Email your queries, comments and tips to: sos.feedback@soundonsound.com
Or post to: Crosstalk, *Sound On Sound*, Media House, Trafalgar Way, Bar Hill, Cambridge, CB3 8SQ, UK.
Visit the *SOS* Forums via www.soundonsound.com

Dial M For Avid

I was interested to read that the Avid group has bought M Audio (News, *SOS* October 2004). I was suprised that you gave this event such a glowing write-up ("...it can only be good news for us"). My limited experience of Avid is that they make good products, but they do have a habit of being very 'corporate'. By this I mean that you have to use their hardware with their software, and once you're locked into using their software, they charge a significantly higher price for their hardware.

It's not as though Avid are the only people in the world to do this, but I'd hate to see this approach filter down to people like me who are on a tighter budget at home. For example, I wouldn't like to think that I *had* to buy a Dell PC to unlock all the software interface options on my soundcard.

Up to this point, M Audio haven't seemed to have any serious difficulty turning out innovative and competitively priced equipment. I will be interested to see what influence Avid has on them.

Keep up the good work though. I work in video production and find the technical writing in your magazine transferable and very helpful.

Matt Saxey

News Editor David Greeves replies: *2004 was an unprecedented year for buy-outs, mergers and 'strategic alliances', and Avid's aquisition of M Audio was one of the biggest. I often come across people complaining that music-technology companies are too corporate and commercially minded. It would be nice to imagine a world where the hardware and software that we use to make music was all produced by small companies who were in business more for the love of it than for financial gain, and indeed most companies* did *start that way. But if the events of the last year have shown us anything, it's that there aren't many companies like that left.*

In terms of the amount of money spent on home-recording products, the music-technology market is bigger than ever before, yet many companies are struggling. Consider how much it would have cost 10, 15 or 20 years ago to equip your home studio with the kind of facilities you now have. There are more customers now and more manufacturers, yet profit margins are arguably narrower. Additional issues like software piracy squeeze them even further.

Customers want affordable products which also offer professional features and are accompanied by comprehensive after-sales support, bundled software and so on. Big companies are able to offer these things, and big companies have a habit of swallowing up little ones. You may not like Avid/Digidesign's approach of tying their software to their hardware, or their prices, but then (at least, I assume) those products aren't really aimed at you. Home-studio users might have the time to mix and match software and hardware and tackle any resulting problems when they arise, but professional studios don't. They're willing, and able, to pay for a system which they can rely on — they can't afford not to. This is one of the reasons you'll find a Pro Tools rig in so many pro studios, even though their hardware is far from the cheapest around. But even Avid/Digidesign, with their many pro users, offer lower-priced systems such as M Box and Digi 002, and these can be mixed and matched with other software packages, so the company is hardly a stranger to the more typical market for M Audio products. Indeed, over the last couple of years, Digidesign have told us that their more affordable systems have accounted for a large portion of their business.

As I said in the original news item, there has been no suggestion that M Audio's focus or approach is set to change, and M Audio product releases since the takeover seem to bear that out. While I'm not privy to the innermost workings of the Avid corporation, I'm confident that my 'glowing write-up' won't turn out to be wishful thinking.

WEM Memories

Thanks for the Isle of White article [*SOS December 2004*] — fascinating stuff on the old WEM PAs. Of course it was nearly all WEM in the late '60s and early '70s, except for the odd US band with a JBL system. I have to say that generally the vocal sound was pretty good! We have an Audiomaster along with a 100 slave in our 'museum' in our warehouse.

Can I point out that, in your picture of the Canegreen guys on page 98, the person on the left is actually the well-respected Yan Style, the main man at Canegreen, and not just one of the 'crew'.

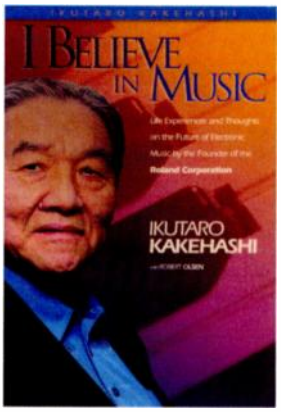
Paul Braddock

News Editor David Greeves replies: *Thanks for your kind words, Paul, and our apologies to Yan!*

Emu Easier On The Eye

PC music specialist Martin Walker writes: *Back in PC Notes October 2004, I mentioned a replacement third-party font available to Emu soundcard users which makes some of the legending on the* PatchMix DSP *mixer's GUI much easier to read. Its developer Alex Korn has since asked me to direct* SOS *readers to the Unofficial Emu Forum to find the latest mods and skinning options provided by various authors, including himself. If you're not content with making the font easier to read, you can download several new skins for the version 1.6 drivers, complete with PowerFX support. Surf to: www.productionforums.com/emu/*

Roland's Revolution



The Japanese market is often portrayed as a cold, corporate and impersonal entity. And yet when reading your excellent history of Roland (and Korg a couple of years ago) one realises how, there too, it's only the sheer determination and creativity of one individual that has changed the face (and sound) of music. Well done for reminding us of this important fact. Ikutaro Kakehashi is up there with the Bob Moogs of this world.

Daniel Biro

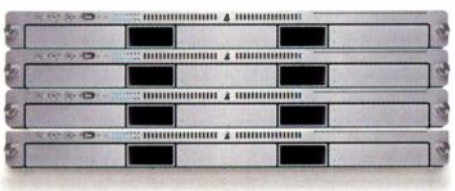
Managing Editor Matt Bell replies: *If you're interested in finding out more about Ikutaro Kakehashi's life and work, I recommend his autobiographical book* I Believe In Music *(ISBN 0634037838). It's not strictly chronological and leaps about a fair bit, but there are some fascinating nuggets of information in there.* SOS

The Logic Pro 7 Studio

We've been building studio systems around this software since the days of Creator on the Atari ST in the 80's (in fact, our technical director was the guy who was building it!), and with the wealth of experience and knowledge we've gained in the process together with this stunning new version, there's never been a better time to discuss the purchase of your Logic based studio with Media Tools.

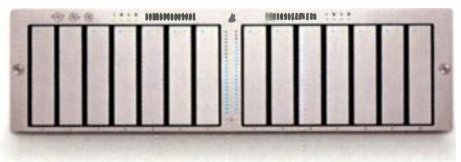
New Version 7

Logic Pro 7 is quite possibly the most substantial single upgrade the product has ever undergone. There are numerous updates to the look and feel of the product, with great touches like the ability to store and load channel strip settings in the Track Mixer, multiple Autoload songs and a MIDI controller Learn feature. Some of the new plug-ins are worth the price of the product alone - the highlights include Sculpture - a physical modelling synth that emulates the vibrational modes of pipes and strings, Ultrabeat - a synth drum machine featuring FM, analog and sample-playback synthesis, and Linear Phase EQ - surgical EQ with zero phase distortion! Running on Apple's new powerhouse, the Dual 2.5GHz G5, this represents an incredibly powerful solution in its own right.



Distributed Processing

But this has to be the coolest feature of all - CPU limitations can now be a thing of the past, even when working at the highest bit and sample rates and a stack load of plug-ins! All that is required is the simple installation of Logic 'Node' software on additional machines connected via Ethernet or Firewire and additional processing power is yours. Apple's 1U X-Serve machines mean you could quintuple your processing power in 4U of rack space! Alternatively, make a Powerbook your main machine on the move and add G5 processing back at the studio.



Ultimate Performance & Security

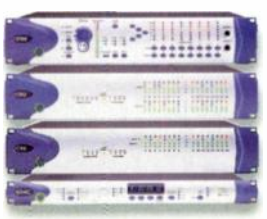
With 24/96 recording and today's track counts often running into three figures, top drive performance has never been more important, but in the professional environment where costs stack up by the minute, absolute reliability of the kind that used to come as standard with 2" tape is also essential. By combining both 'striping' for dramatically improved performance, and 'mirroring' for hot-swappable drive redundancy, Apple's X-Raid array brings you the best of both worlds, in sizes up to 3.5 Terrabytes! It can also be connected to multiple computers simultaneously making it perfect for multi-room facilities.

A Signal Path To Die For!

It used to be that mic 'self-noise' was the last thing on peoples' minds when they had all the noise that the rest of their gear generated to worry about first. Modern ultra-clean recordings highlight the tiniest hiss though, especially as the tracks build up. AKGs new C414 XLS and XLII (the XLII has a slight presence peak for vocals) are superb updates to a classic microphone - full of character and with one of the lowest self-noise figures around. You still can't plug it straight into your computer though, which is where Focusrite's amazing new Liquid Channel steps in as the perfect partner. Truly a breakthrough product, the Liquid Channel combines premium grade analog electronics with convolution technology (think sampled modelling) to produce breathtakingly realistic emulations of 40 classic mic pre-amps and compressors. Reviewers have been amazed - and so will you!

...did we mention we are also the UK's No.1 Pro Tools dealer?

digidesign



sales • support • training

in the heart of soho

systems specialists for music & audio post production

020 7692 6611

www.mediatools.co.uk

info@mediatools.co.uk

Solution Expert

media tools

Q&A

Your technical questions and queries answered

For more hints, tips and problem-solving visit the *SOS* Discussion Forum via www.soundonsound.com

Q Can I modify my mixing console?

Is it possible to modify a console's channels so that the meters on the meterbridge show the signal level post-fader rather then just after the insert point? The desk in question is a Soundcraft Ghost.
***SOS* Forum Post**

Technical Editor Hugh Robjohns replies:
It is of course possible to modify a console so that the channel meters display post-fade rather than pre-fade levels. However, there may well be a 10dB internal level difference to contend with because of the faders' 10dB of headroom, and in any case, I would question why you would need to do this.

Generally, channel meters are pre-fade so that you can check the signal level in a channel whether or not the fader is open. Post-fade levels are largely irrelevant, because if you can hear the main stereo output, your ears should be telling you whether everything is OK.

In a desk with groups there are usually pre-fade group meters as well, and these tell you whether the group buss amps are at risk of being overloaded. Normally, the only post-fade meter is the main stereo output one.

As far as the Ghost console is concerned, Soundcraft are usually pretty good about supplying service manuals and circuit diagrams, and from them you should be able to work out the feasibility of making the modifications that you desire.

The 24-channel Soundcraft Ghost mixing console, complete with optional meterbridge.

Q How do I make up for poor mic technique?

I recently tracked a female vocalist with a large dynamic range and horrible mic technique. After trying lots of the usual compression and limiting schemes, I have finally resorted to going through each song and manually editing the volume profile, to the point of editing individual words. This is such a pain, and I am convinced that there has to be a better way to do this. This is an hourly-paying gig, but there are limits on my patience, and her pocketbook!
***SOS* Forum Post**

Technical Editor Hugh Robjohns replies:
With a combination of poor vocal and mic technique you are really in the mire. Levelling out the signal dynamics is only part of the problem. When a singer moves around in front of the mic, it not only varies the signal level, but also the tonal quality (due to varying amounts of bass-boosting proximity effect and the shape of the mic's pickup pattern), and possibly even the perspective of the signal (the ratio of direct sound to room sound). Reducing the excessive signal dynamics by whatever technique may well simply exacerbate these other problems.

However, getting back to the dynamics, a compressor can only react fractionally after the event, and the transition from the linear working area to the compressed area will tend to draw attention to the processsing itself, even with a soft-knee compressor. I'm assuming we are talking about rock vocals here, but you might find you get better results if, rather than using a 3:1 or 5:1 ratio with a fairly high threshold, you use a low ratio (1.5:1 or maybe even 2:1), with a very low threshold. The idea here is that the entire vocal dynamic is being compressed all the time, rather than just the peaks. Using automatic, or programme-related, attack and release times if your compressor has the option will also give better results than a fixed release-time system. However, it still won't be great.

Riding the gain manually can produce better results than a compressor, largely because you can predict the dynamics and react in a smoother and more aesthetic way. It's a skill that takes time and practice to master, and often a rehearsal or two to fine-tune. In your case, as the recording has already been made (and assuming the entire dynamic range is clean), you should be able to use your DAW automation very effectively. Play the vocal track and ride the fader to try to balance the level as best you can, recording the moves as automation changes. You can then go back and edit the automation data to tidy up your moves, thereby saving a lot of practice time, to produce the best practical result.

Q How can I stop audio dropouts when using my laptop live?

I have a problem that I am tearing my hair out trying to fix. I have a 3.2GHz Pentium 4 laptop with 1GB of RAM, an 80GB 7200rpm Fujitsu hard drive, *Cubase SX* 2.2 and an M Audio Firewire 410 interface for live use. The basic arrangement is a few synths, *Kontakt* and some effects. I then have everything I'm not able to play live running as audio files. I trigger the samples and play the synths with a Roland MIDI controller keyboard and use a Behringer BCR2000 MIDI controller to control levels, EQ and so on. All the audio files that are running are 24-bit and there's about 120 of them. The *Cubase* song is about 45 minutes long, but each audio file is generally no longer than about 5 minutes.

What happens is that I'll be happily playing a track and the CPU is rumbling along at about 30 percent then suddenly, often seemingly as a direct result of MIDI input, it jumps up to 100 percent, cuts out the audio for a second and then returns to normal. Now I have tried absolutely *everything* to fix this, but the problem is still there. I am now wondering whether I should re-render all these audio files in 16-bit. Do you suppose this may be the culprit?

Any help would be really gratefully received, as I have a really important gig coming up and am desperate to get it fixed before then.
***SOS* Forum Post**

PC music specialist Martin Walker replies:
You've got a capable hard drive there, so I doubt that it's the cause of the occasional glitch. However, although you say you have about 120 24-bit audio files to play back during this song, you don't tell us the sample rate or maximum number of files playing back simultaneously. This is more important, since it determines the data transfer rate required — running at a sample rate of 96kHz will double the requirements compared with 48kHz.

A typical internal 7200rpm drive may be able to play back up to about 48 24-bit/96kHz tracks nowadays, although a laptop model may not manage quite so many. I carried out some measurements on various laptop, ▶

Why Carillon Recommends E-MU

Sound Quality
Outstanding audio

E-mu's 'm' series cards feature the very same 24bit/192kHz convertors as Digidesign's multi-thousand pound Pro Tools HD systems, providing pristine audio & an incredible 120dB dynamic range.

E-MU FX
Zero CPU VST FX

Powerful on-board DSP on all cards in combination with E-MU Power FX software gives you 16 simultaneous effects right inside your sequencer with absolutely zero hit on your CPU's performance.

0404 PCI card audio interface with 2 in 2 out analogue jacks offering 24bit/96kHz AD/DA conversion and AES/EBU compatible S/PDIF coaxial or optical I/O with 96kHz support.

EmulatorX
Legendary sampling

Emulator X software brings E-mu's years of sampling experience to the desktop in what is quite possibly the most powerful software sampler around, but with an interface that's a delight to use.

1212m Built around the very same 24bit/192kHz convertors as Digidesign's multi-thousand pound ProTools HD system, the 1212m has balanced stereo analogue I/O on 1/4" jacks, MIDI I/O, S/PDIF I/O and ADAT I/O.

1820 Two TFPro high grade mic-pre's with phantom power, 6 balanced ins and 8 balanced outs with 24bit/192kHz convertors, ADAT I/O, S/PDIF I/O, turntable input, Firewire and dual MIDI I/O.

Price
Nothing comes close

from only
£!!!!!

Even at regular prices, this range of soundcards represents superb value for money, but Carillon's exclusive package deals with full boxed versions of Steinberg's Cubase make it absolutely unbeatable.

1820m All the features of the 1820 but with high-end 24bit /192kHz AD convertors as found in ProTools HD. An additional daughterboard also provides sync facilities in the form of WordClock, SMPTE and MTC.

Exclusive E-MU package deals - *only* from Carillon.

AC-1 from only **£699**

1U from only **£899**

TOWER from only **£599**

CUBE from only **£669**

BUY ANY CARILLON AUDIO PC...

Steinberg Cubase SE & E-MU 0404 card
only **£129!**

Steinberg Cubase SL & E-MU 1212m card & Emulator X software
only **£299!**

Steinberg Cubase SL & E-MU 1820 card
only **£389!**

Steinberg Cubase SL & E-MU 1820m card & Emulator X Studio software
only **£469!**

Steinberg Cubase SX & E-MU 1820m card & Emulator X Studio software
only **£599!**

...AND GET ONE OF THESE E-MU/CUBASE PACKAGES AT AN INCREDIBLE LOW PRICE!

Carillon **020 7692 7629**
www.carillondirect.com
sales@carillondirect.com

WRH

Q&A

desktop, and external hard drives back in PC Notes April 2004 if you're interested in seeing some more figures (www.soundonsound.com/sos/apr04/articles/pcnotes.htm). However, assuming you're running at 44.1kHz rather than 96kHz you ought to be able to manage 48 simultaneous 24-bit/44.1kHz tracks with ease on your setup.

So, somehow I doubt that the drive capabilities are letting you down. The cause is more likely to be a change in the middle of the song where it suddenly accesses a huge number of new files simultaneously. This would place a sudden demand on your drive that might push it over the edge. Make sure your drive is defragmented so its read/write heads are not being called on to jump about more than is necessary. However, reducing the bit-depth from 24-bit to 16-bit will instantly drop the load on your drive by 33 percent, so this is well worth doing for a live gig where the difference in audio quality is unlikely to be noticed.

Another tactic would be to mix down those tracks that no longer require individual tweaks during your live performance. If, for instance, you've got a maximum of 20 or 30 simultaneous tracks playing, but only want to drop up to half a dozen in or out or tweak their filter settings in real time as part of your performance alongside playing in live MIDI lines, mix all of the others down to a single stereo track. This will instantly drop your disk access requirements by a considerable amount, and at a live gig, reliability is more important than flexibility. Make a backup of the original multitrack version first, so you can always return to it back in the studio for more tweaks if necessary.

Also, make sure you have the very latest drivers installed for your M Audio Firewire 410, and while you're checking this on M Audio's web site, have a read of their helpful Knowledge Base (follow the Support link at www.maudio.co.uk) to see if anything rings any bells with your particular setup.

I spotted this item in particular: "M-Audio Testing has been investigating a matter where certain resource-intensive applications requiring a heavier disk access can cause the audio engine to suffer as a result. Whether using on-board audio or ASIO with M Audio Firewire interfaces, the results were the same. If the CPU meter in the application peaked above 75 percent at any time, the computer would become unresponsive and audio would distort causing the application to become unstable.

"Please be advised that laptops most commonly have hard drives that are slower than desktop drives and are used as memory caches when there is not enough physical RAM to host the application's needs. A 7200rpm drive is recommended for multi-channel recording and playback."

Now in your case you already have a 7200rpm drive and a healthy 1GB of RAM, and your CPU mostly remains at 30 percent, but it does suddenly jump to 100 percent when the problem occurs, which ties in with this description. The sudden jump might be caused by a particular plug-in (read my PC Notes column from October 2002 for a description of the infamous P4 denormalisation problem, which can cause occasional CPU spikes — www.soundonsound.com/sos/oct02/articles/pcnotes1002.asp) and you can test this by temporarily moving the contents of

your vstplugins folder somewhere safe and running the song again — if the glitching has gone, you can systematically move the plug-in files back while testing playback until the problem reappears. This may track down the culprit.

Tweaking your settings for Kontakt *may also help, particularly since you can adjust the proportion of the sample data being buffered in RAM rather than streamed from the hard drive. You're already streaming lots of files for your audio tracks, so reducing the amount required for software sampler streaming will lessen the load on your drive — refer to* Kontakt*'s manual for optimisation tips or just increase its RAM setting a little at a time and see if it helps.*

If you're still having problems after these various suggestions, try massaging the song data slightly. Avoid hard quantising where huge numbers of MIDI, software synth or sampler notes start simultaneously — try moving the starts of some of them back slightly to spread the load on both your CPU and hard drive. As long as you avoid doing this with drum or bass parts this is rarely audible if you're careful.

Parametric EQs, like TL Audio's dual-channel EQ2, provide frequency, bandwidth and cut/boost controls for each band.

However, I suspect moving from 24-bit to 16-bit files and pre-mixing some of the tracks will cure your problem, as it will instantly drop your hard drive overheads by a huge amount. Good luck!

Q What's the difference between filtering and EQ?

Is there any fundamental difference between filtering and EQ? The filtering I'm particularly interested in is linear-phase filtering. Could you explain the theoretical difference between the two?

SOS Forum Post

Technical Editor Hugh Robjohns replies: *The difference is largely tied up in terminology. In conventional terms, 'EQ' refers to tonal equalisation and involves modest cuts or boosts of amplitude across the frequency spectrum to technically or subjectively 'improve' the signal's frequency response. Equalisation generally consists of filter stages that exhibit shelf or bell-shaped slopes, normally of 6dB per octave and rarely exceeding 12dB per octave. Simple EQ is provided with just a cut/boost control for each frequency band. More complex designs go on* ▶

Q&A

▶ *to offer adjustable turnover frequencies and possibly some adjustment of Q or bandwidth as well. The most flexible form of EQ is parametric EQ, which provides frequency, bandwidth and cut/boost controls.*

Passive equalisers place the equalisation circuits either before or after a fixed-gain amplifier — in which case the amp makes up for the inherent loss in the EQ circuit, effectively boosting the frequency range(s) that haven't been cut. Active equalisers incorporate the EQ circuitry in the feedback loop around the amp, which makes its gain frequency-dependent. This is the more common approach in modern EQ designs, but is often claimed to sound inferior.

Filters are generally described as cut-only devices that are intended to remove some portion of the frequency spectrum. They come in three flavours: high-pass, low-pass and band-pass. Most filters have slopes of 12dB per octave or higher, with the steepest found in audio systems generally being 24dB per octave (although there are steeper versions for specialist applications). The filter slope is sometimes designed to incorporate a peak in the amplitude response immediately prior to the steep cutoff slope, and this tends to emphasise the frequency region close to the cutoff area with a kind of 'resonance'. If allowed to resonate excessively the filter will self-oscillate — in other words, it will generate a pure tone at a pitch related to the cutoff frequency — and this is a common facility found in many synthesizer VCF sections.

Every filter and EQ has a phase response which varies in some way relative to the frequency, just as the amplitude response may vary relative to frequency. The process of filtering inherently imposes a small delay, and this is what creates the phase shift. But the important thing is how that delay (phase) varies relative to the frequency. This is the phase response.

Most analogue audio equalisers and filters are 'minimum phase' designs — the well known Butterworth filter designs, for example — where some frequencies experience a different amount of 'processing' delay to others. The steeper the filter, the worse the phase-response variations become, which inherently distorts the waveform shape.

In contrast, a filter with a 'linear phase' response provides a constant time delay for all frequencies. Linear-phase filters are difficult to create in the analogue domain (the Bessel filter is the closest, but cannot have a steep slope between the pass and stop bands), but are fairly straightforward to achieve in the digital domain. The anti-aliasing and reconstruction filters used in most digital converters tend to employ linear-phase filters to minimise waveform distortion.

Q Are my finished tracks clipping?

I edit completed mixes in *Wavelab* on my PC and then normalise them to 0dB and send them via digital link to an HHB Burnit CD writer. My problem is that the volume on the finished CD-R is very quiet when compared to commercial CDs.

The Burnit does allow you to increase the digital record level and if you do this it sends the record meter into the red, but not when

Most digital recorders, including the HHB Burnit, will indicate overs cause by input gain boosts, but few have meters sophisticated enough to work out whether a peak-level output sample represents a clipped waveform.

you play it back! I've found that you can increase the record level by 10dB and this does get the CD-R volume comparable with commercial CDs.

I'm confused. Why don't the meters go into the red on playback when they do on record? I can't hear any audible distortion — is any taking place? Is it a safe practice to increase recordings by 10dB?
John Ablitt

Features Editor Sam Inglis replies: *There are two basic issues here. The first is that the music on most modern CDs undergoes heavy processing in order to make it as loud as possible, usually through multi-band compression and limiting — and often to the detriment of the sound quality. If you want to make your music that loud, the place to do it is in your mastering program (*Wavelab *in this case) using these kinds of tools.*

The second, and the reason that the Burnit will report overs on record but not on playback, is that it's impossible for any of the data values coming off a CD to exceed 0dBFS, since that is defined as the highest value that can be represented in a digital medium such as compact disc. A waveform that has been clipped or overloaded on the way in (as you're doing by raising the level 10dB) will be distorted on playback, but it can't and won't contain any individual samples higher than 0dBFS. A simple digital meter will just report the output as peaking at 0dBFS, which is perfectly 'legal'. More sophisticated digital meters can anaylse a signal and work out where a series of 0dBFS peak samples is likely to have been caused by waveform clipping, but I suspect the output meter in the CD burner is of the former kind.

What you're doing by raising the level 10dB in the Burnit is, in effect, 'chopping off' the top 10dB of the dynamic range in your signal, in such a way that any peaks higher than -10dBFS in the original signal will be 'clipped'. How noticeable this is on playback depends on how loud the music was to start with, and also on the nature of those peaks — brief transient peaks such as snare hits can often be clipped without too much in the way of obvious distortion. In fact clipping is often used deliberately in hip-hop records to create a really punchy drum sound, so it's not necessarily a no-no.

If you want to raise the level of your finished tracks, explore the mastering options which are included in Wavelab *or offered by third-party plug-ins. Craig Anderton's recent article on mastering using a computer, in* SOS *August 2004 (www.soundonsound.com/sos/aug04/articles/computermastering.htm) is a good starting point.* SOS

Roland GR20

Guitar Synthesizer

Roland's affordable new guitar synth incorporates improved pitch tracking, and comes bundled with the latest GK-series pickup as standard.

Paul White

Roland are one of the few music companies continuing to pursue the guitar synthesizer as a mainstream instrument category, which is commendable, as many guitarists tend to be suspicious both of the way guitar synths track their playing and of synthesis itself. To help woo these players, the GR20 is Roland's most affordable and easy-to-use guitar synthesizer to date, yet it also contains a huge library of categorised synthesizer sounds stored as presets that can be adjusted using very few controls and then stored as user patches if required. A new all-digital pitch-tracking system replaces the hybrid analogue approach used on earlier instruments, and there's also a new, more up-to-date hex pickup called the GK3 that comes bundled with the GR20.

As ever, a split pickup is an essential part of the system, as pitch-tracking can only work on a monophonic source, so each string has to be treated individually. This pickup can be fitted to most steel-string (six-string) guitars, where it must be mounted as close to the bridge as possible and spaced from the strings fairly precisely as described in the setup instructions. Once this is done, a simple adjustment of sensitivity to allow for string gauge and playing style is all that's needed. This function is deemed so important that it now has its own button. The string picking intensity is shown on an LED level meter, and you simply work through all six strings adjusting the sensitivity so that the top LED only comes on when you play hard.
A number of commercial instruments are available with a GK3 pickup system built in, and any of these may also be used with the GR20. Furthermore, a new software revision allows bass guitars fitted with a Roland GK pickup system to be used — the special bass mode is entered by holding down a key combination while powering up. I didn't get a chance to try this myself, as no bass pickup was supplied, but I saw it demonstrated recently, and it seemed to work extremely well with no apparent tracking or glitching issues.

Compact Stomp-box Casing

The GR20 comes as a distinctively Roland-styled stomp box with two footswitches, a pedal, and just a small handful of knobs and buttons. Depending on the patch, the pedal is used to adjust volume or some other variable function, such as filter frequency. An 11-way rotary switch selects one of ten categorised sound banks (strings, brass, wind, synths, and so on) or the user bank, and each bank typically offers between 31 and 93 patches. In all there are over 450 patches based on Roland's latest generation of sample-based synthesis, and these can be further modified using simple envelope and filter controls, transposition, and onboard delay, reverb, and chorus effects. Patch changes based on these few controls can be saved into the user bank, or you could utilise the user bank simply as a means of organising your performance patches in sequence.

The unit also has the capability to create a MIDI patch map in order to link external MIDI effects to specific GR20 patches. By default, the two footswitches control the Glide effect and the all-important Hold function, but they can also be set to increment or decrement patches if preferred. However, the two buttons on the pickup control unit can be used to step through patches, as can the data knob on the GR20, so in most cases it makes sense to leave the pedals set to Hold and Glide.

As with previous units, the guitar's own output can be routed via the pickup control box to save having two cables hanging from the guitar, and the control box includes a three-way switch to allow the user to select guitar only, guitar and synth, or synth only from the unit. The synth volume can be adjusted from the pickup control unit.

One sign of cost-cutting is that, once you've selected a sound bank, the patches within that bank are displayed only by number using a two-digit display to the left of the main data-entry knob. However, the unit does include a very accurate tuner that uses the status LEDs above the knobs as indicators. When the central green LED lights, the string is in tune. Power comes from an external PSU unit, and a special multi-pin cable connects the GK3 pickup to the floor unit, carrying both the pickup signals and the guitar signal, provided that you plug the guitar output into the special guitar input on the GK3. The guitar signal emerges from a separate Guitar Out jack on the GR20, though there's also a mix input that can be used as an effects return if you need to use external effects. This input can be used to add other sources, too, such as a backing track, to your mix. As the unit is designed for both studio and live performance, there are two output settings that EQ the synth for use with a guitar amp or a full-range PA/recording system. One interesting touch is that each of the patch category switch positions 'remembers' which preset number was selected last time you used it, which could be useful in a performance situation, though this information vanishes when the machine is switched off.

Although a huge range of sounds is included, the floor unit also has MIDI In and Out connectors, allowing the MIDI data to be recorded to a sequencer and enabling sequencer data to control the GR20's internal sounds. A Local Off mode is available for sequencer work. It is important to note that the pitch-bend range of the GR20 is set at 24 semitones to allow the system to cover string bends and glides with maximum resolution, so any external synth must also be set to the same range unless you're only playing chromatically (no bends).

Sound Editing

Once a patch has been loaded, it can be edited in a fairly limited way, and unlike the more costly GR33, you can't layer sounds. Envelope modifications can be made via Attack and Release knobs, where the changes are generally applied to the original envelope of the patch with both positive and negative ranges of adjustment. A single knob selects delay or reverb and enables the amount to be adjusted, while the chorus effect has a knob of its own. There's also a separate knob for the patch level. Two alternate rows of functions are printed above the knobs, and each row has a selector switch with status LED to show which set of functions is currently being controlled. Pressing the selector button repeatedly steps the status LED along the row to show which parameter will be ▶

SOUND ON SOUND

Roland GR20 £399

pros
- Affordable, and includes the pickup.
- Easy to operate.
- Good range of presets.

cons
- Limited editing facilities.
- No way to layer or velocity-switch sounds.

summary
Although technically an entry-level guitar synth, the GR20 offers a great range of sounds, and tracks as well as anything else I've tried. You have to tidy up your playing a bit, but the results are worth it.

changed when the data wheel is turned. The lower row allows Filter Brightness (frequency), Resonance, Transpose Value, and Play Feel to be controlled, while the upper row accesses system setup functions such as the output base MIDI channel (channels run sequentially from the bottom string, as each string sends on a different MIDI channel), the switch modes, patch linking, and choice of output type. Most of these turn out to be pretty self-explanatory, and it is a tribute to Roland that the manual extends to only 33 pages before you hit the patch lists and MIDI specifications.

Although sound-editing parameters are important, the real key to getting the best out of this kind of unit is to understand the Play Feel and Hold parameters, both of which are set individually per patch. On other GR models, you're also able to select whether the notes play in semitone steps or whether you can bend notes, but here the choice is made for you depending on the patch selected. For example, a grand piano has no pitch-bend unless you have a very large jack and a solid floor, so the piano patches tend to be chromatic!

Play Feel affects the way the sounds respond to picking intensity, where settings one to four give progressively less dynamic range. The fifth setting, 'ND', means everything plays at the same level, so there are no dynamics, and this may be suitable for organ patches or harpsichords, which also have no natural dynamics. A sixth setting denoted as 'ST' suppresses low-velocity notes to help tidy up playing when you're strumming, though fast strumming is something that no guitar synth responds to particularly well. Suitable settings are chosen for the preset patches, so if you wish to change one, you have to re-save the modified patch into a user memory.

Using The Hold Function

The Hold function is the key to effective performance with a guitar synth, as you can use it to sustain any chord while you reposition your hands for the next one, thereby avoiding gaps and glitches. There are four Hold modes in all, each one designed for a specific style of playing. The first effectively holds any note you play until you play a new note on that string, after which the new note takes over. This mode is fantastically effective for playing orchestral string parts, and the results are more realistic than anything I've been able to achieve from a keyboard, as it's easy to create moving melodies over static notes or chords played on other strings.

The second Hold mode works more conventionally, holding any notes that are playing, while preventing further notes from being played. This is good for playing clean organ parts based on chord changes, or for freezing chords while you noodle over the top using the normal guitar sound. The third mode holds the notes that are being played, while allowing you to play notes on the remaining strings without them being held. This is again good for freezing chords and then noodling over the top, this time playing melodies on the free strings. The final hold mode holds all the notes that were playing when hit the pedal, and also holds subsequent notes you may play on the remaining strings.

You can also select which effect or parameter will be controlled by the pedal, the choices being volume, filter frequency, effect level, or various degrees of pitch-bend. My only concern is that the presets don't seem to provide visual information as to which Hold or Play Feel mode is currently active.

Playability

The synth's sounds themselves are reminiscent of Roland's JV/XV range of instruments, and are arranged into Piano, Organ/Keyboard, Bass/Guitar, Brass, Wind, Strings/Orchestral, Synth/Lead, Voice/Pad, Ethnic, and Rhythm/Percussion categories. Many old favourites are in evidence here, though the patches have been selected with guitar players in mind. The easiest way to move through a bank is to use the up/down buttons on the GK3 pickup control box, or the data knob on the GR20. It is also worth pointing out at this stage that the GR20 works equally well with the older GK2 pickup system, which has the same arrangement of switches.

The moody sax is particularly good, as are many of the strings, and there's even a Mellotron-like string pad in there somewhere. In fact, the only sounds that invariably disappoint are those based on guitars, as they rarely sound anything like the real thing due to the influence playing style has on real guitar sounds. On the other hand, the bass guitars are really good. There are also some interesting splits, where the low one or two strings play different sounds to the others, and this is particularly effective where a bass sound has been added on the lower strings along with an octave of downward transposition. Notably absent, though, were many (or indeed any) velocity-switched sounds, so no matter what

GK3 Pickup System

Although it offers more or less the same features as Roland's previous GK2 system, and the pickup part is similar in size and shape, the GK3's control box has undergone a major re-style and comes with a bracket that allows it to be fixed using the body strap peg on most guitars. Alternatively, double-sided sticky pads work fine, and plenty of fixing accessories are included. The box part of the system has the same two buttons, a three-way selector switch, and a volume knob, but the layout is a little more ergonomic than it was previously. The guitar can be plugged in using the short jack lead supplied, which has a quarter-inch jack at the pickup end rather than the previous mini-jack. The mounting kit for the pickup includes self-adhesive shims and double-sided pads as well as screws, but there's now also a little bracket that slots over two-post bridge supports (Les Paul-style) to hold the pickup in place without screws or adhesive. The pickup then screws to this bracket via the included rubber tube washers or springs that compress to allow the pickup height adjustment to be fine-tuned. Note that the pickup is a humbucking design to help reduce interference from computer monitors and other sources. That said, in my experience sitting too close to glass CRT monitors can still cause tracking problems, even though the result of the interference is not audible as hum or buzz.

External MIDI

My tests with external MIDI devices confirmed that the internally generated sounds respond rather more positively than external MIDI sounds, mainly because MIDI is bypassed when the internal sounds are being used. Nevertheless, the GR20 does provide a practical way for the guitarist to make better use of MIDI sequencing, and you can easily identify and strip out any rogue low-velocity notes in your sequencer's event editors. The best way to work is to control six monophonic synths on six separate MIDI channels, as this allows independent string bending (provided that your synth can be set to a bend range of 24 semitones), but you can also work in the simpler Poly mode if you only want to play chromatic parts or single melody lines with string bending.

you play you always seem to get the same sound, just louder or quieter depending on how hard you pick.

I found the playability to be very similar to that of my GR33, which is to say that tracking delay is no longer a significant issue, and the quality of note recognition is extremely good, even when you accidentally hit a pinched harmonic. Where it does fall down slightly is that notes sometimes re-trigger at a low velocity when you lift your fingers from the strings, especially at lower fret positions, and this is most obvious with percussive sounds such as piano. All Roland's MIDI guitar synths have suffered from this, so vulnerable sounds have to be played with extra care, and here the hold functions can help, as can damping the strings with your hand when lifting off from chords. It would be rather nice if the tracking software included some intelligent algorithms to strip out low-velocity hammer-offs to open strings, as these are almost always the result of fingering noise.

The easiest sounds to manage are things like strings that have a slower attack time, though newcomers to guitar synthesis sometimes complain that the sounds can't keep up with them. This isn't a fault of the synth, but simply the way different instruments 'speak'. If you try to play a fast guitar run on a tuba, it won't sound right because the natural attack of a tuba (real or synthesized) is too slow to permit it. You have to get the characteristics of the instrument you're using into your head and try to play accordingly, and that often means slowing down, and playing with more thought. On the whole, fairly clean players should have no trouble adapting to the GR20, though more sloppy players may be able to goad the system into glitching occasionally.

The Score

With just a little practice, it is easy to get great-sounding results from this simple instrument, and because many sounds respond to string bending, you can apply much more natural vibrato than would ever be possible using a keyboard. Sax and solo string parts can be made to sound particularly realistic this way, but I can't emphasise too strongly that making good use of the hold function is the real key to creating a convincing performance where you need sustained notes. Not every patch is staggeringly realistic or expressive, but enough of them are that many people will get by perfectly well using just the internal sounds.

While guitar synthesis isn't for everybody, the GR20 is about as good as this technology gets, and it is also very affordable and easy to operate — you can learn all you need to know in half an hour. There's no need for guitar players to worry about the intricacies of synthesis, because there are so many great presets ready to go and the tracking is both fast and accurate provided that you play reasonably cleanly and get your fingers down before you pluck, rather than slightly after. Claims that you don't need to adapt your playing technique at all are somewhat exaggerated, but playing cleanly without 'digging in' will avoid trouble most of the time.

At one time guitar synths were so expensive that you had to be really dedicated to want to own one, but now that the UK price has dropped, and now that the pickup comes as part of the package, any guitar player can use the guitar as an input device for a sequencer as well using it in the obvious live synthesis applications. If bad experiences with earlier guitar synths have put you off, put all that behind you and give the GR20 a chance. I think you'll be impressed. SOS

information

- £ GR20 with GK3 pickup and cables, £399 including VAT.
- T Roland UK +44 (0)1792 515020.
- F +44 (0)1792 799644.
- W www.roland.co.uk
- W www.roland.co.jp

Echo Layla 3G

Multi-channel PCI Audio & MIDI Interface For Windows And Mac OS

Echo's range of computer hardware has always been popular with musicians, and the company have now launched the 'third generation' of their Layla and Gina multi-channel audio and MIDI interfaces.

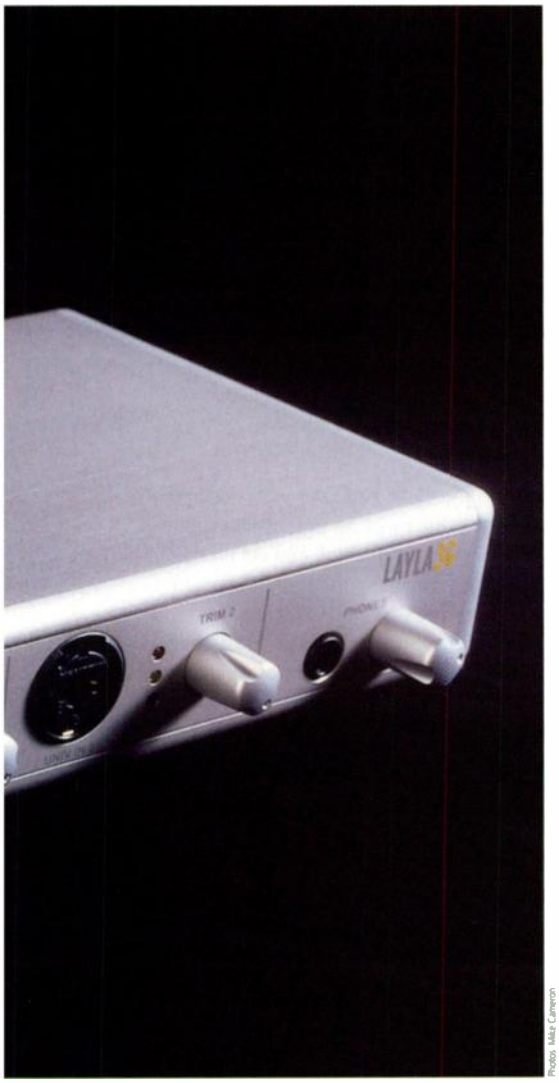
John Walden

When it comes to selecting an audio interface for a computer-based recording system, musicians now have a bewildering choice. As outlined by Martin Walker in his November 2004 article on this very subject, there is something for almost everyone, whatever the combination of features required and cash available. For those seeking multi-channel audio, digital I/O and MIDI I/O in a single device, at the upper end of the market, the current crop of products is particularly tempting. For example, in recent months *SOS* has looked at several Firewire-based units including the Digi 002 Rack, MOTU 828 MkII, RME Fireface and Yamaha i88X, all of which are very impressive.

Of course, not everyone can justify spending £800-plus on an audio interface. Fortunately, whether PCI, USB or Firewire-based, there is also a range of mid-priced products available that are snapping at the heels of their more expensive peers. Echo have always had a good reputation in this particular area, and their Gina, Layla and Mia devices have all received positive *SOS* reviews in the past. Echo are now shipping the '3G' (third-generation) versions of the Gina and Layla, priced at £330 and £430 respectively. So how does the performance of the Layla 3G, which on paper looks well specified, compare to its more expensive competitors?

Quick Tour

In essence, the Layla 3G is a PCI-based interface with a neat 1U rackmounting breakout box, offering an eight-in/eight-out analogue configuration with additional digital I/O (a further eight channels of I/O using the ADAT connectivity). The front panel of the breakout box itself is rather minimalist in appearance, with just a power LED, two combi XLR/TRS inputs with input controls and three-stage LED metering, a phantom power switch and a headphone output with volume control. The XLR/TRS inputs are 'smart' and will automatically adjust for a line, mic or high-impedance input signal. Commendably, Echo provide a decent 15-foot cable for connecting the PCI card to the rack unit. This also supplies power so, thankfully, there is no wall-wart power supply to deal with.



Photos: Mike Cameron

The rear of the unit contains all the other connectivity. This includes the other six balanced analogue inputs, eight balanced analogue outputs, stereo S/PDIF I/O (RCA or optical) or eight-channel ADAT optical I/O, word clock connectors and MIDI I/O. One further interesting feature is the two insert jacks, which function with the two front-panel inputs and allow external effects to be easily patched into these input channels. The lack of dedicated inserts on the majority of audio interfaces (and even many digital mixers) can be frustrating for those used to their availability on most analogue desks. Audio interface manufacturers now seem to be addressing this — for example, Yamaha's i88X includes inserts — and it is very welcome to see them appearing in a mid-priced unit like the Layla 3G.

As well as the PCI card, breakout box and cable, Echo also supply a Quick Start Guide and a single CD. The latter contains all the drivers (both PC and Mac) and the full manual as a PDF. Unlike many manuals supplied with hi-tech computer equipment, this one is actually helpful. It includes a range of supplementary information on, amongst other things, the principles of digital audio, different driver types and surround sound. For the less experienced user, this would make interesting reading. Also included within the package is Raw Material Software's *Tracktion* MIDI + Audio sequencer. Now marketed by Mackie, *Tracktion* was reviewed in *SOS* back in April 2003 so, aside from the summary in the 'Extra Atracktion' box, interested readers could refer to the earlier review (available on-line at www.soundonsound.com/sos/apr03/articles/rawtracktion.asp).

Installation of the Layla 3G proceeded without a hitch. Once the drivers were installed on the Windows XP test system, the PCI card was simply slotted home, the breakout box connected and, on power-up, the PC found the Layla 3G and the necessary drivers with little user intervention required.

Audio Performance

Given the very creditable performance of Echo's previous audio products, I was not surprised to find that the Layla 3G sounded very good indeed. Some basic listening tests using a range of commercial recordings, and performed via *Sound Forge* and *Wavelab*, demonstrated plenty of high-end detail and solid reproduction of the lows. Stereo imaging also seemed to be very good.

