

Tech Focus

Livening up your digital studio gadgets

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THERE is a common belief that all you need is a computer with a good sound card and a microphone and you've got a complete "professional" music studio in your bedroom. But you'll need a lot more than that.

This little piece of mine is intended to provide an ongoing basis of the hardware for recording in an all-digital environment. Starting from a normal user to a musician's point of view, I intend to touch upon core facets of the digital studio environment.

The worlds of tape machines and mixing consoles are already falling behind the digital world of audio recording and mixing systems. But before creating a digital world for music we have to choose our tools very carefully.

Think of a good purchasing strategy and try sticking to it. Through this you can avoid buying expensive gear that becomes obsolete or doesn't do what you want it to do. To pick out good quality, well-designed equipment to start with, buy something which gives you the flexibility of extending your setup, as your projects get more involved.

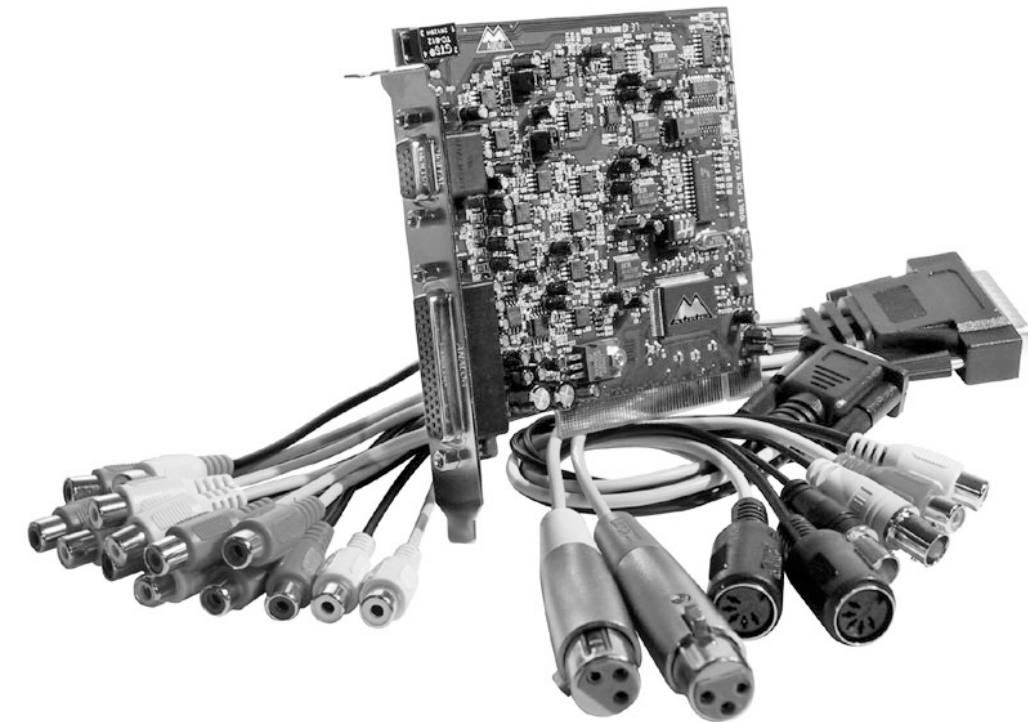
The first piece of hardware is the computer itself and the PC running Windows 2000 (with service pack 3) or XP (with at least

service pack 1) is the absolute best choice. These days it seems like the average home computer is somewhere between a Pentium III and IV, a few Gigs of Hard Drive, between 128 and 256 megs of RAM etc. So, many of you already have the main gadget of the studio sitting right there on your desktop.

When you already have a suitable computer, the remaining expenses involve getting it fitted with the right software and audio card. You may be tempted by the vast array of stand-alone direct to hard disk devices as a replacement to your PC, but the flexibility and upgrade potential of the PC will far outweigh the stand-alone units.

Now comes the hardest part -- choosing the perfect audio hardware.

The soundcard converts audio signals to digital information to record and conversely, it turns the results of your recording editing and mixing back into audio and puts it into the real world again. For professional use there are a wide range of soundcards available. Cards such as M-Audio Omni Studio, M-Audio Delta 66, M-Audio Delta 1010-LT, Lynx TWO-B, RME DIG196/8 PAD, Hammerfall DSP MAD1, Audiotrak Maya44, ESI Waveterminal 192L, Audiotrak Prodigy 192 range from USD \$200 - \$900 and are not available in our country. Either you have to



order it or get someone to get it for you. But if you are simply using the recording capabilities to help in composing songs and you will not be attempting to get finished masters then you may well be able to use one of many very inexpensive sound cards such as The Creative Soundblaster Audigy II and Sound Blaster Live! series. These cards are also available in value packs so one can get a cheaper version if they are running short in budget. The main feature it must have is something called full duplex capability. This

simply means it can record and play back at the same time. The main difference between the type of card you may find already in a home computer and something that is intended for pro quality digital recording, is the signal-to-noise ratio and the amount of simultaneous inputs and outputs you will have.

