corrections, if any. When you're done, just select Layer 1 and go to Edit > Delete Layer.

## That's A Wrap!

One thing about stop-motion animation—it's a lot harder than it seems. It takes 24 frames to create a second of video—that's 1,440 frames for just one minute! Stop-motion animation software is usually nice and simple like MonkeyJam or Animator DV (find the free edition on the August 2007 DVD)—you'll need to follow up with a more fleshed-out video editor to work on it more. If you get around to making an animation of your own, send it in and we'll feature it on our DVD—get cracking! □

*nimish\_chandiramani@thinkdigit.com*



## The PC Bag

No, we're not talking about run-of-the-mill laptop bags here. When we say PC, we mean that good old trusty desktop!

The PC bag from Xbags can fit most cabinets, and provides 18x8.5x20 inches of space for this. It has huge, padded side pockets that are big enough to cram your keyboard, mouse, connector cables, power cables, external hard drives and more into them. It's built to support up to 35 kg of weight, so unless you have 30 hard drives in an all iron cabinet, this is good enough for your desktop. Obviously, the straps on the bag are tough, are made of "heavy-duty" material and are adjustable. The PC bag is not a backpack though, and the reason for this is that you're supposed to buy the monitor bag to go with it. The monitor bag can accommodate your 19-inch CRT monitor with ease, so you can now go for those LAN parties in style. Even if you never need to move your computer, you can always get these bags from Xbags, pack your desktop into them and run around your house for some much needed exercise!

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

Bag prices Standard size: Case Transport Strapping System \$ 45.95 (Rs 1840)

Monitor Bag : \$39.95 (Rs 1,436)



## Golf Launchpad

This one is for bored bosses who have already fired their week's quota of employees and have nothing else to do. Golf, the rich man's great outdoor adventure has been brought indoors. The Golf Launchpad is a golf simulator that promises to give you ultimate golfing experience, without ever having to visit the golf course. It is a 3 Kg unit equipped with sensors and has a golf ball attached to a double ball-bearing mount. You swing your own golf clubs—wood, iron or putter—and hit the attached golf ball. The inbuilt sensors measure your swing's speed, path, angle and sends this information to the EA Sports' Tiger Woods PGA Tour game. The game is included and runs on either the PS2 or your Windows / Mac PC.

For a mere \$249 (Rs 9,960) for the PC version, or \$199 (Rs 7,960) for the PS2 version, the Golf Launchpad promises a very real golfing experience. You might want to consider using this at home only though, or you'll have to deal with the crowds of people outside your cabin, looking at the Neanderthal in the glass room swinging his clubs at a ball that goes nowhere. Losing grip of the golf club mid-swing could also cause some serious human / material destruction.

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

Price: \$229 (Rs 9,960)



# The World's Craziest

# Gadgets

Here at Digit, we love our gadgets, but some of the ones we come across just make us wonder, "What on Earth...?"

## Self-Destruct Button

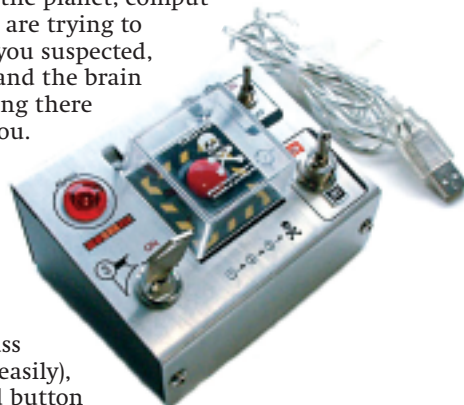
Machines have taken over the planet, computers became self aware and are trying to destroy humanity. Just as you suspected, your PC was the evil one, and the brain of the AI revolt is just sitting there on your table... mocking you.

It's a good thing you are a Digit subscriber, and had read this article. You now hold the key to mankind's survival, the self-destruct button, and you're not afraid to use it. You break through the protective glass (forgetting that it lifts up easily), slam down on that big red button and all hell breaks loose. There are alarms going off everywhere (if you don't hear these, you forgot to switch your speakers on), there's whirring and creaking as the AI in your PC dies a slow painful death. The entire office is filled with the cacophony of human victory over machines, everyone looks at you incredulously, eyes filled with admiration and envy—our hero! Then out from behind a wooden portal comes the terminator, seething with anger he hands you a pink slip and kicks your behind all the way out of the front door... there's just no justice in the world, is there?

For those who didn't get it, the Self-Destruct Button does absolutely nothing to your PC, but will make it sound like you just averted Armageddon (or caused it, depending on what gets your goat). Using it when your boss is around will get you fired, period.

<http://tinyurl.com/2tqp34>

Price: \$59 (Rs 2,360)



## Keyless Keyboard



We all know this guy; he sits around looking busy, pounding his keyboard all day, but we know he's just using GTalk to woo women. We all hate that guy.

Here's how you can exact your revenge. Just replace the offender's keyboard with the orbiTouch Keyless Keyboard. This "keyboard" is two domes that slide into one of eight preconfigured positions each. Instead of typing normally, you have to move the domes—individually or simultaneously—to type. For example, moving both domes to the right simultaneously will type the letter Y.

A user would basically have to learn to type all over again, and you can have fun watching the serial chatter struggle with this. If you're willing to shell out close to Rs 16,000 for this weird gadget, you are certainly disabled, but not physically—perhaps a trip to a shrink is in order!

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

Price: \$399 (Rs 15,960)

## Foot Mouse

No, this isn't a racing game controller or one of those funky looking foot massagers. The Foot Mouse is aimed at those of you who have started developing aches and pains in your fingers, or are just too busy eating to be able to use a hand-mouse and get some work done. The mouse comes in the shape of two pads that rest on the floor—one controls movement and the other the clicking function. The manufacturer claims that the Foot Mouse increases productivity by up to 30 per cent and even has a page of anonymous testimonials from users. At \$316 (Rs 12,640), the Foot Mouse is not cheap, but then again if you want one, you're probably eccentric enough to afford one.

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

Price: \$349 (Rs 13,960)



## Plus Deck Cassette Converter



Remember the good old days of music on cassette tapes and using pencils to rewind them to save the walkman's battery? If you do, then chances are you still have a lot of old tapes lying about. Although we've given you tutorials on how to convert tapes into MP3, those still require you to do some work; gasp!

Here's an easier way out: get the Plus Deck Cassette Converter. This is a front loading cassette deck system that fits into your PC's 5.4-inch (CD-ROM size) bay. The Deck supports auto-reverse, so you don't have to switch from side A to B. You can now start playing back and recording your audio cassettes easily.

[www.firebox.com/product/1700](http://www.firebox.com/product/1700)

Price: \$129.95 (Rs 5,200)





## USB Eye Massager

Are your eyes burning up from looking at that screen all day, staring at those Excel files? Our eyes burn too, but more because of Quake III than Excel, but the symptoms are similar. Staring continuously at displays causes eye irritation, and all the washing in the world will not help. Now relief is at hand—or is it at finger? Feast your eyes on the USB Eye Massager—careful now, don't strain them.

This little gadget runs off the USB port of the same stupid box that caused your eyes to get irritated in the first place—poetic, isn't it? It comes in wacky colours such as bright red, yellow, fluorescent green and even dull grey for the stiff shirts. The massager automatically turns on when you plug it to a USB port, with a rhythmic action that soothes your skin. It has two speeds—high and low—depending on how strained your eyes are. Of course people being people, have used it on other areas as well—it's said to be good for the lymphatic system and helps to



aid digestion, but we'll let you decide how and where to use it. It's supposedly very good for the eyes though, so let us know if you're crazy enough to buy one.

[www.sundayo.com/htm/product.asp?id=450](http://www.sundayo.com/htm/product.asp?id=450)  
Price: \$5 (Rs 200)

...but you've got to give it to them for pushing the envelope of non-productive creativity.

## USB Finger Optical 3D Mouse



When you get bored of the Foot Mouse we mentioned before, here's another mouse that you can splurge on. Nothing says eccentric like the USB Finger Optical 3D Mouse. This mouse straps on to your index finger, and well you start wagging it away. The mouse features a scroll wheel and left and right buttons, and supposedly can "reduce fatigue effectively". It works on any surface that the regular optical mice can, and boasts a hardware resolution of 1200 dpi. The wire is coated with a textile-like material so that it doesn't get in the way or increase friction. We have just one question. How the heck does anyone type with this thing strapped to your finger?

<http://tinyurl.com/2jclt6>  
Price: \$10 (Rs 400)

## Atari Plug N Play Keychain

Retro has always been cool, and in this time of PS3, Xbox 360, HDTV, et al, what better way to spend an evening than playing *Pong*, *Asteroids* or *Centipede*. Now before you think we're telling you to carry that ancient Atari console to your friend's place, think again. All you really need is an Atari 2600 Plug N Play Keychain. Apart from the obvious functionality of a keychain, this gadget is actually a retro style Atari controller or a pong paddle. You will have to find space for the six foot cord that accompanies any of these keychains—the cord has an RCA jack at one end to connect the thing to a TV. Powered by three AAA batteries, the keychains don't run the original Atari games that we loved so much, but they're close enough rip-offs to give you the retro feel. Since they're just about Rs 350 each, they're something any one of us can afford. Nothing says "geek" as proudly as hooking up your keychain to an old TV for a night of retro gaming—it's a pity you can't connect two of the things together for some one-on-one action in pong!