These subjective comments were supported by more objective testing with Rightmark's *Audio Analyser* (5.4). Loopback tests at 16-bit/44.1kHz gave noise levels of 95.8dB(A), total harmonic distortion (THD) of 0.0011 percent and stereo crosstalk of 98.7dB, all excellent figures. At 24-bit/44.1kHz, these improved further to -110.2dB(A), 0.0008 percent and 114.6dB respectively. Again, these are excellent figures, and the noise and stereo crosstalk readings only dropped by a couple of dB at 24-bit/96kHz. All other things being equal, and all other elements of the audio signal chain being taken due care of, I'd have no concerns about using the Layla 3G for serious audio work.

In Use

The Echo Console application is used to control the main functions of the interface. The key features of the Console are similar to those found in earlier versions (for example, the Indigo IO, reviewed in the April 2004 issue), although the exact details obviously reflect the particular hardware configuration of the Layla 3G.

The main screen is dominated by faders and meters for the eight analogue inputs. On the surface, this is all quite straightforward, but as only a single analogue output buss is displayed within the Console at any one time and different input channel monitoring settings are available for each analogue output buss, things can get a little more complex. Fortunately, the manual does a decent job of explaining this and, as you could use this feature to set up different input monitoring mixes for each of the analogue output pairs, it does provide considerable flexibility. The user can toggle between the settings for each of the output busses via the buttons located mid-right of the window. Immediately above these, the Input Clock and Digital I/O formats can

SOUND ON SOUND

Echo Layla 3G £430

pros

- Very respectable audio performance.
- Builds on Echo's good reputation for audio and MIDI products aimed at musicians.
- Sensibly priced.

cons

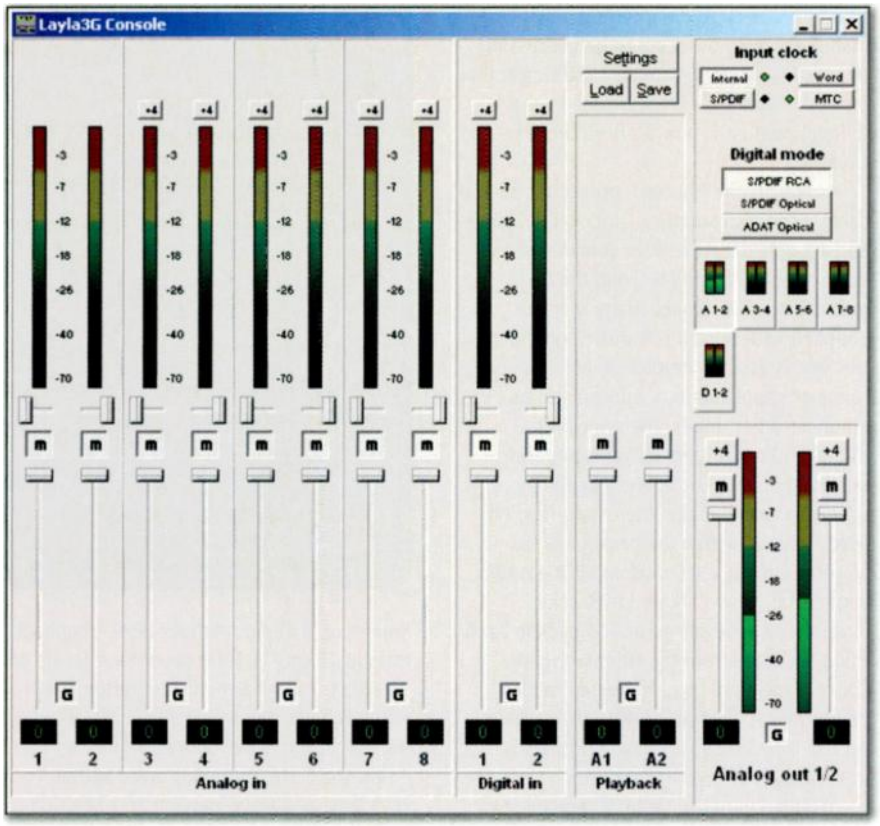
- Input metering on front panel somewhat basic.
- No hardware control for output level.

summary

Given Echo's well-earned reputation for their audio/MIDI interface products, it would be expected that the 'third generation' version of the Layla ought to do the business straight out the box. It doesn't disappoint — with this combination of features and price, the Layla 3G ought to have wide appeal.

Specifications Summary

- Eight analogue inputs: two Neutrik Universal connectors for balanced TRS or XLR and six balanced TRS connectors.
- 48V phantom power on XLR inputs.
- Eight analogue outputs on balanced TRS connectors.
- Nominal I/O level: +4dBu or -10dBV (software configurable).
- Converters: 128x oversampling converters, 24-bit data resolution maintained throughout signal path.
- S/PDIF digital I/O: up to 24-bit resolution via optical or co-axial connector.
- ADAT digital I/O: 24-bit I/O over optical connection, 44.1kHz and 48kHz sample rates supported.
- MIDI In and Out.
- Word clock I/O.
- Can sync to MTC (MIDI Time Code).
- Headphone output: high-quality quarter-inch headphone jack with volume control on front panel.
- On-board 56-bit, 100MHz Motorola DSP.
- Near zero-latency hardware monitoring.
- Buss-mastering PCI host interface provides power to breakout box; 3.3V and 5V compatible.
- Works with PCI-X and Power Mac G5.



The Layla 3G Console.

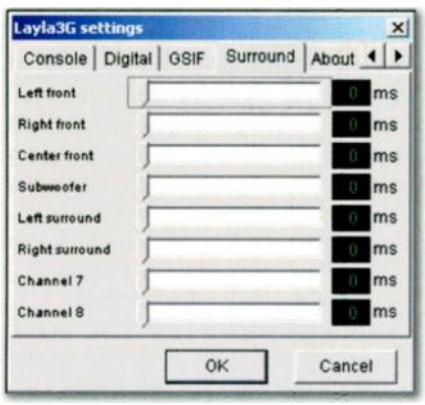
Recommended System Requirements

- PC: Windows Me, 2000 or XP, Intel Pentium or AMD Athlon CPU, motherboard with Intel, AMD, Via or NVIDIA chip set, 256MB RAM (512MB recommended).
- Mac: Mac OS 10.2 or later, G4 or better processor, 256MB RAM (512MB recommended).

▶ be selected.

The settings button opens up further options, all of which will be familiar to existing Echo users. These include setting the S/PDIF format, GSIF buffer size options (on the PC) and, usefully given the multi-channel outputs, the ability to set up channel delays to accommodate a surround-sound monitoring system. Conveniently, users can also save and load particular Console settings if they regularly use different configurations for different audio applications or tasks.

Of course, audio quality is not the only requirement for a good audio/MIDI interface: driver stability, reliability and low latency are also required. Again, Echo have an enviable reputation in this area and the Layla 3G proved to be no exception. The performance of the ASIO and WDM drivers seemed both stable and efficient (I don't have *Cigastudio* on my test system, so couldn't evaluate the GSIF drivers). In both *Cubase SX* and *Reason*, I was able to get down to a buffer size of 256 samples (equating to a latency of around 6ms) without a great deal of CPU sweat even in a fairly busy arrangement. Lower settings also worked fine but, of course, generated higher CPU loads on the test PC and, frankly, given my keyboard skills (or lack of them!), I've never been that concerned about the difference between a 3ms or 6ms latency when using software synths. Playback and recording worked as expected within both *Sound Forge* and *Wavelab*. I was also able to configure both *SX* and *Acid Pro* for 5.1 surround sound output without any difficulty.



The Settings options include the channel delay screen for use with a surround monitoring system.

In testing, I experienced no problems at all with the hardware itself. In performing some routine recording tasks in *SX*, the analogue inputs and outputs behaved exactly as expected. I carried out my usual solo voice and acoustic guitar recordings via the front-panel mic preamps using a couple of different condenser microphones (one budget, one less so). Starting at 16-bit, 44.1kHz, the results were extremely pleasing — clean and seemingly accurate — while moving to 24-bit produced a subtle improvement in the high-end detail. I didn't notice any obvious further improvement when moving to a 96kHz sample rate, and in truth, most people considering an audio interface in the £400-500 price range are unlikely to have spent the considerable sums required on mics, monitors and acoustic treatment to get a significant benefit from high sample-rate recording — but the choice is there if you need it. Recordings made via the line-level inputs 3-8 were also clean and clear. While they do not provide phantom power, they would be perfectly suitable for use with hardware synths or for multi-mic recordings of a live band (either using dynamic mics or feeds from an external mixer).

As on previous Echo products, the Layla 3G drivers support multi-client audio. Providing you are careful in how you set this up (and the host computer is powerful enough!), it ought to be perfectly possible to run several audio applications in tandem, each using a different set of the Layla 3G's outputs with a different driver format. Again, the PDF manual contains some useful information on this topic, covering common applications such as *Sonar*, *Gigastudio* and *SX*. The ASIO 2.0 Direct Monitoring function of the Echo worked well within *SX*, making latency a non-issue when recording real instruments via a microphone. The inserts on input channels 1 and 2 also did their job without a fuss, making it feasible to patch in ▶

Ooh Ah, Just A Little Bit

If the Layla 3G appeals, but you could manage with a two-in/six-out analogue configuration, then the Layla's little sister, the Gina 3G, might fit the bill. Aside from the reduced analogue I/O count and a smaller box, much of the functionality remains the same, including the two, phantom-powered, Neutrik Universal 'smart' connectors for balanced TRS or XLR on the front panel. The only other noticeable differences are the lack of word clock I/O on the Gina and a shorter (8-foot) cable to link the PCI card with the breakout box, and the £329 price tag still makes it a very attractive option.

Blue Systems
Cambridge | England

BLUE SYSTEMS
Professional Audio

- Advice
- Sales
- Service
- Support
- Peace of Mind

Home Users | Project Studios | Recording Artists | Education | Producers | Commercial Facilities | Post & Broadcast

Apogee	**Motu**
Apple Computers	Neumann
Audio Technica	**PMC**
Beyerdynamic	Sennheiser
Denon & Marantz	Sound Construction
Dynaudio	Tannoy
Focal	TC Electronic
Focusrite	**Thermionic Culture**
Glyph	Universal Audio
Mackie	Waves
Manley	...and many more!

All solutions are pre-installed, configured, optimised and fully tested so the only thing you have to worry about is your work.

Providing Solutions... not boxes.

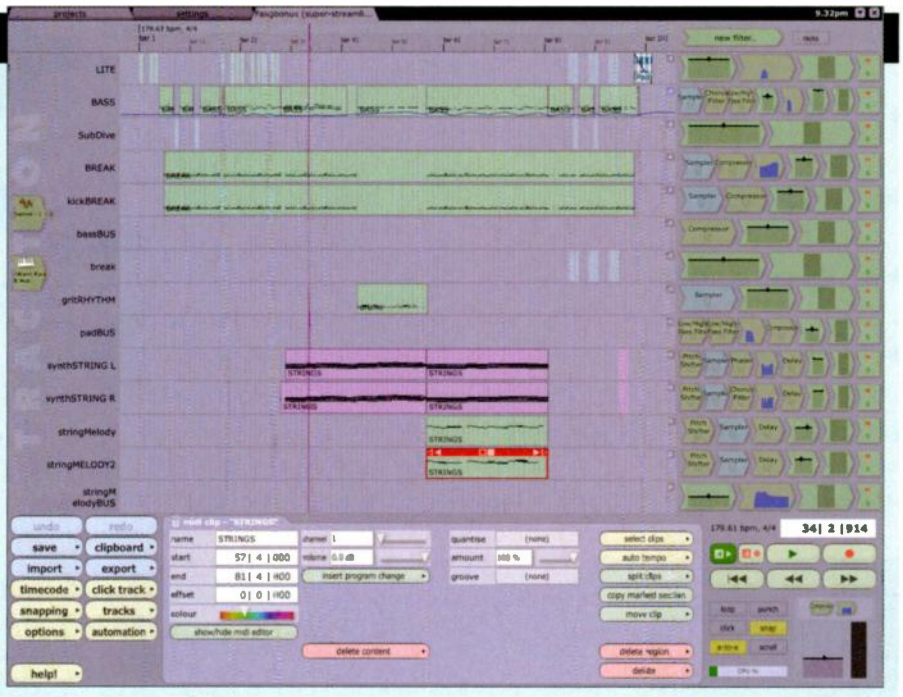
Merry Christmas & Best Wishes for the New Year

All consultations and demonstrations are by appointment only so please do contact us in advance.

Tel: +44 (0) 1223 404 100
Fax: +44 (0) 1223 414 900
sales@bluesystems.com
www.bluesystems.com

Extra Atracktion

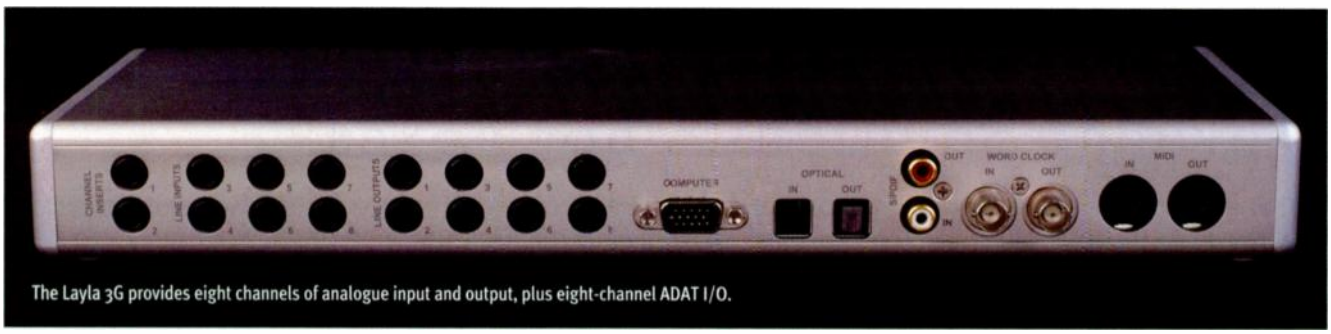
I reviewed *Tracktion* back in the April 2003 issue of *SOS*. While the software has undergone various updates since that time, and is now available for both Windows and Mac OS, its basic operation remains the same. As described in my original review, *Tracktion*'s author, Julian Storer, decided to approach the issue of MIDI and audio sequencing from a very different perspective to more mainstream applications. As a consequence, those with experience of *Sonar*, *Cubase* or *Logic* (for example), might find *Tracktion* a little left-field to start with. This said, the intentionally stripped-down feature set makes for a very efficient learning curve and it offers a perfectly functional sequencing environment. Bundled free here, it ought to be a very welcome addition for someone just starting out with computer-based recording.



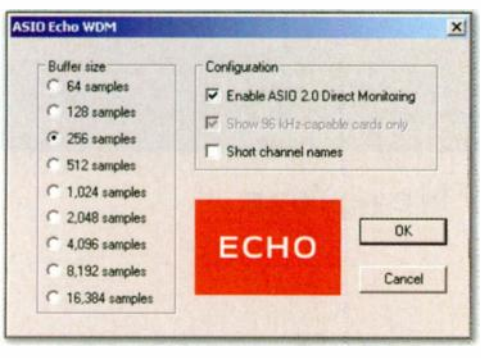
Tracktion: not your average MIDI + Audio sequencer!

the occasional outboard effect/processor unit in the absence of a hardware mixer. Finally, while I was not able to test the ADAT I/O connectivity, the S/PDIF I/O passed data to and from other digital devices in my studio without any problem.

If I had to criticise the Layla 3G, two things would occur to me. First, the three-stage LED front-panel input metering is perhaps best described as 'basic', although more detailed information can be obtained via the Console. Second, I found the lack of a front-panel control for master output level to be a bit irritating. This would, of course, be less of an issue if the Layla 3G was permanently wired up to a hardware mixer but, for those trying to manage without a mixer, audio levels have to be controlled via your host application or the Console. Given both the price point and the unit's audio performance, these are, however, very minor quibbles.



The Layla 3G provides eight channels of analogue input and output, plus eight-channel ADAT I/O.



The usual buffer size settings are available via the Control Panel directly from *SX*.

Conclusions

As a PCI-based interface, the Layla 3G may be less appealing than a USB or Firewire-based device to those who might want to adapt to laptop use in the future. However, if you're looking for something to slot into a permanent studio setup featuring a desktop PC or Mac, it certainly has plenty to offer. In this context, the only major problem with the Layla 3G is that it gives musicians yet another multi-channel audio and MIDI interface to choose from!

The third generation of the Layla line is most certainly up to Echo's usual standards and is capable of very good results. It is likely to have fairly wide appeal amongst the serious home/personal studio crowd — while many in this position might aspire to something like the Digi 002 Rack or MOTU 828 MkII, unless the other elements of the studio setup are all as well specified, it is debatable whether the extra few hundred quid would generate noticeable audio improvements for many users. The Layla 3G provides a very functional audio and MIDI interface and is backed by Echo's strong history in delivering stable and efficient drivers. At this price point, I expect it to sell very well indeed. SOS

information

£ £429.99 including VAT.
T Arbiter Music Technology +44 (0)20 8970 1909.
F +44 (0)20 8202 7076.
E sales@arbitergroup.com
W www.arbitergroup.com
W www.echoaudio.com

DIGITAL VILLAGE

computer hardware/software

Apple

Upgrade Logic Express or Big Box to Logic Express 7 for **only £69.99**

Upgrade Logic Express or Big Box to Logic Pro 7 for **only £499.99**

Logic workstation in every store

Logic Express 7 **£dv247.com**

Logic Pro 7 features new instruments and effects, state-of-the-art loop composition tools as well as optimizations for the PowerPC G5 processor and Mac OS X, forming a highly productive system that will change the way you: compose, record, edit and mix music in any studio environment. The latest version provides near unlimited processing resources through the simple addition of Macintosh computers.

Logic Pro 7 Upgrade £199.99

Logic Pro 7

£dv247.com▼

the Apple Solution Experts

G5 Dual 1.8Ghz £1439.99

The Apple G5 range of dual 64-bit processor machines provides you with the ultimate solution whether creating and mixing music, editing and authoring digital video or just being the ideal partner for your digital lifestyle. At DV, our experienced Apple sales staff can offer advice and direction to help you achieve your ideal working environment and expand your creative barriers.

iBooks
iBook 12" 1.2Ghz £749.99
iBook 14" 1.33Ghz £899.99
iBook 14" 1.33Ghz Super £1049.99

Powerbooks
Powerbook 12" 1.33Ghz Combo £1139.99
Powerbook 12" 1.33Ghz Super £1289.99
Powerbook 15" 1.33Ghz £1389.99
Powerbook 15" 1.5Ghz £1739.99
Powerbook 17" 1.5Ghz £1939.99

The future has landed with the all-new iMac G5. Performance is concealed in perfection with a G5 based logic board, slot loading optical drive, hard disk, speakers and power supply dwelling inside its beautiful widescreen display. Expand your creative horizons with music, video and photographic applications, powerful enough for the professional, fun enough for the family!

17" 1.6Ghz £918.99
20" 1.8Ghz £1348.99

new

17" 1.8Ghz

£1048.99▼

digidesign

NEW Pro Tools 6.7 LE & TDM !

002 £dv247.com
002 Rack £dv247.com
M Box £dv247.com
M Box Factory Bundle £dv247.com
Digi 002 Factory Bundle £dv247.com

Digi 002 Rack Factory Bundle

£dv247.com▼

MOTU

828 Mk2 Firewire £569.99

Fastlane USB £49.99
Midi Express XT USB £320.99
24 I/O Core £1099.99
2408 Mk3 £793.99
Microlite £104.99
Midi Timepiece £559.99
Midi Express 128 £210.99
Digital Timepiece £850.99
HD192 Core £1294.99

price crash

896HD

£799.99▼

tc electronic

PowerCore Firewire £dv247.com

PowerCore Compact £599.99

PowerCore Compact £599.99
Virus Unlimited £199.99
PowerCore PCI + Virus £679.99
PowerCore Virus £329.99

price crash

PowerCore Element

£329.99▼

RME

HDSP 9652 £349.99
HDSP Multiface £499.99
HDSP PCI £184.99
Hammerfall Lite £229.99

Fireface 800

£999.99▼

Rosetta 800 £dv247.com
Mini Me £1099.99
Mini-Dac £dv247.com
[illegible] £dv247.com

AD-16X

£dv247.com▼

prices correct at time of going to print **...but we cut prices daily**

▼go to dv247.com for today's low price!▼

north london 020 8440 3440
east london 020 8510 1500
cambridge 01223 316 091
birmingham 0121 687 4777
education 01708 771 950
south london 020 8407 8444
west london 020 8992 5592
southampton 023 8023 3444
bristol 0117 946 7700
email sales@digitalvillage.co.uk exportsales@digitalvillage.co.uk

*We will match or beat any genuine quote on identical goods, from any European dealer at time of order. Errors and omissions excepted.

online • instore • mail-order

highest specs - lowest prices

dv pc laptop systems

DVPC

DV XT2 Laptop

Now upgraded with 128Mb ATI 9600 graphics card combined with a massive 17.1 WXGA TFT screen and stunning resolution of 1440x1900 for picture perfect viewing.

DV Classic Laptop

The ideal portable solution for pro audio applications. For complete integration with today's hi- performance FireWire and USB solutions, you need a PC laptop you can trust.

DV LE Laptop

This is our entry-level laptop with a crystal clear 15"TFT screen and a Celeron 2.6 CPU making it perfect as a second system or as a cost effective USB and firewire interfaces.

15" LE — low price

The Le laptop is perfect for those seeking a cost effective portable solution or as a second PC for mobile applications. The LE system is fully compatible with all major usb and firewire soundcards and can efficiently handle 16/24 tacks of audio including effects and VSTi's.

- 2.6GHz Intel® Celeron
- 15.1" XGA TFT
- 30Gb ATA-IV Storage
- 512Mb DDR RAM
- 24/12/24 CDRW/DVD ROM
- 56kb Modem

from £799.99▼

15" Classic — new system

If you require a desktop replacement but demand non-compromising performance, portability and value for money, our Classic DV Laptop is the solution. With the same power as the Classic DVPC (powered by Intel Centrino 1.6Ghz CPU and 512Mb RAM) theres no problem running multiple audio tracks, effects and VSTi's.

- 1.6GHz Centrino Dothan
- 15.4" XGA TFT Widescreen
- 40Gb ATA-IV Storage
- 512Mb DDR RAM
- 24/12/24 CDRW/DVD ROM
- ATI M11 128Mb Graphics

from £1099.99▼

17" XT2 — new specification

The ultimate in a desktop replacement system with a massive, high definition 17.1"TFT screen/ATI 9600/128Mb RAM, the XT2 has the same power as our desktop equivalent and can handle intensive audio /video editing with ease. At this level of performance, there is no alternative for price, portability and power.

- **3.2GHz Intel® Pentium**
- **now 800 FSBus**
- 17.1" WXGA TFT
- 60Gb ATA-IV Storage
- 512Mb DDR 400 RAM
- 24/12/24 CD-RW/DVD-RW
- **ATI 128Mb Graphics**

from £1399.99▼

PC Rack

A silent and professional rack solution. It features special anti vibration dampers on the hard drive, a cd-rom cage, tank like construction and utilisation of the quietest power supply available. The DVPC Rack is ideal for studio users and musicians at all levels, or as a basis for mobile-racked studio.

DVPC LE Rack **from £529.99**

DV PC Classic **from £689.99**

DVPC XT Rack **from £889.99**

from £529.99▼

add ons for your dvpc

Radium 61 + Reason 2.5

£299.99▼

Echo Indigo I/O

£ 119.99▼

Steinberg System 2

£199.99▼

prices correct at time of going to print ...but we cut prices daily

▼go to dv247.com for **today's low price!** ▼

talk to the experts

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

dv pc desktop systems

DV PC

- **High Performance**
- **Ultra Quiet**
- **Lowest Price**

DVPC's are **built with music in mind.**

Our team of highly trained and experienced in-house technicians configures your operating system whilst remaining constantly on the cutting edge of PC music software and hardware compatibility. Add this to **ultra-quiet**, and **industry lauded power supplies**, and you are ensured a fully working and **individually configured system straight out of the box.**

With a DVPC you can get on with making music... FAST and stress free!

DV PC LE

new low price

The LE system is ideal for those looking for a second DVPC or an affordable start in computer-based recording. Our DVPC LE is a powerful and flexible solution and when paired, for example, with an Audiophile card, it can comfortably run 24 audio tracks at 24 bit/96k utilising numerous effects and VST instruments.

- 2.6 Ghz Intel® Celeron
- Intel® 845PE-L Chipset
- 80 Gb ATA100 storage
- 512Mb 400DDR RAM
- 52/32/52 CD-RW
- 64Mb Graphics Card

from **£449.99**▼

DV PC Classic

new specification

For customers who demand professional results from a PC, the Classic is a quiet, powerful and stable choice as it incorporates Intel's 865PE motherboard (making it future proof for upgrades). At a starting price of £599.99, we believe this is the best-priced digital audio recording studio available today.

- 3Ghz Intel® Pentium
- Intel® 865PE-L Chipset
- 80 Gb ATA100 storage
- 512Mb 400DDR RAM
- 52/32/52 CD-RW
- Dual-Head ATI Graphics

from **£599.99**▼

DV PC XT2

new specification

The class-leading system capable of handling the most demanding of audio processing tasks. With increasingly complex virtual instruments and the demands of high-speed sample rates, you'll need as much processing power as possible. The XT2 system delivers this power and is the ultimate PC based recording studio.

- 8xDual DVD-R/CD-RW
- 3.2Ghz Intel® Pentium
- Intel® 865PE-L Chipset
- 120Gb ATA150 storage
- 1Gb Dual 400DDR RAM
- Dual-Head ATI Graphics

from **£799.99**▼

DV PC XTV

This is our class-leading system for customers who need professional results from a PC. The XTV is quiet, powerful, stable and capable of handling the most demanding of video processing tasks. At a starting price of £899.99, we believe this is the best-priced PC based video editing system available today.

- 3.2Ghz Intel® P4
- Intel® 865PE-L Chipset
- 1x80Gb ATA100 Storage
- 1x120Gb ATA150 Storage
- 1Gb Dual 400DDR RAM
- DVD-RW/CD-RW
- 256Mb Dual-Head ATI

from **£899.99**▼

add ons for your dvpc

Steinberg SL3
£169.99
very limited stock!!

These offers are are valid only when purchased with a DVPC system. Neither product can be bought separately at this price.

Steinberg SX3
£329.99▼

M-Audio Audiophile
£58.99▼

Echo Mia MIDI
£79.99▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

DIGITAL VILLAGE

computer software

Steinberg

price crash

Cubase SX 3 £499.99
Cubase SX3 adds more than 70 new features including powerful Audio Warp Timestretching, an intuitive Play Order Track, convenient In-place editing plus many new editing functions. Cubase SX3 redefines music production technology.

Warp £29.99

Cubase SE £89.99
Cubase SXXL £529.99
Clean Plus £59.99
D Cota £dv247.com
De-Esser £74.99
Groove Agent £139.99
HALion 3 £271.99
Hypersonic £225.99
Hypersonic XXL £259.99
Nuendo 2 £789.99
Nuendo Surround Edition £349.99
Plex £119.99
Studiocase Plus VSL2020 £269.99
The Grand £130.99
Traktor DJ Studio £129.99
Virtual Guitarist £137.99
VoiceMachine £ 94.99
Wizoo Hypermodule Bundle £129.99
Wave Essential £59.99
Wavelab 5 £395.99
Xphraze £89.99
Virtual Instrument Collection £109.99
Cubase System 2 £199.99
Cubase System 4 £279.99
Warp £39.99

Cubase SL 3
Cubase SL3 offers an array of new features to make composition more creative and spontaneous. The next generation Audio Warp engine offers import of ACID files and timestretching and pitchshifting in real-time freeing SL3 from the limitations of tempo. The intuitive Play Order Track feature offers new tools for pattern-style composers and the new Pre-Record feature makes losing great musical ideas almost impossible.

new

Cubase SL 3
£269.99▼

Native Instruments

Reaktor Session £150.99
Absynth 2 £165.99
B4 Organ £dv247.com
B4 + B4 Controller £349.99
Battery £dv247.com
Elektrik Piano £139.99
Intakt £dv247.com
FM7 £144.99
Guitar Rig £119.99
Kompakt £129.99
Komplete 2 Upgrade £349.99
Kontakt V1.5 £219.99
Pro-53 £110.99
Reaktor 4 (PC & Mac) £279.99
Vokator £dv247.com
Spektral Delay £129.99

price crash

Xpress Keyboards
£59.99▼

WAVES

Musicians Bundle 1 £199.99
Musicians Bundle 2 £199.99
Buy together for £299.99

Transform Native Bundle £869.99
Gold TDM Bundle £1869.99
Masters Native Bundle £639.99
Diamond Native £2759.99
Masters TDM Bundle £1279.99
Platinum Native Bundle £1499.99
Gold Native Bundle £935.99

price crash

Native Power Pack
£299.99▼

celemony

Melodyne Studio V2 £dv247.com

Melodyne Cre8 V2
£259.99▼

zero g

Morphology £109.99
Altered States £189.99
Vocaloid Leon £99.99
Sounds of the 70's £169.99
Vocaloid Miriam £149.99

Vocaloid Lola
£109.99▼

bias

SoundSoap Pro £399.99
Whether you're archiving from vinyl, transferring studio or live analog recordings, performing forensic audio analysis, or battling a noisy recording environment, SoundSoap Pro scrubs away problems. A unique, fully integrated interface means you're only one click away from a complete arsenal of tools.

- Unparalleled noise reduction and audio restoration
- BroadBand, Click & Crackle, and Hum & Rumble restoration tools
- Sophisticated Noise Gate for final polish

From serious sound design for film, video, or multimedia, to rapid-fire broadcast editing and music production limited only by your imagination, Peak 4 handles the task with incredible ease and user friendliness.

- Create unique dance loops and remixes
- Optimize audio for Internet streaming
- Archive and Re-Master vinyls records and convert them to CDs, AAC (MP4) or MP3 files
- Fix audio problems for digital video
- Maximize your music's sonic quality and burn replication-ready audio CDs

Bias Studio £559.99
Deck 3.5 £299.99
Deck LE £79.99
Peak 4 LE £79.99
SoundSoap 2 £79.99
Peak DV 4 £149.99

Peak 4
£299.99▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

online • instore • mail-order

lowest €uropean price guarantee*

video editing

Turn your music making into multimedia with these DV Video add-ons. Call DV stores @ Southampton, Cambridge, Birmingham & Bristol

Matrox

Realtime DV output and MPEG-2 video editing card with Adobe Premiere Pro, Encore DVD, Audition software.

RTX 10 Suite £489.99

RTX100 X Pro

£749.99▼

canopus

Includes : DV Storm 2, Storm Bay, Edius 2.5, Adobe Premiere Pro, Encore DVD & Audition

Prod. Suite £657.99
ProCoder £349.99
Edius 2 £399.99
Lets Edit £98.99
Lets Edit RT £228.99
Visual FX Suite £257.99
Canopus ADVC110 + Adobe Bundle £dv247.com

DV Storm 2 Pro Ultra Bundle

£937.99▼

Apple

Includes: Final Cut Pro HD, DVD Studio Pro, Motion

Final Cut Pro £698.99
Final Cut Express 2 £198.99
DVD Studio Pro 3 £348.99

Production Suite

£898.99▼

computer hardware/controllers

EDIROL

Buy PCR1 plus
Steinberg SE was £340 **now £219.99**
Steinberg SL3** was £510 **now £339.99**
Steinberg SX3** was £800 **now £569.99**

price crash PCR1 **£149.99▼**

Edirol workstation in every store

Edirol PCR 50 £149.99

Buy PCR 50 plus
Steinberg SE was £310 **now £214.99**
Steinberg SL3** was £429 **now £329.99**
Steinberg SX3** was £719 **now £559.99**

price crash

UR80 £199.99
UR80 + Project 5 £209.99

FA101 £299.99
PCR80 £229.99
PCR30 £114.99
PCRA30 £209.99
PCR50 £159.99
PC160A £67.99
PC180A £84.99
PC300 £115.99
SD20 £273.99
SD80 £549.99
UA20 £99.99
UM1SX £34.99
M100FX £189.99
UA1D £64.99
UA1X £58.99
UA20 £98.99
UA25 £149.99
UA3FX £139.99
UM2C £44.99
UM550 £183.99
UM880 £245.99
UA1000 £dv247.com
UM1X £42.99
V4 £749.99
PCR1 + Sonar Studio 3 £199.99

SONY

ACID Pro 5 £299.99
The latest version of the classic DJ/Producer software which features 5.1 surround mixing, piano roll editing, 24bit 96kHz support and includes over 20 Direct X plug-ins.

Sound Forge 7 £299.99
Award-winning digital audio editor that includes a powerful set of audio processes, tools, and effects for recording and manipulating audio.

Movie Studio+DVD £99.99 **Vegas+DVD £649.99**
The 3 flagship applications from Sony boast versatile and powerful video editing tools for your PC. Vegas 5 enables professional video and audio production and Vegas 5 + DVD adds DVD architect, a feature rich DVD authoring suite.

- Intuitive interface
- High-quality transitions, filters, credit rolls & text animations
- Create sophisticated composites
- Real-time previewing of effects and transitions
- Advanced colour correction
- 24-bit 96kHz audio support plus effects, automation & 5.1

ACID Music Studio £79.99
CD Architect £189.99
S/Forge Audio Std. £85.99
Vision (for Vegas) £85.99

Vegas 5

£459.99▼

prices correct at time of going to print **...but we cut prices daily**

▼go to dv247.com for today's low price!▼

talk to the **experts**

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

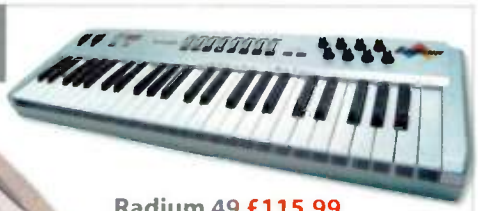
west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

computer hardware/controllers

M-AUDIO



price crash

Oxygen 8 £69.99

Radium 49 £115.99

Buy Radium 49 plus
Steinberg SE was £259 now £169.99
Steinberg SL3** was £429 now £299.99
Steinberg SX3** was £719 now £529.99
Cakewalk Sonar Producer was £548 now £419.99
Cakewalk Sonar Studio was £419 now £259.99

Buy Oxygen 8 plus
Steinberg SE was £230 now £139.99
Steinberg SL3** was £400 now £259.99
Steinberg SX3** was £690 now £529.99
Cakewalk Sonar Producer was £620 now £379.99
Cakewalk Sonar Studio for was £390 now £219.99

M-Audio workstation in every store

Radium 61 and Reason 2.5 £299.99

Buy Radium 61 and Reason 2.5 plus
Steinberg SE was £479 now £329.99
Steinberg SL3** was £759 now £449.99
Steinberg SX3** was £1049 now £699.99

Keystation 88 £323.99

Keystation 88 plus
Steinberg SE was £510 now £369.99
Steinberg SL3** was £680 now £509.99
Steinberg SX3** was £970 now £699.99
Cakewalk Sonar Producer was £799 now £589.99
Cakewalk Sonar Studio was £670 now £449.99

Transit £64.99
O2 £109.99
Ozone £179.99
Radium 61 £136.99
Delta 44 £114.99
Delta 66 £127.99
Delta 1010 £dv247.com
Delta 1010LT £175.99
Delta 66 Omni Studio £dv247.com
Firewire 410 £255.99
Firewire Audiophile £155.99
Mobile PreUSB £124.99
Omni I/O £142.99
Omni Studio USB £279.99
Sonica £dv247.com
Audiophile 2496 USB £155.99
Merge 2x2 £32.99
Midisport 1x1 £39.99
Midisport 2x2 £44.99
Midisport2x4 £dv247.com
Midisport 4x4 £75.99
Midisport 8x8 £179.99
Thru 1x4 £17.99
Thru 3x8 £59.99
Uno £36.99
C02 £35.99
C03 £115.99
Firewire 1814 £355.99
Audiophile 2496 £dv247.com

evolution

- Quick and easy Function buttons
- Independent channel assign
- Unique controller mute function
- Back-lit LCD display

E-Keys £39.99
MK-249C £109.99
MK425C £88.99
MK-361 £119.99
MK-461C £159.99
UC-33E £149.99
UC16 £59.99
UC17 X-Session £85.99

MK-449 C
£129.99▼

E-MU

0404 £dv247.com
1212M £dv247.com
1820 £dv247.com
1820 M £dv247.com

Proteus X (inc. 0404)
£119.99▼

TERRATEC

Phase 26 £159.99
Phase 28 £129.99
Phase 88 £219.99
DMX6Fire £139.99

price crash

Phase 22
£65.99▼

novation

Speedio £xx.99
Remote 25 £225.99
Remote 49 £379.99
Remote 61 £449.99

price crash

X Station
£419.99▼

KORG

Legacy consists of software versions of the MS-20, the Wavestation & the Poly6 PLUS MS-20 Controller.
Micro Kontrol £199.99

Legacy
£324.99▼

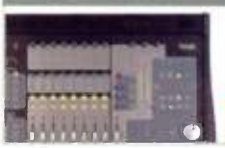
echo

Layla 3G £349.99
Gina 3G £269.99
Indigo £89.99
Indigo DJ £119.99
Mia Midi £79.99

price crash

Indigo I/O
£119.99▼

TASCAM



FW1084 £638.99
US122 £159.99
US224 £189.99
US428 £269.99

FW1884
£899.99▼

STUDIOLOGIC

TMK88 £175.99
Studiologic SL990 XP £389.99
Studiologic SL990 Pro £279.99
Studiologic TMK88 £175.99

price crash

VMK88
£365.99▼

Steinberg

Midex 8 £257.99

exclusive

VSL2020
£109.99▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

** Purchase SL2/SX2 with free upgrade to SL3/SX3.

DIGITAL VILLAGE

computer hardware/controllers

BEHRINGER

B-Control Fader BCF2000

Total Recall USB/MIDI Controller Desk with 8 Motorised Faders

The USB compatible BCF2000 is an innovative, hands-on control surface with ultra-precise motorized faders for the ultimate control of virtual mixers, organ-drawbars, synths and samplers. The BCF2000 features full MIDI capability so you can adjust, set and tweak with a myriad of functions. It's like having real knobs and faders for every control on the screen!

BCF2000
£156.99▼

B-Control Rotary BCR2000

Total Recall USB/MIDI Controller Desk with 32 Illuminated Rotary Encoders

The USB compatible BCR2000 is an innovative, hands-on control surface with full MIDI capability and an additional 24 endless rotary encoders for the creative manipulation of virtual mixers, organ-drawbars, synths and samplers. You can assign a dedicated knob or key to your most frequently used functions, make edits without touching the mouse and tweak "front panel" settings by simply turning a knob. With the BCR2000, you'll spend less time clicking around and more time enjoying your music!

BCR2000
£119.99▼

B-Control Audio BCA2000

High Speed USB 2 Multi-Channel Control Interface with ADAT® Support, Surround Outputs and Extensive Monitor Control Section

The BCA2000 is a high-speed USB 2.0 multi-channel audio MIDI control interface that raises your performance bar to a whole new level. Get real 'hands-on' control with the intuitive control surface featuring 100-mm faders for audio/MIDI sequencing, and a high-performance analogue input section with state-of-the-art "Invisible" Mic Preamps, plus line and Hi-Z guitar inputs. Combine this with its versatile digital input and output (including Surround capability) and you have an unlimited array of interfacing capabilities.

Pick the B-CONTROL that matches your software (Cubase®, Cakewalk®, Logic Audio®) or cascade the controls together for the ultimate workstation.

BCA2000
£159.99▼

BEHRINGER
JUST LISTEN.

prices correct at time of going to print **...but we cut prices daily**

▼go to dv247.com for today's low price! ▼

north london 020 8440 3440
east london 020 8510 1500
cambridge 01223 316 091
birmingham 0121 687 4777
education 01708 771 950
south london 020 8407 8444
west london 020 8992 5592
southampton 023 8023 3444
bristol 0117 946 7700
email sales@digitalvillage.co.uk exportsales@digitalvillage.co.uk

Win Korg ESX1 & Legacy Collection worth £1000

Korg have been at the forefront of electronic instrument design for over four decades now, and this month they are giving *SOS* readers the chance to win a prize that combines classic Korg synthesis with their very latest technology.

The prize consists of two parts — the Korg *Legacy Collection* software bundle and MS20 controller worth £399, and the Korg Electribe SX Music Production Sampler worth £599. The *Legacy Collection* recreates some of Korg's best-loved synthesizers using a process they have named Component Modelling Technology (CMT), which involves modelling individual components to create a convincingly realistic emulation of the original synth. The *Legacy Collection* offers 32-voice polyphonic recreations of the Korg Polysix and MS20 analogue synthesizers and the Wavestation Advanced Vector Synthesizer, and also features Korg's *Legacy Cell* software which allows you to mix synth voices and add effects. As if this wasn't enough, Korg have also included a USB controller in the form of a minature MS20, complete with working keyboard, knobs and patchbay. The software works in 'stand-alone' mode but can also be used as a Direct X, Audio Units or VST plug-in, and is available for computers running Mac OS X or Windows XP. You can read Gordon Reid's extensive review of the *Legacy Collection* in the June, July and August 2004 issues of *Sound On Sound*.

The Electribe SX Music Production Sampler, or ESX1, is part of the latest generation of Korg's Electribe family. A heavily updated version of the ES1, the ESX1 has an all-metal case, expanded sample memory and a backlit LCD. As well as being a fully functioning sampler it features a 16-step pattern sequencer, a wide selection of editable effects, an arpeggiator and the option to route the outputs through two inbuilt Electro-harmonix valves for 'analogue warmth'. As with previous Electribes, the ESX1 offers a tactile, easy-to-use interface and a straightforward and direct approach to making music. The ESX1 was reviewed in full in the March 2004 issue of *Sound On Sound* and can be read at www.soundonsound.com/sos/mar04/articles/korgesx1.htm.

If you would like the chance to win Korg's prize, simply fill out the entry form at the bottom of this page and post it to the address on the coupon. Alternatively, you can enter via the electronic form on the *SOS* web site. Please make sure you answer all the questions and complete the tie-breaker. We also require your full address, including postcode and **daytime** telephone number. The closing date for entries is the 28th February 2005. SOS

Prize kindly donated by Korg UK

T Brochure Line +44 (0)1908 857130.

W www.korg.co.uk

the small print

1. Only one entry per person is permitted. 2. Employees of SOS Publications Ltd, Korg UK Ltd and their immediate families are ineligible for entry. 3. No cash alternative is available in lieu of the stated prize. 4. The competition organisers reserve the right to change the specification of the prize offered. 5. The judges' decision is final and legally binding, and no correspondence will be entered into. 6. No other correspondence is to be included with competition entries. 7. Please ensure that you give your DAYTIME telephone number on your entry form. 8. Prize winners must be prepared to make themselves available in the event that the competition organisers wish to make a personal presentation.

questions

Which of these syths is not part of the *Legacy Collection*?

a. Korg MS20 ☐
b. Korg Wavestation ☐
c. Korg Mono/Poly ☐
d. Korg Polysix ☐

What does CMT stand for?

a. Complete Modelling Technology ☐
b. Component Modelling Technology ☐
c. Crazy Mechanical Tiger ☐
d. Component Measuring Technology ☐

How many voices do the *Legacy Collection* MS20 and Polysix have?

a. 16 ☐
b. 12 ☐
c. 32 ☐
d. 709 ☐

Korg ESX1 & Legacy tie-breaker

If you were to win this prize, what would your Legacy to the world be? Answers in 30 words or fewer please.

.....

.....

.....

.....

.....

Name ..... Would you like to receive more information on Korg products? If yes, please tick or cross this box. ☐

Address .....

.....

Daytime tel. no: .....

Email: .....

Post your completed entry to: Korg ESX1 & Legacy Competition January 2005, *Sound On Sound*, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ, England.

WRH

Al Kooper

As a musician, Al Kooper became Bob Dylan's sideman and went on to fuse soul and jazz. As a producer, he invented the supergroup, and as an A&R man he brought Southern rock to the world.