So, if you don't need the multiple ins and outs and aren't going to be producing finished product that needs to be dead quiet, then you have a wide choice of common soundcards

ranging from Tk 2,000-10,000. Just look for the full duplex feature. Another feature you may need as a composer is a MIDI interface, if you are going to use MIDI keyboards and want to sequence them in the computer

the PC environment in the form of Active-X plugins, including makers of high-end audio software like Steinberg, Cakewalk, Fasoft and Soundforge. The most popular form that these plugins are available are the VST and DirectX, and once installed they can be called by any professional audio editor installed in your system. So when the newest and coolest effect becomes available in software you can bet it will be available on the PC with Windows, and probably ONLY the PC.

Next you need a reasonably fast hard drive. Most of the UDMA drives are quite capable of multitrack recording but the faster the better as this determines the amount of total tracks you can play back or record at one time with most software. Some programs, such as Cooleedit Pro (Now known as Adobe Audition), do a background submix that allows more tracks to play back than separate tracks and are almost unlimited in this respect.

The basic thing to keep in mind is that faster hard drive equals more tracks that can be

played back simultaneously, so a 7200rpm hard drive would be a better option to choose over the conventional 5400 rpm drives as it has a faster transfer rate. A faster CPU equals more real-time effects that can be used at once.

You also need some RAM

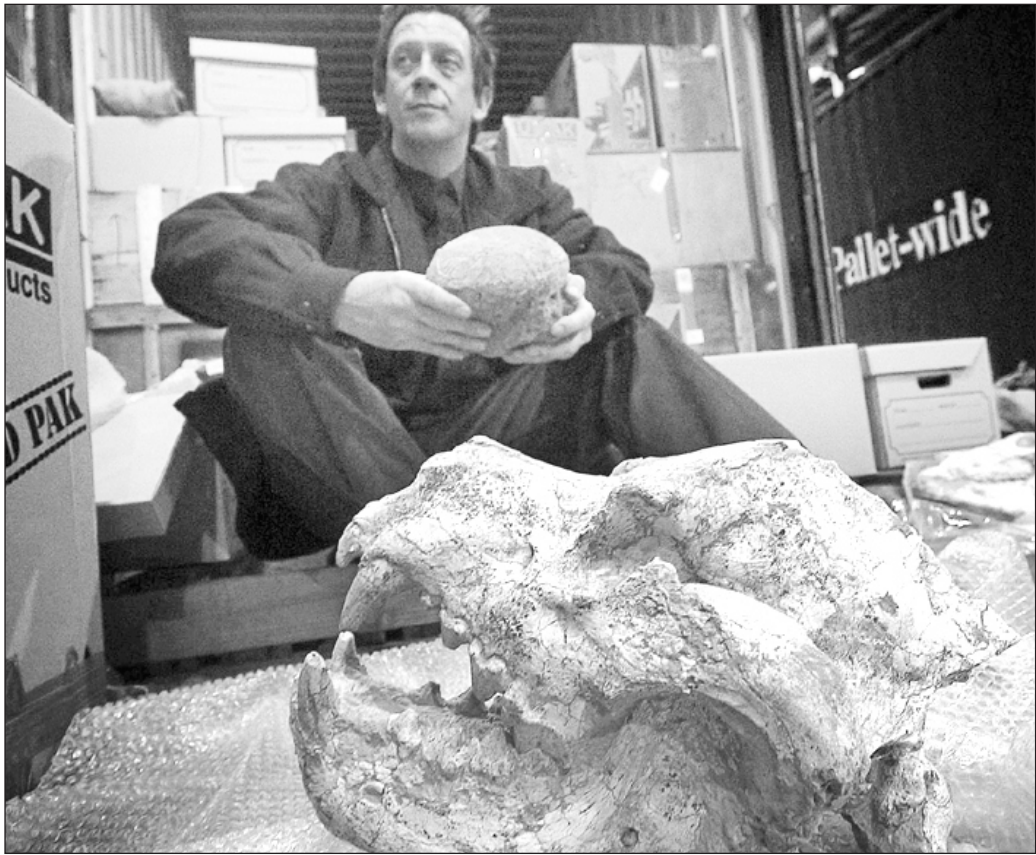
memory. Its often said that 128 meg RAM is the minimum but 256 or 512 is more like it, and it enhances the performance so much and these days RAMs are cheap enough and worth upgrading.