[www.amazon.com/Atari-Game-Paddle-Keychain/dp/B000GKU67Q](http://www.amazon.com/Atari-Game-Paddle-Keychain/dp/B000GKU67Q)  
Price: \$8.75 (Rs 350)





Your Questions, Our Answers

Things going “boom” when they shouldn’t be?

### Too Much Sound

**Q** You said in your February issue that VirtualDub can extract audio from video. It did extract audio, but only from AVI files. Also, the size of the audio files is too large (the same size as the video) and is stored in the WAV format. I want to convert WAV to MP3 and to reduce its size so I can store it on my MP3 player.

Aayush Shrut

**A** You can certainly compress the audio in the AVI to not only MP3, but to any of the installed audio codecs. After you open the AVI file in VirtualDub, click on Audio and select Full processing mode. Go to Audio > Compression (which was greyed out earlier), and select the compression codec from the left in the Select audio compression window.

### Going Retro

**Q** My XP computer has a weird problem—it produces the Ding.wav sound for the default system beep through the internal speaker rather than my external speakers. How can I correct this?

Anand Prakash

**A** Open the Registry Editor and go to HKEY\_CURRENT\_USER\AppEvents\Schemes\Apps\.Default\.Default\.Current and edit the default string value to %SystemRoot%\media\Windows XP Ding.wav. Go to HKEY\_CURRENT\_USER\AppEvents\Schemes\Apps\.Default\.Default\.Default and edit the default string value to %SystemRoot%\media\Windows XP Ding.wav.

### Not Quite Picture-Perfect

**Q** I bought the Leadtek Winfast TV-Tuner card (which *Digit* recommended) a few months ago. Picture quality is not up to the mark, and there is a lot of noise and patterns in the video. The card works perfectly well when I install it on a friend's PC.

Sameer Malhotra

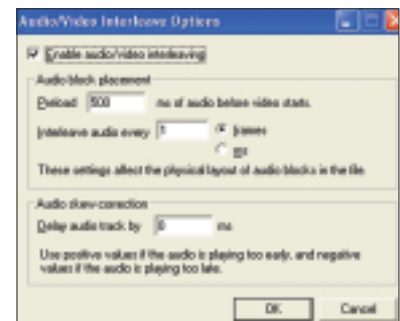
**A** The picture quality of the TV-Tuner is affected by many things. Since it is an internal TV-Tuner, the PC's internal electromagnetic radiation is often a major culprit. Try to install the TV-Tuner in the last PCI slot so it is far from any other card. You also need to pay attention to the wiring. Make sure you solder all the joints with the plugs. There should be a minimum number of joints as there is a huge signal strength drop at each joint, and this drastically affects video quality. And last, check if your cable TV signal strength is strong enough (compare your TV channel's image quality with that at your friend's place), and if it is not so, contact your cable operator to get it remedied.

### Imperfect Harmony

**Q** The AVI file I converted my home videos to have the audio and video out of sync.

Sunil Verekar

**A** You can easily correct this problem using VirtualDub. Open the file in VirtualDub and select Audio > Interleaving. In the Audio/Video Interleaving options window, enter a value for Delay audio track by in milliseconds. Enter a positive value if the audio plays too early and negative if plays too late. This is a trial-and-error method, and you may need to click on the Output Play button to view if the value you provided is correct.



Set the audio video synchronisation in VirtualDub

### Cam To Comp

**Q** I have a DV Cam and want to create a DVD using the captured contents. What hardware and software is needed?

Deepak Negi

**A** To connect your DV Cam to your PC, your PC should have a FireWire port. If it doesn't have one, you can easily get a PCI card that will let you add one for around Rs 750. There are two major chipsets available, ask the vendor for a card with NEC chipset as it is generally found to be better. Next, you need a FireWire cable (if one didn't come with your DV Cam, you can get one for around Rs 200). Make sure that the cable and the FireWire ports (on your DV Cam and PC) are compatible with each other: there are two types of FireWire ports—one is with 4 pins and is smaller, the other one has 6 pins and is larger. Your DV Cam must have come with a video editing software that will recognise your DV Cam and let you edit and transfer the captured content to your hard drive. If it hasn't, or if you are dissatisfied with the bundled application, you can use Nero Vision, which is a part of Nero 8 Ultra Edition. You can download a copy of this software from [www.nero.com](http://www.nero.com), or check if it has been bundled with your DVD-Writer, which is again another necessary piece of hardware.

You need at least a 2 GHz processor, at least 1 GB of RAM, and a hard drive with at least 20 GB of free space to let you store as well as edit the captured video. ■

### Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to [sos@jasubhai.com](mailto:sos@jasubhai.com), and we might answer them here! Since we get many more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!





# Build A HTPC

Combine the big screen of your TV and the processing power of your computer and get a Home Theatre Personal Computer

Bhaskar Sarma

**T**Vs and computers are the two most ubiquitous devices in our households, and each has its advantages and disadvantages. A TV concentrates on image and sound quality, but user control extends to just switching the thing on and off, flipping channels, and changing a setting or two. A computer, on the other hand, is all about user interactivity, but unless you have deep pockets, your PC screen will be significantly smaller than the TV you want. This means it cannot compare to the experience of watching a movie on a large screen.

If you build yourself a home theatre personal computer (HTPC), though, you can combine the best of the two, not to mention record TV programmes, rewind, fast forward, or pause a live TV broadcast, enjoy audio, and sometimes, live radio. Another practical aspect is that a HTPC saves space—the TV screen doubles up as a computer monitor when you need it to.

A HTPC means you'll need to buy both software and hardware; here's what you need.

## The Hardware

**STEP 1** Get yourself a case that doesn't have noisy fans—noise from the cooling fans can mar the experience. Also, use a case that is well-ventilated and looks good; you won't want an ugly-looking case messing up the décor of your living room. There are



The iBall Engine-X

cases specially built for HTPC systems that fit these requirements. We recommend the iBall Engine-X (Rs 1,700). You might want to ask your vendor for a micro power supply from VIP or Cooler Master (around Rs 800), though they aren't easily available.

**STEP 2** The processor needs to be powerful enough to handle multithreaded applications like video encoding and decoding. Dual-cores are preferable. We recommend the AMD Athlon64 X2 5400+ (Rs 6000), 5600+ (Rs 6300), and the Intel Core 2 Duo E6550 (Rs 7,800).

**STEP 3** The motherboard need not be built for overclocking or have support for 45 nm processors. In fact, overclocking is the bane of HTPC systems; such motherboards emit digital noise, which affects picture and sound quality. It's preferable that these motherboards have passive cooling solutions like heat

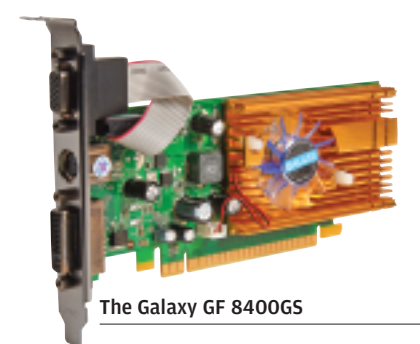


The GigaByte-GA-G33M-S2H

dispersing pipes to ensure quiet performance. HDMI slots for connecting to the TV are vital if you want to use the onboard graphics card. We recommend, for AMD processors, the MSI K9AGM2-690V (Rs 3,100) and the ASUS M2A-VM HDMI (Rs 5,225); for Intel processors, we'd say the Gigabyte GA-G33M S2H

(Rs 5,950) and the Abit Fatalty F-190 HD (Rs 7,500).

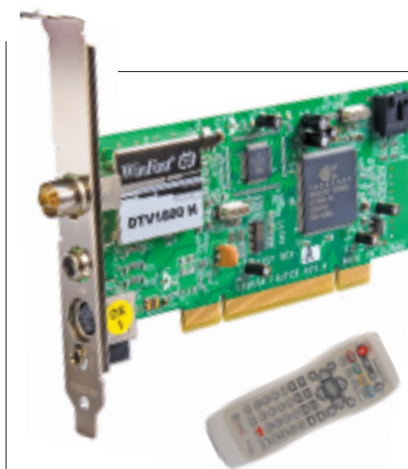
**STEP 4** The video card need not be too heavy-duty as the primary role is display, not serious gaming. The cards should have a low power requirement, good video decoding capabilities, and a small form factors. We recommend the Galaxy GF 8400GS (Rs 2,900).



The Galaxy GF 8400GS

**STEP 5** The TV-Tuner + video capture card is what distinguishes a HTPC from a regular PC. This card picks up live TV signals from either satellite or cable and outputs them live to the screen. The video capture part encodes the signals into a different format, usually MPEG2, and stores them for future viewing. The card could be single- or dual-tuner, and provide features like time-shifting (which means the ability to pause, rewind or fast-forward a live TV broadcast). Other formats into which video is stored are DivX and WMV.