Al Kooper, 1971.

Dan Daley

Al Kooper remembers standing in the wings of a stage somewhere in Middle America in the midst of one of notorious DJ and impresario Alan Freed's travelling rock & roll extravaganzas, watching an argument between Jerry Lee Lewis and Chuck Berry unfold. "They were arguing over who was going to close the show," says Kooper, who was then 14 years old, playing guitar in a New Jersey band called the Royal Teens who had scored a hit in the summer of 1958 with a novelty ditty called 'Short Shorts'.

Lewis apparently lost the row, but before he closed his set he squirted the piano with lighter fluid and tossed a match on it. Walking off stage as the Steinway went up in smoke, Kooper was there as Lewis passed a fuming, flabbergasted Chuck Berry and spat out 'Follow that!', coupled with a racial epithet that was not out of character for a southern redneck in the late 1950s.

What a nice Jewish boy from Brooklyn was doing in a situation like that was getting a first-hand education in a music business that was on the brink of becoming an industry. Kooper would become one of the more ubiquitous cogs in that machine, showing up, like some kind of long-haired Zelig, at critical moments. He just happened to be there, in 1965, when Bob Dylan was cutting *Highway 61 Revisited* in Columbia Studios in Manhattan, and when the producer wasn't looking, sat down at the Hammond B3 and played the organ riff to 'Like A Rolling Stone'. Or else he simply made his own contribution to musical Darwinism when he decided that a bar band with a barely pronounceable name in a divey club in the dowtown tourist strip might have a hit with a song called 'Free Bird'.

Kooper pretty much made his own luck throughout a career that included joining a band called the Blues Project, perhaps America's sole useful response at a time when John Mayall and the Bluesbreakers were tidily repackaging American blues and shipping it back across the Atlantic to an audience of youths who would spend the better part of their lives thinking that Eric Clapton and Jack Bruce wrote 'Crossroads'. At a time when horn sections on pop records were either of the Frank Sinatra or James Brown variety, Kooper was imagining how they might sound if Maynard Ferguson got his DNA trapped inside a Marshall stack, which resulted in Blood, Sweat & Tears' first album, *Child Is Father To The Man*. Kooper

A Poor Substitute

You could say that Al Kooper has embraced home recording, but it might be more accurate to say he's had it foist upon him. He's adept at working MOTU's *Digital Performer* sequencer, and has moved from hardware gear into the Waves plug-in bundles he now uses (although he still clings to his Alesis Masterlink 9600 as a CD burner). But he misses the studios he used to haunt, like the Record Plant in Los Angeles, where John Lennon would occasionally stop by during a mix. "I liked being able to choose rooms according to the project," he says. "Skynyrd sounded great in a big room in Atlanta, but the small Record Plant Studio B was perfect for Skynyrd and the Tubes as well. And I miss how the studio owners could differentiate a studio solely on the basis of a service philosophy, not just equipment."

He stays up on formats and is a big proponent of SACD's DSD technology. He has remixed *Super Session* and *Child Is Father To The Man* in 5.1 for Sony Music, though the releases are still pending. "For the most part, I thought 5.1 mixes on DVD-A were too conservatively mixed, and there was no adventure or daring use of the space provided. They just sounded like stereo mixes on HDTV. I went berserk on *Child Is Father To The Man* — guitars flying over your head like helicopters in *Apocalypse Now*. A string section divided into four sections filling the entire room, stuff like that. Hell, stereo only gives you a 180-degree playing field while 5.1 gives you 360 degrees plus height. If you use that space propitiously, one can hear the little nuances of each instrument gratuitously. As a fan, I want to hear the envelope being pushed on 5.1 mixes, so that is what I did."

produced major hits with oddball bands like the bizarrely theatrical Tubes, whose *White Punks On Dope* put a tongue in the cheek alongside the safety pin, as well as quieter but equally enduring gems, like Nils Lofgren's *Cry Tough* in 1976 and Marshall Chapman's 1978 *Jaded Virgin*; and took the UK's David Essex down an unfamiliar road with *Be-Bop The Future*.

Kooper did all this while releasing the occasional solo record, such as *I Stand Alone*. Even when he wasn't looking, musicians paid homage, such as when the Beastie Boys sampled his song 'Flute Thing' on their five-times-platinum *Ill Communication*. A survey in *Hip Hop* magazine noted Kooper as the only artist sampled by all of the top producers polled. He's a musician's musician, which partly explains his relative anonymity outside of the universe of players and aficionados. His work, though, speaks quite ably for itself.

Ukelele Man

Kooper could play piano at the age of six with barely a lesson. He was playing the ukelele at summer camp when an older boy mentioned that by learning two more strings he could join a rock & roll band as a guitarist. This was serendipitous since, by the time he was 14, in 1958, the music culture was poised to switch from saxophones and hair pomades to embrace the Stratocaster as its icon. New Jersey group the Royal Teens were a revolving bunch, with the oldest members, at 16 years old, still subject to the whims of high school and parental control. Kooper was on the merry-go-round at the right time, when the band had a top five hit with 'Short Shorts'. The band joined the seemingly endless cavalcades of touring shows put together by Alan Freed and Dick Clark. "I was still in high school, so I would tell my parents that I was gong over to a friend's house for the weekend," Kooper says. "Meanwhile, what I was doing was going to New England to play four shows."

In between short-term jobs including waitering at a pizza parlour and clerking at a department store, Kooper developed a nascent songwriting talent. He hung around 1650 Broadway in Manhattan — not the more famous Brill Building, three blocks south at 1619 Broadway, where only the ghosts of the old Tin Pan Alley still lurked. 1650 was the focus of the emerging pop music business, where Don Kirschner was building a publishing empire and writers like Carole King, Barry Mann and Cynthia Weill were churning out hit singles. Kooper got a job as an assistant engineer at Adelphi Sound Studios, a demo mill on the seventh floor.

"As an assistant, all I did all day was cut acetates of other people's sessions," Kooper recalls. "But at night after the studio closed, I got to engineer some sessions. The first session I ever did was a radio station promo spot for Dionne Warwick. I was so excited because I was really a fan of hers. The first words I ever recorded were 'This is Dionne Warwick and you're listening to W-A-B whatever-station-it-was.' The studios had handmade consoles with large rotary knobs in place of faders. Most places were mono; a few were three-track."

Photos courtesy of the Al Kooper collection

Kooper with Bob Dylan in 1965.

West 53rd Street Revisited

Kooper began to meet people who would play a role in his future career, including Columbia staff producer Tom Wilson and guitarist Mike Bloomfield, whom he would later build the *Super Session* album around. Wilson recorded some of Kooper's songs with various artists and used him as a guitarist on some sessions. (The idea of engineering sessions held little allure for him after just a few months at the studio. Even today in his home studio, Kooper scowls at having to record his own parts.)

In 1965, Wilson invited Kooper to watch one of the producer's sessions for Bob Dylan's *Highway 61 Revisited*, at the Columbia Studios on West 53rd Street in Manhattan. "It was the first time I saw Mike Bloomfield play," Kooper remembers. "Dylan sessions were a little chaotic, and I was 21 and very ambitious. I was listening to 'Like A Rolling Stone' being rehearsed by the band and I suggested me playing an organ part. Tom said 'You're a guitar player, not an organ player.' Then he went to take a phone call and I thought to myself 'Well, he didn't say no.' So I went out into the studio and sat down at the organ. Then Tom comes back into the room. He says 'What are you doing out there?' I nervously laughed, and Tom let me stay. The next take was the keeper."

The rest, as they say, is history; in Kooper's case, it was but Chapter Two. "The Dylan sessions changed everything," he says. "Suddenly, I'm a keyboard player, I'm getting session work and no longer living the precarious existence of a songwriter, and I'm in Bob's circle. He'd call up and say 'We're all going to dinner,' and I'd say 'Where?' and just go. It kind of inoculated me to fame, because every night with him you'd be around famous people. I just shut up and took all of it in. I was a willing student."

Interestingly, the next Dylan record was the opposite of the chaotic Manhattan sessions. When Dylan went to Nashville to record *Blonde On Blonde* in 1966, Kooper was there, as well. Producer Bob Johnston coupled the New York session player with seasoned Nashville A-team players like Charlie Daniels, Charlie McCoy, Joe South and the late Kenny Buttrey. Kooper's usefulness to Dylan increased. "Bob had a piano in the hotel room, but in the days before cassette recorders, he would teach me the chords and I'd play them over and over while he wrote the lyrics," says Kooper. ▶

"I was his human tape recorder. By the end of the day I knew the songs intimately. I told Bob 'Why not come to the session an hour later than you normally would?' I would teach the band the songs for the sessions each night. The sessions were at the old Columbia Studios on Music Row. Kris Kristofferson claimed he was the janitor there then. He could have been, but I never noticed him."

Turning Blue

The Blues Project was put together by guitarist Danny Kalb. Producer Tom Wilson called Kooper to play on their audition session for Columbia Records. Joining Kalb were Steve Katz, Andy Kulberg, Roy Blumenfeld and short-lived vocalist Tommy Flanders. "He didn't have a chance — everyone in the band was Jewish except him," Kooper deadpans. Kooper was asked to join the band, which he viewed as a chance to improve his keyboard chops. "Living in New York at that time, you didn't get to hear a lot of blues. You knew the crossover stuff, like Jimmy Reed and John Lee Hooker. So I got quite an education at the hands of Danny Kalb and his record player."

The Blues Project made three records, the first and last of which were live albums. Kooper considers all of them 'poorly recorded' — "Steve's harmonica on *Live At The Café A Go Go* sounds like a duck call," he snorts. "The second album, recorded at Olmstead Sound, has a lot of weird echo on it, and that was our best recording." He speculates that Wilson, who was also producing the Animals at the time, was simply slotting the Blues Project sessions into cancellations from other projects, as though they were an afterthought. "We'd do three-quarters of an album in one session and then they'd call us a week later and tell us to come down now and finish it," he recalls. "It was frustrating because we'd hear records our friends were making and they would sound amazing and ours didn't. I talked with John Sebastian [*of the Lovin' Spoonful*] and asked how long he spent on 'Do You Believe In Magic' and he told me two days. We were getting 15 minutes."

Experiences such as these understandably prompted Kooper to want more control over records he was involved in. When he split with the Blues Project over his desire to put horns on his new compositions, the opportunity arose. The result would be Blood Sweat & Tears. "I was a slavish groupie of Maynard Ferguson's band during his 1960 to 1964 period," he says. "Ellington and Basie escaped me, but Maynard was as close to rock & roll as jazz could come. His horn parts would put a dent in your shirt at 20 yards."

Primarily a guitarist, Al Kooper grabbed the opportunity to play Hammond on Bob Dylan's 'Like A Rolling Stone', and thereafter established himself as a session keyboard player.

In 1967, Kooper went into Columbia Studios, by then moved over to East 52nd Street, with producer John Simon and began work on *Child Is Father To The Man*. Kooper says Simon's production methodology would come to define his own: "We would go in and record everything to mono or two-track, like a demo. Then John would take those tapes and digest them, rewriting some of the arrangements. I learned how important that kind of pre-production is to a record. Not just rehearsal, but hearing the songs in their basic form and having time to reconsider them."

Kooper left the band after touring in support of the first album, but it marked a turning point in his career. He took an A&R position at Columbia — a sort of graduate school for him. His first production would allow him to work with Mike Bloomfield again on a project, one that would put the jazz-based notion of the jam session squarely into the mainstream of rock.

Kooper and Bloomfield had led remarkably parallel careers. "We both went from Dylan to a blues band to a horn band, and we were both thrown out of horn bands," he says. What would become *Super Session* was a group of players that Kooper assembled — Bloomfield, Harvey Brooks, Eddie Hoh and himself — going into Columbia Studios in Los Angeles with no songs. "All I said was 'Wanna jam?'" he recalls. Half the album was cut on the first night, and Bloomfield, whose recorded work Kooper had always felt never did him justice, was brilliant. "This was the setting in which you could get the best performance out of a great musician," he says. "Just like jazz." But the next day, in the house Kooper had rented for the musicians on his Columbia Records expense account, he came down to breakfast to find a note from the quixotic Bloomfield saying simply that he had left.

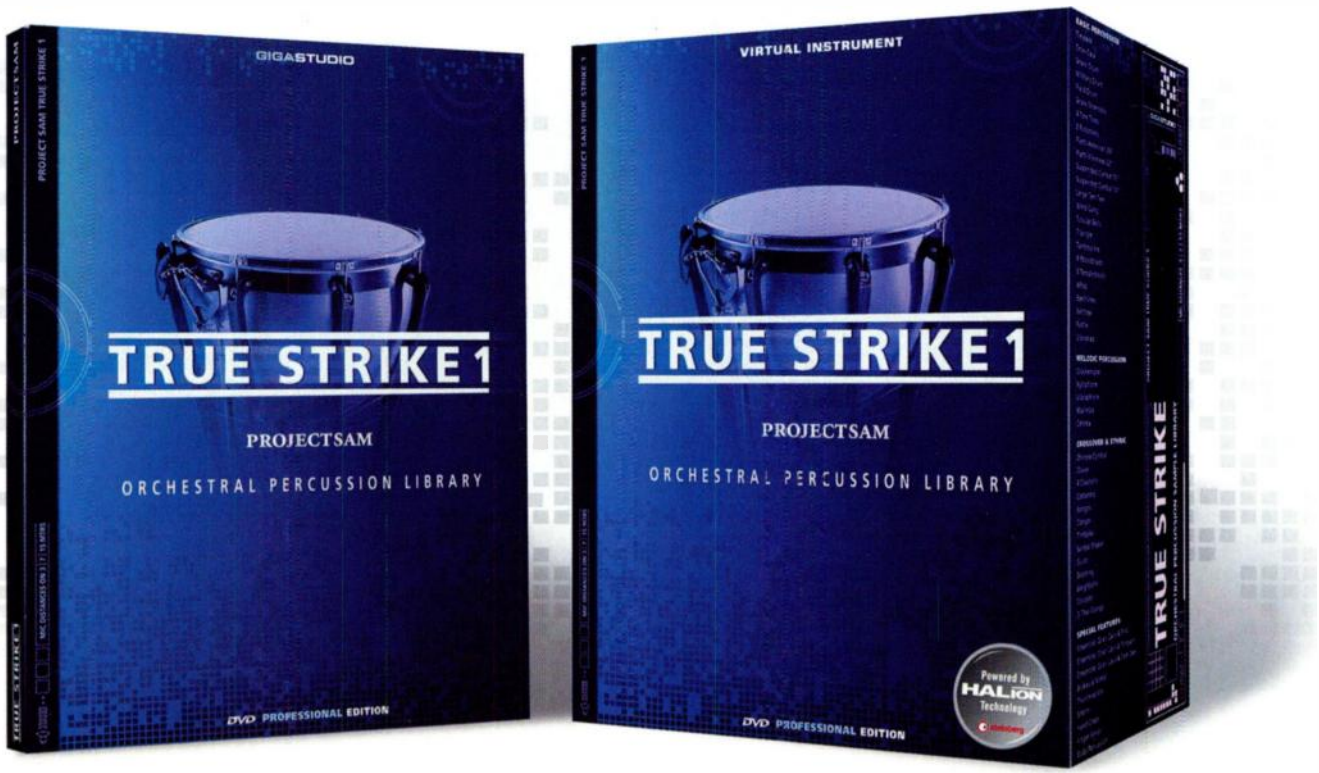
"Actually, the note said he couldn't sleep," says Kooper, who still seems amused by it today. Kooper called every guitar player he could think of in Los Angeles, and Stephen Stills, who had just left Buffalo Springfield and was still forming Crosby, Stills & Nash, accepted the invitation. It turned what would have been a musically astute jam session record into an all-star record event, laying the groundwork for a slew of 'supergroups' to come.

Sounds Of The South

Kooper left Columbia in 1972 and moved to Atlanta. The Georgia music scene in general was booming, with the Allman Brothers the flagship artists for Phil Walden's Capricorn Records in the nearby city of Macon. The

PROJECTSAM ORCHESTRAL PERCUSSION LIBRARY

51 PERCUSSION INSTRUMENTS | 3 MIC DISTANCES | 18 GB 24-BIT



YOUR NEW 'GO TO' PERCUSSION LIBRARY

IN CLOSE, STAGE AND FAR

BASIC PERCUSSION
Timpani
Gran Casa
Snare Drum
Military Drum
Field Drum
Snare Ensemble
4 Tom Toms
2 Rototoms
Piatti American 20"
Piatti Viennese 22"
Suspended Cymbal 19"
Suspended Cymbal 14"
Large Tam Tam
Wind Gong
Tubular Bells
Triangle
Tambourine
4 Woodblocks
5 Templeblocks
Whip
Barchimes
Belltree
Rattle
Vibraslap

MELODIC PERCUSSION
Marimba
Celesta
Glockenspiel
Xylophone
Vibraphone

CROSSOVER & ETHNIC
Chinese Cymbal
Claves
4 Cowbells
Castanets ker
Guiro
Beatring
Sleighbells
Crotales
3 Thai Gongs

SPECIAL FEATURES
Ensemble:
Gran Casa & Piatti
Ensemble:
Gran Casa & Timpani
Ensemble:
Gran Casa & Tam Tam
Brakes & Metal
Thunderplate
Sirene
Hand Claps
Finger Snaps
Body Percussion

WWW.PROJECTSAM.COM

FROM £132,50

AVAILABLE IN TWO EDITIONS

SAM TRUE STRIKE *STARTER* EDITION
41 PERCUSSION INSTRUMENTS - 1 MICROPHONE SET 24-BIT AUDIO DEPTH
LIMITED INSTRUMENTS & ARTICULATIONS
1 FORMAT: MAC/PC HALION VIRTUAL INSTRUMENT

SAM TRUE STRIKE *PROFESSIONAL* EDITION
51 PERCUSSION INSTRUMENTS - 3 MICROPHONE SETS: CLOSE, STAGE, FAR - 24-BIT AUDIO DEPTH
11.000 SAMPLES - TOTAL LIBRARY SIZE: 18 GB, APPROX.
3 FORMATS: GIGA 3.0, GIGA 2.5 (16-BIT) - MAC/PC HALION VIRTUAL INSTRUMENT

FROM THE CREATORS OF SAM HORNS, TROMBONES, TRUMPETS & SOLO SESSIONS

VST PC VERSION · AU Audio Units · DXi · ReWire · VSTi INSTRUMENTS · GIGASTUDIO

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4. OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

At Columbia Studios, New York, in 1968, with arranger Charles Calello (centre) and an unknown Columbia employee.

▶ Atlanta Rhythm Section were recording their hits in their own studio in the suburb of Doraville, and Kooper produced an album for duo Frankie & Johnny there while making the rounds of clubs. "We'd work from noon to eight in this great studio with the guys from the Section as the back-up band, then go out carousing," he remembers fondly. "We were at one club one night and this band came on and I hated the lead singer — he would strut around the stage carrying the microphone stand. This was the era of Yes and Genesis and ELP and all this 'progressive rock' music, and here were these country boys playing three-chord rock. But it occurred to me that things go in cycles — whenever new movements washed over the music business, it would always return to three-chord rock as a way to kind of centre itself again. I thought if I could find a great three-chord rock band, I could sell a few million records."

He could, and he did. By the fifth night of a week-long stand, Kooper was playing on stage with Lynryd Skynyrd. Kooper took them to MCA Records, which gave him his own label, Sounds Of The South Records, as a way to break into the burgeoning Southern rock scene. They recorded their debut record, *Pronounced Leh-nerd Skin-nerd*, at the Atlanta Rhythm Section's Studio One, which Kooper bought into through a co-venture with Atlanta producer Buddy Buie.

"I never worked with a band like that before," he says. "They were incredibly well rehearsed, right down to the guitar solos, which were composed to the note and not improvised like a lot of rock bands. As a result, when I recorded them, I could always count on being able to get a double-track of the solo. That's a great way to get a guitar solo to sit on top of the track without boosting the volume ridiculously high. It became part of their trademark sound: you could slip the double in there in the mix and it would take centre stage without unbalancing the mix. All three of the band's guitarists [*they had added several members to the group during the course of the first album*] were so distinct that it really was like producing an orchestra." 'Free Bird' remains the second most-played song on American radio to this day.

Up The Tubes

The Tubes were a different kind of orchestral rock band, as much Cirque Du Soleil as a musical experience. Record labels circled around them, aware that something was there but uncertain as to what to do with it. After A&M Records finally signed them, Kooper was brought in to produce their first album and put much of what John Simon had taught him to work, spending three weeks rehearsing the band tweaking the arrangements.

"When you make a change to an artist's song as a producer, you have to be able to validate and defend every one of those decisions," he says. "There was this theatrical dimension to the Tubes and

Engineer Lee Kiefer (front left) and Al Kooper (front right) with the Tubes in the Record Plant, Los Angeles.

I decided that I didn't want to see the live show before I did the record. I didn't want to be influenced by it."

Record Plant's Studio B was a relatively small room, which seemed to help contain the band's theatrical impulses, particularly those of lead singer Fee Waybill. "They were more like a Broadway show than a rock band," Kooper says. "I wanted strings and horns but knew that I couldn't get the arrangements I wanted from a rock arranger, so I hired Dominick Frontiere, who had done the scores for movies like *Hang 'Em High*. Major 'B' movies. He completely got it."

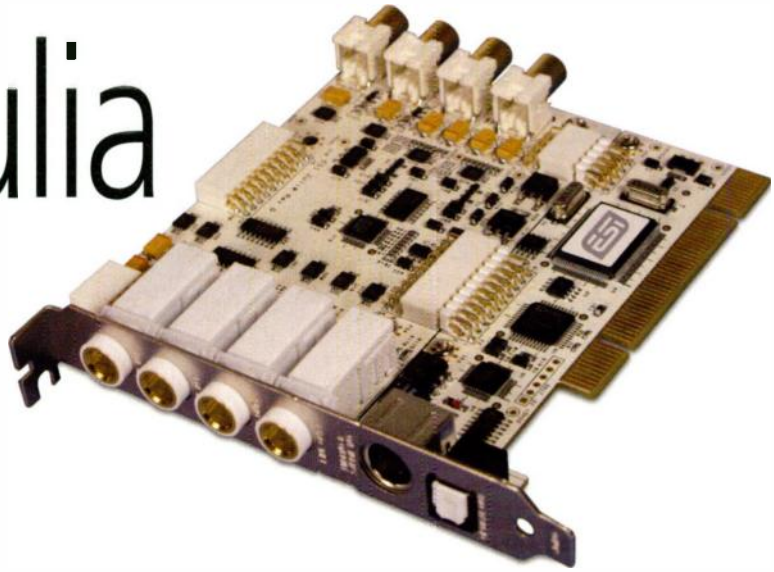
Al Kooper has kept busy since then, producing his own and other artists' records, and playing live, under the name The Rekooperators, with various assortments of top-flight musicians. In 1992, he became music director for perhaps the strangest band of all. *Backstage*

John Simon, who produced Blood, Sweat & Tears' debut album along with many other classics.

Passes, his autobiography, qualified him as a member of the Rock Bottom Remainders, a loosely affiliated rock band made up of authors including Dave Barry, Stephen King, Dave Marsh, Amy Tan, Barbara Kingsolver and Matt Groening. Their touring adventures became grist for their own book, 1995's comical *Mid-life Confidential*. Kooper has done a show as a DJ for Radio Caroline, with another pending. At 60, he's hardly ready to retire. As he puts it "I need a few other degrees to round out my education," but he remembers the1970s as a decade that we're unlikely ever to see again in terms of sheer decadence and diversity of talent. "It was like Rome at its peak — and when AIDS hit the music business, it was when Rome burned." SOS

ESI Pro Julia

PC/Mac Soundcard



With its clever reversible analogue I/O section plus comprehensive, multi-client driver support, ESI's Julia is not your average stereo soundcard.

Martin Walker

Do you want a soundcard with balanced TRS (Tip/Ring/Sleeve) analogue I/O to avoid the buzzes, hums and digital nasties associated with ground loop problems, running at professional +4dB interface levels, and using robust quarter-inch jack sockets? Or does the rest of your gear have unbalanced consumer I/O requirements, including more sensitive -10dBV inputs, lower -10dBV output levels, and use phono sockets?

If you want maximum flexibility, ESI's oddly named Julia (or 'Juli@', as they spell it — there's a RoMI/O one-in/two-out USB MIDI interface in the range as well) provides two analogue ins and outs, co-axial S/PDIF in and out, optical S/PDIF out, and a MIDI In and Out. Nothing special so far, but the novel twist is that it can provide either of the above analogue options, utilising an extremely clever circuit board that has a reversible top half with four jack sockets on one side and four phono sockets on the other — before you install it you decide which is the best option for your needs.

SOUND ON SOUND

ESI Pro Julia £109

pros

- Swappable +4/-10 balanced/unbalanced hardware I/O sockets.
- Good audio quality.
- WDM support right up to 192kHz.
- GSIF drivers for *Gigastudio* users.

cons

- Balanced/unbalanced option must be chosen before installation.
- Only analogue outputs can be used for monitoring mixes.

summary

With a clever hardware design, good audio quality, and well-written and versatile drivers, ESI's Julia should find plenty of admirers.

You Spin Me Right Round

The Julia certainly looks different with its cream silk-screened circuit board and white sockets, and the fact that there are plenty of components on both sides of the board, but it's the extra pair of metal brackets and four edge sockets (two each at top and bottom of the board) that really make it unusual. To switch between +4dBu balanced inputs and outputs on TRS-wired quarter-inch jack sockets and -10dBV unbalanced I/O on unbalanced phono sockets you remove four screws and the backplate, unplug the two halves of the circuit board, and then rotate the top analogue half by 180 degrees, plug it back in to the lower digital half and screw the whole assembly back together. The manual provides copious photographs of the process, but does warn against touching any of the circuitry to avoid possible static damage.

There are sound engineering reasons behind this design, since it avoids the usual 6dB drop in output levels when running most balanced output circuitry to an unbalanced destination, and you don't get the 6dB drop in input sensitivity when running an unbalanced source into balanced input circuitry. Keeping the two sets of input circuitry quite separate may also result in slightly better audio performance in each case, and unless you anticipate needing to regularly switch between the two input options (which would become tedious), there's no denying the cleverness of this approach.

The lower digital portion of the circuit board provides a shuttered optical S/PDIF output, plus an 8-pin socket for the supplied foot-long breakout cable with twin phono sockets for S/PDIF co-axial I/O and twin 5-pin DIN in-line MIDI sockets. Julia is also compatible with both +3.3 Volt and +5 Volt PCI slots for maximum compatibility with motherboards.

Driving Miss Julia

Strictly speaking the Julia is still PC-only, since it's only bundled with drivers suitable for Windows 98SE, Me, 2000 and XP, along with an introductory ESI version of Ableton *Live* and a 50 percent discount off the full version if you upgrade. However, while checking on the ESI web site to make sure I had the very latest XP drivers, I also discovered beta drivers for Mac OS 10.2 or better, so by the time you read this a full Mac release ought to be available. I selected the +4dBu card option, had no problems installing the version 1.10 Windows XP drivers (which unlike many are a tiny download at just 167k), and was soon auditioning the new soundcard via its Console utility alongside my Emu 1820M.

The Julia Console is easy to use, and bears a strong family resemblance to that of Audiotrak's Maya 44 MkII, which I reviewed back in *SOS* August 2004 (Audiotrak is the consumer division of ESI Pro). Once again it's divided into four main areas covering input, output, master and digital functions, with additional drop-down menus containing further items.

Both analogue and S/PDIF digital inputs and outputs have peak-reading level meters, but initially only the analogue outputs display level faders for monitoring purposes. However, by clicking any or all of the 'Mon' buttons above the various meters, additional fader caps appear that let you control zero-latency monitoring levels of signals at the analogue and S/PDIF inputs and S/PDIF outputs through the analogue output sockets. This enables you to set up a complex monitoring mix if required, and the current attenuation levels (up to 63dB in 0.5dB steps) are displayed beneath each fader. Overall analogue output level is controlled by a further pair of Master faders, while both the

analogue 1/2 level and overall level controls have additional Mute buttons.

As with most interface designs, disabling the extra monitoring circuitry and leaving the remaining faders fully up will provide the cleanest and quietest signals from the analogue outputs, but this is a handy monitoring system, and the only option some users might miss is being able to instead use the S/PDIF outputs to set up a monitor mix separate from the signal at the main analogue outputs. The only operational difficulty I experienced was occasional 'sticking' of the console faders as I moved them, but otherwise everything worked well.

In the digital area, the sample rate can either match that of the audio being played when the 'Auto' button is lit, or be selected manually from the six rate buttons, while you can run the card from its own internal clock or via that derived from an incoming S/PDIF signal using the two buttons beneath. The current sample rate appears in a box at the bottom of this area. Further menu items let you adjust latency and launch ESI Pro's clever Direct Wire digital patchbay, which lets you route the hardware input or the inputs or outputs of the MME, WDM, ASIO and GSIF drivers internally for any of the four channels. For anyone who wants to port the output of one application into another, this can be invaluable.

Test Spec

- ESI Julia Windows XP driver version 1.10.
- Intel Pentium 4C 2.8GHz processor with Hyperthreading, Asus P4P800 Deluxe motherboard with Intel 865PE chip set running 800MHz front side buss, 1GB DDR400 RAM, and Windows XP with Service Pack 2.
- Tested with: Steinberg *Cubase SX* 2.2 and *Wavelab* 5.00a, Tascam *Gigastudio 160* version 2.53.00, Native Instruments *Pro 53*, Rightmark *Audio Analyser* 5.4.

ESI Julia Brief Specifications

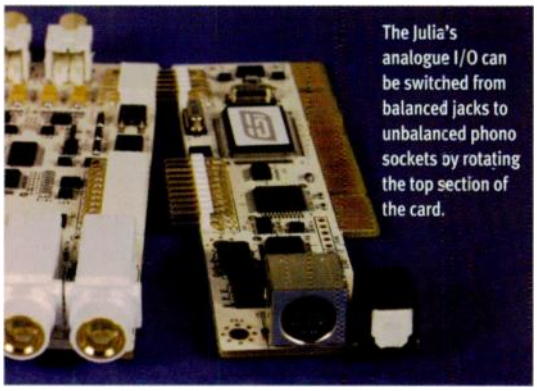
- **Supported sample rates: 44.1, 48, 88.2, 96, 176.4 and 192 kHz from internal clock.**
- **Analogue inputs & outputs: two of each, either balanced quarter-inch jack sockets at +4dBu sensitivity, or unbalanced phono sockets at -10dBV sensitivity.**
- **Digital I/O: S/PDIF in and out on phono co-axial, additional S/PDIF optical out, MIDI In and Out.**
- **Frequency response: not stated.**
- **Converters: AKM5385A dual-bit delta-sigma 24-bit/192kHz (ADC), AKM4358 multi-bit 24-bit/192kHz (DAC).**
- **Dynamic range: 114dBA (ADC), 112dBA (DAC).**
- **THD + Noise: -94dB.**

Top To Bottom

From the word go I found the Julia easy to use, and it sounded extremely quiet and clean at all sample rates and bit depths. Using Rightmark's *Audio Analyser*, the frequency response proved to be extremely flat, being just 0.3dB down at 4Hz and 20.3kHz with a sample rate of 44.1kHz, extending to 44kHz with 96kHz sample rate, and 62kHz with 192kHz sample rate — all this augurs well for improved audio quality at the higher sample rates, as my subsequent listening tests proved. Meanwhile, the measured dynamic range stayed remarkably constant at a good 106dBA across all sample rates (the rather better noise figures quoted by ESI are for the converters alone), and the THD (Total Harmonic Distortion) was a very low 0.0004 percent.

I then matched the output levels of my new benchmark Emu 1820M and the Julia card to ▶

ESI PRO JULIA



The Julia's analogue I/O can be switched from balanced jacks to unbalanced phono sockets by rotating the top section of the card.

within 0.1dB and blind tested them to pick out any differences, to place the Julia's sound into context. Both cards provided very good audio quality, but after several minutes of auditioning with a wide range of material I could always reliably pick out the 1820M as having a slightly warmer, more natural and focused sound — once again, I suspect, due to a lower-jitter clock. Nevertheless, I judged the sound of the Julia's converters as excellent for a £109 soundcard, and slightly better than many others at a similar price.

The Julia's multi-client drivers worked beautifully, with *Cubase* managing the lowest 48-sample buffer size at 44.1kHz for a very low latency of 1.1ms using the ASIO drivers, while *Gigastudio 160* managed the 64-sample size at the same sample rate for a still excellent 1.5ms latency with the GSIF ones. Even better, I had no problems selecting and running the GSIF drivers for the analogue outputs simultaneously with the ASIO and MME-WDM ones — this is versatility indeed!

Julia Bravo?

Although PCI cards like Event's Mia MIDI provide a similar spec and measured dynamic range, they only offer support up to 96kHz. If you want one of the new class of cards with 192kHz-capable converters then your options narrow considerably, and the most obvious competitor to Julia is Emu's 1212M.

This sells on the street for about £20 more and has about 11dB better dynamic range; I doubt that many users will notice the difference in practice, but the 1212M does seem to have a lower-jitter clock and therefore a slightly 'tighter' sound, plus additional ADAT optical I/O and Firewire port, and a far more comprehensive DSP mixer and good set of DSP effects. On the other hand, the Julia's frequency response is slightly flatter at both ends, it provides 96kHz/192kHz WDM and GSIF driver support that the Emu range currently doesn't, plus the useful Direct Wire patchbay, and I know many potential users will find the Julia's Console utility far easier to use than Emu's Patchmix DSP mixer.

ESI's Julia is a versatile soundcard thanks to its swappable I/O and extensive driver support, it sounds good, and is good value for money. I can see it appealing to *Gigastudio* users as well as any musician who wants high audio quality in a straightforward package with few compromises. Need I say more? SOS

Despite a very easy-to-understand interface, the Julia's Console utility provides a surprising amount of versatility, largely due to its E-WDM drivers and Direct Wire patchbay.

information

£	£109 including VAT.
T	ESI Professional +44 (0)207 619 9297.
F	+44 (0)207 607 8728.
E	ukinfo@esi-pro.com
W	www.esi-pro.com

RØDE®
MICROPHONES

Take the listening test

Suddenly the world seems full of affordable studio microphones. However nothing else sounds like a Røde.

• Unrivalled clarity, smoothness and detail • Unbelievably low noise floor

• Stunning dynamic range

But don't take our word for it. Listen before you buy – and if you find a better-sounding mic for your money, buy it.

Exclusively distributed in the uk by HHB

GET MORE INFO • FIND A DEALER www.hhb.co.uk

FIRST WE LISTEN

CAD TSM411, ICM417 & KBM412

Drum Microphones

Three new mics from CAD offer impressive mounting hardware and audio specifications specially tailored to recording drums.

Paul White

The TSM411 dynamic snare/tom mic, with its heavy-duty fixing hardware.

Photos: Mark Ewing

Buying individual mics to mike up a drum kit, either live or in the studio, can be very expensive, but now that lower-cost imported microphones are available, you can buy a whole kit of drum mics starting at around the price of just one decent name-brand dynamic model. CAD have a good reputation for studio mics and so clearly don't want to be seen slogging it out at the rougher end of the food chain, but they've still managed to put together a nice kit of mics for a very affordable UK price.

The set of CAD drum mics reviewed here comprises three TSM411 mics for use with toms and snare, a pair of ICM417 back-electret capacitor mics for use as overheads, and one KBM412 kick-drum mic, though additional mics may be purchased separately for larger drum kits. Packed into a foam-lined camera case, the kit also includes three very chunky pieces of chromed metal mounting hardware. These clamp around any handy tension lug on the toms or snare to secure the mounting against the drum shell, where the fitting sits firmly on two rubber feet.

This puts the mic in just about the optimum position, where the height (to an extent limited by how much exposed tension rod there is) and angle can be adjusted to taste. A thumbwheel behind one of the rubber feet adjusts the spacing and, when things are correctly set up, a single lever is used to attach and detach the fitting. There's space in the case for a couple more TSM411s or spare clamps, but I couldn't find any European thread adaptors, which you'll need to secure the kick and overhead mics on mic stands.

Starting with the snare/tom TSM411s, these use Neodymium magnets and offer a hypercardioid polar response to minimise spill from adjacent drums and cymbals. Their frequency curve looks fairly conventional, with a gentle roll-off below 100Hz to counteract the proximity bass rise that always occurs with cardioid and hypercardioid mics, complemented by a presence lift to add definition in the 3-10kHz range. Overall the frequency range covers 50Hz to 15kHz. The short and stocky shape of this mic makes it easier to position close to drums, though it surprises me that more drum mics don't come with angled connector sockets, as the effective length of the mic is almost doubled once you plug an XLR cable into it. According to the documentation, these mics are also suitable for use with other percussion instruments and guitar amplification.

For the overheads, there are two ICM417 back-electret capacitor microphones that are nominally flat from 40Hz to 20kHz, though they have a wide presence lift between 3kHz and 10kHz to help bring out the cymbals. These microphones again have a cardioid response and, because of their circuitry, require phantom power in the range 9-52V DC — standard 48V phantom powering is ideal. The mics are solid, but quite small, and they can handle SPLs of up to 130dB. In the context of an overhead mic, this should be more than adequate. Given the high noise level in which ▶

SOUND ON SOUND

CAD TSM411, ICM417 & KBM412

pros
- Nicely engineered.
- Strong fitting and good vibration isolation.
- Generally very good sound quality.

cons
- Adjustment range of fittings may not accommodate some drums.
- Kick drum may not have enough 'slap' for some tastes, though it has plenty of depth.

summary

While there are now dozens of budget Chinese-built drum mics to choose from, these seem to work rather better than the cheaper models we've tried. The clamping system is also impressive, provided that it fits your particular drum kit. The only weakness in my view is the kick mic, which lacks the high-end definition I look for in a kick sound.

MAGIX

samplitude® V8

the master of pro audio
recording - editing - mastering

NEW!

V8 – Power for your creative ideas

- Realtime effects
- High-speed editing
- Individual workflows
- High-resolution audio engine
- Perfect resource management

NEW! Now with "navigation system": Managers for file libraries, objects, tracks, etc.

NEW! Full package* includes MAGIX Elastic Audio, MIDI, Analogue Modelling Suite, ReWire Robota Pro, DVD Audio, Surround, etc.

It just sounds better, and:

- Free support via e-mail, fax & phone
- User forum with developer moderation
- Regular functionality updates & security patches
- Workshops & downloads

Electronic Musician 2004 EDITORS CHOICE

Audio Editing Software of the year
Electronic Musician, Jan. 1, 2004 (US)

FutureMusic PLATINUM AWARD

Future Music Platinum Award
Future Music no. 147, April 2004 (UK)

These awards refer to 7.x, the predecessor of Samplitude V8.

*Details of all new features and differences between editions (professional / classic / master) at the V8 Info Center: **www.samplitude.com**

MD DACS Ltd | Phone (+44 191) 0191 438 2500 | Fax (+44 191) 0191 438 2511 or **samplitude@dacs-audio.com**

overhead mics spend their lives, sensitivity and noise figures tend to have little bearing, and in fact the EIN noise figure of these mics is slightly high at 26dBA. In any other context this might raise a few eyebrows, but so little gain is needed when miking drums that it's really not an issue. Normally these mics would be used as an overhead spaced pair or as a coincident pair.

That leaves the KBM412 kick mic, a large-diameter cardioid dynamic mic with a neodymium magnet and a heavy die-cast barrel of a body. It is designed for the high-SPL environment likely to be encountered inside a kick drum and, like most dedicated kick-drum mics, has a response curve that looks like the hind leg of a donkey after being run over by a truck — and then reversed over by a tank! The usual hump between 70Hz and 90Hz accentuates the weight and thump of the drum, while the 'click' is brought out by a presence peak, or more correctly a series of presence peaks between 3kHz and 7kHz. Whereas vocal mics usually have subtle presence peaks in the order of 2-3dB, the bass and presence peaks here tower majestically at around 20dB, looking down on a mid-range plateau extending from under 200Hz to above 1kHz. In theory, this is designed to produce weight and definition without boxiness. The response rolls off above 15kHz, but the low end extends to 25Hz.

The KBM412 dynamic kick drum mic.


A pair of ICM417 condenser overhead mics.

As a complete kit, these mics certainly look the business with their heavy cast-zinc shells and metallic-grey paintwork. The shockmount clips hold the mics very securely, yet have a reasonable amount of give to absorb vibrations, and the swivel joints lock up tightly enough to hold even the kick mic securely.

In Use

As I didn't have a band with a drummer due in my studio at the time of this review, I took these mics along on this month's Studio SOS visit where I knew they had a decent drum kit that they wanted our help with. Everything went smoothly until I tried to fit one of the shell clamps to the snare drum and found that there was insufficient range of adjustment. Slicing the end off one of the rubber feet would probably have done the trick, but as these weren't my mics I declined to follow that particular avenue of exploration and opted for a standard mic stand instead.

After making a test recording with each mic recorded to a separate track, we listened to the results and found the snare/tom mics to be pretty good. In fact there was little to choose between these mics and a Shure SM57 we used as a reference, except that these were smaller and easier to position. No problem there then, especially given the low cost of these mics. The overheads also turned in what I felt was a good performance, with not too much low end to conflict with the close mics. They delivered a tight, well-focused sound that accentuated the cymbals, and they didn't seem to allow too much of the room sound to intrude. In combination with the close mics they worked rather well.

That leaves the kick mic, which certainly delivered plenty of low-end punch, but seemed somewhat lacking in definition in the upper mid-range. We tried moving it around but couldn't get anything approaching what we wanted in the way of beater click without applying a lot of EQ. If you're after a '60s sound, it's probably OK, and similarly if you want a dance kick sound that's all thud and no slap it will handle that too, but it's probably not the best choice for a traditional rock/pop kick drum. Having said that, if you EQ it and also add in the overheads, it can get somewhere close, it's just that I like my mics to deliver something close to the ideal sound before I reach for the EQ.

Despite the somewhat disappointing high end of the kick mic (at least with the drum we tested it with), this package actually performs extremely well in all other respects, and the mic clamps are wonderfully solid and simple to fit provided that their range of adjustment isn't defeated by the tensioner-to-shell spacing of your drum kit. While the overhead mics probably aren't the best general-purpose capacitor mics around, they do work very well as overheads in combination with the closer dynamic models, and the mounting system seems to work well in isolating the mics from drum shell vibration. Perhaps angled XLRs would have made positioning even easier, but as a cost-effective and practical solution to drum-kit miking, both live and in the studio, this set has a lot going for it. We managed to get a very creditable sound from a kit in the living room of a flat, and that's a challenge at the best of times. At the price, this set is very good value, even if you decide to buy a separate kick mic for a more contemporary sound. SOS

information

£ TSM411 dynamic snare/tom mic, £52.88; ICM417 condenser overhead mic, £72.85; KBM412 dynamic kick-drum mic, £72.85. Multi-mic sets also available: 632C six-mic set reviewed, £346.63. Prices include VAT.
T Unity Audio +44 (0)1440 785843.
F +44 (0)1440 785845.
E sales@unityaudio.co.uk
W www.unityaudio.co.uk
W www.cadmics.com

DIGITAL VILLAGE

monitoring/mixers/computer hardware

MACKIE.

dv exclusive

Spike consists of the XD-2 USB 24-bit 96kHz Audio/MIDI Interface with clean, high-headroom Mackie mic preamps and onboard SHARC dynamics processing, incredibly easy-to-use Tracktion multitrack audio recording software with unlimited track count and VST plug-in support (plus the Nomad Factory Blue Tubes Warmer Phaser plug-in).

The XD-2 is a two-channel, mic/line/instrument USB audio and MIDI interface with high quality internal effects for tracking and monitoring a (incs. support for ASIO 2.0, WDM and OS X Core Audio).

Its footprint may be small, but this compact interface offers great sound, channel dynamics & EQ for tracking and monitoring mixer has been designed to re-establish true 'hands-on' control.

NOW AVAILABLE !!

price crash Spike **£299.99▼**

SRM450(pair) £dv247.com

DXB £dv247.com

The most powerful and versatile digital console in its class. All major operating functions are performed via the amazing touch-screen, which offers never before attained levels of intuitive and immersely flexible control. With optical faders next to analogue buttons and switches, this mixer has been designed to re-establish true 'hands-on' control.