Another slick fact about the



That's what it should look like.

20 tonnes of dino eggs!



Dr. John Long from the Western Australian Museum holds a dinosaur egg in front of one of two containers of confiscated fossils as a fossilized skull of a hyenna sits in the foreground in the Western Australia Customs yard in Fremantle, near Perth on June 17. Australian police have seized 20 tonnes of dinosaur eggs and other valuable fossils allegedly smuggled from China in one of these biggest operations of its kind worldwide.

Tech News

Oracle builds world's largest Linux-based development organisation

STAR TECH DESK

WITH more than 9,000 developers slated to create Oracle products on the Linux operating system, Oracle will soon boast the largest Linux-based development organisation in the world, says a press release.

The company began the global initiative last year with the migration of 5,000 developers to Linux, and anticipates that by the end of 2004, its core development team worldwide will be leveraging the operating system. With Linux, Oracle developers have a broader choice of hardware platforms and can use cheap, fast hardware in a grid environment to help increase productivity and enhance testing capabilities.

"Over the past year, Linux adoption has become widespread," said Wim

Coekaerts, director of Linux Engineering, Oracle Corp. "Companies are now using Linux for everything from product development to running mission critical systems and now on the desktop. By building all of our products on Linux, we've decreased our own development costs, increased productivity and gained greater insight into what our customers experience running Oracle on Linux. This has enabled us to be more responsive and anticipate customer needs."

The global migration of Oracle's core development team to Linux illustrates the momentum it has gained in the enterprise and is a testament to Oracle's ongoing investment in the operating system. More importantly, Oracle's support of Linux is helping organizations realize the benefits of low-cost, standards-based hardware. This commitment

is evidenced through a number of Oracle initiatives, including:

- Strategic partnerships with key Linux providers Red Hat, Novell, Miracle Linux and Red Flag;

- A 6,000-plus global support team that provides complete technical support to Oracle customers running on Linux;

- Oracle Linux Kernel Group a team dedicated 24/7 to working with Linux vendors, providing fixes and developing new functionality to directly benefit the Linux community;

- Oracle Linux and Open Source Developer Centers providing developers with access to source codes and Oracle on Linux via the Oracle Technology Network at <http://otn.oracle.com/linux> or <http://oss.oracle.com>;

- One thousand-plus commercially available partner applications on the Linux/Oracle platform.

Tech Views

All not quiet on the computer front

ARIF AHMED

RELENTLESS pernicious attacks on the smooth secured operation of computers have become a real headache in today's working world and an increasingly substantial economic burden.

According to one statistics, businesses all over the world lost \$13 billion in 2001 due to virus attacks, \$20 billion in 2002 and \$55 billion in 2003.

These figures though give little hint about the losses resulting from the time lost in dealing with the increasing flood of spam or from a basic lack of training among users. Learning how to protect one's may therefore save a lot of time, labour and money.

The wild wild net

Most of us are more or less aware of viruses. But as security threats have grown to encompass more and more viruses, experts have adopted the term 'Malware'-- combining the words "malicious" and "software"-- to describe all malicious code. Combating this seething infesting stew of invaders requires defence in depth multiple barriers between the ever-increasing swarm of malware and your system.

In this article, we will be discussing what a lay end user, especially those connected to the Internet, can do to protect their work and the smooth secured operation of their machine.

Viruses

Just over 67,000 different viruses have been identified up to the present date. The most recent types of virus were able to infect millions of machines in just a few days and to completely paralyse the Net. The only solution for system protection: not to open e-mail attachments from unknown senders and to install good anti-virus software on every computer,

updating it regularly via an Internet connection. The best two products in this area are: Norton (<http://www.symantec.com>) and McAfee (<http://us.mcafee.com>). Always install the latest version and apply latest updates from their website.

Security Holes

All Operating Systems have their defects, whether you work with Windows, Mac or Linux. Windows is particularly affected because Microsoft software is installed on more than 90% of the world's personal computers. This is why software developers, especially Microsoft, publish frequent updates for the user to download, free of charge. The importance of installing these updates cannot be overemphasised.