Good-quality cards usually come with a software bundle and a remote. If you're using a direct-to-home setup,



The Leadtek Winfast DTV1800H

you'll need to buy a video card with composite inputs (the red, yellow and white connectors). We recommend the Leadtek Winfast DTV1800H (Rs 3,990).

**STEP 6** It doesn't hurt to have some extra memory; 1 GB of RAM is sufficient, though with Vista, you're better off with 2 GB. Always use RAM in dual-channel mode—two 512 MB sticks if you want 1 GB of RAM; it's much faster than a single 1 GB stick. We recommend 2x 512 MB Kingston DDR2 667 MHz RAM (Rs 800 each), or 2 x 1 GB of the same (Rs 1,450 each).

**STEP 7** Both the hard drive and the optical drive must be as noiseless as possible. If you plan on recording and storing a lot of TV content—which would be natural, since it's a home theatre PC you're talking about—you'll need a sufficiently large hard drive. The optical drive should be a DVD-RW drive if you want to carry your content around. We recommend the WD Caviar SE16 WD3200AAKS (320 GB, Rs 4,500), and the Lite-On LH-20A1P (DVD-Writer, Rs 1,700).



The Lite-On LH-20A1P

**STEP 8** The mouse and keyboard needed to control the software should be wireless—so you can sit on a couch comfortably and control your system. The wireless combo should not be infrared, as line-of-sight issues crop up and are a pain to resolve. We recommend the Logitech Cordless Desktop MX 3200.



Logitech Cordless Desktop MX3200 (keyboard)

**STEP 9** The TV is the centrepiece of your home theatre system. By default, the TV needs to be high definition and classy. Check out the Diwali buying guide in last month's issue for more info on our recommended product, the Samsung Bordeaux LA32R81B (Rs 52,000).



The Samsung Bordeaux LA32R81B



**STEP 10** No home theatre experience is complete without the sound system. The TV will have speakers of its own, but the sound quality of any TV, no matter how good it looks, will be nothing to write



Artis S6600R / FM

home about. The big picture on the huge TV is complemented with the surround sound experience. Get yourself a 5.1 speaker system for that. We recommend the Artis S6600R / FM (Rs 8,500).

## Software

After you've plugged in all the hardware, there are still some things to do before getting the popcorn. If you're running Windows Vista Home Premium or better, you'll have Windows Media Center at your disposal. Windows XP Media Center Edition is only sold with a PC attached, so don't bother with that. Windows-based software like Media Portal (on this month's *Entertainment DVD*) allows for a lot more customisation. You can also build your system around Linux using freeware programs like MythTV (find it on the *Entertainment DVD*). In fact, you can get specialised Linux distributions like Knopp Myth and Mythbuntu that comes with MythTV installed. Linux-based systems offer a lot of customisation, but you need to ensure all your hardware is supported.

## Satisfaction!

We built our system keeping in view value for money, but if you have cash to spare, go all out! HTPC building is a hobbyist activity, and a Google search brings up a wealth of related information with guides and reviews.

Do bear in mind what an HTPC is good for and when it doesn't make sense—you don't want to spend all that money and end up unhappy! ☐

bhaskar\_sarma@thinkdigit.com

Put me in a notebook and stand back; I'll show you the true meaning of fast.



Intel® Centrino® Duo Processor Technology.  
Discover more at [www.intel.com/in/greatcomputing](http://www.intel.com/in/greatcomputing)  
GREAT COMPUTING STARTS WITH INTEL INSIDE.



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McCann/Br/Intel c/460/07

And in this corner, the powerhouse processor with knockout punch.



Intel® Centrino® Duo Processor Technology. Discover more at [www.intel.com/in/greatcomputing](http://www.intel.com/in/greatcomputing).  
GREAT COMPUTING STARTS WITH INTEL INSIDE.

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McCann/Br/Intel c/461/07

# How Flash Works

**You may be a YouTube regular, but do you know how those movies come to you?**

**Bhaskar Sarma**

Flash is one of the most important mediums for delivering content on the Internet. In fact, Web 2.0 would not have been what it is without Flash. It is used in applications like online photo editors, interactive tutorials, online forms, shopping carts, games, database front-ends, and many more. Flickr, Picasa Web Albums, Picnik, and YouTube are some of the Web 2.0 sites that are either built entirely using Flash or incorporate significant elements of it. Flash is cross-platform and ubiquitous—almost all browsers come with the free Flash Player.

## The Guts Of Flash

Before understanding how Flash works its magic, we need to understand how animation on the Web works. Take a simple animated image, say a wheel rolling on a surface, or a ball bouncing about. These are animated GIF images: a series of image files placed in sequence. Though animated GIFs provided a welcome change from static text and images, this method was not perfect. Animated GIFs take up a lot of space because image files are duplicated a number of times. The quality of the resulting animation is jerky, no sound can be incorporated, and complicated animations are impossible. Also, due to the rapid increase in file sizes, practical-length movies cannot be created.

Sound effects are one of the most important factors that make today's games the immersive experiences that they are. FPS games place a lot of emphasis on sound and it takes a fair bit of work before all the effects are aurally displayed. In most of the cases the sound that one hears in a game depends upon the position of the camera, and obstruction and occlusion play an important role here. When a conversation is taking place in another room the voices appear muted and muffled. This is occlusion, while obstruction is when the obstacle between the sound source and the player is something like a pillar. This difference is determined based on the calculation of presence of obstacles in the world, and can rapidly change. Sound effects can also be tweaked depending on the environment—for example in a corridor, underwater or in a cinema hall.

Flash gets around these limitations by employing some novel techniques. A Flash presentation, also known as a "movie," is divided into frames. Ordinary animation needs to download each of the frames for the movie to be played. On slow connections, this might mean you making a cup of coffee while waiting for the movie to load. This, naturally, detracts from the interactivity. In a Flash movie, an image that needs to be animated is downloaded once and stored in the client memory. In subsequent steps, instructions are downloaded by the Flash player; these tell it what to do with each of the elements in the original image file. This is a job for the processor, which is faster than your modem. If the Flash movie is a game or a tutorial, it will use interactive elements like buttons that activate upon mouse clicks. Here, too, the images of

the buttons are loaded in the initial frame, with the instructions on mouse events, which are executed by the processor.

Even if the movie is long, the Flash player starts playing the movie before all the instructions have been processed. This is because Flash uses streaming techniques: part of the file is played in the foreground while another part is being loaded in the background. Sometimes, though, for longer movies, it might play in a jerky fashion even if streaming is implemented. To help this cause, most Flash front-ends have pause, play, rewind, and forward buttons.

Another advantage Flash animation has over formats like animated GIF is that Flash movies have the same quality at all resolutions, while animated GIF exhibits grainy images when viewed at higher resolutions. Animated GIF uses pixel-based artwork where individual pixels contain colour information, which stand apart at high resolutions, resulting in quality degradation. Flash uses vector graphics which uses mathematical equations and geometric objects like points, lines, curves, and polygons to represent images. They scale infinitely without degradation. The use of vector graphics also means that Flash movies are smaller in size and load faster.

Sound in Flash is one of the most important reasons that it is all over the Internet. In most cases, transmitting sound is a tough job, mainly because of variable Internet speeds and the difference in file sizes of sound and image files. In Flash there are two types of sounds—event sounds and streaming sounds. Event sounds, like mouse clicks, are fairly easy to implement and work the same way images work: the sounds are loaded and then instructions on when to play the sound depending on animation events. The second method, which involves streaming sound, is a comparatively harder nut to crack. When the videos are animated, the sound stream is given preference over the animation (because images would show up faster than sound). This ensures that what you see and what you hear does not get out of sync.

## Shockwave And Flash

We often come to sites where a pop-up message says the Shockwave plugin is needed. Shockwave is similar to Flash: there are only a few differences, though Shockwave can be used to make more versatile animations than Flash. Shockwave was originally intended for media like CDs, while Flash was built keeping the Internet architecture in mind. Flash is open source and cross-platform, while Shockwave uses a proprietary file format.

## Plus

Apart from being used in streaming content, Flash is currently the number one medium of choice when you want to deliver Rich Internet Applications like interactive advertisements. Even though other technologies like Java applets and Ajax are close competitors, Flash will continue to be in use for years, primarily because of its pervasiveness—and Adobe's strong support. ■

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Premiere Pro isn't for the faint of heart, but whether you're creating a family vacation DVD or your own "I'm-going-to-be-a-YouTube-star" video, it's the ultimate tool for video editing. We're going to assume you've been through the "Getting Started" part of Premiere's help file, so don't get all acidic if you can't understand the instructions here.

## ADOBE PREMIERE PRO CS3

### Get Your USB Microphone Working

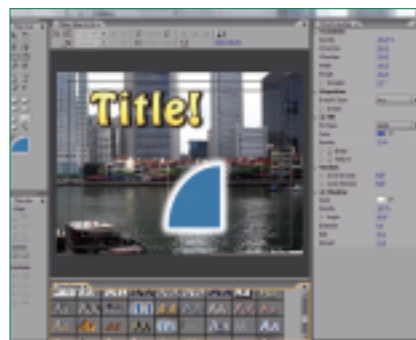
If you've got a USB microphone—this may well be the one on your webcam or USB headset—and it isn't working with Premiere, there's a simple fix. First, in Windows XP's Sound Control Panel applet, make sure you've selected your microphone as the default recording device (Control Panel > Sound and Audio Devices > Audio). In Premiere, go to Edit > Preferences > Audio Hardware and click on the ASIO Settings button. Under DirectSound Input Ports, select your USB microphone.