Onyx 1620 £dv247.com

Mackie's flagship Onyx series of small-format mixers bring premium analog sound, expanded features, and streaming FireWire connectivity to both recording and live sound environments.

HR624(pair) £dv247.com

Control £dv247.com

Control Logic Audio, Pro Tools, Cubase, Digital Performer, Sonar and other major audio software apps, all from a single hands-on control surface with real knobs and automated faders!

Big Knob £299.99

Big Knob is a simple yet powerful desktop audio control centre that lets musicians and engineers get right to the business of making music in four major ways: Level Control, Studio Monitor Selection, Input Source Selection and Talkback & Headphone Control.

1604VLZ Pro £dv247.com
1202 VLZ Pro £269.99
1402 VLZ Pro £dv247.com
1642 VLZ Pro £dv247.com
24.8 £2299.99
32.8 £2849.99
CFX20 £899.99
Control Extender £919.99
HR824 £dv247.com
HR625 £dv247.com
HRS120 £*149.99
SR1530 £1579.99
SWA 1501 £dv247.com
Onyx 1640 £dv247.com
Onyx 1220 £dv247.com

prices correct at time of going to print **...but we cut prices daily**

▼go to dv247.com for today's low price! ▼

north london 020 8440 3440
east london 020 8510 1500
cambridge 01223 316 091
birmingham 0121 687 4777
education 01708 771 950
south london 020 8407 8444
west london 020 8992 5592
southampton 023 8023 3444
bristol 0117 946 7700
email sales@digitalvillage.co.uk exportsales@digitalvillage.co.uk

online • instore • mail-order

lowest €uropean price guarantee *

monitoring

blue sky

Pro Desk 5.1 £2249.99
System One 5.1 £dv247.com

Media Desk.. Next generation full range monitoring system
With its cast aluminium frame, this 2.1 system incorporates 4" drivers for the satellites and a powerful 8" driver for sub bass (with a frequency response of 35 Hz to 100 Hz). Utilising 3 independent 60W amps, this system delivers full range monitoring at a quality never before experienced at this incredibly LOW price.

Media Desk £499.99

Pro Desk 2.1 £999.99

Sky System One: 2.1 System, (2) Sat 6.5 & (1) Sub 12

Sat 6.5
Input Impedance: 40k Ohms balanced
Common Mode Rejection Ratio: 40dB typical 60Hz
Voltage Sensitivity: 200mV = 90dB SPL @ 1M
Maximum Input Level: +24dBu balanced
Frequency Response: +/- 1.5dB 200 to 10kHz, +/- 3.0dB 80 to 20kHz
Low Frequency Cutoff: 80Hz
Low Frequency Rolloff: 12dB per octave
System Q: 0.707
System Crossover Frequency: 1.5kHz
System Crossover Slope: 4th order Linkwitz-Riley Acoustic

Sub 12
Voltage Sensitivity: 90dB SPL @ 100mv @ 1M (40 to 80Hz bandwidth limited
Frequency Response (anechoic): 30 to 200Hz +/-3dB
Typical In-Room Response: 20 to 200Hz (3000 Cubic Feet)

System One 2.1 £1398.99
Sky System One is the first in a line of 2.1 - integrated 3-way monitoring systems to be offered by Blue Sky International.

FAR

5D £2283.99
10D £2755.99

exclusive
OBS
£599.99▼

TAPCO

price crash

S5 (pair) £259.99
S8 (pair)
exclusive
£279.99▼

M-AUDIO

LX4 Expansion £138.99

LX4 - 2.1 £199.99

The latest M-Audio monitors provide reference monitoring in a simple solution by way of this range of active, magnetically shielded solutions.

BX8 £dv247.com
SBX £289.99
BX5 (pair)
£dv247.com▼

event

TR8 £dv247.com
TR6 £dv247.com
SP8 £dv247.com

on demo@ dv north london
TR5 (pair)
£279.99▼

EDIROL

MA10A £79.99
MA10D £104.99
MA20D £139.99

price crash
MA10A (black)
£74.99▼

adam

For the full range of Adam go to dv247.com

P22-A (single)
£734.99▼

TANNOY

Ellipse 8 £1799.99
Reveal £139.99
Reveal 15" Sub £599.99

price crash
Reveal Active (pair)
£dv247.com▼

mission PRO

The Mission SM6A's outstanding accuracy neutralises the usual speaker colourations to reveal the way instruments 'really' sound.
SM6P £349.99

SM6A (pair)
£599.99▼

dynaudioacoustics

Air 15 Stereo Pack £3145.99
Air 6 £2479.99
Air Base 6 £1169.99
Air Base 7 £1784.99
BM15 £749.99
BM15A £dv247.com
BM6 £359.99
BM6A £1056.99
BM5A (pair) £879.99

prices correct at time of going to print ...but we cut prices daily

▼go to dv247.com for **today's low price!** ▼

talk to the **deal makers**

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

monitoring/headphones

beyerdynamic

Beyerdynamic has a long history in the Pro Audio industry and number amongst their products, many "Industry Standards", such as the ubiquitous DT 100 studio monitoring headphones. They offer a wide range of products and solutions for all your audio & video requirements whether for live, installation, recording and broadcast use or as specialist products for the conference market.

DT770 Pro £85.99

DT150 £96.99

DT231 £29.99

the industry standard

DT100s, the industry standard for reference monitoring and recording. For full specs and information go to dv247.com or contact your local store.

Talk to the experts...

DT100 Black £79.99
DT250 (250 OHM) £74.99
DT250 (80 OHM) £80.99
DT331 £69.99
DT 990 £dv247.com

price crash

DT100 £79.99▼

ESI

MONITOR DEAL OF THE YEAR!!

exclusive

nEar 05 £129.99
nEar 06 £189.99
SW8000 £179.99
nEar 05 + SW8000 £259.99

DV Exclusive 2.1 ESI Systems

nEar 05 + SW8000 £199.99▼

ALESIS

Professional accuracy, clarity and performance in an affordable powered monitor that offers an incredibly accurate response which perfectly translates to every playback system.

RA-150 £99.99
RA-300 £149.99
RA-500 £179.99
Monitor One Mk2 £129.99

price crash

Monitor One ActiveMk2 £225.99▼

audio-technica

ATH-M40FS £50.99
Pro 25 £65.99

ATH-910 Pro £44.99▼

SENNHEISER

HD25 £105.99
EH1430 £18.99
EH2200 £39.99

EH2270 £69.99
HD200 £39.99
HD212 £39.99
HD250 MK2 £119.99
HD25SP £dv247.com
HD265 £124.99
HD270 £69.99
HD280 Pro £79.99
HD600 £dv247.com
HD202 £18.99

JBL

Control 1 (pair) £79.99▼

Fostex

PM-05 £249.99
6301B £dv247.com
PM-01 £349.99
T7 £60.99

new

PM-2 (pair) £499.99▼

GENELEC

1029A £519.99
1030A £935.99
1031A £1698.99
1032A £2198.99
8040A £515.99

new

8030A (pair) £598.99▼

PMC

For the full range of PMC go to dv247.com

TB2S (pair) £549.99▼

SAMSON

Resolv 65A £225.99
Servo 170 £124.99
Servo 260 £149.99
Servo 550 £229.99

price crash

Resolv 65 (pair) £99.99▼

MACKIE.

HR626 £dv247.com
HRS120 £1149.99
HRS150 £dv247.com
HR824 £dv247.com

price crash

HR624 (pair) £dv247.com▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

DIGITAL VILLAGE

midi instruments/studio recording

ALESIS

HD 24
£969.99▼

price crash

Masterlink £519.99
24-bit 96kHZ, edit your recording and apply finishing tools such as high resolution parametric EQ compression, limiting and normalizing - all in the same system and then burn the finished recording in either industry-standard Redbook, or high resolution CD24.

Micron £349.99

price crash

SR-16 £79.99

Ion
£dv247.com▼

nord

price crash

The Nord Modular G2 is an innovative hardware platform with focus on live performance which offers assignable controllers and an ultra-flexible user interface.

Lead 2X £dv247.com
Lead3 Keyboard £1195.99
Modular G2 Rack £595.99
Rack 2X £495.99
Rack 3 £994.99

Modular G2 Keyboard
£1345.99▼

GEM

Promega 2 £1499.99

Promega 3
£1999.99▼

ZOOM

MRS-1608 £629.99
MRS802 £dv247.com
MRS-4 £dv247.com
MRT-3 £89.99

new

MRS-8
£259.99▼

novation

price crash

K Station
£249.99▼

KORG

D1200 + CDRW £549.99
D1600 + CDRW £845.99
Electribe EM-1 £219.99
Electribe ER-1 £189.99
EMX1 £479.99
Triton Extreme 61 £1499.99
Trition Extreme 76 £1679.99
MS2000B Keyboard £464.99
PCM Boards from £49.99
SP300 £dv247.com
Triton £1395.99
Triton LE £749.99
Triton LE 76 £938.99
Triton Rack £849.99
MicroKorg £247.99
D1600 MkII £845.99
D32XD £1699.99

D16XD
£dv247.com▼

elektron

SPS-1 £949.99
SFX-60 £949.99

exclusive

SFX-6
£1399.99▼

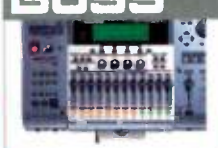
FOSTEX

CD1A £199.99
D2424LV £1529.99
MR-8 £259.99
VF80 £363.99

price crash

VF160
£475.99▼

BOSS



BR1180CD £629.99
BR864 £dv247.com
DR3 £129.99
DR670 £195.99
SP-303 £239.99

BR1600
£939.99▼

AKAI

MPC2000XL £679.99
MPC4000 HD £dv247.com

Head Rush
£149.99▼

TASCAM

1884 £dv247.com
DP01 £294.99
788 CDRW £219.99
CDRW 750 £339.99
2488 £835.99

new

DP01FX
£348.99▼

access

The Virus C is already a legend. The must have VA synth 24 Note, 16 part and the most extensive modulation matrix

Virus C
£1049.99▼

HHB

Standalone CD recorder with precision 24 bit A-D converters

CDR-830 BurnIT
£dv247.com▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

online • instore • mail-order

lowest €uropean price guarantee*

studio outboard

dbx

...Limiter and Gate, ideal for smoothing uneven levels, adding sustain to guitars, fattening drums or tightening up mixes.

price crash

DBX 266XL

£99.99▼

SAMSON

C-Com Opti £119.99
S Com Plus £128.99
S Phone £125.99
PB11 £104.99

C Contro

£109.99▼

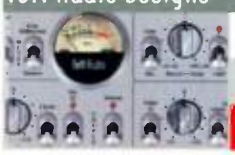
LEXICON

MPX1 £499.99
MPX550 £239.99
PCM81 £1349.99
PCM91 £1119.99

MPX110

£139.99▼

Toft Audio Designs



The ATC-2 is a dual channel strip with FET compressor, stereo link facility and incredible sound.

ATC2

£699.99▼

t.c. electronic

M300 £139.99
Voiceworks £529.99
Finalizer 96K £dv247.com
FireworX £dv247.com

price crash

M3000

£679.99▼

Avalon

Contact your nearest DV Pro Audio store for a demo of the fantastic VT-737 channel strip.

VT747 £1699.99

VT737

£1519.99▼

Eventide

Industry leading effects processor. On Demo at DV Pro Audio stores now.

price crash

Eclipse

£1499.99▼

Line6

Bass Pod Pro XT £439.99
FBV Shortboard £221.99
Guitar Port £89.99
Mod Pro £235.99
POD MK2 £199.99
POD XT £249.99

POD XT Pro £399.99

Focusrite

MixMaster Digital £dv247.com
Penta £179.99
Platinum Compounder £279.99
Platinum Mixmaster £dv247.com
Twintrack Pro £dv247.com
ISA430 MK2 £dv247.com
ISA220 £dv247.com
ISA 428 £989.99
Voicemaster Pro £dv247.com
Octopre £dv247.com
Liquid Channel £2199.99

Voicemaster Pro + Baby Bottle + Blue Mic Cable **£599.99**

dv exclusive

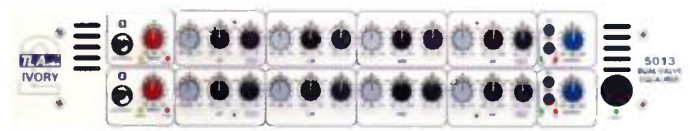
price crash

The Focusrite Trakmaster is a high quality mic pre, intuitive compression, a three band flexible EQ, and 'tube sound' control come together in this unit to ensure you have all you require to get a quality signal tracked. You even have the option to fit a Focusrite A/D card taking you directly from the Trakmaster into your digital workstation.

Trackmaster

£159.99▼

TL Audio



Ivory 5001 Mk2 £dv247.com
Ivory 5021 Mk2 £449.99
Ivory 5050 Mk2 £dv247.com
Ivory 5051 Mk2 £449.99
Ivory 5052 Mk2 £979.99
Ivory 5000 £dv247.com
EQ-1 £dv247.com
EQ-2 £dv247.com
C1 £985.99

Ivory 5013 Mk2 £465.99

Ivory 5060

£385.99▼

DRAWMER

1960 £999.99
DC2476 £1549.99
DS201 £319.99
DS404 £dv247.com

MX30 £219.99
MX40 £299.99
MX50 £245.99
MX60 £320.99

1969

£1399.99▼

prices correct at time of going to print ...but we cut prices daily

▼go to dv247.com for **today's low price!** ▼

talk to the **deal makers**

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods, from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

microphones

RØDE

NT1A £dv247.com
- Large 1" Capsule with gold plated membrane
- Cardioid polar pattern
- Ultra low noise transformerless circuitry
- Internal shock mounting system
- Gold plated output connectors
- True condenser (externally biased)
- Comes supplied with NTSM shockmount

NT5 £244.99

NT1000 £159.99

NTK £299.99

- HF1 1" edge terminated, dual 5um diaphragm capsule.
- 3-position variable polar pattern: Omni, Cardioid & Figure 8
- 3-position variable high-pass filter: Flat, 80 Hz or 40 Hz.
- 3-position variable pad: 0 dB, -5 dB or -10 dB.
- Ultra low noise, transformerless SMT circuitry.
- Supplied complete with soft pouch and clip.

new

Classic MKII £1249.99
K2 £349.99
NT1A inc. NTSM £129.99
NT3 £89.99
NT4 £269.99
NT2000 £279.99

NT2A

exclusive **£229.99▼**

GROOVE TUBES

save 57% was £349

GT33 £149.99

save 49% was £599

GT44 £299.99

save 49% was £399

GT57 £199.99

factory direct

- Hand- assembled + hand tested
- Evaporated-gold diaphragm
- Switches for -10dB attenuation pad and low frequency roll-off filter (75Hz).
- Excellent allround microphone

save 57% was £349

The Brick (mic preamp) £329.99
MD1B Tube Matched Pair £599.99
MD1B Tube £249.99
GT66 (save 49%) £299.99
GT67 (save 37%) £399.99
MD1B FET £119.99

GT55

exclusive **£149.99▼**

M-AUDIO

The Luna provides both professional looks and quality at a consumer price. The cardioid design has a 1.1" evaporated gold diaphragm with a solid brass capsule and Class A solid state electronics to provide faithful reproduction of the initial sound source.

Solaris £dv247.com

Luna

price crash **£dv247.com▼**

SHURE

PG58 £36.99
Beta 57A £99.99
Beta 58A £99.99
Beta 87A £235.99
SM57 £69.99

SM58

£69.99▼

NEUMANN

M147 £1449.99
M149 £2499.99
TLM193 £899.99
U87 £1399.99
TLM103 £629.99

TLM103 + Shockmount

exclusive **£599.99▼**

Joemeek

The Joemeek Three Q takes a microphone or instrument, amplifies it, compresses and equalizes it ready to be recorded.

Three Q + **Free** JM27

£114.99▼

SAMSON

7Kit £195.99
5Kit £129.99
C03 £59.99
SP01 £26.99

C01

£48.99▼

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

for all the best deals and latest news go to DV 247.COM

microphones

sE electronics

SE1A £69.99

SE2200A £139.99

Z3300A £299.99

- 20Hz-20KHz
- Sensitivity: 16mV/Pa - 36±2dB
- Polar Pattern: Cardioid, Omni, Figure 8
- Impedance: <=200 Ohm
- Equivalent Noise Level: 20dB(A weighted)
- Connector: 3-pin
- Max SPL for 0.5% THD @ 1000Hz: 125dB
- Power: Phantom power 48V±4V
- XLR Size: 60mm×192mm

'My overriding impression from my trip (SE Shanghai) was of Mr Zou's energy & enthusiasm - he has a genuine interest in microphones... he approaches his products as a musician, which can only benefit the end result' ***Paul White, Sound on Sound Feb 2004***

ICIS £339.99

- Dual Valve Microphone
- Frequency Response: 20Hz to 20kHz
- Polar Pattern: Cardioid
- Sensitivity: 20mV/Pa - 34±1dB
- Output Impedance: <=2000
- Equivalent Noise Level: 16dB (A weighted)
- Connector: 8-pin army connector
- XLR Size: 80mm×205mm

Gemini

£799.99▼

AKG

C1000S £99.99

The new PB 1000 Presence Boost Adapter provides an additional 5-dB high-frequency peak in the cardioid mode adding brilliance in the 5 to 9 kHz range.

C3000B £dv247.com

The C 3000 B is a large-diaphragm cardioid condenser microphone for universal use, designed and made specifically to suit the needs of musicians as well as the rigours of the stage.

D68S £37.99

The Swiss Army Live & Recording Mic at a fantastically new DV price.

Buy 3 D68S for only £99.99

D68S + Quiklok A300 stand + mic cable for £49.99 or 3 packs for only £129.99

Kick Drum/Bass Microphone + Bundled adaptor, K+M floorstand, 5M Cable And Gigbag.

WMS80UHF Handheld £dv247.com
WMS40UHF £dv247.com
WMS Lavalier £dv247.com
C2000B £dv247.com
C4000B £dv247.com
C900 £dv247.com
D112 £dv247.com
D550 £dv247.com
Drum Mic Set £dv247.com
Solid Tube £dv247.com

exclusive **D112 Punch Pack £149.99▼**

K55 £18.99

The K271 headphones are extremely light and easy to use, yet still provide a natural, pristine sound. The closed-back, circumaural earphones provide maximum attenuation of high ambient noise, ideal for all applications where no sound must leak from the headphones.

K1000 £dv247.com
K141 Studio £79.99
K240 Studio £84.99
K171 Studio £99.99
K66 £19.99

K271

£98.99▼

prices correct at time of going to print ...but we cut prices daily

▼go to dv247.com for today's low price! ▼

talk to the experts

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

mixers/microphones

Soundcraft

Spirit Notepad £74.99
Despite its ultra-compact size and very affordable price tag, the Notepad comes with the same professional pedigree as all Soundcraft mixers and is packed with enough features to handle a surprisingly wide range of mixing tasks.

- An amazing 10 inputs in a sub-250mm wide frame
- Handles everything from phantom-powered mics to DJ decks and samplers
- High-quality components ensure CD-quality sound
- Ergonomic layout ensures ease of use

Perfectly suited to many applications requiring simple mix facilities, but it comes into its own when used for recording vocals and music onto computers using a soundcard.

- Microphone, line, and DI input
- Stereo inputs for keyboards CD/tape or turntable
- Use 'blend' to control the mix
- 3 band EQ on the inputs
- Independent engineer & artist headphone outputs

Compact 10 £129.99
ES £dv247.com
Folio SX £299.99
E12 £239.99
E6 £169.99
E8 £195.99
FX16 £585.99
FX8 £dv247.com
M12 £dv247.com
M4 £dv247.com
M8 £dv247.com
Notepad £79.99

Compact 4
£69.99▼

TL Audio

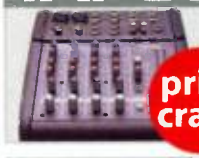
The ultimate audiophile's mixer. 8 Channels of pure tube technology. The M-3 is a small format 8/2 valve mixer that features discrete valve mic pres, four band EQ, two aux sends & returns, and a simple but flexible master section that features valve stages in the mix buss plus an optional stereo digital output.

VTC Range £dv247.com

M-3 Traker
£2799.99▼

TAPCO

The compact TAPCO 6306 is a great-sounding six channel mixer with genuine Mackie-designed mic preamps and robust construction.



price crash

6306
£69.99▼

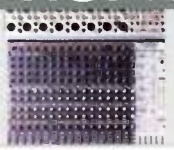
TASCAM

price crash

DM24 Meterbridge £499.99
FW1884 £dv247.com

DM24
£1499.99▼

PHONIC



MR2443
£369.99▼

MACKIE.

1202 VLZ Pro £dv247.com
1604 VLZ Pro £dv247.com
1642 VLZ Pro £dv247.com

1402 VLZ Pro
£dv247.com▼

SENNHEISER

EW112 £399.99
EW122 £399.99
EW145 £39999
EW152 £399.99
ME4 Cardioid Lavalier £46.99

E604
£99.99▼

StudioProjects

B-3 £124.99
C-1 £147.99
C-3 £256.99
T-3 £375.99
TB-1 £195.99

B1
£63.99▼

beyerdynamic

price crash

exclusive

M 01 £59.99
M 88 £233.99
MC 740 Set £899.99
MCE 90£179.99
Opus 51 £dv247.com
Opus 65 £149.99
Opus 83 £184.99
TG X58 £49.99
TG X48 £39.99
MCE 530 £79.99

Blue

Baby Shock £129.99
Blueberry £1099.99
Dragonfly £949.99
Dragonfly Delux £1499.99
Kiwi £2299.99
Mouse £1499.99
The Pop £179.99
Baby Bottle £339.99
The Ball £129.99

OKTAVA

price crash

MKL2500 £179.99
MK012A £89.99
ML52 £269.99
MK-319 £99.99
MK-219 £69.99

audio-technica

AT3035 £129.99
AT3060 £219.99
AT4033 £dv247.com

AT4040 £149.99
ATR-25 £33.99
ATW-1128 £199.99
ATW-1451 £174.99
ATW-1452 £199.99
Liberator 21H £150.99
Liberator 21HC £142.99
Liberator 21L £117.99
Liberator 22 £117.99

we will match or beat any genuine price*

▼contact your nearest local store for today's low price now!▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

online • instore • mail-order

lowest €uropean price guarantee*

mixers/keyboards/studio recording

YAMAHA

01X £979.99

The versatile 01X is quickly becoming THE perfect remote partner for digital audio workstations and as a controller for a wide range of popular software synthesizers. It features low latency audio interfacing for both Windows and Macintosh based computers (running Cubase SX, Nuendo, Sonar, Logic Audio, Digital Performer and many other software products) and delivers remote control power never before offered in a multi-function device.

AW16G £679.99

01V96 £1449.99

- 24-bit/96-kHz Performance
- 24 Analog & Digital Channel Inputs
- 20-bus Configuration
- Built-in ADAT Optical Interface
- Fast, Flexible Digital Patching
- Integrated DAW Control

The superb 01V96 brings you the same performance and reliability as the flagship 02R96 and DM2000, but in a smaller, more affordable format. It has a maximum 40-channel input capacity and of course, 24-bit/96-kHz operation as standard. If you thought that cutting-edge digital mixing and processing performance was beyond your reach, think again!

MG10/2 £69.99

- 10 Input Channels
- Four Low-noise High-precision Mic Preamps
- Phantom Power
- Insert I/O + 3-band Channel EQ & HPF
- Two Aux Sends & Stereo Aux Return.
- Optional Mic Stand Mount

ES6 £1699.99

Not only do the new MOTIF ES Music Production Synthesizers feature the largest wave ROM of any workstation keyboard available (175 MB in 16-bit linear format), but an extensive sonic library is at the heart of the most expressive, most musical synthesis system on the planet, bar none.

prices correct at time of going to print ...but we cut prices daily

▼go to dv247.com for **today's low price!** ▼

talk to the **deal makers**

north london
141 High Street
Barnet
Hertfordshire
EN5 5UZ
020 8440 3440

east london
10 High Road
Chadwell Heath
Essex
RM6 6PR
020 85101500

south london
562 Brighton Road
South Croydon
Surrey
CR2 6AW
020 8407 8444

west london
14 The Broadway
Gunnersbury Lane
London
W3 8HR
020 89925592

*We will match or beat any genuine quote on identical goods, from any European dealer at time of order. Errors and omissions excepted.

DIGITAL VILLAGE

mixers/outboard/microphones/studio monitoring

BEHRINGER

the UK Behringer Dealer

Mixers

Eurodesk MX2442A £389.99
Eurodesk SL2442FX Pro Mixer £315.99
Eurodesk SL3242FX Pro Mixer £388.99
Eurorack MX3242X £448.99
Eurorack UB1002 Mixer £49.99
Eurorack UB1202 Mixer £59.99

DDX3216 £727.99

Eurorack UB1204FX-Pro Mixer £109.99
Eurorack UB1204-Pro Mixer £89.99
Eurorack UB1622FX-Pro Mixer £129.99
Eurorack UB1832FX Pro Mixer £164.99
Eurorack UB2222FX-Pro Mixer £174.99
Eurorack UB2442FX-Pro Mixer £224.99

Eurorack UB502 Mixer £29.99
MX9000A Mixer £929.99
MXB1002 Mixer £74.99
MX3282A Mixer £499.99
RX1602 Eurorack Pro £79.99
UB1222FX Mixer £129.99

B2031A £dv247.com

Monitoring

MS16 £dv247.com
Truth B2031A £dv247.com
Truth B2031P £dv247.com
Truth B2030A £dv247.com
Truth B2030P £dv247.com
Monitor Speakers MS16 £dv247.com
Monitor 1C £dv247.com

price crash

Multicom Pro MDX4600 £89.99

DV are the UK's #1 Behringer dealer with experts in every store nationwide. Full product details and LOW prices also @ www.dv247.com!!

Composer PRO-XL MDX2600 £78.99

Studio Outboard

Auto Com Pro MDX1600 £79.99
Bass Vamp £99.99
Bass Vamp Pro £149.99
BX108 Bass Combo £69.99
BX1200 Ultrabass £189.99
BX600 Ultrabass £119.99
CX3400 Super X Pro £112.99
DCX2496 Ultra Drive Pro £289.99
DEQ2496 Ultracurve Pro £219.99
DI 100 Ultra DI Active DI Box £26.99
DI20 Ultra DI £16.99
DI4000 Ultra DI Pro £79.99
DI800 DI Unit £89.99
DSP110 Shark £54.99
DSP1424P Ultramizer £83.99
DSP2024P Virtualizer £94.99
EX1200 Ultrabass £59.99
EX3200 Ultrafex Pro £64.99
FBQ 3102 Ultragraph Pro £99.99
GI100 Ultra G Active DI Box £29.99
MIC100 Ultragain £29.99
MIC2200 Ultragain Pro £74.99
PX2000 Ultrapatch Pro £28.99
PEQ2200 Ultra Q Pro £68.99
Powerplay PRO8 HA8000 £109.99
SRC2496 Ultramatch Pro £159.99
T1954 Ultrafex £94.99
T1951 Ultra Q 4 Band EQ £109.99
T1952 Tube Composer £149.99
T1953 Ultragain Mic Pre Amp £139.99
Ultrapatch PX1000 £29.38
Vamp Pro £149.99
Vamp 2 Modeller £99.99
XR4400 Multigate Pro £99.99

B-1 £74.99

Microphones

B5 Mic £65.99
ECM8000 Mic £39.99
B2 Pro Microphone £114.99
XM8500 Microphone £17.99
XM1800S Microphone 3-Pack £29.99

we will match or beat any genuine price*

▼contact your nearest local store for **today's low price now!**▼

cambridge
86 Mill Road
Cambridge
Cambridgeshire
CB1 2AS
01223 316091

southampton
Unit 3
Kingsgate Centre
Southampton
SO14 1NR
023 80233444

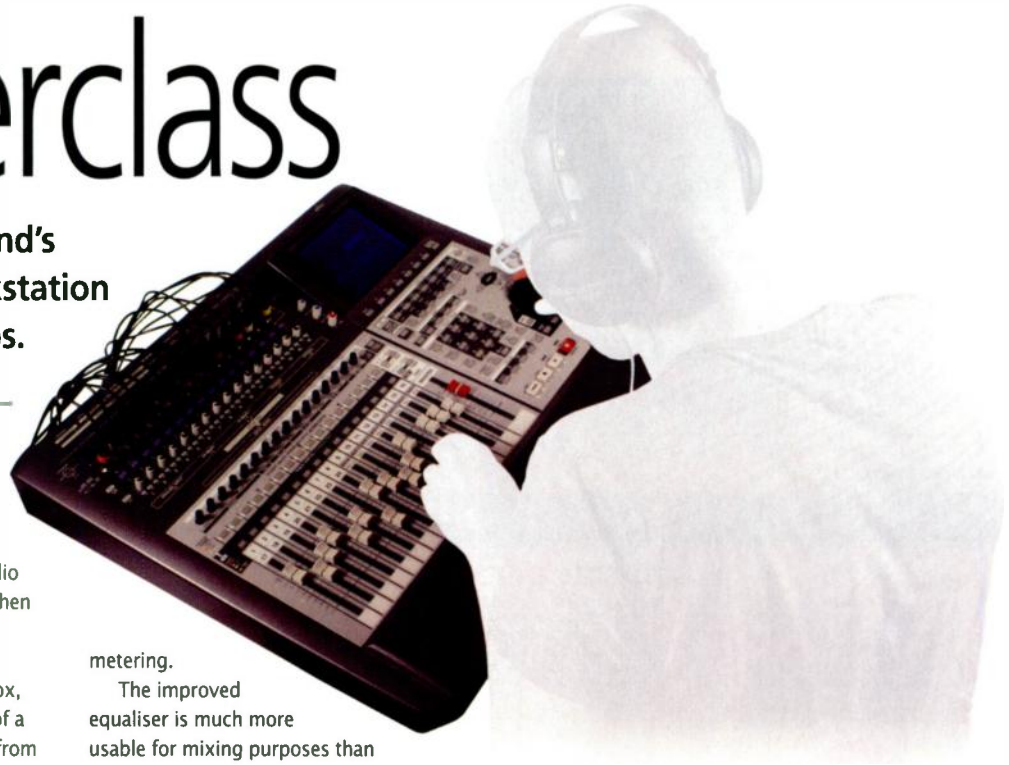
birmingham
Unit 2
Dakota Buildings
James St
Birmingham B3 1SD
0121 6874777

bristol
21 The Mall
Clifton Village
Bristol
BS8 4JG
0117 946 7700

education
01708 771 950

email
sales@digitalvillage.co.uk
exportsales@digitalvillage.co.uk

Roland VS2480 Masterclass



Get the most from Roland's flagship recording workstation with our power user tips.

Mike Senior

The VS2480 is the flagship of Roland's successful VS multitracker range, offering much of the functionality of a complete recording studio from a single unit. Inevitably, however, when you shoe-horn a multitrack recorder, an automated digital mixer, flexible onboard multi-effects, and a CD burner into one box, the result is going to present something of a learning curve. So I'm going to follow on from the VS880/VS1680 masterclass in *SOS* March 2002 by sharing some of the techniques I've developed for getting the best out of the VS2480 in practice. Although my advice will be aimed primarily at VS2480 owners, the VS2400 and VS2000 have much in common functionally with their larger sibling, so much of what I'll be discussing will apply to the more recent machines as well.

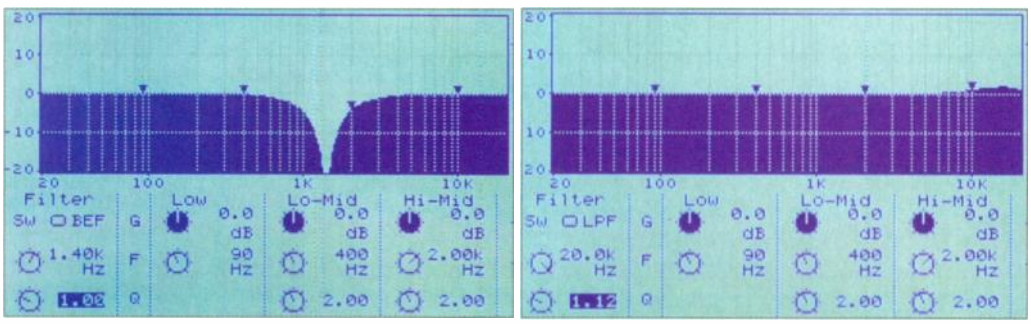
Getting The Best From The Channel Equaliser

One of the things that really set the VS2480 apart from its VS-series predecessors was its redesigned mixer section. Not only was the processing resolution doubled to 56-bit, but the channel processing facilities were also dramatically improved, adding an extra EQ band, a separate filter section, and a dynamics processor with (joy of joys!) gain-reduction metering.

The improved equaliser is much more usable for mixing purposes than the equalisers in the previous VS multitrackers. However, the thing I like most about it is that it can be automated. As a result, rogue bass resonances can be tamed surgically only when it's needed, for example. Or, at the other end of the frequency spectrum, you can automate an EQ band to de-ess over-sibilant vocal tracks. There are several advantages to de-essing this way: you save on insert effects processing; the automated EQ approach tends to sound more transparent than any of the VS8F2's de-essers; and you won't get de-essing occurring accidentally where you don't want it to. Of course, automating the EQ is much more time-consuming, but I wouldn't do anything else for lead vocals now, to be honest.

Despite the improvements to the channel EQ, though, I've still found that I get the best sounds by EQ'ing sources with dedicated outboard on the way into the machine. By doing this you're only really asking the VS2480's EQ to deal with mix-balance problems, rather than relying on it to effect dramatic tonal changes, so you can usually keep the channel EQ settings fairly gentle. If you're worried about processing something wrong on the way in, record an unprocessed version of the same audio onto another virtual track at the same time, so that you can return to it if necessary at the mix.

Another thing that I've found works well for most chart-style material, and something that was mentioned in the interview with Mark 'Spike' Stent back in *SOS* January 1999, is to use your best outboard EQ across the VS2480's main outputs to add a broad global high-frequency boost while you mix. A shelf with a frequency of about 15kHz should be about right, but the exact frequency and the amount of boost should be varied to suit what you're working on. The most important thing about this approach is that it avoids a lot



The filter section within the channel equaliser can be used in band-eliminate mode to create phaser-like effects (left), and in low-pass mode to create something akin to enhancement (right).

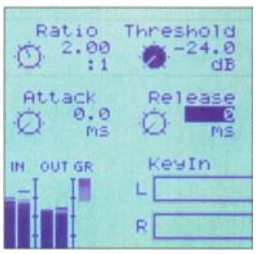
of high-frequency boost on individual channels, something that budget digital EQ is never really all that good at, and it should therefore help improve the overall sound. What I would say, however, is that you should record versions of the mix both with and without this buss EQ, just to keep your options open at the mastering stage.

Filtering & Compression Tricks

The EQ's multi-mode filter section has several nice little tricks up its sleeve. First off, you can easily create wah-wah effects, for which the BPF (band-pass filter) shape is probably the best choice. You can sweep the filter manually using the User Knob/Fader Assign mode (which I'll be looking at in more detail next month) — here a rotary control is the better bet, as you can easily get 'stepping' of the filter using a fader. Once you've decided on the sweeps you want to do, record them into the Automix system so that they play back the same every time. The filter section also provides a subtle phasing effect via the BEF (band-eliminate filter) shape, which can again be swept under the control of the automation.

The other way that I find the filter can come in very handy is where you want to add a bit of high-end sizzle to a sound, in particular to a lead vocal. Set the filter to its LPF (low-pass filter) shape, moving the cutoff frequency to 20kHz, and then adjust the resonance control to taste — you don't need to go much over a value off 1.00 to get a useful change. This is a really handy effect for bringing sounds forward in the mix without apparently changing their basic timbre, and as such you might use it in the same situations as you would an enhancer.

The channel compressor has one weird little feature which can be used creatively: its Attack and Release parameters both go down to zero. If you set both of them to this value, the compressor reacts so fast that it tracks the individual waveform crests rather than their amplitude envelope. This results in the shapes of the waveforms being changed, rather than just their envelope, which means you get



Reducing the compressor's Attack and Release times to zero lets you create a variety of creative distortion sounds.

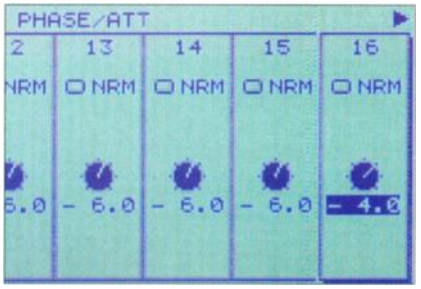
distortion rather than just gain-reduction. The threshold and ratio controls will adjust the harshness of the distortion sound, and there's actually quite a range of flavours to be had. If you're after something very subtle, then you might want to increase ▶

Is It Worth Getting A Screen?

One of the things that Roland seem to have placed great emphasis on is the VS2480's ability to offer a colour screen display if you add a computer monitor to your setup. However, having tried working with a spare monitor display connected, I now prefer to work without it, using the extra desk space in other ways. And I certainly wouldn't choose to invest cash in a new screen for the purpose.

How did I come to this opinion? Well, firstly I think that driving a hardware machine via a mouse and on-screen menus is a little ridiculous — why emulate an element of computer workstations which computer users try to avoid? Besides, I find the buttons quicker to use and less of a strain on the wrist than using a mouse. And why drag a fader on the screen when you can just grab the one on the front panel? The great thing about the VS2480's assignable controls is that you shouldn't have to adjust software parameters in this way very often. The main areas where I think using a mouse is great is where you have to set up the patchbay, or where you're doing certain editing procedures, and it's perfectly easy to carry out these activities via the backlit LCD. I'd thought that maybe the visual feedback from lots of channels available via the extra screen would be useful when mixing, but to be honest I didn't really find I used it then either. I wouldn't really be seduced by the waveform displays either — they redraw so slowly that I found them next to useless.

So my overall advice is this: save any money you might have thought of spending on an extra monitor and use it to buy yourself more useful things, such as more internal effects boards. That said, however, don't let me put you off getting a mouse and QWERTY keyboard, both of which do make life a lot easier on occasion, and neither of which should break the bank.



Setting all the channel Att controls to -6dB gives you the headroom to boost individual tracks even after you've finished the main mix — for example if you want to print a 'vocal up' mix.

Quantity Versus Quality

The question of audio quality is something that has always hovered around the VS-series multitrackers — I have certainly heard a number of mastering engineers saying that they could spot a VS-series mix just from what they judged as the deficiencies in the sound of the data compression. Roland certainly seem to encourage you to use the data-compressed recording modes to maximise the number of tracks you can use and to make better use of available hard-disk space, but I've always tended to stick with uncompressed recording modes. Although compressed audio on the VS2480 doesn't sound much different from uncompressed audio in the raw, I've found that compressed audio doesn't respond as well to processing and bouncing as uncompressed. Yes, uncompressed audio uses hard disk space quicker, but all the drives shipped with the VS2480 are fairly capacious, so this may not concern you very much. And, yes, working with uncompressed audio restricts you to 16 tracks, but I still find that's not very restrictive, given that you can still run sound sources live alongside your recorded audio, using the Input mixer.

The other quality consideration is to do with the effects boards. Although the VS2480's mixer works at 56-bit resolution to cope properly with 24-bit audio, the VS8F2 processors are still only 24-bit — a result of their VS1680 heritage. This is important to realise if you're after the highest possible audio quality from your VS2480, and you're working with uncompressed 24-bit audio. Buss processing of the full mix using the internal effects is a particularly bad idea from this perspective, as your entire sound can potentially suffer. This is the reason why I prefer to port digital audio out to an external mastering processor for the buss equalisation trick I mentioned in the main text, and I also do the same when compressing the mix buss. Some might also look askance at the use of insert effects on important tracks, as well, and I do generally try to avoid inserted VS8F2 effects on lead vocals if possible — not too difficult given the capabilities of the 56-bit channel dynamics. In the end it's a question of deciding for yourself how much all these things matter within the context of your own productions, but it's as well to be aware that these questions about the VS-series sound quality exist.

▶ the Attack or Release parameter by a single increment to get a mellower range of timbres.

Creating Alternate Mixes

It's usually good practice to create various different versions of your final mix, in order that you're less likely to have to do a remix. Probably the most common example of such an alternate mix is the 'vocal up', where the level of the lead vocal is a decibel or so higher than in the main mix. The 'vocal up' version can then be used if you later decide after hearing your track on many different systems that the lyrics are not intelligible enough, say.

One problem with doing a 'vocal up' mix on the VS2480 is that raising the vocal channel level has the potential to cause clipping if you've already maximised the peak level of your mix, so make sure that you have a little headroom to spare. You also have to bear in mind that you need to change the vocal level somewhere in the signal chain after any of the channel dynamics or insert effects — a change in level can interfere with any dynamics threshold settings, and will change the tone of effects such as amp modelling.

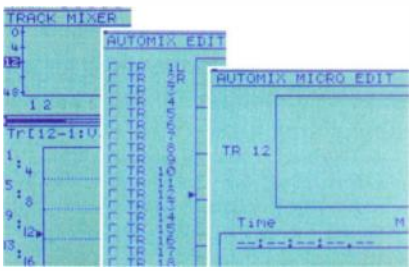
You could use the channel fader to increase the vocal level, but if this is automated you'll have to offset the automation using the Automix editing procedures, so that leaves only the Att level control. However, if this is already set at 0dB you could easily clip the channel equaliser which follows it, especially if the vocal recording peaks near the digital maximum of 0dBFS.

The solution to the conundrum is to start your mix by turning down all the channel and input Att controls by the same offset amount — a few decibels should do the job. This leaves you the EQ headroom to create whatever alternate mixes you like once you've finished the main mix. It also has the beneficial side-effect that it normally results in the channel faders being closer to their unity-gain positions, their area of greatest control resolution.

Managing A Complicated Automix

I like the VS2480's Automix facilities a great deal, and I've recently used them for some pop-style tracks. Most styles of music, especially those you hear in the charts, are now quite demanding of an automation system, so I thought I'd pass on some of the the working methods which I've developed for getting the best from the VS2480's Automix when the going gets tough.

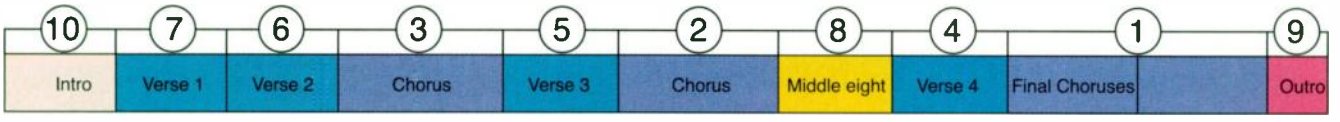
When approaching a complex automated mix, I've found that it's sensible to set up a basic balance for each individual song section first, before chaining these balances together to create a rough outline for the whole track. Finally, I concentrate on the fine-tuning: individual fader rides, detailed parameter automation, and special effects. My normal mixing 'rhythm' is to spend the morning doing the basic balances. After a lunch break, I set about chaining the basic balances together, before working on the fine-tuning for the rest of the day. I usually find it good practice then to come back to the mix the next day before printing it to my mastering recorder, as there always seem to be a few little tweaks that present themselves when you listen again with fresh ears.



While editing automation data, if you make sure to select the track number you're working on in the Home screen, then that'll always be the default selection in the Automix Edit and Micro Edit screens.

For the first step of this whole process, I work on the mix with the Automix mode switched off, using the Scene memories to store the basic balance for each section. For ▶

When you're setting up basic mix balances for the different sections of a song, it makes sense to pay attention to what order you do them in. This diagram shows an example of how I might proceed for a basic pop-song structure. Mixing the climax of the song (usually the final choruses) gives you a useful idea of the peak 'energy level' of the song, and then the preceding choruses can be variants on that balance. The verses are approached similarly, again usually starting with the final one. Finally, the balance of the intro, outro, and middle section can be made knowing where each section is going to or coming from. Obviously every mix is different, but the same kinds of principles can still be applied.