Trojans

Most people harbour the belief that 'anti-virus software means their system is secure, totally protected from 'Trojan Horses' and other threats and malwares. Trojans reserve one of the ports of your machine and assigns it an IP that the hacker can then use to get into your machine, to take control of it and to consult, change or attack all the data that he wants to, or perhaps turn your machine into a 'zombie'.

Two steps are essential to protect one's system. First one is to install a 'Firewall' on your computer. For this purpose, the best and most widely acclaimed software for effective system protection is 'ZoneAlarm Pro' (vers: 4.5 or 5). A somewhat shrunken and permanent 'free' version of ZoneAlarm is also available (<http://www.zonelabs.com>). All these may not apply to users of Windows XP (sp1), which comes with a built-in non-permission-based firewall of its own, which silently works behind the scenes.

IMPORTANT: Never use more than one firewall at the same time. If you want to change an existing

one, then uninstall it first (in case of the built-in XP one, you can turn it off).

Secondly, you need to employ specialised software that can be used to examine your hard disk, to search for and clean Trojans that may already have been installed, and even to block their installation in the first place. One of these programmes is TDS-3 (<http://www.diamondcs.com.au>).

Spyware

While the Internet is a powerful resource and provides users with



many useful and often entertaining things to see and do, what many users may not realise is that some of those 'things' may contain code or components, called spyware, that allow the developers of these applications and tools to actually collect and disseminate information about those using them.

The main problem with antispyware tools (AS) is that they are still in their infancy and no single application can give you complete protection. They are still not as smart at their job as antiviruses are at theirs. The following are four antispyware apps, widely recognised as the finest in this field.

Webroot Spy Sweeper (www.webroot.com)

McAfee Antispyware (www.mcafee.com)

SpywareBlaster-3.1 (www.javacoolsoftware.com)

Lavasoft Ad-aware-6.181 (www.lavasoftusa.com/default.shtml.en)

CAUTION: Never use the oft-recommended A.S. "Spybot-Search and Destroy".

Spam

Increasing numbers of unsolicited e-mails are arriving in our e-mail Inboxes. There is a double inconvenience: not only might these messages contain viruses and/or spyware but also we must dedicate considerable time every day to eliminating them.

Eliminating Spam

Both 'Microsoft Outlook' and 'Outlook Express' enable you to 'kill' e-mails on the server before receiving them by creating message rules using the Tools box. You can also install spam blocking software on your PC if you are using POP3 client. The best product in this area is Cloudmark's 'SpamNet' (coudmark.com) and for POP3 client 'Aladdin Systems Spam Catcher 3+' (aladdinsys.com) is probably the best choice.

Hoaxes

With increasing frequency, internet users receive e-mails asking for passwords, addresses, account numbers, help, offers of attractive deals or urging to download some important piece of software etc under various pretexts from sources pretending to be legitimate or familiar. No software can protect you from this type of hoax. Only critical thinking on your part can help you avoid falling into the trap and protect your system in these situations.

Some basic precautions in handling e-mails

If your work e-mail address needs to be in the public domain and if attachments are expected then establish and restrict yourself to a minimum number of work-relevant acceptable file-types (e.g. *.txt, *.doc, *.jpg, *.pdf, or whatever) of your own choice. NEVER open any attachment with an unknown file extension or with any extensions/suffixes like: *.exe, *.bat, *.pif, *.vbs, *.scr, *.com, etc.

Disable 'script' and 'html' options of your e-mail programme.

Your data's your asset

For a person whose main or an important work tool is the computer, the documents stored on his PC hard disk comprise his capital par excellence, whether they are documents in the process, reference documents, glossaries, invoices, memos, address books, e-mails, spreadsheet files, database, images or whatever. Backing up your everyday data is a necessity. Proper maintenance of your system is also mandatory. If you install lots of games, audio and video files, holiday photos, etc on your work machine you will reduce the working speed of your machine and increase the risk of conflicts between various software products.

Defragment your hard disks regularly. This increases the speed of data access.

Eliminate unwanted files regularly. To do this, there is an excellent piece of free software called Easy Cleaner (<http://www.easycleaner.tk>).

Afterthoughts

If you are using Windows-XP, when you scan your entire system or an entire drive with S.S.s, turn off the 'System Restore' option temporarily before running the scan. Turn it on after the scan/cleaning is finished.

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Photo Tech



Crewmembers prepare the White Knight carrier plane and SpaceShipOne (attached below the White Knight) before the launch of SpaceShipOne on a trip to suborbital space on June 21 at Mojave, California. The US rocket-plane, SpaceShipOne, became the first privately-financed craft to fly into the fringes of space and return safely to Earth.