### Working With Titles

Every movie needs introductory credits. To start with yours, go to File > New > Title. The dialog you see is replete with all sorts of text tools, not to mention drawing tools, should you feel the need to add shapes to your title. At the bottom of the dialog, you'll find an assortment of styles that you can apply to the title—these work pretty much the same way as Layer Styles in Photoshop.

Once you've created a title, drag it from the Project panel to the Timeline panel and place it in one of the four

video slots—usually the topmost, but we won't judge you if you choose another. Besides the obvious purpose, you



Tell the world what your movie is about!

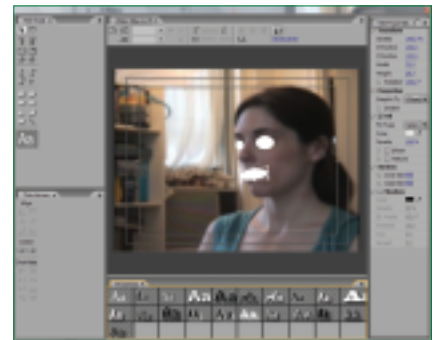
can also use titles to create masks and use in other effects—we'll come to those in a bit.

### The Magic Of Track Matte

The Track Matte effect can be used in Premiere the same way adjustment layers and masks can be used in Photoshop. If you're not familiar with the latter, forget about it and read on. For example, if you've got a close-up shot of yourself, you can use the Track Matte effect to hide all those pores and skin blemishes without losing detail around the eyes and mouth—where your viewers are most likely to notice your tampering.

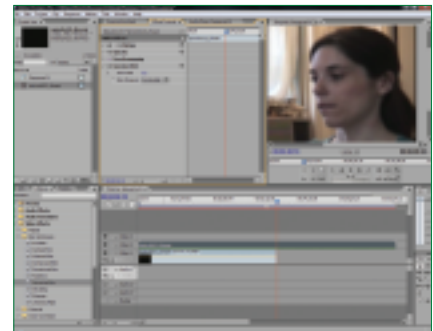
First, duplicate the video clip in the Timeline panel—we'll be using this duplicate to clear out all the blemishes. Now scrub (that's "drag the progress indicator") over to the shot in question—this will help you place the track matte. Go to File > New > Title to bring up the Title dialog, and use the ellipse tool to draw ellipses over the eyes and mouth. They don't have to be entirely accurate—just not too much bigger than said facial features.

In the Effects panel, choose Gaussian Blur under Video



This is what your title should look like

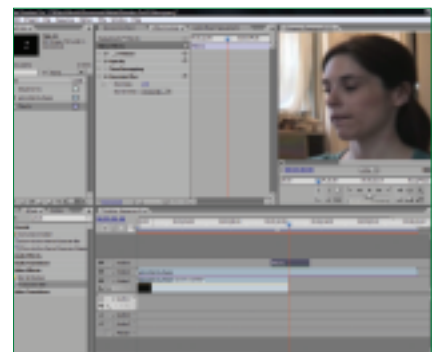
Effects > Blur and Sharpen (we prefer using the search text box in the panel—just type in "gauss" and you'll have your results). Drag the effect onto the upper video. In the Effect Controls panel, expand the Gaussian Blur effect and adjust the Blurriness till you're satisfied all the blemishes are gone. You might have to adjust the opacity to avoid edges looking too blurry, too. Ignoring the eyes and mouth



You've smoothened the skin, now to bring back the details in the eyes

for now, stop when you're satisfied with the way the shot looks. Now drag the title you made into the video track above this clip.

Finally, get to the Track Matte Key effect in the Effects Panel (it's under Keying) and drag it on to the video you blurred. In the Effect Controls panel, expand Track Matte Key and in the drop-down menu next to Matte, select the video track that has your title. You'll find that the ellipses



Voila! No more blemishes!



are gone, and now you've got yourself a shot where the eyes and mouth are blurry, but the rest of the shot is the original. All you need to do is select the Reverse checkbox, and your effect is done. Almost. You might notice that you can easily make out where the ellipses' edges were. To fix this, just apply a Gaussian Blur effect to the title clip and kick up the Blurriness till you're happy.

You can also use the Track Matte Key to create a frame for your video, not to mention that "through the binoculars" effect that was so popular in spy movies of old. You can also use it with the Mosaic effect for the "kids-shouldn't-be-seeing-this" look—especially if kids *shouldn't be seeing* the portions in question.

### Transitions Using The Keyboard

If there's a video transition you use very often, you can set it as your default, and then apply it using [Ctrl] + [D] every time you need it. To set a transition as a default, go to the Effects panel and expand Video Transitions. Choose your transition, right-click on it and select Set Selected as Default Transition. When you want to use it, all you have to do is make sure you've selected the clip you want to add the transition to, and hit the shortcut.

To change the duration of the default transition, go to Edit > Preferences > General and change the values to what you want.

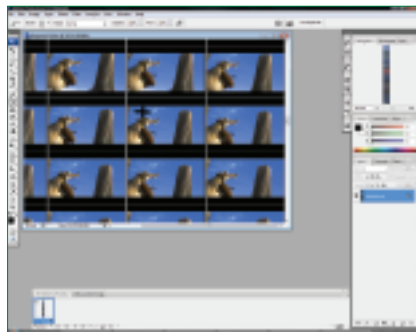
### Recovering Corrupt Projects

Random OS crashes or power failures have a way of laying hard work to waste, but with Premiere Pro, there might just be some hope when files go corrupt. Before you try anything else, though, remember that Premiere Pro auto-saves projects—you can find them in the same folder that you saved your project. In many cases, the last auto-save suffices, but if you've disabled auto-save (silly, silly) or you just *have* to have the latest version, try this: first, get yourself an XML editor like XML Writer or XML Wrench. Open the corrupt project file—it's just an XML document with a different extension—and use the "Check document" (or equivalent) tool. The editor should point you to invalid garbage like <NAME>&\$d.~</NAME>. Delete the data between the tags, but leave the tags themselves. Keep doing this till the XML editor stops giving you warnings—the exercise should take you about a quarter hour. Save the file to another location (remember to add the .prproj extension) and open it—it should work now.

### All About FLM

Adobe's Filmstrip (FLM) file format enables you to do neat things like drawing on individual frames—and if these drawings form a coherent animation, it's called *rotoscoping*. You can't do this in Premiere, though—you have to take your movie to Photoshop. After working on your movie, export it to the Filmstrip format—go to File > Export > Movie. Click on the Settings button in the export dialog box and choose Filmstrip under File Type. This file is going to take up a ridiculous amount of disk space, so make sure to take only a few seconds of video at a time (3 minutes of video took up about 8 GB when we did this).

You can now open the FLM file in Photoshop—make sure you shut Premiere and other demanding applications, because this process can make your system scream bloody murder. Advance through frames using the Animation panel; to draw on frames, create new layers on them and work your magic. Once you're done with a frame, flatten the layers to save on file



Bring movies into Photoshop!

size. When you're done with all the frames, remember to save the file in the FLM format again. You can now get it back into Premiere for any other work you want to do with it.

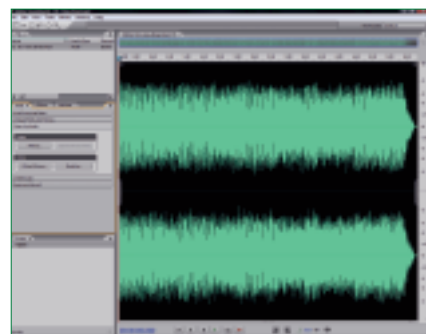
### Automating Drive Defragging Sessions

Defragging is a must. Vista has an inbuilt scheduling feature that allows you to set when you want your drives to be defragged. Start Disk Defragmenter. Click on Modify Schedule and select when you want the defragging to take place. You can set the frequency, the day and time for the defragment process.

## ADOBE SOUNDBOOTH CS3

Adobe Audition makes way for Adobe Soundbooth in the CS3 release (the former is being sold separately for audio professionals), and though it lacks the über-professional

qualities of Audition, it makes for a more-than-competent audio editing tool. You'll find the Soundbooth demo on this month's *Entertainment* DVD. Again, we're assuming you've spent some time familiarising yourself with Soundbooth before reading ahead.



Soundbooth's interface lets you access a lot of oft-used tools easily

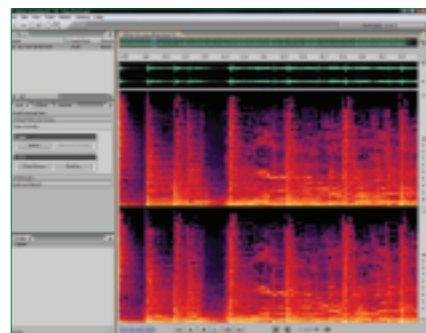
### The Interface

If you've used Adobe Audition before (or its predecessor, Cool Edit Pro), you'll find some familiar and some totally different aspects in Soundbooth's interface. For one thing, the interface has been tweaked to be "task-based"—so you'll find audio clean-up tools in the same place, for instance. You'll find the Tasks panel on the left of the interface.