020 8349 2090
148 Ballards Lane, Finchley, London N3 2PA

0115 955 2200
172 Derby Road, Nottingham NG7 1LR

www.music-pc.com

millennium music

Music on the move

CX14 FROM £849.99

CX PLUS NOW SUPPORTS PENTIUM M UP TO 2 GHZ

MOBILE TECNOLOGY

Model shown CX15 plus

Musicians need computers to perform! Our Centrino CX Laptops give far longer battery life AND still deliver stunning audio performance!

With this lightweight new technology, featuring the Pentium M processor - double the amount of processing is carried out at each clock cycle, thereby reducing energy use and heat generation. So, longer life and quieter operation!

For ultimate processing power why not go for our top of the range Dothan system. This chipset can handle Pentium M processors up to 2.0 GHz, appx the same processing power as a Pentium 4 4.0GHz! Call or go online for more details.

"Millennium's technicians have done a fine job here and it's good to know that you'll be ready to rock as soon as you take the machine out of the box" Future Music, September 2004

From dream to reality...Millennium make it happen!

- Purpose built, in house
- Guaranteed to perform as specified, first time
- Expert, insider knowledge
- 1 year parts and labour warranty, 3 year hardware warranty available
- Brand-leading components
- Troubleshooting, telephone support and remote diagnosis

MusiCube

FROM £549.99

We proudly present the **MusiCube** system.

A powerful Pentium based music and video editing PC housed in a stylish, space conscious case configured in-house to exacting standards.

Base Tower System in Black

FROM JUST £599.99

Built and configured to the same exacting standards as our tower and laptop systems our RACK500 systems offer both raw power and portability!

Studio Rack System

FROM JUST £679.99

Xeon PC Power!

Ultra fast performance with ourXeon dual processor PC.

Our new Xeon PC system has the power to cope with even the most demanding session!

Built around Intel Xeon dual processor technology, our Xeon system raises the bar in PC performance standards while giving the audio professional the power and reliability of server technology in a digital audio workstation.

FROM £1299.99

We don't just make great computers!

Not only have we been making the finest audio computers for twelve years, we also have two shops crammed full of the latest in music technology! Call, go online or visit either of our stores and you're guaranteed the best advice and service in the business!

FULLY TESTED AND APPROVED BY STEINBERG SOFTWARE!

"I had the Millennium computer on for three days running, and it never glitched once!"

Sam Wetmore, Steinberg UK Support

steinberg

"Throughout my time with the Millennium review PC I was impressed with its combination of quality components, low acoustic noise, careful assembly and setting up of both hardware and software."

Martin Walker, Sound on Sound, January 2002

For more options and online ordering visit www.music-pc.com

Prices correct at time of going to press. Errors and omissions excepted

There are some parameter changes you might make while setting up Scenes of your basic section balances which can't be captured by the Automix engine — these include adjustments to the channel dynamics processors, the assignment of busses to send effects (top left), and the stereo linking of busses (top right). This means that you have to keep a note of any such changes you make as you go along so that you reinstate the most up-to-date settings before you begin the Automix. Scene zero can make a handy location to store the final pre-Automix setup.

example, a pop song structure might have Scenes for verse one, verse two, chorus one, verse three, chorus two, the middle section, verse four, and the final Choruses. I find it best to work on these sections in order of importance (in other words, I usually work on the choruses before the verses), so that I can make sure I don't over-egg a part that isn't that important. Similarly, I try to balance later sections before earlier sections (in other words, I do chorus three before chorus two). If you mix from the beginning, there's a danger that the energy of the mix will peak too early, and you'll have nowhere left to go in the final choruses.

I won't get into specific balancing techniques here, as there are plenty of SOS articles on the subject, although as a basic rule of thumb I try to add tracks to the balance in order of importance. That way, I end up processing the rhythm guitar to fit the vocal, rather than the other way around. Another general point I ought also to mention is that it's worth spending enough time on the most important section balances. These form the backbone of the mix, so if you don't get them right at the outset you'll make yourself a lot more work later on. For example, if you muck up the balance for your final choruses, and then base the earlier choruses on that balance, you'll have to change all of the chorus Scenes to sort out the problem, rather than just one.

Transferring Scene Data To Automix Data

Once you've created Scenes for all the main sections of your mix, you need to transfer these to the Automix engine. The thing to bear in mind here is that Scenes store information which an Automix doesn't. There is no Automix function for controlling the channel dynamics, signal routing, or stereo linking, so any such changes you make while creating the Scenes have to be kept in place for the Automix to sound right.

Let's say, for example, that you have already created the mix Scenes for your song's choruses, but you then decide you want to set up a flanger on a spare auxiliary send for the verse. The change in the input assignment of the flanger's effects-return channel won't be carried out by the Automix, so you have to make a note of it and make sure that it's properly set up before you switch to Automix mode. You could do this on a scrap of paper, as there aren't usually many such changes, but I just use another spare Scene memory (I usually choose Scene number zero) to store the final routing which I require at Automix, updating it as and when any routing changes are made for any of the other Scenes. That way, before I go into Automix mode I can just switch to Scene zero to avoid the sound of any of the song sections changing when they are chained together by the automation.

Transferring the Scene data into Automix data is simplest if you want the settings for all the mixer channels and busses to change simultaneously at exact section boundaries. Switch on Automix mode by pressing the Automix button — it'll light up. Arm for automation all the channels and busses that you have adjusted when creating your Scenes. You can do this quickly by holding the Automix button and pressing Ch Edit buttons until they turn red. (You will probably have to repeat this process for the four different banks of fader assignments.)

Next hold Shift and press Automix to get directly to the main Automix page in the Utility menu. Quickly double-check that all the correct channels and busses have been armed, and then choose the parameters you want to record. You'll probably want Level, Pan/Bal, Mute, and Aux Send enabled for most mixes. I'd only bother enabling EQ or InsFXLvl if you've altered them between scenes,

Holding the Automix button and pressing Ch Edit is useful for quickly setting the Automix status of individual mixer channels. You can also use this technique to 'punch in' on recorded automation, but in practice the VS2480 responds a little too sluggishly when you try to do this.

Roland VS-series reviews in *SOS*

- VS880 Digital Multitracker & VS8F1 Effects Board: March 1996
  W www.soundonsound.com/sos/1996_articles/mar96/rolandvs880.html
- VS880 V-Xpanded Digital Multitracker: May 1997
  W www.soundonsound.com/sos/1997_articles/may97/rolandvs880.html
- VS880 S2: CD-writing Upgrade: January 1998
  W www.soundonsound.com/sos/jan98/articles/rolandvs880.htm
- VS840 Digital Multitracker: May 1998
  W www.soundonsound.com/sos/may98/articles/RolandVS840.html
- VS1680 Digital Multitracker: June 1998
  W www.soundonsound.com/sos/jun98/articles/vs1680.html
- VS1880 Digital Multitracker: July 2000
  W www.soundonsound.com/sos/jul00/articles/rolandvs1880.htm
- VS2480 Digital Multitracker: September 2001
  W www.soundonsound.com/sos/Sep01/articles/rolandvs2480.asp
- VS2480 v2 Digital Multitracker: August 2002
  W www.soundonsound.com/sos/Aug02/articles/vs2480v2.asp
- VS2400 Digital Multitracker: May 2003
  W www.soundonsound.com/sos/may03/articles/rolandvs2400.asp
- VS2000 Digital Multitracker: June 2004
  W www.soundonsound.com/sos/jun04/articles/rolandvs2000cd.htm

GAK PRO AUDIO

PART OF THE GUITAR, AMP & KEYBOARD CENTRE

01273 EXPERT ADVICE **671971**

0% FINANCE AVAILABLE OVER THE PHONE

NEXT DAY DELIVERY*

SEE OUR FULL AD ON PAGES 175-177

VISIT OUR BRIGHTON STORE. HUGE RANGE OF DEMO STOCK.

79-81 NORTH ROAD, BRIGHTON, EAST SUSSEX, BN1 1YD
FROM LONDON VICTORIA TO GAK IN LESS THAN AN HOUR.

JUST 5 MINS FROM BRIGHTON STATION

ABLETON • AKAI • AKG • ANTARES • ARTURIA • AUDIO-TECHNICA • AVALON DESIGN • BEYER • BEHRINGER • DIGIDESIGN • DYNAUDIO
E-MU • EAST WEST • EDIROL • ELEKRON • EMAGIC • EMPIRICAL LABS • FOCUSRITE • FOSTEX • GENELEC • IK • JTS • KORG • KRK • LEXICON
LINE 6 • M-AUDIO • MACKIE • MOTU • NATIVE INSTRUMENTS • NEUMANN • NORD • NOVATION • PRESONUS • PROPELLERHEAD
QUIK LOK • RIDGE FARM • ROLAND • SE ELECTRONICS • SAMSON • SENNHEISER • SIBELIUS • SPECTRASONICS • STEINBERG
TANNOY • TASCAM • TC ELECTRONIC • THERMIONIC CULTURE • TL AUDIO • TOFT AUDIO • UNIVERSAL AUDIO • WAVES • YAMAHA • ZOOM

Apple Logic Pro 7

The stunning new & improved version of Logic. Includes new modelling synth, drum machine & guitar software. Plus improved spec & new plug-ins...

£699 12x58.25 0% Finance NO DEPOSIT REQUIRED.

PC Audio Systems

We have a variety of mobile & desktop PC systems to suit your requirements & budget. All PC's come ready configured

From **£599** Call for details FINANCE AVAILABLE

Tascam US 2400

Fantastic new control surface... Integrates seamlessly with all leading software manufactures. 25 motorised faders, scrub wheel & joystick.

£1249 12x104.08 0% Finance NO DEPOSIT REQUIRED.

Zoom MRS 1608 CD

16 TRK HDR with 8 simul XLR inputs built in drum machine & bass sequencer. CDR burner as standard...

£649 12x54.08 0% Finance NO DEPOSIT REQUIRED.

SE Electronics

This brilliant company delivers outstanding performance at an unbelievable price. We have the full range of SE mics in stock & on demo.

£799 Gemini 12x66.58 **£299** Z-3300a 12x24.92
0% Finance NO DEPOSIT REQUIRED.

Universal Audio 6176

Take the valve pre-amp from the UA610 & couple it with the legendary 1176 FET compressor. What more do we need to say...

£1749 12x145.75 0% Finance NO DEPOSIT REQUIRED.

KRK V Series

These brilliant active monitors are gaining reputation amongst mix engineers & home enthusiasts alike. On demo in-store.

£579 V6 24x24.13 **£839** V8 24x34.96
0% Finance NO DEPOSIT REQUIRED.

Nord G2X

The ultimate modular synthesizer from Nord. 5 octave keyboard with built in goose neck mic. Fully flexible PC/Mac editor. Infinite possibilities...

£2149 24x89.54 0% Finance NO DEPOSIT REQUIRED.

OR YOU COULD GO TO... WWW-GAK-CO-UK

HITECH@GAK.CO.UK

CHECK OUT OUR PRICES... ...WE WON'T BE BEATEN

SECURE ONLINE SHOPPING FROM THE UK'S LARGEST INDEPENDENT RETAILER

*NEXT WORKING DAY, SUBJECT TO STOCK. - WE ARE A LICENSED CREDIT BROKER. ALL PRICES INCLUDE VAT. ALL MONTHLY REPAYMENTS ARE BASED ON NO DEPOSIT & ARE PAID OVER 6,12,24 OR 36 MONTHS AT 0% APR. CREDIT SUBJECT TO STATUS. WRITTEN QUOTATIONS AVAILABLE ON REQUEST. PRICES CORRECT AT TIME OF GOING TO PRESS. E&OE. - PLEASE NOTE GAK.CO.UK LTD IS A SISTER COMPANY & AS SUCH PRICES, STOCK & DELIVERY MAY DIFFER. 0% FINANCE IS NOT AVAILABLE ONLINE.

WRH

VS2480 Tips

You'll probably already have noticed that the VS2480's cursor buttons act to alter the zoom resolution when the Shift key is held down. However, it's worth remembering that this function also works when you're in the Automix Edit and Automix Micro Edit screens.

Because you don't get dedicated mute/solo buttons on the VS2480, it's possible for you to have tracks muted or soloed without realising it — the moment you leave the Mute or Solo mode, the only indication that anything is still muted/soloed is a small and easily overlooked 'Mute' or 'Solo' flashing at the top of the LCD. So if you're not hearing something that you should be, check the top of the LCD! You can quickly clear all mute/solo-button settings by holding Clear (by the Locator buttons) and pressing Mute/Solo.

When you're working on the automation data for a specific track, you'll probably find yourself dotting in and out of the Automix Edit Screen. However, this screen doesn't remember which track was last selected; it follows the main track selection on the Home screen. This means that if track six is selected on the Home screen, then track six (or input/aux/return six depending on what automation data you've targeted) will always be selected when you enter the Automix Edit and Micro Edit screens. Once you realise this, you can save yourself and awful lot of scrolling around in the Automix screens by selecting the appropriate track in the Home screen.

In Mute/Solo mode, or when the Phrase Sequencing mode is switched on, the Ch Edit buttons stop performing their normal function of accessing channel mixer parameters. In such cases, you need to hold Shift and press Ch Edit instead.

If you're planning to synchronise the internal clock of any digital equipment from the VS2480's S/PDIF connectors, be aware that the VS2480 interrupts its stream of data whenever you save your project. If you save frequently (as anyone with any sense should!), this means that the rest of your digital equipment will regularly lose synchronisation, and you'll probably get a nasty click/pop coming through your monitors at you. One of my digital processors also seems not to like losing clock so regularly, and has had to be repaired twice already. The only solution to this is to clock everything to an external word-clock generator, which is a better idea anyway, as it will probably improve the audio quality and will also allow you to take advantage of both the VS2480's digital inputs.

It's easy to leave a track muted without realising, as you only get a small alert message at the top of the LCD. If you see the alert flashing at you, then hold Clear and press Mute to unmute all channels.

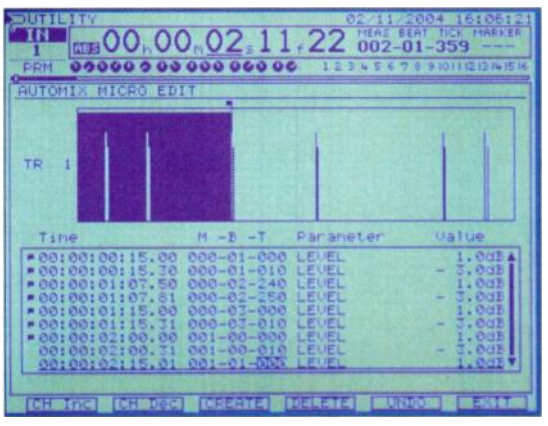
▶ otherwise you'll have to edit or overwrite the automation data to change their settings once Automix is switched on, rather than just being able to grab a control. EQ automation has often caught me out while mixing on the VS2480 — forgetting that I've set up automation for a channel's EQ, I'll tweak the controls while the track is playing, only to find that the curve reverts to its stored Automix settings when I stop the transport!

If you're planning on automating effects algorithm changes, I'd leave that until after you've done everything else, so leave the Effect buttons at the bottom left-hand corner of the screen set to Manual status for the moment.

For the next stage of the process the order is vital — if you do things out of order you'll find that your Scene settings won't transfer into the Automix properly:

- Hold the Automix button and press Record. This starts the Automix recording, and 'Automix Rec' flashes at the top of the LCD.
- Move the current time location to the beginning of a song section. You can do this by almost any means, as long as you don't use the Play or Stop buttons: using the Shuttle collar around the data dial; using the data dial itself if you move back to the Home screen and place the cursor on one of the fields of the main time display; or using the Locator buttons or the Previous and Next buttons if you've already got Markers set up. I like to have a Locator point set up for each main section of the song, the Locator numbers corresponding to the Scene numbers I'm using for those sections.
- Select the relevant Scene for the section you've moved to the start of.
- Hold down the Automix button and press Tap. This records the Scene's parameters as an Automix snapshot.
- Repeat the previous three steps for all the song sections you've created Scenes for.
- After storing the final Scene's parameters, hit Play and then quickly Stop. This will exit Automix recording while also retaining the last snapshot you stored. If you just press Stop, without pressing Play beforehand, all but the last snapshot will be saved.

Things get a bit more complicated if, say, an instrument has a pickup to the Chorus that overlaps the ending to the previous verse. The thing to do in this case is to go through the Scene-transfer process for groups of tracks which have their song boundaries in the same places, which takes a little longer. Once you've transferred the Scene settings for each set of channels, change their Automix status to Read by holding the Automix button and pressing the Ch Edit button until it turns amber. If you're planning to automate any effects-algorithm changes, it's also best to do these on a separate pass — that way you can stagger the algorithm changes with regards to the song-section boundaries in order to avoid problems such as delay or reverb tails being cut off unnaturally.



The facility to create very detailed automation envelopes in the Automix Micro Edit screen has a lot of creative uses. Here I've programmed a series of very short gain 'spikes' to emphasise drum transients — this creates an effect similar to that of SPL's Transient Designer. Although it takes a little time to create such automation envelopes, you can then easily copy them to where they're needed.

Fine-tuning Your Automated Mix

One of the missed opportunities of the automation system in the VS2480 is that you can't use its controls to 'trim' existing automation data in the way you can on more advanced automation systems. This is a shame, because it means that it's rarely practical to do anything but the first automation pass using the faders. The 'punch-in' facility is also a bit of a kludge given that the VS2480 doesn't have touch-sensitive faders: firstly, you need to hold Automix and press the Ch Edit button at the same time,

which is a bit of a juggle when you're also wanting to move a fader; and, secondly, the fader motor is sluggish in letting go of the fader, so it tends to fight you for the first second or so. I've even tried to use the Utility menu's Marker Stop to accurately re-record sections of the Automix data, but to no avail — the Marker Stop function seems to fool the system somehow so the fader moves aren't recorded.

For me, the upshot of these Automix limitations is that I end up approaching the automation process much as I did back on my old VS880, which means that I create most of my small-scale automation adjustments by a series of snapshots, adjusting parameters from the rotary encoders or the data wheel for the sake of accuracy. A side-effect of this is that things therefore stay simple enough in the Automix Micro Edit screen for it to be useful.

The automation editing commands on the VS2480 are also a great help, especially for doing the kind of level trimming that isn't possible via the hardware controls — let's say I've not de-essed enough via an automated channel EQ, it's a simple job to just increase the relevant EQ cut settings for the whole track.

You're probably already aware that holding Shift and pressing any of the cursor keys activates horizontal and vertical zoom functions in the main track display window. However, this also works in the Waveform Display, Automix Edit, and Automix Micro Edit screens.

A nifty thing that the automation editing also lets you create is effects which closely resemble dynamics processing. For example, I've managed to give drum sounds extra attack by creating an SPL Transient Designer-style gain spike for the first few milliseconds of each drum hit — this might seem an incredibly tedious task, but the automation Copy command makes it fairly manageable if you have a regular drum pattern.

A related technique also lets you re-balance mixed drum tracks, which I've found incredibly handy on occasion, and this is especially easy to do if you're working with a loop. Set a stepped pattern of fader automation data to adjust the loudness of the different hits, and then copy it to each instance of the loop. In fact, you could even automate the EQ as well if you have a serious 'remixing' job to do. When you get down to automating on a small scale, it's incredible what kinds of creative effects you can achieve: tremolo, auto-panning, and de-essing are just some of the simpler possibilities.

V-Studio Wizardry

That's enough to be getting on with for this month, but look out for the next instalment of VS2480 tips, where I'll be taking a close look at the some of the weird and wonderful things you can do with the onboard VS8F2 effects boards, as well as passing on some editing and routing tricks. SOS

Behringer BCF2000 & BCR2000

USB-based Rotary & Moving-fader MIDI Controllers

Photos: Mike Cameron

It sounds like an amazing deal — endless-rotary and (even more incredibly), *moving-fader* controllers for well under £200 each. But have Behringer gone a price-cut too far this time?

Derek Johnson

The past few years have seen an explosion in the number of affordable MIDI controller boxes available on the market, at prices that would have been unthinkable a few years ago. Inevitably, there is now a range of products at a variety of prices, from handy little boxes that feature just a few knobs or small faders in compact packages for the same price as a budget soundcard, right up to moving-fader assignable control surfaces that cost more than a computer. And as in any competitive market, manufacturers keep bringing out new controllers that offer more functions and features at prices that seem astonishingly low — until the next price-lowering development.

Behringer are the latest company to throw established controller price conventions on their head. Their first steps into products specifically aimed at computer users are two cross-platform USB-equipped MIDI controllers — a logical move. The BCR2000 features no less than 32 rotary encoders, plus a host of assignable switches, and retails for just £140. The second unit, the BCF2000, offers eight faders, plus eight rotary encoders and loads of switches, for just £180. That's still good value, but you might be curious about a price difference that buys fewer simultaneously useable controllers. Well, that extra 40 quid buys you eight 100mm *motorised* faders, which I think is unheard of in this price range.

Description

Both the BCR and BCF have identical dimensions and overall shape. They even share a raised row of rotary encoders and switches across the top, a four-digit LED display and a strip of edit and assignable switches down the right. Operation is so similar for both units that Behringer have produced just one slim manual for both units (as usual with Behringer, other European languages are supported with multiple translations). A glossy four-page 'preset' leaflet is the only documentation specific to either controller box.

There is more documentation available from Behringer's web site as PDF files, and some of it is rather useful. It would be nice if this material — plus drivers and some further extras — were packaged with the controllers in future on CD. Though both devices will work with Mac OS X and Windows XP straight out of the box, Behringer recommend their dedicated drivers for Windows users. Once again, these are only available on line. A mains lead and USB cable are included in the box, which is very thoughtful.

The knobs that populate the raised front-panel section of both controllers (and the whole front panel of the BCR) are in fact endless rotary encoders: they have no end stops, and their current position is indicated by a ring of LEDs that surround the encoders. The LEDs not only let you know where you've moved a given parameter to, but also change to reflect a parameter's position when you switch between presets or banks of controls in your host software. In addition, each of the eight encoders on the upper raised section is actually a push encoder: they can have a MIDI parameter assigned to their left/right movement and also to their push state. Two rows of assignable buttons, each with its own integral LED, finish this section of the front panel. In most standard mixer controller configurations, you can expect these controls to function as pan pots, and Mute and Solo switches. To this end, it might have been nice if the two rows of buttons had different colour LEDs; the integral LEDs in both rows are red.

The four-digit display indicates the currently selected controller assignment preset — there are 32 on both B-Controls — or edit parameter/parameter value, depending on what you're up to. The display reflects as best it can with four digits on-screen changes in host software, too. Below the display, four buttons labelled 'Encoder Groups' switch the top row of encoders, so that per preset there are actually 32 push encoder assignments, in four banks. I also expected the two rows of buttons to be grouped, but they aren't: there are just the two rows of eight for each preset.

Moving downwards, we encounter activity LEDs: each of the rear-mounted MIDI sockets can be monitored in this way (there's an In, an Out and an Out/Thru), as can each of the rear-panel sockets where foot controllers can be attached. On the BCR, these are configured for two footswitches, while on the BCF, they're configured as a switch and a continuous controller jack (for a volume pedal, say). Returning to the front panel, the System buttons are next, below the Activity LEDs, and they are not assignable. You press Store to save an edited preset, hit Edit to go into Edit mode, and Exit gets you out of Edit or Global mode (accessed by pressing Edit and Store together). The Learn button makes light work of controller assignments by letting you simply move the on-screen control you want to assign. Below these are the up/down preset selection buttons, and last of all are four further buttons that are fully assignable: they tend to be set to control sequencer transport functions in factory presets.

Spot The Difference

So much for the similarities between the BCF and BCR — what about the differences? Well, as is pretty obvious, the BCF2000 offers those eight motorised faders, and the BCR2000 is equipped with three rows of eight rotary encoders, again with position indicated by a ring of LEDs. A word about these 24 encoders: unlike the ones along the raised top section, they are *not* push encoders, and the build quality of the B-Controls doesn't feel up to heavy testing of this point! If you press too hard on an encoder, it may well break.

Operationally, the two units are obviously similar — as the identical manuals suggest — and which one you choose depends on how you like to work. If you absolutely prefer faders, then the BCF will be the one. But if you're not bothered, or find that knobs suit your approach to on-screen control, then having 32 controllers in front of you without any kind of bank switching will be attractive.

The MIDI connections are rather more flexible than you might at first think. When a B-Control (either one) is connected via USB to a computer, these connections can function as a basic MIDI interface, either one-in/one-out or one-in/two-out, depending on which operating mode you're in.

In addition, it's not even necessary to connect the controllers to a computer: if you want hardware control over a workstation

SOUND ON SOUND

Behringer BCF2000/BCR2000
£180/£140

pros
- Amazingly priced.
- Motorised faders (on BCF).
- Loads of knobs (on BCR).
- Good profile support from Behringer via their web site.
- Good emulation options.

cons
- Somewhat insubstantially built, although this isn't surprising at this price.
- Limited onboard memories.
- Some useful documents and drivers are *only* available on line.

summary
Any niggles about build quality aside, these boxes work well, and are great value, the BCR especially: it's the cheapest, and offers such an impressive number of encoders!

synth or sampler or some sort of MIDI-equipped rack gear, then the Behringers will happily work via MIDI only. The same goes if your computer lacks USB, or free USB connectors — provided you have the spare MIDI I/O on your main interface, you'll still be able to hook up the controllers and use them fully. Practically all features available to the B-Controls when interfaced to a computer are available in stand-alone mode. You'll have to create most of your profiles from scratch, though, or at least until the B-Control community grows enough for users to start sharing their work. But perhaps *you* could be in the vanguard of that community!

Rather neatly, two B-Controls can be linked together via the MIDI sockets, set to a specific operating mode and then connected to your computer via a single USB cable. Two units are recognised, and there's even a MIDI Out free for your host software to access — a pretty efficient way of cabling.

In general, both B-Controls have one small problem, and that's in the area of labelling. Even though 32 presets isn't a large complement, it still represents a huge number of assignments. A single BCR2000 preset, for example, has a potential 110 individual assignments. This leaves us with trying to keep track of what knobs or faders are doing what in which preset. Behringer help a little, with slim scribble strips running across various bits of the front panel, but these are only good for one set of assignments. The alternative is to photocopy the supplied preset sheets (or print out the PDF equivalents) and write assignments out by hand.

Profiles & Editing

Out of the box, the B-Controls are loaded with a few handy ready-made presets, and there are plenty more available for download at Behringer's web site. For example, one preset lays out all continuous controller numbers from 1 to 94 (on the BCF) and 1 to 110 (on the BCR) on MIDI channel 1. Another functions as a simple mixer. The Banks for the eight raised push encoders allows them to function as controls for Pan, Balance (for stereo channels), Effects send 1 or Effects send 2. The BCF then has eight level fades, obviously, but the BCR in this preset adds control over two-band EQ, since it has two extra rows of controllers per preset. As expected, there is even a General MIDI/GS/XG control preset, but the most interesting profiles are to be had from the company's web site. This should be your first stop before trying to create your own presets. Nearly every device within *Reason* has a profile, as do most Native Instruments products. *Cubase SX* is covered, as is Apple's *Logic* and Cakewalk's *Sonar*. All you need is some sort of SysEx utility with which to send the data to the controllers (the same goes for B-Control firmware updates; they're SysEx dumps, though PC users can use a handy custom Behringer update utility).

But eventually there will come a time when you want to create presets from scratch. It isn't that hard; the job can feel a little cramped, due to the small display, but when editing, the push encoders double up for choosing data types and values, MIDI channels and so on. Even so, the easy option for most assignment tasks remains the 'Learn' mode: just tweaking a parameter on your target MIDI application sends the necessary information at the B-Control, ready for capture and assigning to the fader, encoder or button of your choice. Of course, there's some software that lacks MIDI Out, in which case you'll have no choice but to go about the process manually. Propellerhead *Reason* falls into this category, but it's very well supported on Behringer's web site.

Nearly any MIDI data can be be learned or manually input and assigned to any control: program changes, control changes, MIDI notes, pitch bend, MIDI Machine Control, NRPNs, SysEx strings and so on. And if you think creatively, you should be able to assimilate the control concept both in the studio and when playing live. For example, you could trigger samples or loops, control hardware sequencers, use the faders on the BCF as drawbars for software or hardware organs, play MIDI-equipped lighting rigs, and so on. B-Control parameters can be customised as to how they respond, too. For example, when assigning an encoder to a parameter such as pan, the LED ring lights solidly as you move the encoder right or left. You could also simply choose to have one LED light at a time as a parameter is moved. Just remember to store your work once you've finished editing!

If you check out the box on the final page of this review, you'll find another alternative in the shape of the recently released (and free!) *BC Edit* application. With this on your computer, there's no need to edit the B-Controls in any other way.

Recent updates to the B-Control firmware (from v1.06 upwards) have introduced a handful of rather interesting control options — though at the moment, this applies to the BCF2000 only. By pressing the correct buttons during power-up, its possible to convince the BCF that it's a Mackie Control for Steinberg *Cubase SX* and *Nuendo* or Cakewalk *Sonar*, a Logic Control for Apple *Logic*, or a Mackie Baby HUI for various applications, including *Pro Tools* and *Cubase SX* or *Nuendo*. When emulating these other controllers, the BCF has very similar functionality, with banks of eight mix control channels changed by the preset ▶

Although this is the back panel of the BCF2000, the rear panels of both units are identical, with the exception that the BCF2000 has one continuous footpedal jack and one footswitch jack, as shown here on the right, while the BCR has two footswitch jacks instead.

The Next Stage: The BCA2000

If you're thinking, like me, that the logical step beyond these two USB-equipped MIDI controllers is to add audio interfacing to create a composite front-end system for a music computer offering audio I/O *and* extensive MIDI-control facilities, then we're thinking right on Behringer's wavelength.

The B-Control Audio BCA2000 wasn't yet available as I concluded this review [*it turned up at SOS just as we were going to press — Ed*], but will be one of the few USB 2.0-equipped multi-channel audio interfaces on the market, and also offers basic one-in, two-out MIDI interfacing.

The audio side is quite well thought-out, with a choice of analogue sources: one high-impedance guitar input is joined by a pair of phantom-powered mic inputs and a stereo line input pair. Only three analogue inputs can be used at any one time, but they can be treated to simple dynamics processing, in the shape of a noise gate and limiter.

Digitally, the interface is equipped with optical and co-axial connectors, but is compatible with ADAT, S/PDIF and AES-EBU formats. There are apparently surround monitoring options, too. In total, the interface can handle eight input and eight output audio channels simultaneously. Metering is well-thought out, as are the monitoring options. Behringer promise low-latency ASIO 2 and WDM audio drivers.

Fidelity fans will welcome the 96kHz 24-bit convertors, and wallet-watchers will breath a sigh of relief at the proposed retail price: £180. Watch out for a review in *SOS* soon!

DREAMTEK

Solution Expert

020 8533 2222

www.dreamtek.tv

...what are you dreaming of?

86 Well Street London E9 7PX t: 020 8533 2222 f: 020 8533 2230 www.dreamtek.tv info@dreamtek.tv

What makes Dreamtek different?

- Apple Solution Expert for audio and video
- A specialist team with years of industry knowledge and experience
- Full configuration and optimization on all systems purchased
- We only recommend products suited to your needs
- Superb after-sales service and unrivalled Apple know-how

We are regularly commended for our friendly service, in fact our business is mostly based on customer referral...

"Dreamtek fully understand my needs as an international DJ / Producer. Their friendly staff listen first and then come up with a solution that always exceeds my expectations. Respect to the Dreamtek Crew."

LTJ BUKEM

APPLE

PowerMac G5

Dual 1.8GHz PowerPC G5
from £1333 inc VAT

Dual 2GHz PowerPC G5
from £1701 inc VAT

Dual 2.5GHz PowerPC G5
from £2023 inc VAT

PowerBook G4

12.1" Combo 1.33GHz PowerPC G4
from £1057 inc VAT

12.1" Superdrive 1.33GHz PowerPC G4
from £1194 inc VAT

15.2" Combo 1.33GHz PowerPC G4
from £1286 inc VAT

15.2" Superdrive 1.5GHz PowerPC G4
from £1608 inc VAT

17" Superdrive 1.5GHz PowerPC G4
from £1793 inc VAT

Build Apple Powermac G5 or G4 Powerbook to your own specification. Call now & speak to one of our Apple system specialists for advice & pricing on your Dream machine.

EMAGIC

NEW Logic Pro 7

Emagic's Logic Audio Pro is the industry standard sequencer for the music industry. It offers professional editing tools for audio & midi plus a wealth of high quality software plug ins and virtual instruments.
from £423 inc VAT

Upgrade To Logic Pro 7 From Either Gold or Platinum v5 or v6
£199 inc VAT

Logic Express 7
from £159 inc VAT

FREE Logic training when you purchase Logic Audio Express or Pro. Call us now for further details.

MIXERS

Mackie Onyx 1640

Mackie's new flagship mixer. The Onyx 1640 is a high quality 24-bit/96k 16 Channel analog mixer with 16 ONYX Mic Pres & 4 band Perkins EQ. You can add a optional Firewire Interface allowing you to use your mixer as a audio interface for your DAW.

£1295 inc VAT

Yamaha 01X

The 01X is a complete one stop solution that comprises of a high quality 24-bit/96k 8 channel audio interface with mic pre-amps, a midi interface & an 8-bit Digital mixing control surface for your favourite DAW. This unit also includes on board effects & equalization making this a product that your studio should not be without.

£Call

SPEAKERS

Adam The Apple

Genelec 8030A's Call
Mackie HR824's £1198 inc VAT
Pyramid TV & Radio Referencing Speakers £274 inc VAT
Mackie Tapco S5's £348 inc VAT
Dynaudio BM6 £585 inc VAT
Adam The Apple £795 inc VAT

AUDIO INTERFACES

RME Fireface 800

MOTU 828MKII £Call
MOTU HD192 £656 inc VAT
Metric Halo ULN2 £689 inc VAT
Metric Halo 2882 £899 inc VAT
Apogee Rosetta 800 £Call
Apogee Mini-Me £Call
RME Fireface 800 £993
Maudio FW 410 £259

DIGIDESIGN

Digidesign 002 & 002 Rack

Digidesign 002 Rack
£699 inc VAT

Digidesign 002 Control Surface
£749 inc VAT

M-Box
£329 inc VAT

DigiDesign Command 8
£551 inc VAT

Call now for pricing on the superb value Digidesign Factory software bundles for the above products.

FREE Pro Tools Training. Dreamtek are offing Free Pro Tools training on purchases of Digidesign LE products. Call us for further details.

DREAMTEK EVENTS

Thursday 20th January 2005

Sounds Like...a seminar on plug-ins and virtual instruments

Join us at Dreamtek in Well Street, Hackney for this superb event in association with Mike Collins, recording engineer-producer and various pro audio manufacturers. If you like finding new sounds & effects you'll love this event, it will cover the best of the best plug-ins and virtual instruments and will give you an opportunity to discuss what works for you and why. Dig out your new 2005 diary and put this date in it, let us know of your interest in attending by emailing events@dreamtek.tv.

CALL US FOR A COPY OF OUR LATEST CATALOGUE

Business leasing and discounted educational pricing available

up and down buttons. In *Pro Tools LE*, for example, level-riding, pan, solo, mute and track-arm functions are supported, along with basic transport operations.

In Use & Conclusion

First impressions of the B-Controls are good: they're a nice chunky size without being too big, there's loads of rooms for fingers between knobs and faders, and delays between control moves and on-screen action were undetectable in my tests. The faders feel good if a little flimsy, and the encoders move well, with great visual feedback from the LED rings. Closer examination leads one to the conclusion that the packaging is a little plasticky, but bearing this in mind should lead to a long and happy working life. I mean, I can be impressed by build quality as much as the next guy — for example, CM Labs' Motormix is a wonderful piece of hardware, as well as offering an amazing feature set. But I remain drawn to any piece of equipment that does the job of something listing at £600 for well under £200. The nearest competition, for the BCR at least, may well be Doepfer's Drehbank, with 64 knobs on board (and 128 controllers available via banks) at a price of around £275.

It's very hard not to like the B-Controls, and though price alone will ensure them a big slice of the MIDI controller market, their functionality is such that even demanding users won't be disappointed. The integration with software is exactly what most of us need, both in terms of simple control and editing and for recording complex mixes or parameter changes into a sequence. Although it can take a while to get used to which controls govern which on-screen elements in certain applications — *Reason*'s *Subtractor* synth, for example — being able to access all those parameters at once is highly welcome.

Editing the BCR and BCF from their front panels is reasonably acceptable, though the 'learn' function and free editing software mean that most of us won't have to in most situations. It remains reassuring to know that the process is as straightforward as dealing with MIDI bits and bytes can be, though. Behringer seem committed to supporting these devices, with all those on-line documents for free download. Still, it would be nice to see some of this material collated onto a CD supplied with the controllers themselves.

My wish list isn't that long: offering a few USB outputs might have been a nice gesture, adding hub functionality to what is already a great package. A Snapshot mode would have been good, too, especially when using the B-Controls in stand-alone mode with hardware instruments, or when working live (that said, something like this option can be achieved when switching presets). I do wish that all controls could be switched to four banks worth of assignments, not just the top eight push encoders. And perhaps 32 memories won't be enough for some users. The non-computer using community — it does exist! — will have to find other solutions if they need more presets than the onboard memory will supply.

My concerns regarding the wider potential of the B-Controls were addressed by the firmware updates that appeared during the review. It's great that dedicated presets are available for popular sequencers and software synths, but anyone with experience of the more upmarket hardware controllers and the way they integrate with software might have felt that they were missing something. The new emulation modes deal with most of these issues, allowing the BCF, at least, to control sessions of any size in the major sequencers.

As a person with an increasingly virtual musical life, I find versatile hardware controllers such as these increasingly attractive. I may enjoy my streamlined computer-based studio, but I often miss the hands-on control offered by real synths and real mixers. Neither of Behringer's new controllers takes up much desk space, and at these prices, they are pretty unmissable. If you're canvassing the market, as I am, then our choice has just become a lot easier. SOS

Free Editing Software

Behringer's free *BC Edit* software is a Java applet that'll run on any Java-equipped computer. Though currently a beta release, it offers great functionality and seems stable.

Editing the B-Controls from their front panel is no great hardship — the 'learn' option makes the process fairly painless. The display is small, though, and keeping track of controllers with no way to physically label them can be tricky. This sort of thing is always easier with a software editor, and Behringer apparently planned such a thing from the start. While I was finishing this review, *BC Edit* v0.2 beta 3 was released. The most surprising thing about this free editor is that it's a Java applet, and will thus run on any platform with a compatible Java environment. It doesn't matter whether you're a Mac OS, Windows or Linux devotee, the editor will work. The early version I used was functional, if a little bit clunky, though that is probably down to Java more than the Applet itself. All encoder, button and fader assignments can be customised with a basic but clear graphic display (and that includes managing the four possible banks of controllers). Sets of presets can be saved to your hard drive, and moved to and from any attached B-Controls. There's even a hint in the user guide that the software may become compatible with 'future MIDI controller products'. We await Behringer's forthcoming news with interest!

Test Spec

MAC REVIEW SYSTEM
- 450MHz Apple Mac G4 with 896MB of RAM running Mac OS v10.3.5.

PC REVIEW SYSTEM
- 3.06GHz Pentium 4 PC with 512MB of RAM running Windows XP.
- Behringer BCF/BCR2000 firmware version reviewed: v1.07.

information

£ BCF2000. £180; BCR2000, £140. Prices include VAT.
T Behringer +49 2154 9206 6441.
F +49 2154 9206 321.
E support@behringer.co.uk
W www.behringer.de

TANNOY®

Ellipse Digital Monitors

mixing form and function

Tannoy Ellipse iDP™ studio monitors incorporate a host of cutting edge acoustic, electronic and digital expertise to provide the professional user with complete control over the entire monitoring operation.

The legendary Dual Concentric™ drive unit, 54khz WideBand™ performance, digital sound processing, networking intelligence, class D amplifiers all combine with exceptional Tannoy iDP™ software functionality, via your studio PC or MAC, to provide an exceptional level of performance and operation convenience in studio monitoring.

iDP™ TECHNOLOGY

T: 0500 006 049 F: 01236 428230 E: enquiries@tannoy.com W: tannoy.com

WIDEBAND™ TECHNOLOGY | DUAL™ CONCENTRIC

Photo: Mike Cameron

Chandler TG Channel

Recording Channel

This new mic preamp and equaliser unit uses '60s EMI designs to recreate some of the classic sounds.

Hugh Robjohns

Chandler is an American company, based in Iowa, which builds mic preamps and related products. Now you might be thinking 'So what? There are hundreds of companies making mic preamps.' However, there are relatively few companies building accurate vintage designs, and even fewer making units based on vintage transistor designs — and most of those are Neve replicas anyway.

Vintage EMI Design

Chandler are a little bit different because they specialise in creating a range of vintage preamps, compressors and EQs based entirely on authentic British EMI circuit designs dating back to the late 1960s. These were used in the first of EMI's transistorised consoles — the TG series — which throughout the '70s and '80s recorded such well-known acts as the Beatles and Pink Floyd at the world-famous Abbey Road Studios in London. But Chandler also go beyond simply using the same circuit designs — they also use the same custom-wound transformers (or as close as it is possible to get), the same hand-wired construction practices, and all-discrete circuitry.

The subject of this review is the Chandler TG Channel, an all-new single-channel model contained in a 1U rackmount unit. It combines the preamp and output stages of the Chandler TG2 preamp with a passive, inductor-based three-band equaliser circuit borrowed from the mastering version of the TG console.

SOUND ON SOUND

Chandler TG Channel

pros
- Full, rich, and airy vintage sound.
- Great ergonomics, simple controls.
- Smooth, musical, and flexible EQ.
- Hand-wired and well built.
- Classic transistor circuitry with passive EQ.
- Transformer input and output.

cons
- No level metering or peak overload indicators.
- No function-switch indicators.
- Phantom power available on line input.
- Separate PSU, with lack of insulation on mains terminals.

summary

A single-channel mic preamp and EQ based on the classic EMI TG-series console electronics made famous in the 1970s. Hand built to high standards, the Chandler Channel invokes a recognisable sound character while allowing precise tonal control and shaping.

The power supply is a completely independent 1U half-rack box which is priced separately — it can power two Chandler Channels, which increases its cost-effectiveness somewhat. I'm not a fan of separate power supplies, despite the potential performance gains from keeping the mains toroidal transformer well away from the audio transformers. It's a practical thing really — it's just a pain having to find somewhere to mount or install a separate PSU lump. If the unit is installed in a static rack, the separate PSU may be less of a problem, but you still need to have access to the PSU to get at the mains switch, which is often inconvenient.

Construction

The power supply unit is a solid nickel-plated steel box, measuring 194mm front to back. The front panel carries only a fuse holder and the mains switch, while the rear panel is scarcely more elaborate, with just an IEC mains inlet and a pair of four-pin XLRs to carry the DC supplies to a pair of TG Channel units (providing ±24V DC for the audio circuits and +48V for phantom, all with a common ground.) Mains input voltage selection is provided via a switch on the internal PCB.

Internally, the box is well constructed, with a toroidal transformer occupying the left of the case, and a PCB on the right, running the full depth of the unit, to carry the rectification, smoothing, and regulation components for each of the three supply outputs. The internal wiring is very neat, and the hand-soldering looks very solid and secure, but I was dismayed that none of the

mains wiring was insulated or shrouded on the IEC inlet, the fuse holder, the mains switch, or the PCB. This is bad practice and there can be no excuse, especially in an expensive product with metal casework everywhere.

The Channel unit itself is built in a very 'traditional' manner. For example, the case has two front panels — a hidden inner panel to which the rotary controls and switches are bolted, and a neat outer 'escutcheon' which carries the control markings. The internal circuit board is supported by a pair of rails running the full width of the unit, and all the switches are wired by hand very neatly back to the PCB. The input transformer is bolted to the left of the chassis near the rear panel, while the large output transformer is bolted to the right of the chassis — both custom devices supplied by the UK manufacturer Carnhill.

The PCB is relatively large, with everything being well spaced out to minimise component interaction, supplemented with a screening ground plane all over the top surface. The rear panel carries only three XLRs. The usual three-pin input and output socketry (the single input socket accommodates both mic and line-level signals), plus a four-pin male socket for the DC power feed from the separate PSU. There is no power switch on the TG Channel unit at all. A sealed relay is used to switch between mic and line input levels. When in mic mode, the input socket presents a standard 2.4kΩ nominal input impedance, which increases to 10kΩ in line mode.