You won't find a separate tool for audio normalisation any more—at the bottom of the Editor panel, you'll find a slider that says 0.0 db—click and drag this to increase or decrease the overall volume of your sound clip. You also have buttons that'll instantly apply a Fade In or Fade Out effect to your sound clip.

### Reading Sound

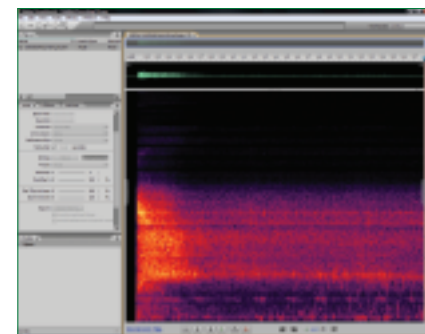
When you open a music file in Soundbooth, you see the Waveform view, which shows you the *amplitude* of the sound over time. You'll also be able to use the Spectral Analysis view (View > Spectral Frequency Display)—this shows you the frequencies that make up the sound. The vertical axis shows the frequencies, and the colour indicates how loud that particular frequency



The Spectral Display shows you the different frequency components of your sound clip

component is (blue is soft; yellow is loud). Just as you can use the waveform view to selectively listen to different time-slots of the clip, you can choose to hear only specific frequency slots in the spectral view. Just choose the Frequency selection tool, highlight the frequency range you want to hear, and hit Play.

All this might sound like goofing off, but there's a very important side-effect to knowing what the Spectral Display is showing you—it lets you visually identify clicks, hiss, and other such undesirable noise in your audio. Use the Zoom tool to zoom really close to the spectral waveform, and by looking at the right frequency ranges, you'll be able to tell the difference between noise and the sound you want to be working on. If you look at the higher frequency ranges and see a lot of red speckles, that's hiss. You can now use the Rectangular Marquee tool (Shortcut: [M]) to select the offending areas and hit [Delete] to get rid of them. If you see bright vertical lines in your audio, it's usually an indication of a nasty crackle or pop. You can even increase the detail in the spectral view by changing the Resolution under



Hiss and pops show up in the Spectral Display

Remove a Sound in the Tasks panel. Higher resolutions will get you more detail, but will slow down your PC considerably.

Bear in mind that these are extreme measures that you should resort to only after you've tried the regular audio cleaning tools under Clean Up Audio in the Tasks panel.

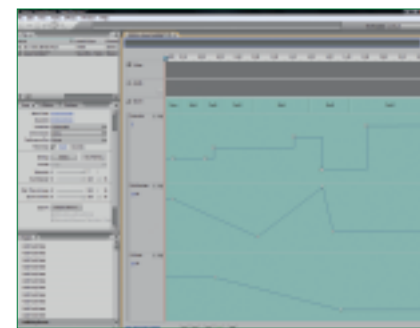
### Compose Your Own

One of Soundbooth's main tasks is to give you a tool that you can use to add soundtracks to your videos; the AutoCompose tool lets you create, or rather customise, background music for any video. You can also use the tool to add a little life to sounds you've already got. You'll find AutoCompose Score in the Tasks panel. The idea is that you start with a score that's already provided by Adobe or the community, and then customise it to meet your needs.

To start using the AutoCompose tool, open the video you want to add a

soundtrack to (you don't have to if you just want to play with this feature) and select the Browse Scores button in the Tasks panel. This will take you to Adobe Bridge, where you can browse through and preview all the scores stored on your machine. You'll be able to get a lot more scores online as well.

To start customising the score, select the Keyframing button next to Editing in the Tasks panel. In the Editor panel, you'll now be able to set keyframes for different values of Intensity, Synthesiser and Volume. To set a keyframe, just click on the track at the level you want—for example, if you want to suppress the score's intro at the beginning, just create a keyframe near the bottom on the intensity track. To

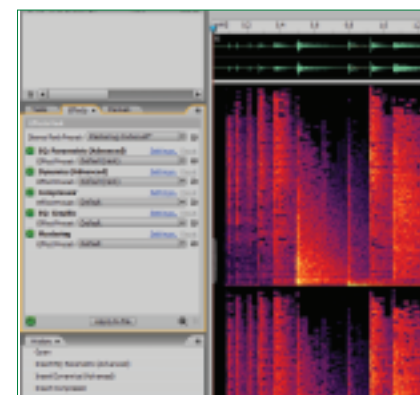


Play with keyframes to customise your AutoCompose score

kick up the intensity later, just create another keyframe close to the top. It's actually much simpler and more intuitive than it sounds—try it.

### Stacking Effects

If you experiment with a number of effects at a time, Soundbooth lets you add effects in Stacks—in the Effects panel, choose up to five effects to apply to your audio, and hit the Apply to File button to process them all. By



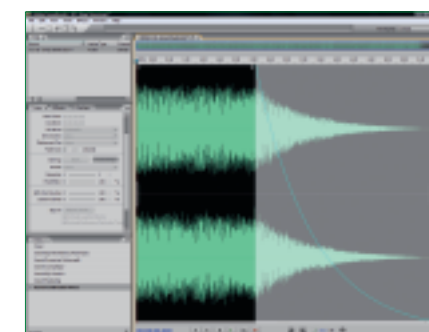
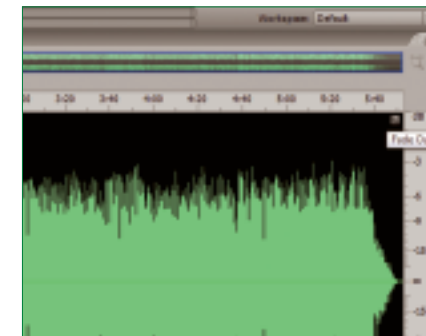
The Effect Stack lets you apply a number of effects together

default, the most-recently-applied effect is put on the top of the stack, but you can change the order.

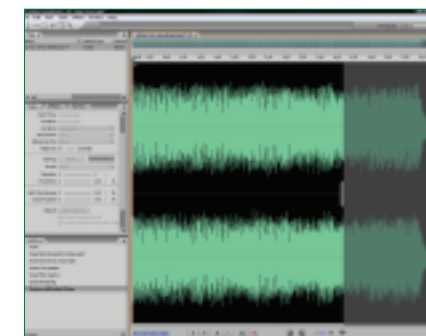
To adjust the settings for each effect, double-click on the effect in the rack or click on Settings. If you want effects' settings dialogs to open as soon as you apply them, do Edit > Preferences > General and select Auto-Open Effect Custom Settings.

### Fade Out Tricks

The Fade Out button in the Editor panel doesn't let you customise the fade-out time. However, hidden away at the top corners of the Editor panel, you'll find a semi-transparent fade icon (see image) that you can drag out into the waveform. While dragging, move your mouse up or down to adjust the



The almost-invisible fade handle lets you control your fade-ins and fade-outs better



Use the Trim handles to cut unwanted portions out of your clip

curve of the fade; you'll see a live preview of how the sound wave's going to be altered. In the same vein, at the middle of either side of the Editor panel, you'll find Trim handles that'll let you easily cut out silences from the beginning or end of the clip. ■







## ChrisTV PVR Professional Get complete control over your TV-Tuner!

ChrisTV PVR Professional is a personal video recorder that can record from TV tuners, as well as any video capture source connected to the PC—such as a DV Camcorder.

Installation is fairly easy, and you're automatically taken to the configuration tool that detects and configures your TV Tuner's audio and video and starts a channel detection routine. It detects channels with no trouble, and you can add channels if any are missed. The skinnable interface is slick and the controls are very easy to use. Video can be viewed in two modes: commonly used overlay, or the newer and better VMR9. You can watch a 5 x 5 channel preview grid, and there is a zoom function too.

ChrisTV can be used with both internal and

external USB TV tuners and you can use up to four of them simultaneously. You can record in MPEG1 / 2, as well as AVI with compression. You can use preset recording profiles or even save custom recording profiles for use later. Time-shift and scheduling is present, and you can use these in conjunction with a third party Electronic Program Guide. You can use image processing filters to add effects.

One of the major plus points of ChrisTV is that it supports a large number of TV tuner remotes—something most other PVR

| RATINGS         |       |
|-----------------|-------|
| Features        | ★★★★★ |
| Performance     | ★★★★★ |
| Ease of Use     | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |



software miss. There is also support for TV tuners with on-board audio chips. ChrisTV does have one negative—no codecs are provided with the package and you need to purchase them separately from third party manufacturers to use them while capturing video. ChrisTV PVR Professional is priced just right at \$ 59.95

(Rs 2400), but if you can do without recording in VIVO graphics cards and other video capture devices, then you can get ChrisTV PVR Standard for \$ 44.95 (Rs 1800).

Contact: Chris P.C. srl  
E-mail: [contact@chris-tv.com](mailto:contact@chris-tv.com)  
Web site: [www.chris-tv.com](http://www.chris-tv.com)  
Price: Rs \$ 59.95 (Rs 2,400)

## Logitech MX Air Cord-free, surface-free control

Revolutionary products are hard to come by, and the Logitech MX Air is one we've been eyeing since its release. The MX Air works something like the Nintendo Wii's innovative Wiimote.

The MX Air is unlike any other mouse. It's a handheld controller that you can wave about to move the pointer on the screen. It's definitely attractive with its sleek streamlined shape. It's also very light and sports a glossy black finish with a chrome metallic surface on the back. The shape of the mouse has been designed with comfort in mind—but it does get slippery after long hours of use with sweaty palms.

There are two mouse buttons, but no middle click button, though you can assign the function to one of the other buttons using the bundled SetPoint software. There's a touch panel between the main mouse buttons, and you can run your fingers on the panel to scroll.

It has to be said the mouse is really difficult to get started with, but over time it becomes more usable. For those who can't use it, there's also a laser

| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Value for Money | ★★★★★ |
| Build Quality   | ★★★★★ |
| Overall         | ★★★★★ |

sensor under the mouse so you can use the same device on your desk like a regular wireless mouse. The drivers allow you to set separate sensitivity settings for the mouse when on the desk and when off it. The mouse is very accurate, and any inaccuracy you might experience is more likely because of the human hand not being steady enough.

Playing FPS games on it is very difficult and close to impossible in air (we just thought we'd try), but it's a decent mouse on the desk. It makes a lot of sense as a controller for a Media Center PC and it also makes a good presentation tool. It's a good product that does its job well, but



Rs 8,995 seems like a lot to pay for the novelty.

**Specifications**  
Capacity: 512 MB Flash memory, SD expandable slot; Music formats: AAC, MP3, WAV; Dual 3.5 mm audio jacks; Lanyard with aluminium ring

Contact: Rashi Peripherals Pvt Ltd  
Phone: 022-67090909  
E-mail: [Logitech@rptechindia.com](mailto:Logitech@rptechindia.com)  
Web site: [www.logitech.com](http://www.logitech.com)  
Price: Rs 8,995

## ViewSonic VX2835WM TV Replacement?

ViewSonic has delivered a gargantuan monitor in a size we've never seen before—28 whole inches. The resolution is the same as a 23 or 24 inch LCD—1920 x 1200 pixels—which equates to proper HD resolution, as 1080p can be natively displayed.

The monitor itself is huge, and the enclosure thick—thicker than what we've seen for TN panels. We were surprised at the light weight though—the BenQ FP 241C (S-PVA panel based) weighs more. There's no swivel or height adjustment on the ViewSonic—a sure sign of its value orientation.

It's geared towards being a proper entertainment system accompaniment with

Composite, S-Video, Component and HDMI connects. What shocked us was the lack of PC connectivity options—one measly D-Sub and no DVI—inexcusable!

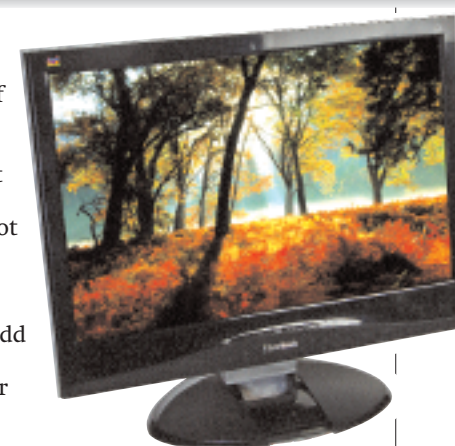
During our DisplayMate colour test, we noticed a few problems with colour purity—typically TN, this.

Our test DVD was nirvana on such a large screen, but at times, dark edges of leaves blend with the shadows—this is a common with all monitors, and if you're looking for it, the effect is quite noticeable.

While playing games like F.E.A.R. and Oblivion, we noticed the issue with contrast again—especially with the former, which is a

dark and atmospheric game. Oblivion—a much brighter game with lots of foliage and outdoor scenes—looked gorgeous.

The VX2835 is also not the entertainment screen we hoped it'd be. That's not to say it was bad, but we recommend you buy a 24-inch monitor based on a true 8-bit panel to really add sparkle to your visual experience. This is only for you if you really need the extra inches—like surfing with your wireless combo kit from the comfort of your bed with your monitor a good few feet away.



### Specifications

Display Area—28-inches, Resolution—1920 x 1200 pixels, Contrast Ratio—800:1, Brightness—500 cd/m2, Weight—12 kgs

Contact: Roop Technology Pvt Ltd  
Phone: 91-22-26681921  
E-mail: [umang@rooponline.com](mailto:umang@rooponline.com)  
Web site: [in.viewsonic.com](http://in.viewsonic.com)  
Price: Rs 45,000

| RATINGS         |       |
|-----------------|-------|
| Performance     | ★★★★★ |
| Features        | ★★★★★ |
| Build Quality   | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

## CyberLink PowerDVD 7.3 Ultra And the PC became a theatre!

CyberLink's new PowerDVD 7.3 Ultra is a software disc player with all the controls and features that you may find in any hardware player, and much more.

The interface is very clean and easy to understand. The controls are at the bottom of the window and balloon help is always there, so you'll never be left confused. You can even control the speed of playback, and it doesn't cause the "Chip'n'Dale" effect on voice even at high playback speeds. There are many hotkeys available during playback, so you can exercise total control with a flick of a button.

PowerDVD is not resource hungry—on our modest computer, it starts up in a second and plays HD clips with complete ease. It supports native hardware acceleration provided by

most modern graphics chipsets and takes advantage of it to take the load off the CPU while rendering HD video. Playback is stutterless and audio was crisp and clear thanks to the smart de-interlacing support. CLEV-2 is a proprietary video enhancement technology from CyberLink that detects video content and dynamically adjusts brightness / contrast / saturation ratios for a better viewing experience. CyberLink Pano Vision is a non-linear video stretching technology that is used to stretch the video to your desktop resolution with minimal distortion. All speaker configurations are supported, and there are a host of different audio modes, such as Dolby Headphone that creates a virtual surround sound experience while using headphones, Dolby Virtual



Speaker that creates virtual surround sound through two speakers, etc. Some of the newer sound technologies supported are Dolby Pro Logic Iix, Neo:6, and SRS TruSurroundXT.

DivX, DVD (MPEG-2), DVD+VR, DVD-VR, DVD-Audio, VCD (MPEG-1), SVCD,

| RATINGS         |       |
|-----------------|-------|
| Feature         | ★★★★★ |
| Performance     | ★★★★★ |
| Ease of Use     | ★★★★★ |
| Value for Money | ★★★★★ |
| Overall         | ★★★★★ |

MiniDVD formats and DVD files on hard drive are all supported. For HD aficionados, PowerDVD also supports Blu-ray as well as HD DVD with support for the H.264 format. There is also a See-It-All option that will adjust the playback speed of your movie so that you can watch an entire movie before your laptop battery runs out. This software is a worthy buy.

Contact: CyberLink Corp  
Web site: [www.cyberlink.com](http://www.cyberlink.com)  
Price: US\$ 99.99





## BUYER'S GUIDE



### 32 Projector



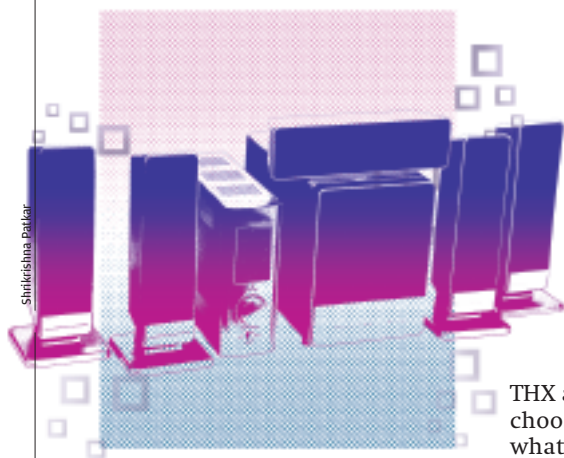
### 34 Headphone



### 44 Plasma TV

# Speakers

Throw away ear-bleed inducing speakers and get hooked to true audiophilia!



Shikrishna Patkar

If you don't want to spend a whole lot on speakers, you'd be better off getting a very good pair of audiophile-level hardware—headphones and a headphone amplifier to power them. But speakers have their *raison d'être*. Before you actually go and buy them, do your homework and insist on a demo of the speakers when you're there. Carry a few audio CDs and movies along to help in the decision making.



## What You Should Be Looking At

**RMS:** We continue to emphasise this as much as we can—do not be fooled by fancy thousands of PMPO watt advertisements. RMS is the right way to measure the power of a speaker set. Anything around 50 to 60 W RMS is a decent amount of power for a fairly small room. So a woofer of, say, 30 to 40 W and satellites of 5 to 10 W each should be enough. 100 W RMS for the entire system should do for larger rooms.