The actual preamp stage appears to be very simple and is claimed to be identical to the EMI TG12428 circuit. It comprises two complementary pairs of BC214 (PNP) and BC184 (NPN) transistors — although a useful proportion of the gain is provided by the input transformer, of course. The output stage appears to be based around another BC214/BC184 pair driving a pair of extremely chunky output transistors in metal cans, although the part numbers have been scratched off so I can't identify them at all. Two more sets of BC214/BC184 transistor pairs are used to provide the make-up gain in the passive EQ stage, which incorporates three large ferrite inductor coils. All of the front-panel rotary controls are switches except the Output level control, which is a normal potentiometer, and most have resistors wired directly across their terminals — again in the 'traditional' way. All in all, the Chandler Channel is very nicely constructed indeed.

"This is a well-built channel unit with a versatile front end and a marvellous EQ section. Transparent is not a word that can be applied here, but the TG Channel's characteristics are nothing if not flattering and musical."

Controls

The control knobs are all classic black pointers and, combined with a quartet of chunky white buttons and clear, simple white and yellow legends on a dark grey panel — altogether they make for a wonderfully understated vintage look. Everything feels very solid and reliable, and the overall impression is of a high-quality product. The first control is the gain switch, marked in yellow to offer -15dB to +55dB of gain in 5dB steps when in mic mode, and ±15dB (marked in white) for line mode. However, the gain can be adjusted beyond these limits in line mode to deliberately overdrive the input stage if required, which will generate a lot of (possibly useful) third-harmonic distortion — a facility made more practical thanks to the inclusion of the variable output attenuator, which allows the user to maintain sensible output levels.

Surprisingly, there is no level metering of any kind — not even a peak overload indicator — but the Channel has a huge headroom and very high output capability, so optimising the gain structure is not overly critical. The maximum +55dB of gain may not sound like much — especially when the Chandler TG2 offered 75dB from the same circuit — but this is intentional. The EQ stage provides for considerable amounts of bass and treble boost, and so in practice the input gain is likely to be less than might otherwise be the case in a straight preamp. It was also found in the Chandler TG2 that the high preamp gain and lack of an input pad often caused problems when close-miking loud sources with high-output mics. Consequently, the Chandler Channel provides less maximum gain and up to 15dB of attenuation to be incorporated in mic mode at the left-hand end of the gain control.

When pressed, the four independent latching buttons provide 48V phantom power, polarity (phase) reverse, line input mode, and insertion of the EQ circuit. None of the switches have indicator LEDs and it can be hard to tell what condition the unit is in if both switches in each section happen to be in the same state (ie. both pressed in or out). I was also concerned that the phantom power switch remains active even when the line mode is selected. Some solid-state line output stages can be damaged or destroyed if they receive 48V phantom power, and if this was my unit I would modify it immediately so that the phantom supply was wired through the ▶

Power for the TG channel comes via a dedicated external PSU unit, the internals of which can be seen here. The voltage selector switch is at the top left, and on the right-hand side are the uninsulated mains wiring connections.

spare bank of contacts on the adjacent line switch. In that way the phantom power could only reach the XLR socket when the unit was in the mic input mode. This is such a simple and obvious modification that I'm surprised no one at Chandler has already thought of it! Can I claim a designer's commission fee?

The Output rotary control is the only continuously variable control on the entire machine — all the rest are switches — and it replaces the fader of the original TG consoles. It is scaled simply from zero to 10 and is located in the circuitry between the input and output stages. So not only can it be used to provide fine level control between the 5dB input gain steps, it can also keep the peak output level under control even if the input stage is driven unusually hard as an effect. The input gain calibrations are correct when the output control is fully open (ie. the maximum clockwise position).

The Equaliser

The EQ stage is a three-band semi-parametric design, and each section has its own Off mode at the left-hand end of the frequency-selector switch so that unused sections can be bypassed. The first section provides high boost, with gain ranging from 0dB to +18dB in 2dB steps — there is no high-cut option. This may sound a little restrictive at first, but in practice it is unusual to need to reduce the high end — you almost always want to turn it up!

An even more unusual feature is that the frequency selector also changes the shape of the EQ curve. At the higher frequency settings, which are all marked in yellow (16, 12, 8.1, 6.8, and 5.8kHz) the section acts as a high shelf, using only capacitors in the circuitry. However, at the lower frequency settings (3.9, 2.2, 1.8, and 1.2kHz, all marked in white) it acts as a peaking bell equaliser, using both capacitance and inductance. Not only does the shape of the EQ curve change, but so does the sound character — it's a subtle but useful distinction. In addition, the bandwidth of the bell curve can be adjusted between high and low Q values via a small toggle switch, although the Q also reduces automatically (ie. the bell curve gets sharper) with increasing gain to make the EQ more selective as it is turned up.

It might sound rather complicated, but in practice the arrangement works very intuitively, doing exactly what you would expect of it. When boosting higher frequencies for added air and sparkle, the shelf option is the appropriate mode, and when boosting the upper mid-range to pull out some specific harmonic character of a sound, the bell response allows precise control. If you should need a lot of gain to really pull a sound out of the mix, then you'll also want a narrow bandwidth to ensure accurate control — so all in all these controls just work wonderfully well!

The mid-section affects the lower mid-range frequencies (350, 400, 500, 600, and 700Hz) but provides only cuts of up to 20dB in 2dB steps. Again, it may sound restrictive, but the higher mid-range frequencies can be boosted with the high boost section if required, and in the range covered by this section level reduction is usually required to improve clarity — the middle part of the ubiquitous 'smile curve'. Although there are no markings on the controls, this is another bell-shaped section employing both capacitance and inductance

SONY

Oxford Plug-Ins

Sony Oxford plug-ins take digital audio processing to a new level, offering unparalleled clarity and precision for music and post production applications. Conceived by the creators of the OXF-R3 large format digital mixing console, Sony Oxford plug-ins have rapidly become the tools of choice for the quality conscious.

New!

The Oxford Reverb

The Oxford Reverb is a highly flexible reverberation generator, providing the user with the highest technical and sonic performance. Control over ALL parameters enables the user to creatively build a vast range of virtual spaces depending on artistic need.

The Oxford EQ

Based on the exact same novel processing algorithms as the OXF-R3 console, the Oxford EQ consists of a 5 Band Equaliser, with additional variable slope HP and LP filters. Four EQ characteristic types are included. A GML 8200 emulation can be added as an optional fifth EQ type (TDM only).

The Oxford Dynamics

Modelled on the extremely flexible dynamics processor section from the OXF-R3, the Oxford Dynamics features Mono and Stereo Channel Dynamics with separately controlled sections for Compressor, Limiter, Expander, Gate, 2 Band Side-Chain EQ and 'Warmth' feature. Also incluces 6 Channel Bus Compressor, for surround processing.

The Oxford Inflator

A unique real-time process that can significantly increase the apparent loudness of virtually any material without going 'over'. Brings power, warmth and presence, with tube-like character, without pumping effects associated with compressors and limiters. Enhances individual instruments or full mix.

The Oxford TransMod

A powerful new resource to accentuate or soften transient events. With a range from subtle to exceptionally dramatic effect, it can be used on individual instruments or whole mixes, without negative impact on original artistic intent. Excellent on drums.

PRO TOOLS TDM PRO TOOLS LE TC • POWERCORE

Exclusively distrbuted in the UK by
HHB Communications Ltd
Tel: 020 8962 5000
Email: sales@hhb.co.uk

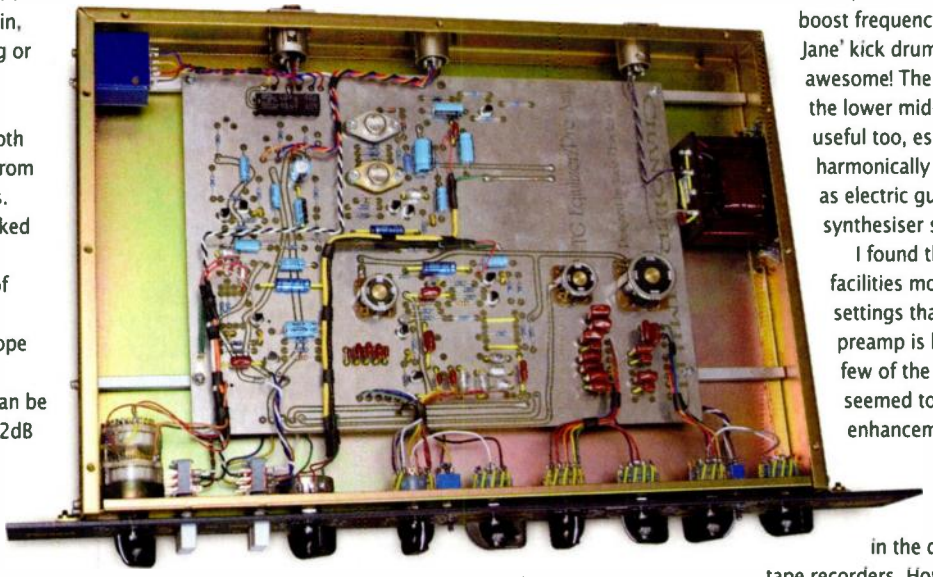
www.sonyplugins.com/dealers

Exclusively distributed in the uk by
HHB
FIRST WE LISTEN

components, and the Q of the filter varies with frequency again, this time providing narrower bandwidths at the lower frequencies and wider, more gentle bandwidths for the higher frequencies.

Finally, the low section applies only boost again, offering either shelving or bell-shaped boosts for different frequency settings — this time both elements are derived from inductor-based circuits. The shelf portion (marked in white) is active for turnover frequencies of 100Hz and 200Hz, providing a gradual slope over a very wide bandwidth. The gain can be increased to +20dB in 2dB steps, with the gain maximising at about 65Hz.

The bell section (marked in yellow) is active for frequency settings of 50, 70, 100, and 200Hz — the lower two being particularly optimised for kick-drum and bass-guitar enhancement. Once again, the Q increases as the amount of gain is increased, making the filter progressively more selective. A useful addition to the low EQ section is a simple high-pass filter (engaged with a toggle switch) to remove unwanted rumbles, with a turnover of 100Hz.



The inside of the TG Channel itself, showing the discrete components and hand-wiring.

The TG Channel In Use

This is a delightfully simple product to use, with all the rotary controls providing very clear visual feedback thanks to the large pointer knobs and well-spaced switch positions. There is no doubt that the unit invokes a certain sound character, so this is not an 'invisible' preamp by any means. Given its heritage, it bears comparison with the early Neve preamps — the transistor circuitry and transformers stamp their characteristic hallmarks on both marques. Like the Neve designs, the Chandler provides that huge, 'larger than life' sound with a warm and full bottom end. The mid-band has a slight but identifiable richness too — presumably contributed by subtle transformer and transistor distortion artefacts.

By driving the input stage harder than normal, the amount of distortion can be increased in a musically enhancing way, but unlike a valve preamp, the distortion here tends to be mainly odd harmonics — the infamous 'transistor fizz'. This can be used to great effect and it is a sound character very much in vogue at the moment, especially for vocals. The Chandler web site refers to John Lennon's vocal on the classic Beatles track Polythene Pam as a good example of the kind of harmonic distortion the Chandler Channel produces when heavily overdriven.

Importantly, this overdriven quality is easy to control, especially as a post-production process when using the line input. In this case, the gain can be cranked up to over-cook the front end, and the output gain control backed off to maintain sensible peak output levels — much like using a guitar amp with separate input drive and output gain controls.

The TG Channel impressed me with its very open and airy high-frequency sound. It is not overly bright — although there is certainly a hint of HF lift — and there is nothing aggressive about the high end at all, but it sounds far more open and extended than I was expecting, with a kind of smooth, almost creamy quality. I understand that the Chandler TG preamp circuitry has a frequency response that is fundamentally flat from 20Hz to 3kHz, followed by a gentle rise up to 16kHz, reaching about +1.5dB — a classic 'air' response, in fact.

The preamp is impressive for injecting character and body into an otherwise sterile sound source — something for which the Chandler TG preamps have already developed quite a reputation. However, pressing the big white button to engage the equaliser raises the game to a whole new level. Passive equaliser circuits have a unique character which I suspect is to do with the huge headroom and accurate transient response inherent in such designs, combined with the sonic qualities of real inductors (rather than the far cheaper gyrator circuitry often used in active designs). The Channel equaliser certainly demonstrates these qualities well, allowing considerable amounts of boost to be applied without the results ever becoming abrasive or grating.

The low-end boost was useful for adding weight and emphasising the body of male vocals, and careful selection of boost frequency could make a 'plain Jane' kick drum sound truly awesome! The ability to thin out the lower mid-band area was very useful too, especially on harmonically dense signals such as electric guitar and some synthesiser string sounds.

I found the high-frequency facilities more useful with bell settings than with the shelf. The preamp is bright anyway, and few of the sources I tried seemed to need any further enhancement in this area. Perhaps the shelf boost was a more important feature in the days of analogue tape recorders. However, the peaking EQ settings in the upper mid-range were very useful for improving the clarity of sources, and really helped to make voices sparkle, or emphasised a breathy intimate character where appropriate.

Chandler Charm

This is a well-built channel unit with a versatile front end and a marvellous EQ section, combined with a full, rich, and airy sound character. Transparent is not a word that can be applied here, but the TG Channel's characteristics are nothing if not flattering and musical. The EQ is sublime in its tonal quality, allowing the key fundamental and harmonics elements of any source to be manipulated easily and creatively, and even extreme settings remain usable. Given its classic form of construction, it's not surprising this is a relatively expensive unit in the UK, yet it compares very favourably to other vintage and high-end units and offers an unusual blend of features and characteristics. If you are looking for something to inject real character and tonal controllability into your recordings, this could be just the box you have been looking for. SOS

information

£ TG Channel £1643.83; power supply unit, £117.50. Prices include VAT.
T Unity Audio +44 (0)1440 785843.
F +44 (0)1440 785845.
E sales@unityaudio.co.uk
W www.unityaudio.co.uk
W www.chandlerlimited.com

solutions inc.

APPLE LOGIC PRO 7

ADVANCED MUSIC CREATION. POWERFUL AUDIO PRODUCTION

ONLY £699.00 INC. VAT
NOW IN STOCK

The industry-leading application for music creation and audio production dramatically broadens the capabilities of computer-based studio environments with Logic Pro 7. The first choice of many prominent musicians and producers, Logic Pro 7 provides the most comprehensive collection of music creation tools.

Three New Instruments
- Sculpture • Ultrabeat • EFM1

Nine New Effect Plug-ins
- Guitar Amp Pro • Linear Phase EQ
- Match EQ • Pitch Correction

More Than 100 Enhancements
- Recall Channel Strips
- Global Tracks
- Software Instrument Layering
- EXS24 Editing Improvements

THE POWER MAC G5

ENGINEERED FOR THE CREATIVE CLASS

STARTING FROM £1099.00 INC. VAT

The Power Mac G5 range spans as far as you require. Its dual 64-bit G5 processors — with speeds of up to 2.5GHz — 8X SuperDrive and ultrahigh-bandwidth system architecture, will give you more results than systems costing twice as much.

All models include
- 64-bit G5 Processor
- Serial ATA Hard Drive
- FireWire 800 & 400
- USB 2.0
- Digital Audio
- Gigabit Ethernet
- 8X SuperDrive

Single 1.8GHz, 256MB, 80GB HD	£1099.00 inc. VAT
Dual 1.8GHz, 256MB, 80GB HD	£1449.00 inc. VAT
Dual 2GHz, 512MB, 160GB HD	£1849.00 inc. VAT
Dual 2.5GHz, 512MB, 160GB HD	£2199.00 inc. VAT

iPOD PHOTO

THE BEST JUST GOT BETTER

A delight for the ears. A feast for the eyes. Though it's no bigger than a pack of playing cards and weighs in at just over 6 ounces, iPod Photo delivers a one-two sensory punch.

60GB iPod Photo	£429.00 inc. VAT
40GB iPod Photo	£359.00 inc. VAT
40GB iPod	£299.00 inc. VAT
20GB iPod	£219.00 inc. VAT
4GB iPod Mini	£179.00 inc. VAT

iMAC G5

NOW WITH G5 POWER

Introducing the futuristic iMac G5 in 17- and 20-inch widescreen models. The entire computer, including a G5-based logic board, slot-loading optical drive, hard disk, speakers, and even the power supply — dwells inside the enchanting display.

NEW iMAC STARTING FROM £919.00 INC. VAT

17" Combo Drive, 1.6GHz, 256MB, 80GB HD	£919.00 inc. VAT
17" SuperDrive, 1.8GHz, 256MB, 80GB HD	£1049.00 inc. VAT
20" SuperDrive, 1.8GHz, 256MB, 160GB HD	£1349.00 inc. VAT

DIGITAL AUDIO BUNDLE

ALL YOU NEED TO GET STARTED

- 17" iMac G5, 1.6GHz, Combo Drive, 1.25GB Ram
- Lacie 160GB External HD
- Emagic Logic Express
- Event TR5
- Novation Speed IO

ALL THIS FOR ONLY £2000.00 INC. VAT

STUDIOMONITORS

Blue Sky MediaDesk
Blue Sky's entry level 2.1 system, MediaDesk offers full-range monitoring on the desktop and is optimized for computer-driven audio recording and production.
£499.99 inc. VAT

Tannoy Reveal Active 5.1	£925.00 inc. VAT
Edirol MA10A	£89.99 inc. VAT
Event TR5	£319.99 inc. VAT
Fostex PM1	£329.99 inc. VAT
Genelec 8030a	£739.00 inc. VAT
Mackie HR624	£749.99 inc. VAT
Dynaudio BM5A	£879.99 inc. VAT

OUTBOARD

Universal Audio LA610
Legendary vintage "all tube" luxury sound into a modern channel strip format by combining the 610 Mic-Pre/EQ/DI section and a T4 Opto-compressor into a single 2U unit with a ground-breaking price.
£1408.83 inc. VAT

Apogee Rosetta 200	£1599.99 inc. VAT
Universal Audio UA 6176	£1820.00 inc. VAT
Manley Labs Vox Box	£2339.99 inc. VAT
Focusrite Liquid Channel	£2299.99 inc. VAT
Samson S•Phone	£125.99 inc. VAT
TLAudio 5060 Ivory II	£424.99 inc. VAT

MICROPHONES

SE Electronics SE2200A
The SE2200A studio condenser mic draws on and improves the incredible specifications that won the original SE2200 so many awards around the globe.
£139.99 inc. VAT

AKG C414B	£499.99 inc. VAT
Blue Baby Bottle	£379.99 inc. VAT
Neumann U87	£1399.99 inc. VAT
Samson C03 & SP01 Bundles	£79.99 inc. VAT
Rode NT2000	£299.99 inc. VAT

MIXING

Solid State Logic

Solid State Logic AWS 900
Solid State Logic's AWS 900 is a revolutionary combination of a compact world-class analogue mixing console and a comprehensive DAW controller. The AWS 900 provides everything you need to record, edit and mix professional projects – just add the editor of your choice. **£58162.00 inc. VAT**

Mackie Universal Control	£978.99 inc. VAT
Mackie DXB 200 (Now available to order!)	£10495.99 inc. VAT
Samson MDR8	£229.99 inc. VAT
Tapco 6306	£94.99 inc. VAT
DigiDesign Command | 8	£899.99 inc. VAT

COMPUTERHARDWARE

TC Electronics Powercore Element
Unleash pro studio power inside your native recording environment. Run 24/96, multiple reverbs, compressors and synthesizers without maxing out your CPU.
£349.99 inc. VAT

Digidesign Mbox	£327.99 inc. VAT
M-Audio Keystation Pro 88	£389.99 inc. VAT
Edirol UA25	£149.99 inc. VAT
Metric Halo ULN2	£689.99 inc. VAT
Stanton Final Scratch - EXCLUSIVE PRICE	£323.13 inc. VAT

COMPUTERSOFTWARE

Apple Logic Express 7
Create your own music using an advanced spectrum of features and tools for computer-based music production. Logic Express provides a step up from GarageBand for aspiring musicians, producers and composers.
£199.99 inc. VAT

Native Instruments Guitar Rig	£339.99 inc. VAT
Steinberg Nuendo 2	£789.99 inc. VAT
Propellerheads Reason 2.5	£195.99 inc. VAT
Steinberg Cubase SX3	£529.99 inc. VAT
Abelton Live 4	£259.99 inc. VAT

ABOUTSOLUTIONS INC.

Our professional digital audio demo suite offers access to the very latest technology available from a wide range of manufacturers. By having a comprehensive demonstration suite our audio specialists have first hand knowledge of these products and do not rely on marketing blurb when recommending a turnkey solution. So if you want to see the very latest products and take them for a test drive, then please give us a call. We are a licensed credit broker with interest free finance on packages, subject to status.

Sacha Hansler
Digital Audio & Recording Specialist
Direct Line: 01273 200806
Email: sacha.hansler@solutions-inc.co.uk

FOR MORE INFORMATION PLEASE VISIT
WWW.SOLUTIONS-INC.CO.UK/MUSIC
OR CALL 01273 200800

Solution Expert

The south coast's leading digital audio specialist

Solutions Inc.
The Joinery, 255 Old Shoreham Road,
Hove, East Sussex, BN3 7ED.

www.solutions-inc.co.uk/music email:info@solutions-inc.co.uk tel:01273 200800 fax:01273 889030

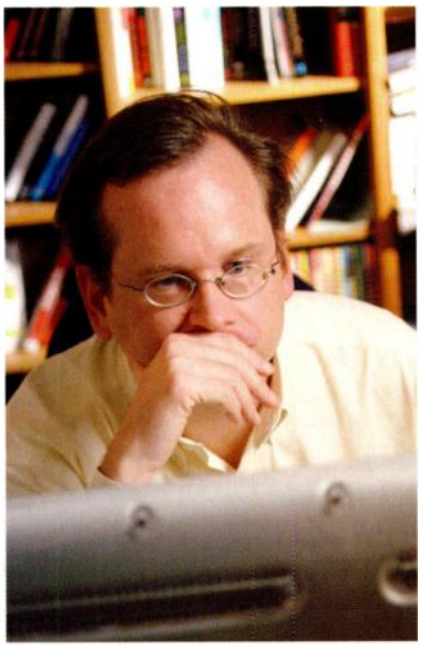
Creative Licence ©?

Simon Trask

Creative Commons, Copyright & The Independent Musician

As the music industry struggles to adjust to the growing effects of the Internet on sales, even traditional concepts such as copyright are being reconsidered. We examine the Creative Commons movement and explain how it could be useful to musicians everywhere.

The traditional approach to copyright can be summed up in three words: All Rights Reserved. In law, copyright owners are granted exclusive rights in the owned work for a set period of time (50 years in the case of sound recordings in the EU), and these include the right to copy the owned work and to issue copies to the public. Yet in recent years, computer technology has made it possible for the public to easily copy and share copyrighted works worldwide. The music industry, which has felt the brunt of these technological changes, has responded with increasingly restrictive technological and legal measures — think copy-protected CDs, lawsuits against both peer-to-peer file-sharing services and individual music fans, and industry lobbying of governments for more protective intellectual property laws. It's hardly surprising, then, that there's a growing antagonism between the industry and its customers.



Creative Commons chairman (and co-founder of the movement) Lawrence Lessig.

Meanwhile, the Internet is opening up new opportunities for musicians and other artists. But opportunities also bring with them challenges, and one such challenge is to consider whether All Rights Reserved copyright is the best way to establish a legal usage relationship in the age of the Internet.

The Commons Touch

In 2001 a group of US Internet legal and intellectual property experts, as well as other interested parties, decided that a more flexible approach to copyright was needed. Instead of All Rights Reserved, they proposed *Some* Rights Reserved. To this end, they established a non-profit corporation called Creative Commons (or CC) to draft a set of licences which could be used to 'modify' All Rights Reserved. The first such licences were introduced in December 2002.

Stanford Law Professor and CC chairman and co-founder Lawrence Lessig is an impassioned advocate of an open creative culture. A prominent writer and speaker on the topic, Lessig has three books to his name, the most populist of which is his latest, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (ISBN 1594200068). As well as being available for sale in hardback form, the book can also be downloaded for free in a variety of digital formats and 'remixes' under a Creative Commons licence at http://free-culture.org/freecontent.

The central idea of Creative Commons is that copyright owners can, by attaching a CC licence to their works, explicitly and automatically give certain rights to licensees (ie. anyone who accesses their work) while reserving certain other rights to themselves. Hence 'Some Rights Reserved'. Creative Commons is not about giving up copyright. Rather it's about introducing a more flexible way of managing the rights embodied in copyright. So, as a musician owning the rights to your music, you can make choices about what others can and can't do with it.

CC licensing is not specific to particular types of creative endeavour — the content could be a music track, a video, a photograph, a white paper, a manual, or a web-based diary (or 'blog', as they've become known, from 'web-log'). In some blog software, such as *Blogger* and *Movable Type*, the ability to choose a CC licence is a built-in feature.

An Open Culture?

Many independent music community sites are starting to offer Creative Commons licensing. Dance Industries, DMusic, Garageband.com (nothing to do with Apple's software), Mac Jams and Soundclick have all introduced CC licensing. For instance, tracks on Dance Industries are made available under a CC Music Sharing licence, while Garageband.com offers the Music Sharing licence as an option for all songs uploaded to its web site. Mac Jams, which *is* an on-line community for users

One of the Creative Commons licences available for download from the main site, http://creativecommons.org.

of Apple's *Garage Band* software, requires that everyone who submits a song to the site licenses it under a Creative Commons licence, while DMusic and Soundclick both offer CC licensing as an option. Soundclick, which says it sees about 70,000 track uploads per month, reports that over 30,000 tracks were CC-licensed during the first month the option was available. Another site which offers Creative Commons licensing is ElectroBel, a web site for the Belgian underground electronic music community. And Streamcast Networks, owner of the peer-to-peer application *Morpheus*, which searches multiple peer-to-peer networks, says it will make it easier for users to find CC-licensed music.

Labels, too, are starting to utilise CC licensing. The Loca Records and Magnatune labels — both featured in boxes later in this article — release material exclusively under CC licences. Opsound, which describes itself as "a record label and sound pool using an open-source, 'copyleft' model", makes all material in the sound pool available under a CC Attribution-ShareAlike licence. Meanwhile, Textone, which is a combination on-line electronic music magazine and net-based label, licenses all its content under the CC Music Sharing licence; their site also includes an article titled 'The case for Creative Commons'.

Musicians adopting Creative Commons range from sample collagist Vicki Bennett (People Like Us) to veteran musician Roger McGuinn of The Byrds, who makes his recordings of traditional folk songs available for download under a CC Music Sharing licence.

The latest recruit to the Creative Commons cause is none other than entrepreneur Stelios Haji-Ioannou of easyJet fame. Stelios had a run-in with the BPI in 2003 after his easyInternet cafes allowed customers to download free music off the Internet and burn it to CD. As a result he decided to set up an on-line music service. Currently under development, easyMusic will feature two sections, labelled Copyleft and Copyright. The Copyright section will feature All Rights Reserved music, ie. major- and indie-label releases, while the Copyleft section will feature unsigned artists, with tracks licensed under a non-commercial CC licence.

Permission To Sample

This year has seen the introduction of three CC Sampling licences, specifically devised to enable musicians to give permission upfront for their tracks to be sampled. Leading lights in the development of these licences were

The Creative Commons Licences

THE SIX '2.0' LICENCES
- Attribution.
- Attribution-NoDerivs.
- Attribution-NonCommercial-NoDerivs.
- Attribution-NonCommercial.
- Attribution-NonCommercial-ShareAlike.
- Attribution-ShareAlike.

THE THREE SAMPLING 1.0 LICENCES
- Sampling.
- Sampling Plus.
- NonCommercial Sampling Plus.

OTHERS
- CC-GNU GPL.
- CC-GNU LGPL.
- Developing Nations 2.0.
- Founders' Copyright.
- Public Domain.
- Music Sharing (Attribution-NonCommercial-NoDerivs 2.0).

In addition, under the iCommons initiative, many countries are either developing or have developed their own localised versions of the standard global CC licences. Nine countries have already completed the process and released their own versions, among them Austria, Brazil, Canada, Japan and Taiwan. As I write this, the UK is in the final stages of developing its own versions.

veteran sample collagists Negativland, who achieved notoriety in the early '90s when they were sued by none other than U2. I can recommend reading the articles at www.negativland.com/edge.html and www.deuceofclubs.com/write/negativl.htm for an understanding of where the CC Sampling licences are coming from. Negativland led the public discussion process in the drafting of the sample licences.

Another musician who was thinking along the same lines and has become a Creative Commons advocate is Gilberto Gil, who as well as being one of Brazil's best-known musicians, is also its Minister of Culture in the government of Brazil's socialist President Lula da Silva! In September, Gil played a benefit concert for Creative Commons in New York with former Talking Head David Byrne — another Creative Commons advocate — and Gil and Byrne have contributed a track each to a CD which comes with the November 2004 edition of *Wired* magazine. All 16 tracks on the CD, which also features artists such as the Beastie Boys and Public Enemy's Chuck D, have been made available under CC Sampling licences — which means that anyone is free to sample from them. Some of the artists have used a licence which enables commercial use, while others are only non-commercial.

Express Yourself

Creative Commons offers a number of licences to choose from. Essentially there are six standard licences and nine special-purpose licences (listed in the box on the previous page). The six standard offerings are version 2.0 licences, introduced in May last year; the original 11 version 1.0 licences are still available, although six of them have the same licensing elements as the six 2.0 licences, which update them in a number of ways.

Creative Commons licences are expressed in three ways: a Commons Deed, a Legal Code, and a Digital Code. The Commons Deed is a plain-language summary of the licence which combines icons and concisely expressed terms to let you see at a glance what rights are granted and what rights reserved. The Legal Code is the document which expresses the licences in legal terms, which means it's wordier and uses lots of lawyerly turns of phrase. Having said that, the Legal Code documents are by no means impenetrable to non-lawyers. In fact, they're quite clearly and succinctly expressed, and not particularly lengthy. That's good, because you do need to read them to get a fuller picture of the terms of each licence, including the restrictions. But ultimately, if you don't feel comfortable that you understand all the implications on a legal level of licensing work under a Creative Commons licence, it's obviously sensible to get a lawyer to interpret them for you. I'm not a lawyer myself, and this is as good a place as any to state that nothing in this article is given or intended as legal advice!

The third expression of each licence, the Digital Code, is basically a machine-readable computer file containing metadata about the licence. You can add this to your web page in order to display the correct button for the licence and provide data for search engines and other applications to pick up.

All the standard Creative Commons licences have certain baseline rights and restrictions in common. Every licence allows the licensee to copy, distribute, display, and perform the work (for example, by web-casting). Each licence, at both the Commons Deed and Legal Code levels, also announces that the licensee's fair use and other rights are in no way affected by the licence — in other words, the licence doesn't offer fewer rights than are granted under copyright law. Another baseline requirement is that for any re-use or distribution of a work, the licensee must make clear the licence terms of the work in question.

It's important to understand that Creative Commons is about enabling works to freely circulate on a legal basis while preserving the owner's copyright. Part of the reasoning behind CC licensing is to put downloading and file-sharing on a legal footing. If you CC-license a track, you're licensing people the right to download it and to share it over peer-to-peer networks. What's more, the licence for that particular track lasts as long as the track's copyright duration; the granted rights can only be withdrawn from a licensee

Creative Commons & Record Labels: Loca Records

Brighton-based electronica label Loca Records has adopted an alternative approach to copyright from the outset. Formed in 1999, before Creative Commons existed, the indie label made its first four releases available under the GNU GPL 'copyleft' licence, which is more normally associated with open-source software.

"It was an experiment more than anything else, just to go through the processes really" says label co-founder and MD David Berry, a musician who records for Loca under the name Meme. Now an enthusiastic advocate of the open-source, 'copyleft' approach, Berry has also co-authored the Libre Society manifesto, essentially a 'call to arms' against the ownership and control of creativity by big business interests.

"We'd all had some involvement with the majors and got pretty pissed off with them, so we decided to try to do it a different way, to see what happened. It was almost a moral norm, we were trying to say 'Use this; if you want to sample it, feel free. We're not going to hound you to your death.'"

For their fifth release, Loca moved from the GPL to the Electronic Frontier Foundation's Open Audio licence. Berry then discovered Creative Commons when he heard Lawrence Lessig speak at a conference in Oxford, and Loca has switched to using the Creative Commons Attribution-ShareAlike 1.0 licence for all its subsequent releases.

"Essentially we were trying to get a licence very similar to the GPL, a sort of copyleft licence, and we found the Attribution-ShareAlike licence. It's a 'viral' licence, it states that if you wish to use the music you yourself have to open your music. It creates an amazing domain of openly available music that we can all use freely. And that means it's very unlikely that someone's going to exploit your work in a really horrible way, because ultimately you can re-use their music."

Berry says a US open-source compilation label have included a track from Loca artists Maz Plant Out on one of their releases. "We're more than happy about that, because we think it raises the profile both of Maz Plant Out and our label. Part of the joy of what we're doing is raising the profile of bands we really like. But ultimately we're a small label, and we don't ever envisage doing huge runs. We'll do our pressing of 1000 copies and that's it; the release is deleted when it runs out, and we move on to the next one. If some other label wants to plough 10,000 pounds into pressing Maz Plant Out records, that's fantastic."

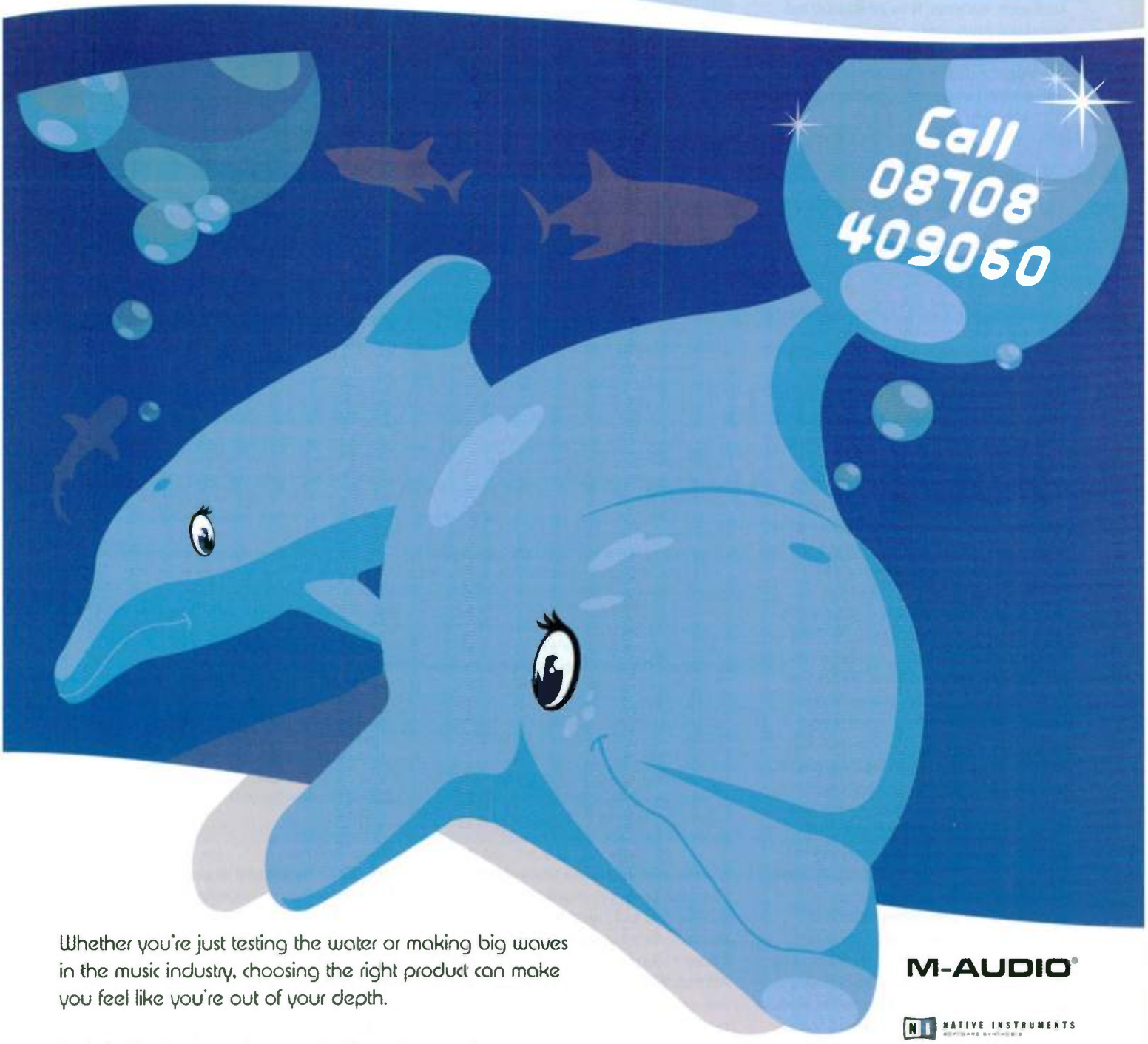
So does Berry feel that the Creative Commons open licensing concept is scaleable beyond small independent labels? "Four or five years ago people were saying Linux was only small-scale, but now it's challenging Microsoft," he replies. "I'm not going to rule out the possibility of a massive open source-based label coming along and using Creative Commons licences so well that they're very successful. Obviously the business model has to change, it has to stop being so draconian. The majors really do need to rethink. Criminalising your audience is absolutely counter-productive."

David Berry (aka Meme), Managing Director of Loca Records and Creative Commons advocate.

W www.locarecords.com
W http://creativecommons.org/licenses/by-sa/1.0

Avoid the Sharks

Swim with Dolphins



Whether you're just testing the water or making big waves in the music industry, choosing the right product can make you feel like you're out of your depth.

At Dolphin Music, we have a dedicated team of experts that will help you choose the right equipment for all your music technology needs.

www.dolphinmusic.co.uk

dolphin music

M-AUDIO

NATIVE INSTRUMENTS

steinberg

propellerhead

We do not see this as stifling creativity in any significant way." Of course, the reality is that tracking down the copyright holder can be so difficult that it *does* put a brake on sampling creativity. The Creative Commons sampling licences aim to rectify this situation by enabling artists to release their music under licences which specifically allow sampling.

There are three sampling licences available: Sampling, Sampling Plus, and NonCommercial Sampling Plus. All three state in their Commons Deed that: "You are free to sample, mash-up, or otherwise creatively transform this work". The Legal Deed offers a more detailed and wordy version of this in its 'Re-Creativity' clause, but the included phrases "highly transformative of the original" and "substantially different from the original" give you the flavour.

Essentially, Sampling and Sampling Plus allow both non-commercial and commercial use of the work (so someone can release a track containing samples from your music and not have to pay you), while, as the name indicates, NonCommercial Sampling Plus doesn't allow sampling for commercial use. In this case, as with the other licences having a NonCommercial element, someone who wants to sample a track of yours for a commercial release would have to contact you and come to a separate arrangement. You can make this easier by including with your work a URL link to licensing information (especially as the Legal Code says any such URL has to be included, to the extent reasonably practicable, with any derivative work or copies of the original work distributed or performed by the licensee).

The only other difference in the licences is that Sampling Plus and NonCommercial Sampling Plus allow someone to perform, display, and distribute copies of the whole track on a non-commercial basis, so it can be file-shared and used in a non-commercial web-cast, for instance — whereas the Sampling licence prohibits any such further use of the whole track.

Another feature common to all three Sampling licences is that the licensed Work can't be used to "advertise for or promote anything but the work you create." So your music can't be used in an ad (again, the agency can always approach you and come to a separate arrangement, of course).

One label which has recently decided to put their releases out under the Sampling Plus licence is Positron! Records. All the artists on Positron! own their catalogue rights, and according to label boss Chris Randall all but one have agreed to the use of the licence. Positron! will put out their first two releases to use the licence in late November and early December 2004, while existing releases will adopt it as and when they're re-pressed. Randall has an entry in his weblog at www.sistermachinegun.com/blog.jsp?month=10&year=2004 which is well worth reading, as it gives a good insight into the thinking of someone who has made the move into CC licensing.

Of the remaining Creative Commons licences, Public Domain is obviously for dedicating Works to the public domain (which actually means giving up your copyright, not licensing it), Developing Nations is for licensing only to countries not classified by the World Bank as high-income economies, Founders' Copyright is a way to make copyrighted material available for the term specified in the US's first copyright law, back in 1790 (14 years extendable to 28), and the CC-GNU GPL and LGPL licences 'wrap' the famous open-source licences in a CC Commons Deed and CC metadata.

To License Or Not To License?

So should you make use of Creative Commons to license your music? Well, there's no easy answer to this. The purpose of this article is to inform you of the options that Creative Commons licensing gives you, not to make a simple 'for' or 'against' recommendation. Obviously, you need to have the rights to your music before you can make a decision about any kind of licensing. And Creative Commons doesn't magically give you rights to someone else's All Rights Reserved content (so watch out when using samples — unless they come from a release that uses a Creative Commons Sampling licence for commercial and non-commercial use, of course!).

If the thought of anyone sharing your music over the Internet makes you mad, you're going to fall at the first hurdle of CC acceptance, unless that is, the Sampling 1.0 licence strikes the right balance for you. One point to bear in mind is that you may start coming across CC-licensed music, and if you're of a sampling inclination, then you may even find tracks you'd like to sample from. All in all, it's worth being aware of the various Creative Commons licensing do's and don'ts even if you're not planning on licensing your own music. If you're making music as a hobby, with no particular view to or need for recompense, you could look on Creative Commons licensing as a great way to make your music as widely available as possible, on a legal basis for your listeners. You can always provide an on-line option for people to buy or make a donation, and depending on the licence you choose, you may get commercial users knocking on your door.

If you want to make a living out of your (copyright-owned) music, it's more complicated. There's no hard and fast business case for going the Creative Commons route. If you're looking to build a fan base, it could be something to try. You could always dip a toe in the water by licensing one or two tracks. Read the Magnatune box on the previous page and look over their web site. CC-licensed music doesn't have to mean no-pay music; also, look at the way the NonCommercial CC element feeds into a commercial licensing revenue stream on the site.

The music world is changing, and Creative Commons licensing could provide independent musicians with a golden opportunity to ride that change. SOS

Links To Further Reading

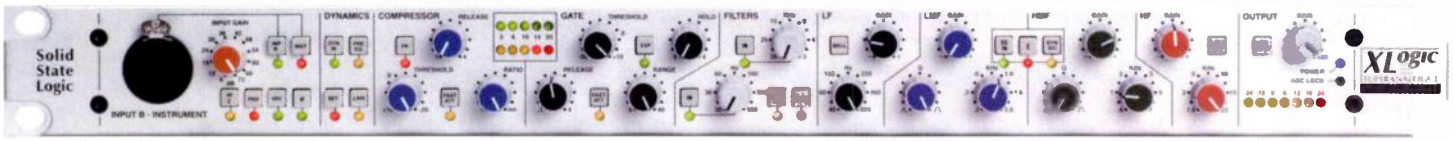
COMMON CONTENT (CC-LICENSED WORKS)
W http://commoncontent.org
CREATIVE COMMONS
W http://creativecommons.org
CREATIVE COMMONS MUSIC SHARING LICENCE
W http://creativecommons.org/license/music
CREATIVE COMMONS SAMPLING LICENCES
W http://creativecommons.org/learn/licenses/sampling
POSITRON! RECORDS
W www.positronrecords.com/cc
TEXTONE
W www.textone.org

The Creative Commons web site. Here you can read up on the background to the creative commons movement, learn all about the various Creative Commons licences and which is best suited to you, and of course download the licences themselves when you've decided.