**Dolby/THX certification:** Generally, speakers with a well-acknowledged

certification such as Dolby or THX would mean you would get a really decent level of audio. It doesn't mean that speakers that aren't Dolby or THX are bad, but it's just a safer way of choosing a good set if you're lost on what to get. You're bound to find the prices a bit on the higher side with such speakers.

**Cable quality and length:** The cables should be strong, thick, and well-sheathed. Thin cables might pick up interference from the surroundings and will be prone to breaking as well.

**Surround Sound:** If you're going with a 5.1 surround sound setup for example, you must be sure you have sufficient space to place all the speakers. You would need to use stands to position your speakers or place them on walls. The optimum setup would be to have the satellites evenly spread out and the audience in the centre. If that isn't going to be the case, you might as well invest in a good 2.1 setup instead.

**Frequency range:** The standard range is around 20 Hz to 20 kHz. Anything higher than 20 Hz and lower than 20 kHz might mean a compromise.

**Quality over fancy form factors:** Subwoofers made of wood—and generally heavy ones—would mean bigger drivers and should help you steer wide of the cheaper, lower-quality woofers. Avoid fancy, slim satellite speakers if you value quality more than looks.

**The other things:** There are some minor things that aren't a must but would help in choosing the best sound system for you. A remote control is welcome. It's pretty rare, but if you get an

equaliser on a sound system, nothing like it—although good speaker sets won't require you to touch the equaliser. Wall-mounting provision will probably be there, but make sure. If you get stands along with the speakers, you won't have to worry about mounting speakers on walls or creating stands for them.

While you're out there hunting for the speaker set for you, try pumping the volume on the speaker set beyond

eSys  
WIZARD

the half mark. Bad speakers will immediately start cracking up and the sound tearing.

## Current Trends

**Pseudo surround sound:** For those who don't want to wire their rooms for a surround sound system, many brands have models that emulate surround sound. Audiophiles might swear by true surround sound, but for the average music listener, this might be a sensible option.

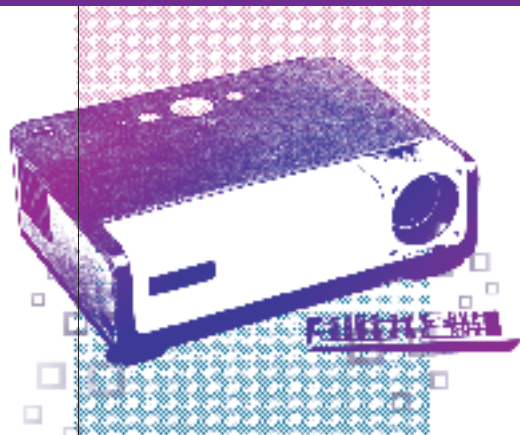
Optic fibre cables are not limited to just high speed network bandwidth; they're also used by a lot of sound system companies. The advantage optic fibre cables give is that there is no problem of electromagnetic interference. They do have a limit on how long you can keep the cables. Optic fibre connectors can be found on lot of the newer PC hardware as well. □



## Agent Tips

Don't go looking for a 5.1 setup for under Rs 3,000. A budget of around Rs 10,000 should fetch you a good 5.1 system, or Rs 8,000, a good 2.1 system—more than enough if you want a setup for just music.





# Projectors

**So you want a 60-inch experience at half the panel price?  
You might want to check this out...**

**P**rojectors have always been viewed as the sole domain of the corporate, with consumers making only the very occasional foray into their world. In fact, most of us would rather buy an LCD TV, when a projector may well be cheaper per inch of display!

And as difficult it may be to believe this is true! While a 50-inch LCD TV may cost over a lakh, a projector costing merely 60,000 rupees will be able to cover the same display area...

It's only recently that vendors have been targeting the home audience and attempting to woo them with products that are actually designed ground-up for home entertainment use. Earlier, most projector manufacturers had "home" series that were mostly spin-offs from their professional series with a minimal change in specifications. As we know, the categories are quite unlike.

While a corporate user interested in presentations won't really look at colour rendition, or even contrast, this is the Holy Grail for a home user. While widescreen resolutions may be a strict no-no for corporates its all a movie buff who's interested in a cinematic HD experience looks at.

## What's More Important: Projector Or Screen?

The projector of course, but not by a large margin... A sub-par screen or one not matched to the projector you buy, or to the ambient lighting conditions,

will spoil the entire experience. A general rule is to allocate 25 to 30 per cent of your budget for the screen. You will also need to consider what sort of screen to get (low gain, high gain) according to the lighting conditions externally, and, of course, the brightness of the projector (lumens). The brighter the projector, the lower the gain of the screen should be, and vice versa. A brightness of 2000 lumens is a good place to start—though you'll get a clearer picture with a lumen rating of 2500 or more.

Of course this depends on your usage and projectors having brighter lamps will cost more. We've seen HD projectors sporting a brightness of 3500 lumens—which is excellent—but do you really need such a contrast if all you're going to doing is working with Office documents?

## So LCD Or DLP?

If you're looking at home entertainment, go with a DLP (Digital Light Processing) projector. These are more compact in terms of body size of the unit. They also offer much richer colours and a better contrast than LCD projectors. They also offer deeper blacks—a must for movies and games, where subtlety in shades and their intensities is the name of the game. We also noticed that DLPs have fewer geometric anomalies as compared to an LCD projector even after both are properly calibrated. These are more compact, and offer much richer colours and a better contrast than LCD projectors. They also offer deeper blacks—a must for movies and games.

The downside is the price. DLPs are costlier, and also have a tendency to dissipate more heat.

## HD Projectors... Myth Or Reality?

HD projectors are very much a reality. It's just that vendors do play around with the term HD. For example, the resolution 480i (720 x 480 pixels) is also an HD resolution, but you can guess how good the result is going to

be. Look for the native resolution of the projector and not the resolutions it's capable of displaying—all projectors work best at their native resolutions. If you're into movies, look for a projector that will do at least 720p.

In such a case, look for a native WXGA resolution projector (1366 x 768 pixels)—although these aren't cheap at the moment. 1080p projectors are insanely expensive now and we don't recommend them as such, unless you just have the moolah to spend.

A good non-HD resolution to look



at is XGA (1024 x 768 pixels)—best bang for buck right now.

## Lens... Short Or Long Throw?

Don't get confused... neither is better; it depends on the distance your projector is going to be projecting the image across (the distance between its lens and the screen).

Most projectors come with normal-throw lenses with short- and long-throw lenses as a buying option. Zoom lenses allow you to compensate somewhat for a shorter or longer distance.

Optical zoom is a must; avoid digital zoom (interpolation). Short-throw lenses are good for projecting a larger image across smaller distances such as a cramped living room, but not suitable for a long distance or even if the screen is small.

Long-throw lenses will project an image over a longer distance with greater clarity, and are suited for larger rooms, halls, etc. Over a short distance, the image is too small to be of any use. So make sure you measure your room before buying one. □



## Agent Tips

Look at the native resolution and not the maximum resolution. This is true for both LCD and DLP projectors—they don't display non-native resolutions.



# Headphones

**Personal audio is getting more and more important as music pervades the workspace and choices at home differ**

**W**hen people think headphones (read “cans”), they generally think *poor budget*, get something worth 400 rupees, and be done with it. The fact is that you can get headphones that’ll sound five (if not more) times better than speakers in the same price range. There are also times when you may want to enjoy music without disturbing family around you at home, or colleagues at office. Portability is another reason for getting a decent set of headphones—these days so many commuters tune in to music to relax during a hot and tiresome bus / train ride.

Headphones need to be comfortable. Most people overlook this, and taking off a pair of cans every half an hour because your ears hurt isn’t really fun! In fact, we figure comfort is more important than even sound quality—imagine a great-sounding set that you can’t wear for more than 30 minutes! In-ear type plugs need to be matched to your ears—take into consideration the cost of additional silicone ear attachments; these tend to spoil easily, unless of course you’re buying an expensive set with much better component quality.

## Three Primary Types

**Circumaural:** These are full-sized headphones whose cups encompass

your ears. They’re generally the most comfortable, although this is something you’ll have to check out—for size and fit. A circumaural can goes right around ones ears therefore isolates from external sound rather well—of course this depends on the outer cups (open or close). Open circumaural cans are mostly meant for music because there’s less resonance than a closed can (where the outer cup isn’t perforated in any way). Circumaural headphones are also the most versatile price-wise, and while entry level cans may cost just about Rs 400, audiophile circumaurals could cost you up to Rs 25,000—and we’re not even talking about active noise cancellation sets yet.

**Supraaural:** These cans sit on the cartilage of your ear, and while audiophiles argue that supraaurals sound the best, these are the most uncomfortable.

There’s been a raging controversy between audiophiles the world over about which type of headphone (circumaural or supraaural) is more conducive towards a proper music experience. There are very few supraaural brands in India.