Solid State Logic

XLogic SUPERANALOGUE

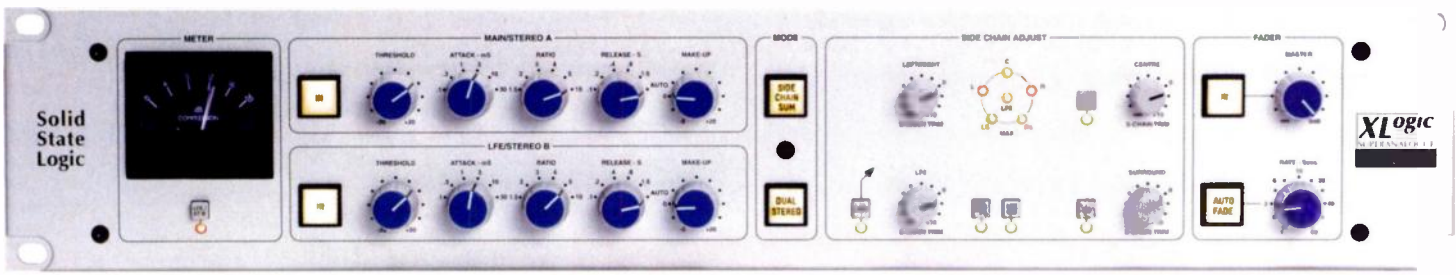
Stellar performance outboard



XLogic CHANNEL STRIP Mic pre – 4 band parametric EQ – compressor – hi pass and lo pass variable filters – gate – full metering – line in – DI. The exceptional SSL channel strip is taken directly from SSL's flagship console, the 9000K, and shares the same signal path as the new SSL AWS900 console. Spectacular audio quality due to its DC coupled SuperAnalogue technology. The SSL mic pre takes everything out of the microphone, and is very phase coherent, with no noise, you only hear the source. The EQ is switchable between the E-series and G-series for the best of all possible worlds. The compressor is fast and punchy, great on vocals, the hi-pass and lo-pass variable filters really let the user bracket out supersonic and subsonic sound for maximum headroom. The order of processes can be changed with a button push. Two microphone inputs (one front, one back), and a separate line input give complete versatility on racking. There is also an option for a digital output board of supreme audio quality, converting at up to 192 KHz. This board will run up to 2 channel strips for stereo. **£2350.00 inc VAT**

XLogic G SERIES COMPRESSOR Threshold – attack – ratio – release – make-up gain – autofade – gain reduction meter. The legendary SSL stereo mix compressor as used on all large format SSL consoles, and the AWS900. Also fantastic on tracking drums and piano, this unit is stereo or mono, not dual mono. This is one of the attributes that leads to its tight stereo control. The mix bus compressor on countless hit records over the past 14 years. **£2232.50 inc VAT**

XLogic 4 CHANNEL MIC AMP 48V – phase – pad. SuperAnalogue mic pres in a multi way. Remote controllable with separate 8 way remote. **£2820.00 inc VAT**



XLogic MULTICHANNEL COMPRESSOR 6 compressors with two sets of controls and a visual side chain bias display. The unit has 6 separate XLR I/O. The user can offset individual compressor side chains from each other. Dual stereo mode turns the unit into two separate stereo compressors. **£4582.50 inc VAT**

available from:
ASAP
DACS
HHB
Media Tools
Solutions Inc.
Sound Control
Studio Care
Visual Impact

exclusive distribution by

KMR AUDIO

020 8445 2446

www.kmraudio.com

MAIL ORDER HOTLINE
0115 955 2200

Contact your local branch at:

NOTTINGHAM: 0115 955 2200
172 Derby Road, Nottingham NG7 1LR

LONDON: 020 8349 2090
148 Ballards Lane, Finchley, N3 2PA

studio hardware

Yamaha 01x
28 ch digital controller/mixer

YAMAHA

£999.99

Eventide Eclipse

Multi FX with stunning pitch shift capabilities

Eventide the next step

£1399.99 (ex-display)

Korg Triton Studio
Only one left of this stunning synth!

KORG

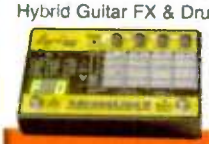
£1299.99

MOTU 896 HD
Firewire audio interface with 8 Mic Preamps

MOTU

£799.99

Adrenalin II
Hybrid Guitar FX & Drum Box II in one



£279.99

YAMAHA Yamaha AW16G
16 Track Digital recorder with a host of great features

£639.99

Alesis Ion
Wonderful 4 part multi-timbral synth

ALESIS

£559.99

MACKIE.
New Onyx 1220 State of the art mixer with optional firewire interface

£489.99

KORG
Triton Extreme

Triton Extreme 61 £1599.99
Triton Extreme 76 £1699.99
Triton Extreme 88 £2199.99

FROM £1599.99

Mini Me
When it has to sound right then it has to be Apogee

£1099.99

soundcards

E-MU
Emulator X
Studio Sampling System. Complete sampling system featuring EMU's legendary sampler - now for your computer!

£399.99

0404 Audio Card
Pristine audio card with on board DSP for hardware accelerated FX and mixing.

£69.99

NEW Proteus X
Virtual sound module featuring a massive 2GB of classic sounds from EMU's legendary Proteus series modules. Includes EMU 0404 card! **Only £119.99**

Also available

Emulator X Desktop	£195.99
1820M audio hardware only	£339.99
1212M audio hardware only	£139.99

PowerFX. Use all EMU FX as VST effects powered by your EMU DSP card!

Studio Monitors

ALESIS
Monitor One Active MkII
Powerful monitors with a lot of bang for the buck!

£229.99

MACKIE.
Mackie HR624
Large classy sound in a small package. THX certified.

£749.99

GENELEC
Genelec 8030A active Monitors

New style and sound even better than before!

£629.99

KRK
Stunning sound, incredible value!

Rokit 5	£219.99
Rokit 6	£299.99
Rokit 8	£379.99

NEW KRK V Series II in stock

V4	£379.99
V6	£529.99
V8	£779.99

KRK monitors

Wharfdale Diamond 8.2 ProActive
Serious studio monitoring at rock bottom prices. These are the best budget monitors we've heard in a long time!

£249.99

Mixers & Headphones

MG10/2
10 inputs, phantom power, 3 band EQ

£69.99

MG12/4
12 inputs
2 aux sends
four buss

£119.99

MG16/4
16 inputs
10 mic pre's
3 band mid-sweep EQ

£159.99

MG16/6 FX
6 buss on board digital FX
7 band stereo graphic EQ

£229.99

Beyerdynamic DT150

Don't keep buying cheap headphones! The DT 150 is a really well built headphone for recording studios where comfort, performance and durability are paramount. Its closed design gives it excellent ambient noise isolation for recording or reference monitoring with first class sonic reproduction! A must for any studio! AND, its modular construction makes it easy to repair if damaged!

£94.99

www.millennium-music.co.uk Check our website for latest prices!

Prices correct at time of going to press. Errors and omissions excepted

Mail Order

Call our sales lines for a fast & friendly service. Next day delivery available on most items!

millennium music

sales@millennium-music.co.uk

computer audio & FX

Stylus RMX

Now with Advanced Groove Engine Now Shipping!

£145.99

Atmosphere

The world's most enormous synth over 1000 sounds

£204.99

Trilogy

Ultimate electric acoustic and synth bass instrument.

£159.99

Garritan Personal Orchestra

Easy to use Orchestra in a box

NEW

£179.99

Stormbreakz

All other Pro Samples Platinum Series, in stock

£79.99

Symphonic Orchestra

NEW

Stunning orchestral samples

£189.99

Drum Kits from Hell Superior

Massive Range of real loops & hits

£115.99

Ivory

3 Classic Grand Piano Instruments

£189.99

steinberg

Cubase SX3

Now with over 70 major enhancements

£479.99

steinberg

Universal Audio

UAD-1 Project Pak £369.99

UAD-1 Studio Pak £699.99

NEW

£369.99

MOTU

Traveler Firewire Audio Interface

Brand new from MOTU, the Traveler gives you eight channels of pristine 192kHz analog recording and playback, with 4 mic preamps all with phantom power. Plus: ADAT, ADAT Sync, AES/EBU and S/PDIF (Optical /RCA) and MIDI. Plus you can expand your system by connecting additional Traveler, 828 or 896 FireWire audio interfaces.

This is definitely a winner!

£795.99

Audiophile 192

New 192kHz version of Maudio's legendary audio card. Now with balanaced analogue I/O.

£119.99

MAudio Keystation Pro 88

Limited stocks of this monster controller. Check our website for the spec's - it's awesome!

£324.99

novation

Novation X Station 25

Controller keyboard, audio card and standalone synth!

£399.99

steinberg

NEW System 4	£299.99
Cubase SE	£99.99
Nuendo II	£789.99
HAlion III	£CALL
Hypersonic	£249.99
Groove Agent	£159.99
Virtual Guitarist	£159.99

£CALL, or see our website for up to the minute prices!

MAudio

Octane Mic Pre	£349.99
Mobile Pre	£124.99
Audiophile USB	£159.99
NEW Audiophile Firewire	£179.99
Delta 1010	£369.99
FW1814	£389.99

Oxygen 8	£89.99
Ozone	£199.99

MAudio

Reason 2.5

Fantastic all in one software studio!

£195.99

ableton Ableton LIVE V4.00

Legendary performance software IN STOCK!

£259.99

emagic

NEW Logic Express V7.00

ONLY £199.99

NEW Logic V7.00 now shipping!

ONLY £699.99

TASCAM

Gigastudio V3.0 Orchestra

Quite simply awesome sampling software!

£319.99

Focusrite

Liquid Channel	£CALL
New TwinTrak Pro	£375.99
Trakmaster	£175.99
Voicemaster Pro	£375.99

Compounder £279.99

Focusrite

TC Powercore Elements

The same TC Powercore with all of the included plug-ins except Master X-3.

NOW ONLY £345.99

TC Powercore Firewire

With almost twice the power of the PCI version, this new concept offers unrivaled versatility and power to both desktop and laptop users.Now you have all the power you need!

t.c. electronic

NOW ONLY £799.99

This is just a selection of our huge range - call us, vist our stores or buy on line for the best advice and deals in the business!

Zoom MRS1608

Digital Multitracker

The latest multitracker from Zoom is their most sophisticated yet, but can it see off its rivals in what is an extremely competitive marketplace?

Tom Flint

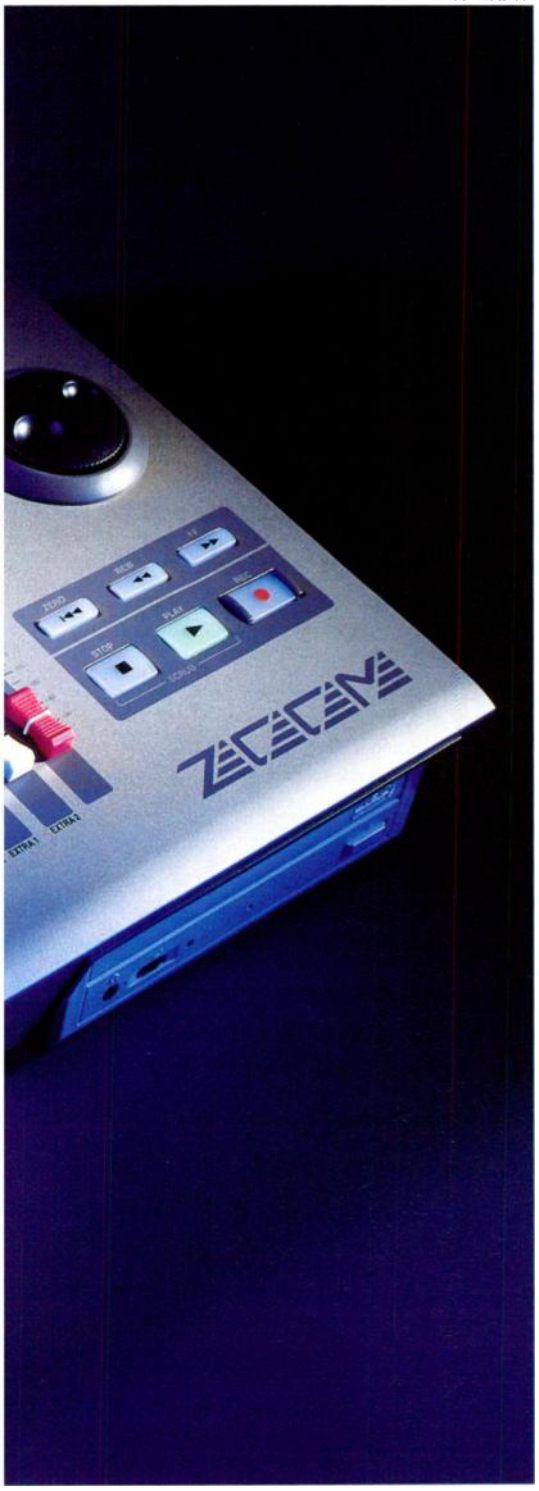
Zoom's MRS1608 is a 16-track digital multitracker offering a wealth of features for not very much money. These include a Rhythm section providing a stereo drum machine and bass synth, both of which can be sequenced and played together with recorded audio. There is also a Phrase Loop facility for building tracks from samples and a Pad Sampler which can be used to build custom drum kits. The effects section has, amongst other things, amp modelling and a tuner, so guitarists/bassists can simply plug in and play. There is also a built-in CD-RW drive, plus all the other basic digital I/O and editing features you'd expect to find on a digital multitracker.

The MRS1608 is a direct descendant of the Zoom's MRS1266, reviewed in *SOS* February 2003, which itself was a development from the MRS1044. In fact, the MRS1608 can exchange audio track data and rhythm data with both the models mentioned above, and also with the smaller MRS802. Bearing in mind the MRS1608's heritage, I'll start by comparing some of the newcomer's features to its predecessor, to find out what's been improved and added to the design.

In The News

Possibly the most significant difference between the MRS1266 and MRS1608 is the track count: the older machine has ten ordinary tracks, plus an additional stereo track

Photos: Mike Cameron



for the master mix, whereas the MRS1608 is a 16-tracker, also with its own separate stereo master track. Given that the MRS1608 also has a stereo track for the drum machine and a mono track for the bass (more on these later), I'm surprised Zoom haven't added the whole lot up and called this machine the 2108 — there are manufacturers who would! Just as on the MRS1266, there are ten virtual tracks available for each record track.

At last, Zoom have made a recorder that can record eight tracks simultaneously, hence the '08' bit of its name. The 1266 would record up to six tracks at once, and provided a matching set of six quarter-inch jack inputs, two of which were interchangeable with a pair of XLRs, but the MRS1608 offers quite a lot more. All eight of its inputs are combi jack/XLR sockets, and therefore accept either balanced XLRs or quarter-inch jacks. As on the MRS1266, a pair of high-impedance jack sockets are situated on the front of the recorder for use with guitars or basses, and these can be used instead of the first two combi jack/XLRs. However, on the MRS1608, these two inputs each have a dedicated gain control by the input socket.

The number of inputs which are phantom powered has also been increased from two, so that now four sockets are active. These are organised into pairs, so that power can be selected for inputs three and four, five and six, or both pairs together. One further addition to the I/O is a pair of RCA phono ins, included so that signals sent to an external effects machine have their own return path, or, alternatively, so that the outputs from a CD player can be connected. Unfortunately, these inputs don't have their own signal path, and are mixed with inputs seven and eight, but they are still a welcome addition.

At 40GB, the drive has double the capacity of that in the MRS1266, and is in line with other contemporary 16-trackers. The sample rate and resolution remain fixed at 44.1kHz and 16-bit respectively, so total recording time works out at around 120 track hours. The MRS1266's disappointing two-band EQ is now a more respectable three-band parametric design with a Q control for the mid-band.

It might be my imagination, but the MRS1608 feels considerably more robust than the MRS1266. A glance at the spec shows that it is a kilogram heavier (7.8kg rather than 6.8kg) than the MRS1266. The casing is now metal rather than plastic, which together with the improved I/O has probably added the weight. Nevertheless, the new machine is still eminently portable, and its weight is nothing other than reassuring.

There are 15 faders on the MRS1608 in all, including one each for the drum and bass tracks, and one serving the master level. The remaining 12 handle the sixteen audio tracks — tracks nine to 16 are paired up to make stereo tracks, and thus only have four faders between them. Such tracks are intended for things like keyboards and sound modules which will have panned stereo outputs.

Like its predecessor, the MRS1608 can be hooked up to a Mac or PC via USB, so that data transfers and backups can be performed. Once again, the UIB02 board, which is necessary for any USB activity, is an optional extra, and that's a shame, although the CD-RW drive is included as standard. Unfortunately the review model was not fitted with the USB board, so I was not able to see it in action. One of the most interesting features the MRS1608 has brought to the table is its Pad Sampler, which joins the existing Phrase Loop facility, so it's now possible to take slices of recorded audio or samples from a CD sample library and use them to make custom drum kits, thus greatly expanding the MRS1608's rhythm capabilities.

SOUND ON SOUND

Zoom MRS1608 £799

pros

- Pad sampler.
- Eight combi jack/XLR inputs.
- Audio reverse function.
- Good guitar amp simulations.
- Drum, bass, and sampler tracks bound to be useful to many musicians.

cons

- Display is limited.
- Dynamics are restricted to the insert effects.
- Only has scene-based automation.
- No proper undo facility.
- No waveform display for editing.

summary

The MRS1608 is a well-thought-out product, which offers something slightly different from most of the competition. It will be of more use and interest to guitarists and solo composers than to producers requiring professional connectivity and advanced mixing capabilities.

...& The Rest

Now that the main comparisons have been made, let's take a look at the remaining MRS1608 features. In addition to the combi jack/XLR and RCA inputs, you get a front-panel footswitch jack input and a MIDI In/Out pair. A pair of RCA phonos serve as master outputs, and there is a single optical S/PDIF socket for carrying digital mixes to ▶

Editing

The MRS1608 offers no waveform display for editing, but it does have a pretty decent collection of tools in its armoury. These are Copy, Move, Erase, Trim, Fade I/O (fade-in/out), Reverse, TimStrch (time-stretch), Pitchfix, Harmony (offers three-part harmony creation to go with the specified data) and Duo Harm (one-part harmony generation). Particularly welcome here is Reverse, which is something I miss on my Yamaha AW4416. It's a great feature for creating psychedelic guitar effects, which had to be done in the old days by swapping the reels of analogue tape around on reel-to-reel machines. Specifying a segment of audio, reversing it, and recording the result to a spare track is a cinch. Then you have the option of time-stretching it, sampling it, and using it as a loop or drum sound! There are loads of possibilities.

ZOOM MRS1608

DAT machines and the like. Finally, there is a blanking panel which covers the slot for the USB board. The remaining front-panel connections are Master and Sub Out headphone outputs, the latter of which can also be used to send stereo signals out to effects. Indeed, the MRS1608's software allows the user to specify the purpose of this output, and then to assign certain tracks to it.

The control section labelled Rhythm provides drum machine, bass synth, and sampling facilities. As you would expect from a company who have had success with stand-alone drum machines, namely the Rhythmtrak 234 and 123, there are some rather nice-sounding kits which can be played via the 12 built-in soft pads or from an external keyboard hooked up to the MIDI In. Each kit actually contains 36 drum/percussion sounds, so a keyboard is needed to play an entire kit at once (should you wish to do so), otherwise the Bank Octave button allows switching between three banks of 12 sounds.

There are plenty of preset rhythm patterns to start with, but both real-time and step-time recording make it possible to create new rhythm and bass patterns. Patterns themselves can be sequenced using a conventional step-time method, or by Zoom's much more attractive FAST (Formula Assisted Song Translator). The bass sounds have been limited to just a few synth tones, although Zoom have been careful to pick ones that are likely to be most useable. Like the drum patterns, bass lines can be programmed via the pads, and there are various settings determining things like musical scales, pad sensitivity, and metronome accompaniment, all of which make performance easier.

Pad Sampler

Despite the range of conventional internal drum sounds, there will be some people who want something different, and that is where the Pad Sampler becomes very useful. AIFF and WAV samples can be loaded from CD and stored in the MRS1608's Sample Pool ready for action. Alternatively, a slice of audio from a track or virtual track can be placed in the Sample Pool for the same end (up to 1000 samples can be stored in the Pool). Once in the Pool, material can be cut, adjusted, and edited before being assigned to a pad for playing. In this way, custom kits can be created.

The MRS1608 also has a Phrase Loop facility, which differs from the Pad Sampler somewhat. Phrases are not intended to be played from the pads, although the pads actually function as programming buttons when Phrases are being assembled, again via FAST, into a sequence. For each project, up to 100 Phrases can be stored on the hard disk in a Phrase Pool, and these Phrases can be drawn from CD, from another project's Phrase Pool, or from a recorded audio track. Once in the pool, Phrases are ready to be placed into a running order. Cleverly, the MRS1608 allows the programmer to specify the playback range of each Phrase, and to give it a time signature so that the audio is automatically expanded or compressed to match the tempo setting of the song. Once arranged, performances have to be recorded to a track where they become a continuous block of audio, like any other track.

The Effects

Sandwiched between the Input and Rhythm sections is the collection of buttons dedicated to effects and processing. Individual effects and processors are gathered together and placed in chains which Zoom have labelled Algorithms. Zoom have given the algorithms helpful category labels: Clean, Dist, Aco/Bass Sim, Mic, Dual Mic, Line, 8 x Comp EQ, and Mastering. The intended use of each algorithm is apparent from the name, apart from perhaps 8 x Comp EQ, which is intended for use with the MRS1608's eight-track recording mode and which provides independent high-pass filter, compressor/limiter, and EQ for each of the eight track inputs.

Taking On The Competition

Digital multitrackers are available from a number of different manufacturers, and amongst middle-market machines, priced around the £1000 point, competition is extremely fierce at the moment. Products costing more than a grand need some pretty serious features to justify their cost, while those dipping below battle to be the best-featured product to be officially 'affordable'.

Currently fighting it out are the Roland VS2000, Boss BR1600, Yamaha AW16G, Tascam 2488, and now the Zoom MRS1608. Akai seem to be out of the running, having shown no sign of following up on their excellent, but now out-of-date, DPS16. Fostex also have some low-price 16- and eight-track machines, but they too need a little updating to keep up with the competition.

Of the products listed above, the ones in direct competition with the MRS1608 are of the easy-to-use variety, designed to appeal to the guitarist, band, or composing musician, rather than to the budding engineer/producer. Tascam's 2488 offers an amazing 24 tracks and 36 mixer inputs, but it lacks the extra rhythm, bass, and sampling features of the Zoom, and has a modest collection of inputs. The AW16G, on the other hand, has technology handed down from the original 02R mixer, and for just a few more UK pounds than the MRS1608 probably has the best mixer in its class. What's more, it even offers a loop facility and a user-friendly interface. Nevertheless, it doesn't have Zoom's rhythm facilities and impressive amp-modelling algorithms, which are likely to attract guitarists and bassists who want to create their own backing tracks.

The BR1600 is probably the product that is conceptually and physically most akin to the Zoom. It too is a 16-track machine offering eight tracks of simultaneous recording, a straightforward user interface, and amp-modelling effects. It directly competes with the Zoom by having a stereo bass synth, drum machine, and sampler, although none of these facilities have their own tracks or faders and can only be used at the expense of valuable audio recording tracks. The BR1600 also lacks a dedicated stereo master track. What's more, even with USB fitted as standard, in the UK the Boss is priced £200 above the Zoom.

UNPLUG AND PLAY.

Performance Gear® Wireless

PGX

PGX4 Receiver PG58 SM58® SM86 Beta 58A® PGX1 Beta 98H/C™ WH20

SHURE®

It's Your Sound®

SHURE® DISTRIBUTION UK

Contact exclusive UK distributor, Shure Distribution UK on 020 8808 2222
email info@shuredistribution.co.uk or visit www.shuredistribution.co.uk

Within each algorithm, effects modules can be turned on and off, swapped for other effects of the same type, and, of course, edited to a certain extent. All the chains are of the insert type, meaning that they need to be placed into the audio signal path before they can be used. There are three insert points to choose from: at the beginning of the input mixer, between the track recorder and the track mixer, and across the master buss. Each of the algorithms offers a selection of pre-programmed patches, as well as a few user slots, all making a total of 320 patches. The patch selection buttons make it possible to scroll up and down through effects patches, although the general-purpose scroll wheel performs the same function.

Zoom have two other buttons dedicated to send and return effect menus. The first calls up a selection of choruses and delays, while the second deals entirely with reverb algorithms. The extent to which each track's signal is sent to these effects can be determined on a track-by-track basis by using the two corresponding buttons in the Track Parameters section to the right of the screen. All send effects can be edited, and both effects modules work simultaneously if selected.

The Effect section also has a freely assignable tuner, which is great for guitarists plugging directly into the inputs on the front edge of the MRS1608. These kinds of features suggest that Zoom consider the guitarist one of their key customers, as you might expect from a company who are renowned for making guitar effects processors. As it happens, the preset amp simulations on offer are pretty good and very playable, and although some effects are not quite as editable as they could be, they will be more than good enough for many people. I frequently found myself dialling up drum and bass loops from the Rhythm section, selecting the amp patch of my choice, and then playing along happily for far too long (when I had a review to write), with just my guitar plugged into the front!

As with many aspects of the MRS1608, the way Zoom have arranged the effects and processors into preset configurations seems a little restrictive when compared with some systems where all reverbs and delays are available for either insert or send duties, and where effects modules can be placed in any order. Nevertheless, Zoom's configurations are more than adequate for the majority of situations, and the easy-to-use button assignment is commendable.

Test Spec

- Zoom MRS1608 OS v1.02

The Mixer

The MRS1608's mixer is a little on the basic side, having no dedicated dynamics (the 8 x Comp EQ Algorithm going some way towards making up for this) or complex bussing structure, although its simplicity makes operation relatively simple. The input section has gain pots with clip LEDs, and there is a global record level trim with clip LED and on-screen metering. Signals can be panned, have their phase switched, and be assigned to the Sub Out headphones jack for sending to external effects processors and the like.

The track mixer offers volume, pan, phase, and EQ control. Again, effects send level can be adjusted, as can the delivery of the signal to the Sub Out jack. The improved EQ has a high-frequency sweep from 500Hz to 18kHz, a mid-band control ranging from 40Hz to 18kHz and a low adjustment covering frequencies from 40Hz up to 16kHz. Each band has ±12dB gain, and the mid-band control provides an adjustable Q from 0.1 to 1.0. It's not uncommon to find EQs that reach from 20Hz up to 20kHz. However, what the

MRS1608 offers is adequate for a 16-bit/44.1kHz machine like this.

Usefully, most of the main mixing tasks can be done quite quickly by using the Track Parameter buttons which run down the right-hand side of the screen and immediately call up a specific function when pressed.

Real-time automation is not available on the MRS1608, which will be an issue for some potential purchasers who like to have total control over levels, EQ, effects, and panning throughout the passage of a song. Nevertheless, each project can have as many as 100 scene changes scattered throughout its duration. For a four-minute song, that equates to one scene every 2.4 seconds, which should be enough to provide most pieces of music with a variety of dynamic changes. Once a set of scenes has been programmed, it is necessary to go through the song in question and place markers where changes are to be made. Then the scenes are simply assigned to the markers as and when necessary.

One of the first things I began wondering about was why I couldn't see an Undo button on the front panel. After trawling through the manual I realised that it was because the MRS1608 doesn't have undo at all! Instead, there is something called Track Capture, which allows a track to be saved into a temporary memory location while an edit is performed. If an edit turns out to be wrong, then the captured track can be retrieved. Although Zoom's Track Capture is a welcome facility, it's not as neat as having dedicated undo/redo buttons, and I'm unsure quite why Zoom haven't been more conventional in this area of their design.

I should also comment on the MRS1608's transport and navigation tools, which are largely confined to the right-hand side of the front panel. Most of what you'd want is here, including playback looping, an automatic punch-in function, and audio scrubbing, plus a hidden method of accelerating the fast-forward and rewind controls.

In Use

My first impressions of the MRS1608 were that it appeared to be constructed reasonably well and looked more professional than previous Zoom multitrackers. This impression was reinforced when I turned the machine on and began to work with it. To start with, its operating noise was respectably low — to provide some kind of comparison, the Zoom is far quieter than my old Akai DPS16 and the Roland VS2000 I tested recently, and a touch less noisy than the Yamaha AW4416 I currently have in my studio. It also doesn't pump out gusts of air like some machines which use powerful cooling fans, yet it remained remarkably cool after many hours use.

Although there is quite a large screen, it actually has a very limited display, which is rather unfortunate. The machine is packed with features, and yet the screen is only capable of displaying one or two pieces of information at a time. This is largely because the bottom two thirds are dedicated to timing and channel/track-metering information which doesn't change regardless of mode. What does change is limited to just two lines at the top of the screen, and this becomes frustrating when one's used to a more elaborate design.

To give an example, the EQ parameters for a channel can only be seen one at a time. There's no helpful line graph showing the EQ's curve, and certainly no channel-strip-style knobs to tweak. Having said this, the more I used the MRS1608, the less irritated I became with the display, and the track selection buttons and eight Track Parameter buttons work together quite effectively. One way to work is to select a track and access all its parameters by pressing the Parameter buttons one by one, making adjustments with ▶

ZOOM MRS1608

the cursor keys and data wheel. Alternatively, you can select a parameter, such as Low EQ, and then use the track selection buttons to rapidly change that parameter for each track in turn.

I can see how familiarity would enable the user of the MRS1608 to work very quickly. At first, the repetitiveness of working through the same limited interface is confusing, because different actions require very similar, but subtly different, button-pressing combinations. Nevertheless, Zoom's methodology quickly becomes apparent, and it's then possible to second-guess how certain tasks are achieved.

In fact, the MRS1608's simplicity may well be one of its strengths, in a funny kind of way. It's probably fair to say that if you'd never owned a machine with a more sophisticated interface, then you probably wouldn't miss many of the features which I first felt were lacking. To give an example, having dealt with patch matrix pages on Roland, Akai, Yamaha, and Korg products, I assumed the MRS1608 would have the same, and searched the manual to find out where the patch page was hidden. Instead, Zoom have made it painfully simple to send an input to a record track — it's done by pressing the relevant track selection buttons or by using the fixed eight-track recording mode which links inputs one to eight with their corresponding record tracks.

Admittedly, the Zoom's routing options are limited compared with many devices, so some recording configurations are not easily done. To record any more than two inputs at once, the inflexible eight-track mode has to be used, so any further overdubs must be sent to tracks nine to 16. If you need to record more overdubs in the eight-track mode, then the existing eight need to be moved first, freeing up the first eight again! Zoom, might want to think about making it possible to assign inputs a little more freely on future models.

One thing the MRS1608 certainly has in its favour is that it performs reliably and succinctly, and doesn't seem to suffer from the bug problems exhibited by some machines. I found no bugs and had no crashes, which is a nice change, and my only complaint about its performance would be that many buttons are a little slow to respond when pressed.

Conclusions

Despite its sophistication, the MRS1608 is still a low-budget machine, and therefore lacks a few professional features like word-clock interfacing, I/O expansion slots, mixer bussing structures, and moving-fader automation. Their absence is understandable, but the lack of a proper undo facility and a detailed display means that the machine lets itself down in some areas. Nevertheless, it really packs a punch in other departments, especially when it comes to the dedicated bass, drum, and sampler tracks.

Like its predecessor, the MRS1608 is bound to appeal to guitarists through its modelling effects, and the rhythm provides instant backing for any solo player trying out a few ideas. It's really impressive that the drum and bass tracks are subject to the same processing as the rest of the recorder, so, for example, they can be soloed, sent to the effects, or equalised just like any other track. Used to the full, this really is a genuine 19-track machine, with separate stereo master tracks. Some manufacturers quote their products as having more tracks than they are really capable of running in normal operation, so Zoom's modesty here is refreshing.

Zoom could have left off the bass/drums/sampler features, which are not strictly digital multitracker necessities, and improved on the mixer functions. However, they have been, in my opinion, wise to stuck to their plan, and have therefore avoided taking on the likes of Yamaha and their powerful AW16G. Zoom have played to their strengths as a long-time guitar effects, rhythm machine, and sampler manufacturer, and in doing so have produced a product which will appeal to a different market.

OK, Boss offer an alternative with their BR1600CD, but the MRS1608 has the edge in a number of important areas (see the 'Taking On The Competition' box). Musicians who want to get heavily into engineering a production will undoubtedly be better served by a machine with a more serious mixer and interfacing; however, there are a large number of people who won't miss what isn't there. The bottom line is this: the MRS certainly won't let you down, and if you're happy with what it has to offer, then you'll probably grow to love it. SOS

CD-RW Drive & USB Connectivity

The CD-RW drive is included as standard on the MRS1608, whereas it was still a costly option for the MRS1266. This is a sensible move on the part of Zoom, as all of the competing products now come with CD-RW drives too. You can use CD-R and CD-RW discs for the backing up of song data, as well as for the burning of your finished mixes as audio. It's also possible to assemble tracks into lists so that 'albums' can be burnt directly from the machine.

The drive also offers a method of loading in sample data on CD in AIFF or WAV format for use in the Pad Sampler or Phrase Loop feature. It's slightly disappointing that USB is still an option. Even if the owner of an MRS1608 doesn't use a computer for music, sooner or later they are likely to want to back up files or load samples, and USB is an extremely fast and satisfactory way of doing this.

information

£ MRS1608, £799; optional USB board, £99.99. Prices include VAT.
T Exclusive Distribution +44 (0)1462 481148.
F +44 (0)1462 481149.
W www.exclusivedistribution.com
W www.zoom.co.jp

www.inta-audio.com

Tel: 0870 199 9397

The new INTAaudio AMD 64 Workstation

System Price Only £799.00 ONLY INC VAT

AMD 64 3400+	120Gb Audio Drive 160Gb Program Drive	1 Gb pc3200 DDR 400MHz MEMORY
DVD-R WRITER	Acoustic Foam Kit	ATI Radeon 128Mb Dual Head
Cordless Keyboard & Mouse	XP Home	500W Quiet Power Supply

Monitors: AOC 15" TFT Black/Silver £169.00 AOC 17" TFT Black/Silver £219.00 AOC 19" TFT Black/Silver £329.00

- AMD 64 3400+
- Zalman 7000 All Ultra Quiet CPU Cooler
- Thermaltake Slim Controller
- Chieftec DX-01 Silver Slim Chassis
- ATI RADEON 9200 128MB dual head Retail
- 1024 DDR 400 MHz PC3200
- ASUS K8V SE Deluxe Motherboard
- 120GB Seagate Barracuda Program Drive
- 160Gb Seagate Barracuda Audio Drive
- Sony 8x DVD Writer Dual Format +R +R
- 1.44 Floppy With Built in Smart Card Reader
- Sony Slim Quiet Power Supply
- Chieftec Cordless Keyboard and Mouse Set
- Accessories - Antec 80 Foam Kit

computer music — Computer Music Magazine October 2004 Page100

VERDICT 8

MUSIC TECH MAGAZINE — November 2004 Page97 Download the PDF @ www.inta-audio.com

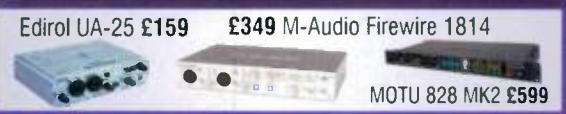
They said "A competent and powerful performer with plenty of features and at a sensible price"

Pinnacle Studio 9 Make your own Music videos & then burn them to DVD. Unlimited creativity from special effects to titles.

3.4GHz Processor 800FSB	200Gb Video Drive 200Gb Audio Drive 80Gb Program Drive	2 Gb pc3200 DDR 400MHz MEMORY
DVD-R WRITER	19" TFT FLAT SCREEN	ATI Radeon X300 128Mb Dual Head
Cordless Keyboard & Mouse	XP Home	450W Quiet Power Supply

- Chieftec DX-01 Custom Case
- 450W Quiet PSU
- Asus P5GD1 Motherboard
- Intel 915 chipset 16x PCI Express
- Intel P4 3.4Ghz Hyper Threading CPU
- With 800Mhz FSB Technology
- Zalman 7000 Super Flower CPU Fan
- 1 GB DDR 400MHz PC3200
- Radeon X300 128MB Dual Head
- AOC 19" TFT Flatscreen Monitor
- Sony DVD-R
- Serial ATA Hard Drives
- 200GB SATA Barracuda Video Drive
- 200GB SATA Barracuda Audio Drive
- 80GB IDE Barracuda Program Drive
- 1.44MB Floppy Drive
- Chieftec Cordless Keyboard & Mouse
- 3x Firewire Ports

"If you want to run lots of audio tracks, as well as loads of plug-ins, soft synths, and soft samplers, the SOS Workstation is a PC you should definitely place on your shortlist"
(Martin Walker, Sound on Sound November 2003)



All system prices include VAT@17.5% & Free Delivery. All systems come with a 3 year return to base warranty. 1st year parts & Labour, 2nd & 3rd year labour only. All systems come Burn-in tested for reliability. E&OE. Specifications and prices are subject to change without prior notice E&OE

The Soundcard Arena

Edirol		M-AUDIO		Terratec		E-MU	
UA-25 USB	£159.00	Audiophile 24/96 PCI	£65.00	Phase 22 PCI	£65.00	1212m	£139.00
UR-80 USB	£259.00	Firewire Audiophile	£165.00	Phase 28 PCI	£129.00	1820	£299.00
UA-1000 USB	£569.00	Firewire 410	£255.00	Phase 88 PCI	£219.00	1820m	£339.00
FA-101 Firewire	£359.00	Omni Studio USB	£269.00	Phase 26 USB	£159.00	Emulator X	£199.00
M-100FX Mixer	£199.00	Delta 1010LT	£179.00	DMX 6 Fire	£149.00	Emulator XS	£399.00

ASUS P4P800S Motherboard	Chieftec Quiet Case	1 Gb pc3200 DDR 400MHz MEMORY
DVD-R Writer	430w Quiet PSU	ATI Radeon 128Mb Dual Head
Black Keyboard & Mouse	6x USB II Ports & 3x Firewire Ports	FREE UK Delivery

Now just add your choice of Processor, Monitor, Operating System & Hard Disk

Processors

Intel P4 - 3.0Ghz 800 FSB + Zalman Quiet Fan	£139.00
Intel P4 - 3.2Ghz 800 FSB + Zalman Quiet Fan	£159.00
Intel P4 - 3.4Ghz 800 FSB + Zalman Quiet Fan	£229.00

Hard Drives

80Gb IDE 7200 Rpm Seagate Barracuda	£47.00
120Gb IDE 7200 Rpm Seagate Barracuda	£59.00
160Gb IDE 7200 Rpm Seagate Barracuda	£75.00
200Gb IDE 7200 Rpm Seagate Barracuda	£89.00

Monitor

AOC 15" TFT Black/Silver	£169.00
AOC 17" TFT Black/Silver	£219.00
AOC 19" TFT Black/Silver	£329.00

Operating System

Windows XP Home	£69.00
Windows XP PRO	£99.00
Windows 2000 PRO	£109.00

Opteron Workstation

ASUS SK8V Motherboard	Chieftec Quiet Case	2 Gb pc3200 DDR 400MHz MEMORY
DVD-R Writer	500W Quiet Power Supply	ATI Radeon 256Mb Dual Head
Cordless Keyboard & Mouse	80Gb Program Drive 200Gb Audio Drive	Acoustic Foam Kit

- Chieftec DX-01 ATX Tower
- 500w PFC ATX Super Quiet Power Supply
- 2048MB DDR 400 MHz SEC REG
- ASUS SK8V Motherboard
- AMD Opteron 146(CPU) 2.0Ghz
- Zalman 7000 ALCU Cpu Cooler
- Thermaltake Slim Controller
- Seagate Barracuda 80GB SATA 7200 RPM Program Drive
- Seagate Barracuda 200GB SATA 7200 RPM Audio Drive
- ATI Radeon 9800XT 256MB Dual Head Graphics Card
- Mitsumi FDD with Built in Smartcard Reader
- Sony DW116a 8x DVD-R
- Antec80 Pack - Foam Kit
- Chieftec Cordless Keyboard and Mouse Set
- Windows XP Pro

Monitor not included. Please see monitor above

All Laptops includes FREE setup, delivery, Windows XP Home Edition, plus 12 months collect & return warranty. Phone for Full spec's of Laptops.

3.2GHz Processor 800FSB	1Gb DDR MEMORY	1.8GHz Processor	1Gb DDR MEMORY	3.0GHz Processor	512MB DDR MEMORY
DVD-R Writer	17" WXGA Widescreen	DVD-R Writer	15.4" WXGA Widescreen	DVD/CDR combo	15.1" TFT
60GB 7200RPM Hard Disk Drive	ATI Radeon 128MB Graphics	60GB 7200RPM Hard Disk Drive	ATI Radeon 128MB Graphics	60GB 5400RPM Hard Disk Drive	ATI Radeon 128MB Graphics

Tel: 0870 199 9397 Open Mon-Fri 9am-5.30pm Sat 10am-1pm

Buckingham House, Crescent Avenue, Coventry, Warwickshire, UK. CV3 1HD

INTA audio Pro Audio Workstations

iMuso.co.uk

Home | Acoustic Guitar | DJ | Accessories

Quick Search

Know the product you are looking for?

Find it Now!

Next day delivery
(products in stock & orders before 15.30)

Novation KS Rack

ANALOGUE MODELED SYNTH RACK-last few remaining, ever!.

Further details

£264.99

Alesis M1 MKII Biamplified Reference Monitors Pair

ACTIVE STUDIO MONITORS

Further details

£225.99

Line 6 Pod v2.0

LINE 6 LIVE AND STUDIO MODELLING PREAMP

Further details

£119.99

Why use iMuso?

- We are part of 'Musik Produktiv', one of Europe's largest musical equipment suppliers.
- Through our user friendly website, you save because we deliver straight from our warehouse, thus avoiding unnecessary overheads.
- With our large warehouse stock, economies of scale mean that you benefit further.
- We offer fast efficient delivery, and a good service with customer care.
- There are many more products available on our website, so always check imuso.co.uk

Tannoy Reveal Passive Monitors Pair
TWO WAY PASSIVE NEARFIELD MONITORS
Further details...
£139.99
Buy now

Steinberg Cubase SX 3
SEQUENCER AND HARDISK RECORDING SOFTWARE
Further details...
£469.99
Buy now

Akai MPC1000 Sampler
AKAI MUSIC PRODUCTION WORKSTATION
Further details...
£549.99
Buy now

StudioLogic Fatar VMK188
MIDI CONTROLLER KEYBOARD
Further details...
£549.99
Buy now

Echo Indigo IO
ECHO INDIGO LAPTOP SOUNDCARD
Further details...
£124.99
Buy now

Collins CAS300 Active Speakers Pair
COLLINS SPEAKERS - 2 X ACTIVE SPEAKER DEAL
Further details...
£399.99
Buy now

PreSonus FIREPOD
24/96 FIRWIRE RECORDING SYSTEM
Further details...
£589.99
Buy now

Korg Legacy Collection
COMMEMORATIVE MS-20 CONTROLLER BUNDLE
Further details... (monitor not included)
£324.99
Buy now

Line 6 Spider II 15
LINE 6 MODELLING COMBO AMP
Further details...
£109.99
Buy now

Propellerhead Reason v2.5
STAND-ALONE MUSIC STATION
Further details...
£185.99
Buy now

Edirol UR80
USD AUDIO INTERFACE
Further details...
£199.99
Buy now

iMuso would like to wish all of our customers a very happy Christmas by offering you all the continued best pricing - anywhere.