**In-ear:** These are the small earplugs that actually fit inside the ear passage. Many music lovers find these more intrusive, though some of the best noise isolating headphones are found in this category

Hallowed names in the industry like Grado Labs and Alessandro believe that supraaural cans are the way to an audiophile’s heart—because of the closeness of the drivers to the ears and the fact that sound is naturally being diverted into ones ear, and there’s open space for the sound to *breathe*. Other equally revered players like AKG and Sennheiser believe in the circumaural design stating that comfort doesn’t mean compromising on quality in any way. There are others like Shure and Koss who believe in the in-ear type earplugs.



## What To Look For for the commuter

Travelling daily? Looking for a good companion to an iPod? You need a set of in-ear earplug type headphones. Nowadays earplugs come with intrusive soft, silicone earpieces which fit inside the ear passage and take its shape—these are much more comfortable than the small plastic earbuds which can make ear passages sore. The silicone earbuds also isolate noise better. Your budget depends on how discerning you are but for a thousand bucks you should get something decent enough.

## For the gamer

As a gamer you will want something that isolates outside noises reasonably well but more significantly isolates others from your sounds, as loud explosions can get disturbing for other family members. Bass is important as games do tend to have a lot of special effects that demand good low frequency reproduction. Look for a set of circumaural headphones around the Rs 800 to 1,500 category.

## For music enthusiasts

While you don’t have an audiophile budget you like your music with all the detail and tonal balance. Sadly, our markets are restricted in terms of mid-range options.

You’ll get headphones up to Rs 2,000 that are good, and the *excellent* sets will cost upwards of Rs 8,000—there’s a whole unaddressed section of consumers in between.

There are a whole bunch of audiophile brands that are soon to make proper forays in India. We’ve already seen lifestyle brands like Bose, and audiophile brands like Sennheiser. Others like Grado and AKG are expected to follow soon. While these brands aren’t necessarily expensive abroad they are exorbitant here, so hold your horses a bit—unless you can source products from abroad. ☐



## Agent Tips

Besides sound quality, the most important point is wearing comfort. You should be able to wear the phones for at least two hours without noticeable discomfort.





# LCD/Plasma TVs

Who needs to visit the theatres any more?

## LCD or Plasma?

**A difficult question:** Plasma screens aren't generally smaller than 42 inches, so most people buying a TV smaller than that size needn't even consider Plasma as an option. A good Plasma panel will look better (sharper and crisper, with better contrast) than a good LCD panel. Plasma panels also have wider viewing angles. Conversely, even a mediocre LCD will look better than a *regular* Plasma. If you're going Plasma—make sure to stick with bigger brands—here's where you'll get all the visual quality—and the extra amounts you pay will be worth it considering the amounts bigger brands spend on research and development.

There's a debate about the life of Plasma panels. Suffice it to say it isn't a problem with most Plasma panels having a life of 40,000 hours, with the half-life of the phosphor gas in them being about 20,000 hours—that's nine years of happy viewing (assuming six hours a day)! An LCD will last you for 10,000 to 15,000 hours more. Plasma displays are still fairly new as a technology though, and improvements are being made even as you're reading this.



## What You Should Be Looking At

**Viewing Distance:** When shopping for flat panels, remember to consider the viewing distance first. The bigger the panel, the bigger the dot pitch, and if you view a 50-inch screen from a distance of 12 feet, you'll wonder what all the hype is about—colours will appear to bleed, and the image will be aliased. Generally, for a 32-inch panel, we recommend a viewing distance of 15 feet—no less. For a 50-inch panel we'd recommend you sit at least 25 feet away. If your viewing distance is going to be less than 12 feet, look for a 26-inch.

**Contrast and brightness:** Look for a contrast ratio of at least 1500:1. The term *dynamic contrast ratio* (DCR) is

misleading—do not refer to this figure, and don't be fooled by manufacturers labelling 1000:1 static contrast ratio panel bearing TVs as having a DCR of 10000:1, or 6000:1. You want to see the static contrast ratio of a panel. Brightness is also important, and for movies, a brightness of 400 cd/m2 should suffice.

**Resolution:** A panel with a resolution of 1366 x 768 will also be stated as being HD ready. However, this is misleading, as this panel won't be able to display 1080p (1920 x 1080 pixels progressive scanned) content in all its glory, but will do 720p (1280 x 720)—which is why the manufacturer is *technically correct* when he claims support for "HD". Most panels in the market today sport a resolution of 1366 x 768, and although they can display higher resolutions the display isn't as good as a true 1080p panel. However, 1080p sources are rare, and such panels are astronomically priced. Most panels do however do 1080i (interlaced)—while this isn't as good as 1080p, 1080i will suffice in most cases.

**Video Connectivity:** Look for both D-Sub and DVI connectivity so your PC doesn't get left out. Component Video Inputs are *de facto*—this gives the best video quality amongst all the traditional inputs, and is far better than S-Video connectivity. Composite connectivity is another standard that is essential as an option, although mostly you'll get along with Component just fine. HDMI is a new standard and although newer panels are advertising HDMI support, please do look at the overall quality of the panel as the primary concern. HDMI is basically DVI + audio—nothing really great about it—although if your DVD player has an HDMI port then you'll get brilliant image + sound on a single connect. If however HDMI isn't mentioned (although that's rare nowadays) you'll manage with DVI—we reiterate, don't compromise on panel quality. ☐

**I**f anyone told us three years ago that we'd have 55-plus-inch HDTVs in India, we'd have told them to take a hike. Three years later, we'd be swallowing our words! Large screen TVs have made it to the stage and we cannot wait for act two.

LCD / Plasma TVs are generally widescreen panels with support for at least 720p (1280 x 720 progressive scanned) content. Sizes range from 26 and 32 inches (LCDs) to larger panels up to 65 inches (both LCDs and Plasmas). However don't let the word "TV" fool you. Most of these panels can do much more than the mundane soap opera watching on cable TV channels. These TVs make great companions as screens for an immersive movie experience. For one they're much larger (as far as screen area goes) than a conventional CRT TV.

Most LCD TVs use PVA or S-PVA panels due to their higher contrast ratios—a boon for multimedia content. Although we have seen cheaper LCD TVs based on TN panels we suggest you give these a wide berth. For a PC monitor a TN panel may be acceptable, not when all you're doing is watching very contrast sensitive material like high definition movies! In Plasma screens, what we see are the "Multimedia Panels," capable of bright and vivid colours and contrasts.



## Agent Tips

If you want 50 inches (or more), prefer Plasmas over LCDs. They're better technically and as far as viewing goes, totally superior to LCDs. Moreover, larger Plasmas are excellent value for money too.



# Entertain Me

Here are three sites that will either entertain you or inform you about hardware used to entertain you. Enjoy!

Asfaq Tapia

## Movie Rental Services

The two most popular movie rental services in India today are Seventymm.com and CatchFlix.com. After logging into your paid account, you can request for Indian (several languages available) and English movies to be delivered to your doorstep. Seventymm offers both DVD and VCD.

At Seventymm.com, you pay a refundable deposit of Rs 999 and choose between various monthly schemes.

After selecting your movies, you choose the delivery time. In case you were wondering, there are no delivery/pickup charges. You keep movies for as long as you like, and services are available in Bangalore, Chennai, Delhi, Hyderabad, Chandigarh and Mumbai. The site has also begun renting games for the Xbox 360, with a large selection of games, but they're at least a year old.

You can also add "friends" and interact with them—just like at a regular social networking site. Then there is a forum where users can rave or rant about a movie, discuss the service, or just interact as you would when socially networking.

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

One of the most popular rental services in India.



[www.Prad.de](http://www.Prad.de)

Read the user submitted reviews on the site too



## PRAD

PRAD is the place to go to if you are deciding on a TV or monitor. The site lists almost all the TV and monitor manufacturers there are. The English version is at <http://prad.de/en/index.html>.

The site hosts reviews and a buyer's guide; it lists models under their respective manufacturers. The most interesting feature is "Compare Monitors/TV." Like it says, you can compare TV or monitors across manufacturers and screen sizes—very handy indeed; if you're in the market for a screen, just make a list of contenders and compare them!

We looked for a few TV models available in India, and sure enough, they were listed along with specifications; however, the price (when mentioned) was not always accurate. The site does not list product brands; for example, the Sony Bravia 32-inch Plasma TV is listed as Sony KDL32S3000.

You also have a forum where users regularly post reviews and news about new TVs and monitors. A feature called "Find models" lists all the models of TV or monitor that conform to your specifications—like screen size, colour depth, input video signal, and HDCP, among others.

## Music Streaming Services

Most of us know that you can listen to songs on the Web via your browser, from audio streaming sites. If Indian songs is your thing, you've quite possibly already heard of Raaga.com. There are others as well—MusicIndiaOnline.com and SmaHits.com.

Raaga.com plays ads at the beginning of each track, and streams using Real Player. The size of the collection is fairly large, offering something for everyone. The audio quality on Raaga seems better than its competitors, and you get a Lyrics link right in the player.

Obviously you can purchase and download music at the site. You can also create a custom playlist with songs from different albums, and then download them at Rs 12 a song.

If you don't have something in mind to listen to, go to the "top" sections on Raaga.com—that's what everyone seems to be listening to, along with the New Releases section.

If you like contemporary Indian music—and if you're sitting at your computer and don't know what to do—stop wondering!

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

Create and store custom playlists online.