E: info@imuso.co.uk

T: 0845 456 3034

Electric Guitar | PA | Studio | Software

online/warehouse/savings

M-Audio Oxygen 8
MIDI USB KEYBOARD
Further details... **£79.99** Buy now

AKG WMS40 Snap On System with FREE Battery Charger
AKG MICROPHONE - AKG WMS40 SNAP ON SYSTEM
Further details... **£154.99** Buy now

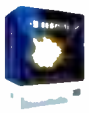
Steinberg Halion 2
VST SOFTWARE SAMPLER
Further details... **£129.99** Buy now

Korg Triton Extreme 76
76 KEY EXPANDED TRITON SAMPLING WORKSTATION
Further details... **£1,699.99** Buy now

Focusrite Platinum Trak Master - With Optical Compressor & 3 Band EQ
SINGLE CHANNEL PREAMPLIFIER
Further details... **£169.99** Buy now

Digidesign Mbox
PORTABLE USB INTERFACE
Further details... **£319.99** Buy now

MOTU 828 MKII
FIREWIRE AUDIO INTERFACE
Further details... **£569.99** Buy now



Native Instruments Komplete 2 Upgrade
SPECIAL KOMPLETE UPGRADE PACKAGE. LAST FEW!.
Further details... **£339.99** Buy now

Yamaha MG12/4
YAMAHA MIXER - 12 INPUT 4 BUS MIXER
Further details... **£119.99** Buy now

Spectrasonics Stylus
VINYYL GROOVE MODULE
Further details... **£145.99** Buy now

Steinberg WaveLab 5
SAMPLE EDITOR
Further details... **£395.99** Buy now

Errors & omissions excepted

Cables, Cases & Stands

Mono jack to mono jack cables

1 metre	£2.99
2 metre	£3.49
3 metre	£3.99
5 metre	£4.99
10 metre	£5.99

XLR to XLR cables

3 metre	£6.99
5 metre	£7.99
10 metre	£9.99

MIDI cables

1 metre	£1.99
3 metre	£3.99
5 metre	£4.99
10 metre	£6.99

Looms

5 metre phono to phono	£29.99
5 metre stereo jack to jack	£29.99
5 metre FXLR to MXLR	£39.99

AAC Flightcases

One hand double door

2u	£69.99
4u	£79.99
6u	£89.99

FX Rack

10u	£121.99
16u	£163.99

19é Rack

10u	£119.99
16u	£170.99

Double door wheeled amp rack

10u	£149.99

Studio Rack

10u	£48.99
Universal wheeled flightcase	£154.99

Gaffa Tape

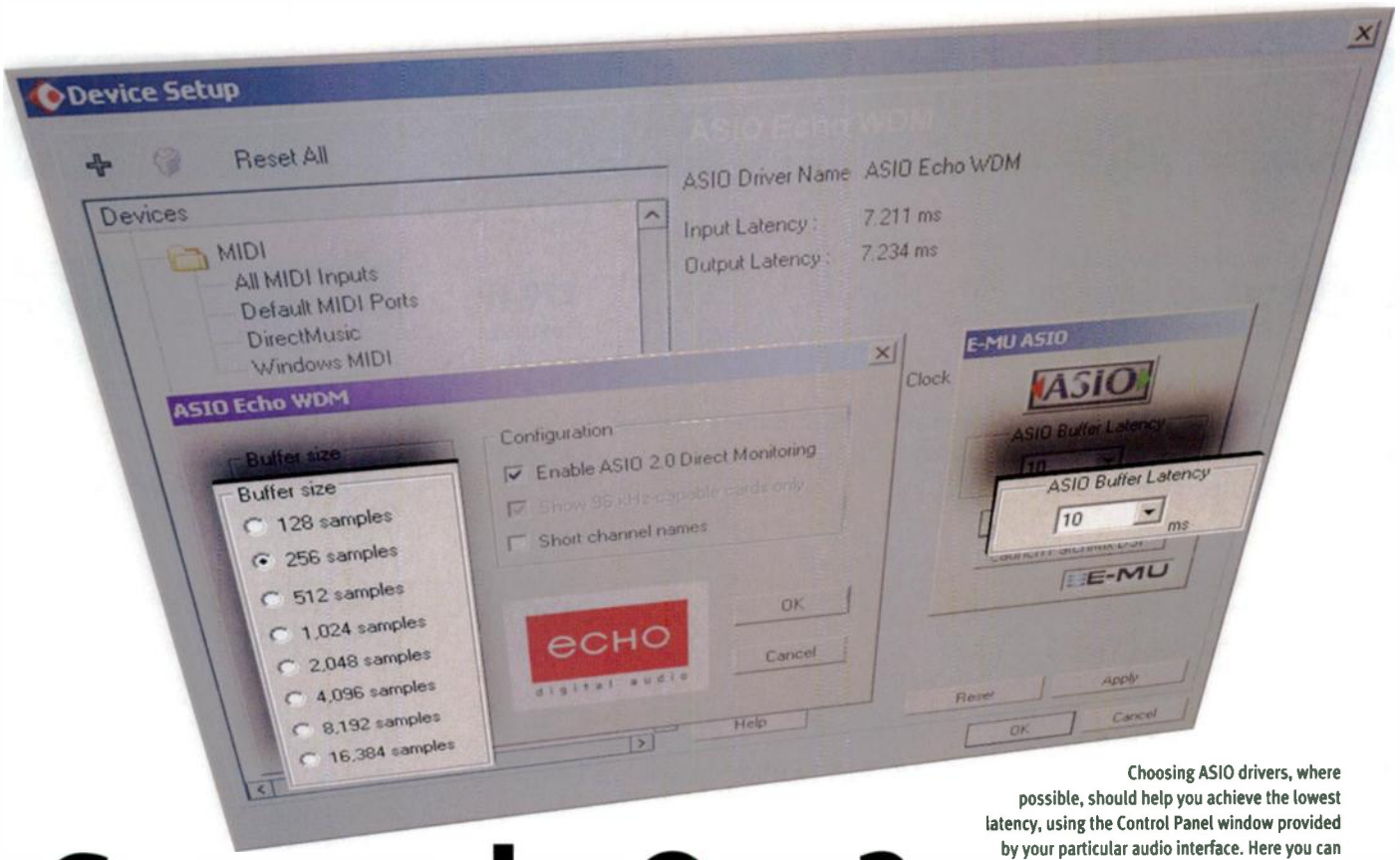
Black or Silver	£3.99

Collins Mic Stands

S92- Black, shot boom folding tripod base	£14.99
S93- Black, 90 cm boom, folding tripod base	£19.99
S94- Black, 53 to 93 cm height, 45 cm boom, folding tripod base	£14.99
S95- Black, cast base	£12.99
S95- Black, 74 cm boom, folding tripod base, max height 1.6m	£14.99

BUY ONLINE!
www.imuso.co.uk

SAVE



Choosing ASIO drivers, where possible, should help you achieve the lowest latency, using the Control Panel window provided by your particular audio interface. Here you can see the Control Panels for the Echo (left) and Emu (right) ranges, as launched from the *Cubase SX* Device Setup window.

Seconds Out?

Optimising The Latency Of Your PC Audio Interface

If you're tempted to go and make a cup of tea in the gap between pressing a note on your keyboard and hearing it play on your soft synth, you need help, and quickly...

Martin Walker

The *SOS* Forums are still awash with queries from new PC musicians asking why they get a delay between pressing a key on their MIDI keyboard and hearing the output of a soft synth on their computer. Sometimes this delay may be as much as a second, making 'real time' performances almost impossible. Newcomers to computer music soon cotton on to the fact that this is because of 'latency' and 'buffer sizes', but are often left wondering just what to adjust and what the 'best' setting is.

Setting the correct buffer size is crucial to achieving optimum performance from your audio interface: if it's too small you'll suffer audio clicks and pops, while if it's too large you'll encounter audible delays when performing in real time. The ideal setting can depend on quite a few different factors, including your particular PC and how you work with audio, while the parameters you're able to change, and how best to do it, can also vary considerably depending on which MIDI + Audio application you use.

Buffers: The Basics

Let's start by briefly recapping on why software buffers are needed. Playing back digitised audio requires a continuous stream of data to be fed from your hard drive or RAM to the soundcard's D-A (digital to analogue) converter before you can listen to it on speakers or headphones, and recording an audio performance also requires a continuous stream of data, this time being converted by the soundcard's A-D (analogue to digital) converter from analogue waveform to digital data and then stored either in RAM or on your hard drive.

No computer operating system can do everything at once, so a multitasking operating system such as Windows or Mac OS works by running lots of separate programs or tasks in turns, each one consuming a share of the available CPU (processor) and I/O (Input/Output) cycles. To maintain a continuous audio stream, small amounts of system RAM (buffers) are used to temporarily store a chunk of audio at a time.

For playback, the soundcard continues accessing the data within these buffers while Windows goes off to perform its other tasks, and hopefully Windows will get back soon enough to drop the next chunk of audio data into the buffers before the existing data has been used up. Similarly, during audio recording the incoming data slowly fills up a second set of buffers, and Windows comes back every so often to grab a chunk of this and save it to your hard drive.

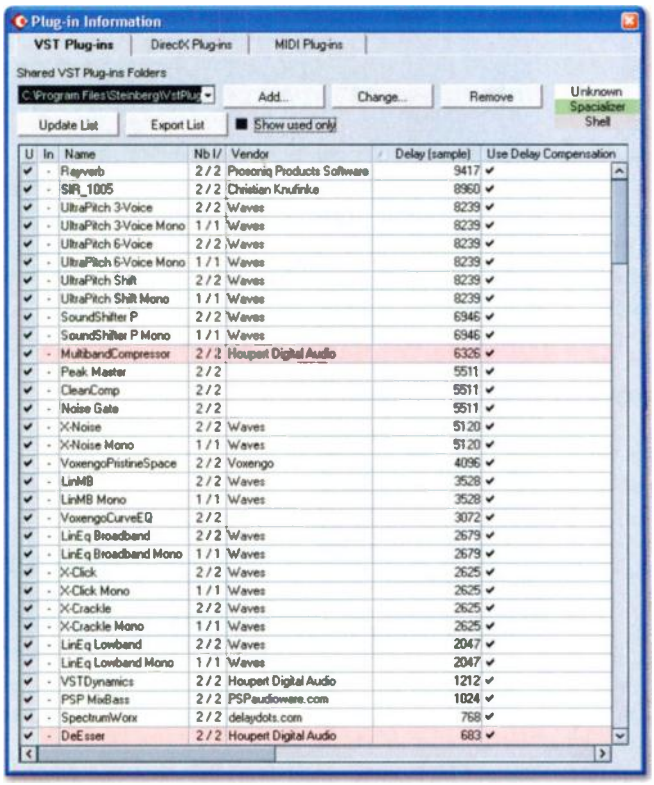
If the buffers are too small and the data runs out before Windows can get back to top them up (playback) or empty them (recording)

you'll get a gap in the audio stream that sounds like a click or pop in the waveform and is often referred to as a 'glitch'. If the buffers are far too small, these glitches occur more often, firstly giving rise to occasional crackles and eventually to almost continuous interruptions that sound like distortion as the audio starts to break up regularly.

Making the buffers a lot bigger immediately solves the vast majority of problems with clicks and pops, but has an unfortunate side effect: any change that you make to the audio from your audio software doesn't take effect until the next buffer is accessed. This is latency, and is most obvious in two situations: when playing a soft synth or soft sampler in 'real time', or when recording a performance. In the first case you may be pressing notes on your MIDI keyboard in real time, but the generated waveforms won't be heard until the next buffer is passed to the soundcard. You may not even be aware of a slight time lag at all (see 'Acceptable Latency Values' box), but as it gets longer it will eventually become noticeable, then annoying, and finally unmanageable.

During recording, the situation is even worse, since you normally won't be able to hear the incoming signal until it has passed through the input buffers and reached the software application, then passed through a second set of output buffers on its way to the soundcard's D-A converter, and then to your speakers or headphones. 'Monitoring' latency is double that of playback latency.

Plug-in effects can also add their own processing latency, particularly compressors, limiters and de-essers that look ahead in the waveform to spot peaks, plus pitch-shifters and convolution-based reverbs that employ extensive computation. Any tracks in your song using these effects would be delayed compared with the rest, so to bring them all back into perfect sync most MIDI + Audio applications now offer automatic 'delay compensation' throughout the entire audio path. Unfortunately, this can also add to the record-monitoring latency, although some applications (including *Cubase SX*) now provide a 'Constrain Delay Compensation' function, which tries to minimise the effects of delay compensation during the recording process, by temporarily disabling those plug-ins whose inherent latency is above a certain threshold (you set this in the Preferences dialogue). Activating this function during an audio recording or soft-synth performance may allow less 'real-time' latency. You can then deactivate it to hear every plug-in again.



U	In	Name	Nb I/	Vendor	Delay [sample]	Use Delay Compensation
✔	-	Reverb	2 / 2	Prosoniq Products Software	9417	✔
✔	-	SIR_1005	2 / 2	Christian Knufinke	8960	✔
✔	-	UltraPitch 3-Voice	2 / 2	Waves	8239	✔
✔	-	UltraPitch 3-Voice Mono	1 / 1	Waves	8239	✔
✔	-	UltraPitch 6-Voice	2 / 2	Waves	8239	✔
✔	-	UltraPitch 6-Voice Mono	1 / 1	Waves	8239	✔
✔	-	UltraPitch Shift	2 / 2	Waves	8239	✔
✔	-	UltraPitch Shift Mono	1 / 1	Waves	8239	✔
✔	-	SoundShifter P	2 / 2	Waves	6946	✔
✔	-	SoundShifter P Mono	1 / 1	Waves	6946	✔
✔	-	MultibandCompressor	2 / 2	Houpert Digital Audio	6326	✔
✔	-	Peak Master	2 / 2		5511	✔
✔	-	CleanComp	2 / 2		5511	✔
✔	-	Noise Gate	2 / 2		5511	✔
✔	-	X-Noise	2 / 2	Waves	5120	✔
✔	-	X-Noise Mono	1 / 1	Waves	5120	✔
✔	-	VoxengoPristineSpace	2 / 2	Voxengo	4096	✔
✔	-	LinMB	2 / 2	Waves	3528	✔
✔	-	LinMB Mono	1 / 1	Waves	3528	✔
✔	-	VoxengoCurveEQ	2 / 2		3072	✔
✔	-	LinEq Broadband	2 / 2	Waves	2679	✔
✔	-	LinEq Broadband Mono	1 / 1	Waves	2679	✔
✔	-	X-Click	2 / 2	Waves	2625	✔
✔	-	X-Click Mono	1 / 1	Waves	2625	✔
✔	-	X-Crackle	2 / 2	Waves	2625	✔
✔	-	X-Crackle Mono	1 / 1	Waves	2625	✔
✔	-	LinEq Lowband	2 / 2	Waves	2047	✔
✔	-	LinEq Lowband Mono	1 / 1	Waves	2047	✔
✔	-	VSTDynamics	2 / 2	Houpert Digital Audio	1212	✔
✔	-	PSP MixBass	2 / 2	PSPaudioware.com	1024	✔
✔	-	SpectrumWorx	2 / 2	delaydots.com	768	✔
✔	-	DeEsser	2 / 2	Houpert Digital Audio	683	✔

Some plug-ins add latency to the audio path, as revealed by this Plug-In Information window in *Cubase SX*. The window shows which plug-ins exhibit additional latency when used, and whether or not to automatically compensate for it.

Zero-latency Monitoring

As you can see, latency can be a complex and potentially confusing issue. Fortunately, many audio interfaces provide so-called 'zero-latency monitoring' for recording purposes. This bypasses the software buffers altogether, routing the interface input directly to one of its outputs. However, as I explained in my article 'The Truth About Latency' (see 'Further Reading' box), the total latency value ▶

isn't just that of the buffers. The audio signals also have to pass through the A-D and D-A converters on their way into and out of the computer, which adds a small further delay.

Converters usually add a delay of about 1ms each, but there may be other hidden delays as the signals pass through the soundcard, caused by the addition of features such as sample-rate conversion for rates of 32kHz or lower, which are sometimes not directly supported by modern converters. So 'zero'-latency monitoring actually means about 2ms latency, which is still almost undetectable in most situations. It's incredibly useful during recording, because the performers can listen to their live performance without any audible delay, which makes it far easier to monitor via headphones, for instance. However, it does have one unfortunate side-effect: you can't hear the input signal with plug-in effects, which prevents you from giving vocalists some reverb 'in the cans' to help with pitching, or guitarists some distortion, for example. One way around this is to buy an interface with on-board DSP effects and use them instead. Another is to use an external hardware unit to add effects. In both cases it's generally possible to connect them up such that you can hear the performance with effects, but still record it 'dry', for maximum flexibility during later mixdowns.

Unfortunately, you can't use zero-latency monitoring with soft synths or soft samplers, whose waveforms must always be passed though a set of software buffers before being heard. So we need to keep the buffer size as small as possible, to minimise the time between hitting a note and hearing the result.

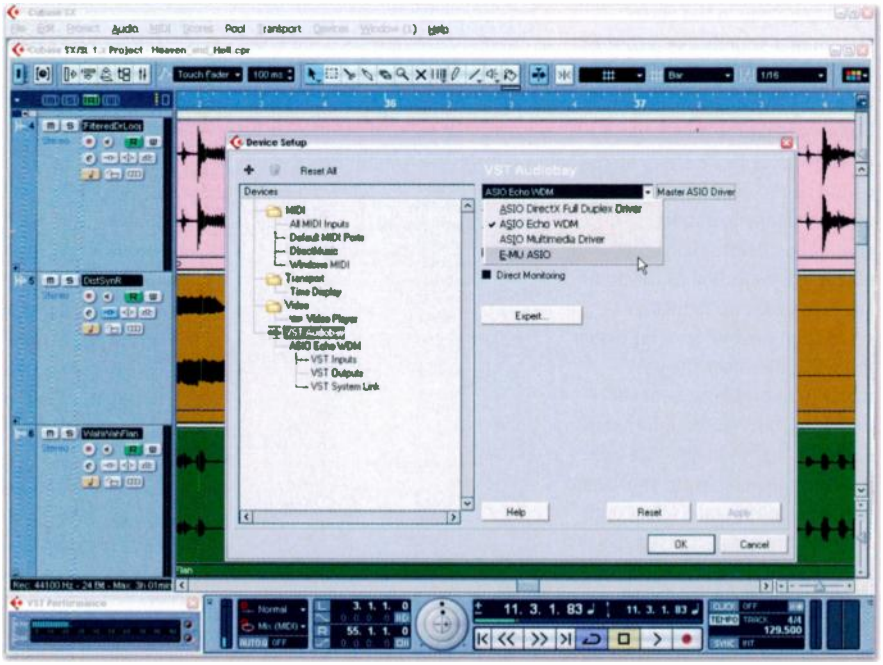
Value Judgements

Some audio-interface manufacturers make life easy for you by directly providing the playback latency value in milliseconds at the current sample rate in their Control Panel utilities — although I've come across a few that provide incorrect values! Many applications also provide a readout of this latency time. If your audio application or soundcard provides a readout of buffer size in samples instead, it's easy to convert this to a time delay by dividing the figure provided by the number of samples per second. For instance, in the case of a typical ASIO buffer size of 256 samples in a 44.1kHz project, latency is 256/44100, or 5.8ms, normally rounded to 6ms. Similarly, a 256-sample buffer in a 96kHz project would provide 256/96000, or 2.6ms latency.

Most of you will have spotted that running songs at a higher sample rate means lower latency, and some musicians assume that this is a major reason to make the switch. Unfortunately, doubling sample rate also doubles CPU overheads, since twice as much data has to be processed by plug-ins and soft synths in the same time period. You'll thus only be able to run half as many effects and notes as before, so do take this into account.

I've also mentioned in the past (notably in *SOS* June 2003) that the setting for audio interface buffers doesn't only affect latency, but also CPU overhead. However, many musicians forget this as they struggle to achieve the lowest possible latency for their system. The problem is that while the audio interface drivers take a negligible CPU overhead of their own to get started each time before the actual buffer filling and emptying takes place, and then to terminate afterwards, this small constant overhead can become increasingly significant at lower latency values. If, for example, your buffers are running with a sample rate of 44.1kHz and have a 12ms latency, they only need to be filled and emptied about 86 times per second. But if you attempt to reduce buffer size to 64 samples at 44.1kHz, to achieve a latency of 1.5ms, you have to fill these buffers 689 times a second, and each time you do the drivers consume their little extra overheads.

However efficient the driver programming, this will produce a noticeable hike in your CPU load, although some interfaces have more efficient drivers than others. Over the years I've noticed that nearly all interfaces give very similar values for CPU overhead, as measured inside applications such as *Sonar* and *Cubase*, when their latency is 12ms or higher. They can, however, vary considerably below this value, and USB and FireWire interfaces can sometimes impose a significantly higher overhead at low latencies than do PCI or PCMCIA interfaces.



Your particular MIDI + Audio application (this screenshot shows *Cubase SX 3*) may support various audio-interface driver formats. The preferred options, if you have a choice, are ASIO, WDM, DirectX and MME, in that order.

Acceptable Latency Values

Here are some thoughts on acceptable values for different recording purposes:

- Vocals: This is the most difficult example, because anyone listening to their vocals in 'real time' will have headphones on, and therefore have the sounds 'inside their head'. A latency of even 3ms can be disconcerting in these conditions.
- Drums & Percussion: I suspect most drummers will prefer to work with latencies of 6ms or under, which should provide an 'immediate' response.
- Guitars: Electric guitarists generally play a few feet from their stacks, and since the speed of sound in air is roughly a thousand feet per second, each millisecond of delay is equivalent to listening to the sound from a point one foot further away. So if you can play an electric guitar 12 feet from your amp, you can easily cope with a 12ms latency.
- Keyboards: Even on acoustic pianos there's a delay between your hitting a key and the corresponding hammer hitting the string, so a smallish latency of 6ms ought to be perfectly acceptable to even the fussiest pianists. Famously, Donald Fagen and Walter Becker of Steely Dan claimed to be able to spot 5ms discrepancies in their performances, but the vast majority of musicians are unlikely to worry about 10ms, and many should find a latency of 23ms or more perfectly acceptable with most sounds, especially pads with longer attacks.

ADL 600

TWO-CHANNEL HIGH VOLTAGE TUBE MIC-PREAMP

PreSonus AUDIO ELECTRONICS

The ADL 600 is a high voltage two-channel microphone preamplifier designed by world-renown analog tube circuit desinger Anthony DeMaria. The ADL 600 utilizes a unique high voltage Class A, discrete design with three vacuum tubes per channel for maximum headroom and tonality. The ADL 600 is built by hand in the USA and utilizes the finest components in the world including switched attenuators, military grade vacuum tubes, analog VU and LED meters, custom-designed transformers, and the list goes on. No expense is spared with the ADL 600 down to the last polypropylene film capacitor. The ADL 600 is big, warm, smooth, and clear; a sound like no other.

CENTRAL STATION

STUDIO CONTROL CENTER

CSR-1 CENTRAL STATION REMOTE CONTROL NOW AVAILIABLE

The Central Station is the ultimate studio-monitoring interface for the modern digital studio. The Central Station features three sets of stereo analog inputs to switch between input sources such as: DAW, mixer, CD/DAT/Tape player, or keyboards/samplers. Two stereo analog inputs feature TRS balanced and the third stereo input features RCA inputs with trim control for level matching of input signals. In addition, the Central Station will accommodate two digital inputs via S/PDIF or TOSLINK providing D/A conversion up to 24Bit/192kHz.

EUREKA

PRO RECORDING CHANNEL

The Eureka is a professional recording channel strip containing a discrete class A transformer-coupled microphone preamplifier, compressor, and three-band parametric equalizer. The microphone preamplifier features variable input impedance so that the Eureka can be matched and "tuned" for all types of microphones and recording applications. The Class A transformer-coupled microphone preamplifier also features "SATURATE" which adjusts the drain current on the input FET amplifier to simulate of the effects of tape saturation and tube "warmth".

BLUETUBE DP

DUAL PATH TECHNOLOGY

The new BlueTube DP two channel microphone/ instrument preamplifier with Dual Path Technology. The BlueTube DP will replace the award-winning BlueTube by adding enhanced features including a dual signal path with both a solid state preamplifier stage and a tube preamplifier stage. This feature allows the user to switch between an ultra quiet transparent solid state preamp and a smooth, round, warm tube preamp. The new BlueTube DP also boasts a -6dB better signal to noise ratio and higher input headroom than its predecessor.

FIREPOD & FIREBOX

PRESONUS ONLY BUILD STUDIO QUALITY PRE-AMPS INTO THEIR EQUIPMENT

COMING SOON - MULTIPLE UNIT SYNC - PC & MAC

The FIREPOD is a complete 24-bit/96k recording studio combining eight high-quality PreSonus microphone preamplifiers, 24-bit/96k sample rate conversion and as an added bonus, Steinberg's Cubase LE 48-track recording software. *FIREBOX - a compact yet powerful FireWire recording system with the ability to record and playback six inputs and ten outputs simultaneously at professional-grade 24-bit/96k resolution. Bus Powered Via 6 Pin Firewire.*

MAXRACK

Neatly rack up to six PreSonus 1/3 U personal recording products including TubePRE, Comp16, EQ3B and HP4.

COMP16
Based on the award winning BlueMax compressor design, the COMP16 is the simplest professional quality compressor in the world.

EQ3B
The EQ3B is a three-band fully parametric single channel analog EQ with smooth highs and solid lows.

HP4
The new HP4 answers the need for a headphone distribution amplifier with professional specifications in a small package.

TUBEPRE
The TubePRE is the highest quality vacuum tube preamp in its class.

HAND IN HAND DISTRIBUTION - TEL:01579 326155 - FAX:01579 326157 - WWW.HANDINHAND.UK.NET

Driver Options

Your application may support more than one driver format, in which case you've first got to decide on the best one. You'll have the easiest time if you can choose ASIO drivers. These generally offer the lowest latencies and CPU overheads, and are also supported by a wide range of host applications, including Steinberg's *Cubasis*, *Cubase*, *Nuendo* and *Wavelab*, Cakewalk's *Project 5* and *Sonar* (from version 2.2 onwards), and Emagic's *Logic Audio*.

The host application generally provides a button labelled 'Control Panel' that launches a simple utility unique to your audio interface, with a small selection of preset ASIO buffer sizes from which to choose. Playback generally stops as soon as the Panel appears, so that you can change the size, although some interfaces won't adopt your new value until you close and then re-launch the host app. However, there is sometimes a way around this. *Cubase*, for example, has a tick box labelled 'Release ASIO Driver in Background' that will give the Control Panel full control of the interface while its window is open, and then return control to *Cubase* as soon as you close it, with the new buffer size in force.

Anyone running Tascam's *Gigastudio* will require GSIF drivers, which mostly provide a fixed but low latency of between 6ms and 9ms and thus will work very well from day one without any tweaking. However, some modern interfaces provide a range of GSIF buffer sizes under Windows XP, generally chosen using a similar utility to the ASIO Control Panel.

WDM drivers are also capable of excellent performance with some applications (particularly *Sonar*), but generally take more setting up to achieve the lowest latency values, since you can often choose both the number of buffers and their sizes. Where and how to adjust these depends on the individual application (see next section). If your audio interface only has WDM drivers that provide mediocre performance but your application is ASIO-compatible, try downloading Michael Tippach's freeware *ASIO4ALL* driver (http://michael.tippach.bei.t-online.de/asio4all). This is a universal ASIO overlay that sits on top of any device's existing WDM driver to provide it with full ASIO support, and often far lower latencies.

DirectSound drivers can often provide good playback performance but rarely offer equivalent recording performance, so in the absence of ASIO or WDM drivers this often makes them a good choice for playing soft synths. Finally, some applications, such as *Sound Forge*, only support MME drivers. Even with *Sound Forge*'s Buffer size (found in the Wave page of Options/Preferences) set to its minimum 96kb size you'll still hear a noticeable delay in some circumstances.

Sonar's WDM driver with Kernel Streaming support is capable of really low latencies once you've tweaked its Buffer Size slider.

Some Application Examples

Each audio application tucks away driver and buffer-size choices in a slightly different place, although menus labelled Audio, Preferences or Setup are a good place to start looking.

- ***Sonar:*** *Sonar* runs a 'Wave Profiler (WDM Kernel Streaming)' utility when you first start the application, to determine the optimum size for its buffers at all available sample rates, but you can run this again at any time by clicking the Wave Profiler button on the General page of Audio Options. This sets up the MME and WDM drivers for a safe but conservative latency, whose current value can be seen below the Buffer Size slider in the Mixing Latency section on this same page (see screen above). You can nearly always move this slider further to the left to reduce latency (typically 99ms), as well as lowering the setting for 'Buffers in Playback Queue' if it's not already set to its lowest value of two. Move the slider to a new value, close the Audio Options window, then restart playback of the current song and listen for clicks and pops, as well as checking the new CPU-meter reading. In my experience, this meter reading can double between latencies of about 12ms and 3ms.

If you prefer to use *Sonar* with ASIO drivers, you can change the Drive Mode in the Playback and Recording section of the Advanced Audio Options page from WDM/KS to ASIO. Then exit *Sonar* and restart it for the

Latency Hints & Tips

- If you're streaming samples from a hard drive for an application such as *Gigastudio*, *HALion* or *Kontakt*, using a drive with a low access time will help you achieve the minimum latency.
- During playback and mixdown, latency largely determines the time it takes after you press the play button to actually begin hearing your song. Few people will notice a gap even as large as 100ms in this situation.
- If you're running a pre-mastering application such as *Wavelab* or *Sound Forge*, you don't often need to work with a low latency. Few people notice the slight time lag between altering a plug-in parameter and hearing the audio result when mastering, even when this lag is 100ms or more. The only time I find a high mastering latency annoying is when I'm bypassing a plug-in (A/B switching) to hear its effect on the sound. You ideally need the change-over to happen as soon as you click the Bypass button, but most people still won't notice a latency of 23ms in this situation.
- When using a hardware MIDI controller for automation you may not need low latency, but it's generally preferable when inputting 'real time' synth changes such as fast filter sweeps, to ensure the most responsive interface between real and virtual knobs.
- During monitoring of vocals you may be able to use 'zero-latency' monitoring for the main signal, but still add plug-in reverb using a latency of 23ms or more without causing any delay problems, as long as you use the effect totally 'wet'.

STIRLING SYCO

ASP8024

From ~~£15,896 inc VAT~~

£13,529 + VAT

(24 module 48 input console including floor stand and meterbridge.)

audient

With 48-120 channels of pure analogue, 24 multi-track buses, 14 aux, dual input metering, 8 analogue sub group faders, 4 stereo effects returns and compressor on the main L/R output, the **ASP8024** is the most up to date designed analogue conslole on the market.

'Sound-wise the Audient is pristine, it's smooth and transparent, the EQ is very flexible, it just alters frequencies not character. The pre-amps are similarly excellent.'

Jack Ruston, owner of Soul Valley Studios, Wimbledon (pictured).

M&K SOUND

M&K have been quietly building a reputation for making perhaps the best monitors money can buy. With a product range that covers all aspects of stereo and surround sound, M&K monitors provide an astonishing clarity and balance that remains consistent at all levels. Contact us now for a free demonstration and discover why M&K are quickly becoming a major player in the monitor market.

api

We are very pleased to announce our recent appointment as API dealer for the UK.

This classic range is currently benefiting from the pound/dollar exchange rate with the new 6 bay Lunchbox at only £364 inc. VAT (£310 + VAT) and the fantastic 2500 Stereo Buss Compressor at just £2,173 inc. VAT (£1,850 + VAT).

lexicon 960L

DIGITAL EFFECTS SYSTEM

Still the No.1 for digital effects processors, the **Lexicon 960L** has seen the introduction of time code automation software. Combine this with a new reduced starting price of £7,931 inc. VAT (£6,750 + VAT) and it's ability to be configured to 4 completely separate stereo reverbs, this works out at £1,687.50 + VAT per stereo pair of pure lexicon reverb.

PRO TOOLS | HD ACCEL

Consider this when buying Pro Tools.

- To configure a complete Pro Tools workstation, it takes on average 10 different manufacturers' products to make a complete working system, and one dealer.
- When it comes to choosing your dealer consider carefully.
- We have a proven track record and the expertise and knowledge to build, install and maintain your Pro Tools system efficiently.

Audio Solution Experts

Stirling Syco: Unit 5 The Chase Centre, Chase Road NW10 6QD Tel: 020 8963 4790 Email: info@stirlingsyco.com

WRH

change to take effect. The Mixing Latency of Audio Options will now be greyed out, and you can click on the new ASIO Panel button to launch the familiar control panel for your particular audio interface. When you close this, the new value takes effect immediately. However, the Effective Latency value shown in Audio Options only gets updated the next time you launch this window. According to my tests with *Sonar*'s CPU meter, ASIO drivers generally give slightly lower CPU overhead than their WDM counterparts at latencies lower than about 12ms.

▪ ***Cubase SX* 3:** Click on Device Setup in the Device menu and then choose 'VST Audiobay' (or 'VST Multitrack' in *SX* 1 and 2) in the left-hand column. The type of ASIO driver can be chosen in the drop-down box at top right. By far the best choice is a true ASIO driver, such as either the ASIO Echo WDM or EMU ASIO entries shown in the screen shot on page 118. You can then choose a suitable buffer size by clicking on your new driver's name in the left-hand column, and then on the Control Panel button.

The 'ASIO Multimedia' driver is generally the worst choice, since this will require you to set up the number of buffers and their size by hand, using the Advanced Options launched from the Control Panel button, and will always result in much higher latency. The best I've ever managed with my Echo Mia card is three buffers of 1024 samples, resulting in a playback latency of 93ms. Rather better is 'ASIO DirectX Full Duplex Driver', which my Echo Mia card can run with a single 768-sample buffer, resulting in a reasonable latency of 17ms.

▪ ***Wavelab*:** Click on Preferences in the Options menu, and then on the Audio Card tab. Here you can choose different drivers for Playback and Recording, which can be useful if you have several interfaces installed in your PC (this only applies to the MME-WDM options — choosing any ASIO driver for playback greys out the recording selections). Unusually, choosing an ASIO option still allows you to select the number of buffers, so it's important to give this the lowest setting (three) if you want really low latency.

The MME-WDM options default to six buffers with a size of 16384 bytes each, giving a huge latency of 557ms at 44.1kHz, but you can nearly always reduce this to four buffers of 16384 bytes (371ms) with no problems. If you go lower, you may find that playback is glitch-free but that juddering occurs when you display the drop-down lists of plug-ins in the Master Section. My Echo Mia card can manage five 4096-byte buffers producing 116ms of latency, which is quite low enough for most mastering purposes. However, choosing ASIO drivers is generally a much better option if they are available.

▪ **Native Instruments soft synths:** Most of these can run either as VST or DX Instruments inside a compatible host application, or as stand-alone synths using ASIO, DirectSound or MME drivers. If you choose either of the latter two options there's a single Play Ahead slider to tweak for the lowest latency. Many interfaces manage the lowest MME setting of 10ms under Windows 98SE, but under Windows XP 40ms is more typical. DirectSound drivers generally manage 25ms or less, which can be perfectly acceptable, under all versions of Windows.

The Best Latency

So what's the best buffer size for your system? This isn't straightforward to answer. If you mainly play soft synths and soft samplers, or you're recording electric guitar, a 6ms ASIO or WDM/KS latency (256 samples at 44.1kHz) is probably low enough to be unnoticeable, and won't increase your CPU overhead too much. However, if you're one of the many musicians who don't notice a 12ms latency, adopting a 512-sample buffer size at 44.1kHz will probably allow you more simultaneous notes and plug-ins.

The best way to find out is to set a latency value of about 23ms (a buffer size of 1024 samples at 44.1kHz), and then choose a soft-synth sound with as fast an attack as possible (slow-attack pads can easily be played with latencies of over a second!) See if you can detect any hesitation before each note starts, while you're playing in real time from a MIDI keyboard, and don't be embarassed if you can't! If you can detect a hesitation and you find this latency noticeable or even annoying, reduce the buffer to the next size down and try again, until you decide on a latency that works for you. This way you won't be wasting your processor's time by making it constantly fill unnecessarily tiny buffers.

Whatever the latency value you choose, you may have to adopt a lower one when monitoring vocals during recording, if you want to add plug-in effects 'live'. Set the buffers inside your particular MIDI + Audio application to a high latency of about 23ms and then start playback of an existing song. Watch the application's CPU meter and note its approximate reading. Now choose the next buffer size down and try again. If playback is still glitch-free, keep going, a setting at a time, until tell-tale clicks and pops start to appear. If you're lucky this won't happen until a 3ms or even lower latency, and may not even occur at the lowest available setting provided by your audio interface. But as soon as you hear even a single click, move back to the next buffer size up and try again, until you're sure that the current buffer setting is the lowest that is totally reliable. At the same time, note any increases in the CPU meter reading compared with its 23ms setting — if it's risen considerably, you'll probably find it preferable to only use this low latency during recording when you really need it for monitoring purposes, returning to your previously chosen playback setting at all other times. It's rare to run into any problems other than glitching when you're trying low ASIO or WDM buffer values. However, with MME and DirectSound drivers you may experience intense waveform breakup that can sometimes even crash your PC, so be very cautious when setting these driver buffer sizes below about 40ms. Change the value in small steps, and stop as soon as you start to experience glitching.

Many musicians adopt a two-stage approach — a low latency value during the audio-recording phase and a more modest one during soft-synth recording, playback and mixdown, when they can add more plug-ins. And while these procedures may sound complex, they should only take you an hour, at most, to complete, and you only need to perform them once with a particular combination of audio interface, driver version and PC. Once you've found the most suitable latency value for playback and the lowest possible latency supported by your particular PC, you'll know you're making the best use of your processor in all situations. SOS

Further Reading

- Choosing A PC Audio Interface: *SOS* November 2004
www.soundonsound.com/sos/nov04/articles/pcmusician.htm
- DSP-assisted Audio Effects & Latency: *SOS* April 2004
www.soundonsound.com/sos/apr04/articles/pcmusician.htm
- Using Hardware Effects With Your PC Software Studio: *SOS* March 2004
www.soundonsound.com/sos/mar04/articles/pcmusician.htm
- PC Musician Jargon Buster: *SOS* February 2004
www.soundonsound.com/sos/feb04/articles/pcmusician.htm
- The Truth About Latency: *SOS* September 2002
www.soundonsound.com/sos/Sep02/articles/pcmusician0902.asp
- The Truth About Latency Part 2 : *SOS* October 2002
www.soundonsound.com/sos/Oct02/articles/pcmusician1002.asp
- Hear No Evil: *SOS* August 1999
www.soundonsound.com/sos/aug99/articles/zerolatency.htm
- Mind The Gap: *SOS* April 1999
www.soundonsound.com/sos/apr99/articles/letency.htm

The world's first all-in-one portable audio and music solution has arrived.

X-STATION

"...the X-Station is almost too good to be true."
SOS – Sep 2004

"The whole package oozes quality and imagination."
FUTURE MUSIC – Sep 2004

"The semi-weighted keyboard has the best feel I've played on a two-octave synth."
KEYBOARD – Sep 2004

novation®

www.novationmusic.com

Blue Sky Media Desk

Active Monitoring System

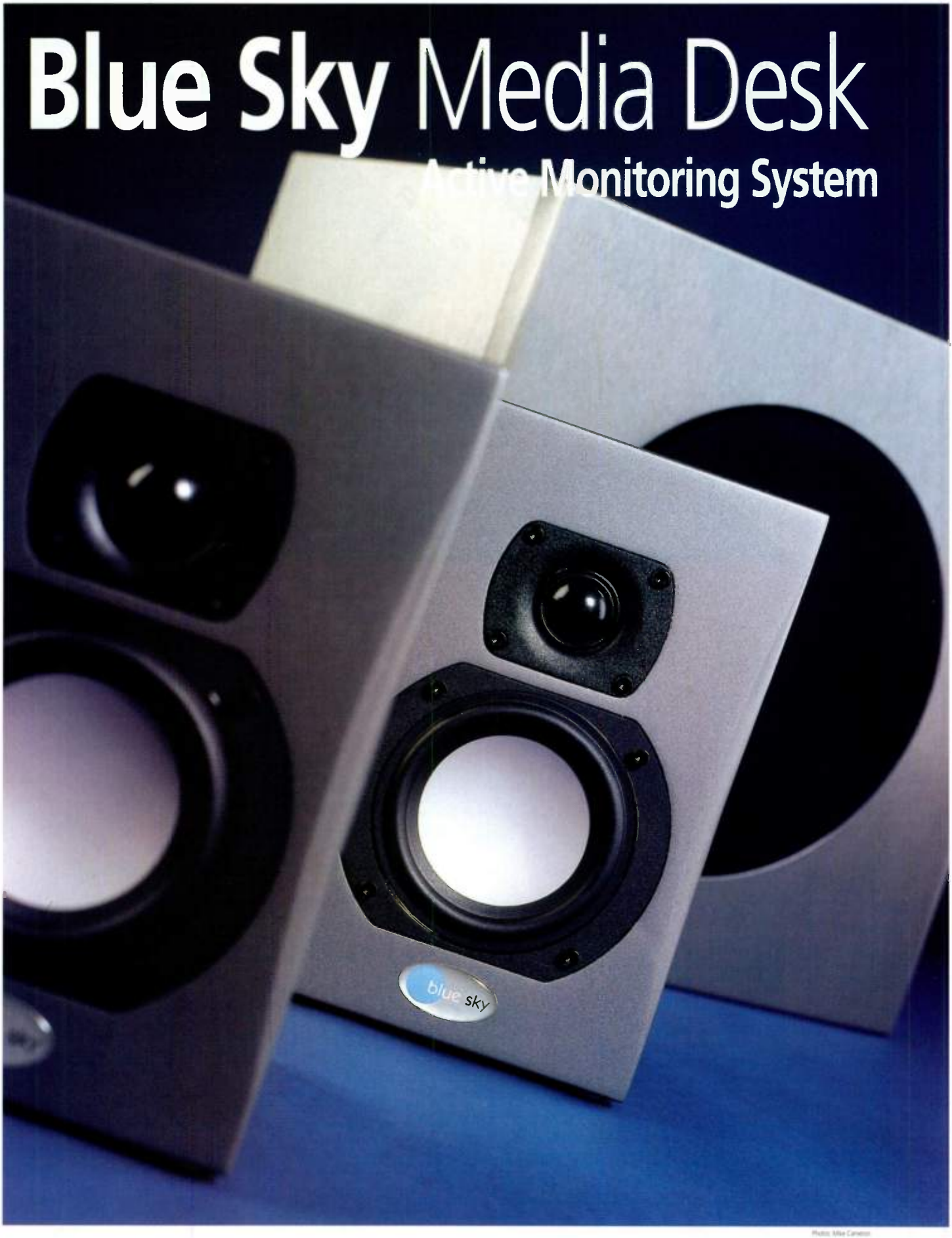


Photo: Mike Cameron

The new baby of the Blue Sky range brings their design philosophy to the small computer studio. But will the 'satellite plus subwoofer' configuration and closed-box speaker loading work as well on a small scale as it does in the company's larger systems?

Phil Ward

It seems to me that the niche the Blue Sky Media Desk is aimed at has been open for a while without any manufacturer plugging the gap. I'd have expected one of the longer-established names to have got there first, but it's taken a relatively new entrant to the market to identify the opportunity and come up with a product. Media Desk, the third product from Blue Sky, is specifically designed, as the name rather suggests, to handle the monitoring duties in a compact computer-based audio (and quite likely audio-visual) system — the two small satellite speakers perched on the desk beside the screen, and the compact subwoofer sitting on the floor. Of course there have been satellite plus subwoofer computer-speaker packages around for not far short of a decade, and there's no shortage of smallish three-box professional monitoring systems available. But in performing orders of magnitude above the typical (and most often horrible) computer speaker package, offering suitably compact dimensions, and coming in at a relatively affordable price, the Media Desk doesn't have many competitors, at least in theory. But before examining the performance of the Media Desk and seeing how the 'in theory' works out in practice, a few paragraphs of description would seem to be in order.

Blue Sky Thinking

The basic Media Desk 2.1 system comprises a pair of passive two-way satellite speakers and an active subwoofer. The subwoofer carries a rear-panel-mounted three-channel amplifier module that provides power not only for its own 200mm driver but also for the satellites — 65 Watts for the sub and 55 Watts for each satellite. The amplifier panel also carries line input connections on phonos and balanced XLRs, satellite speaker outputs on 4mm socket/binding-post terminals, and a slave subwoofer output socket on an XLR.

Alongside the connections are system and subwoofer gain controls, a two-position system attenuator that operates on the XLR inputs, and a switch that configures the system for use in either 2.1 stereo or 5.1 surround schemes. Connecting the Media Desk could hardly be simpler — everything goes to the rear of the subwoofer, and while you're down there connecting cables, you can switch it all on from the same position too.

Blue Sky have quickly developed a consistent engineering philosophy across their three products. All employ closed-box rather than ported bass loading, and all but the Media Desk subwoofer use hi-tech neodymium magnets and spherical-section bass/mid-range driver cones. One significant advantage of neodymium-magnet systems is that they are inherently magnetically shielded, so they don't need any heavy compensating magnets or metal cans.

The two systems above the Media Desk in the Blue Sky range employ the unusual and highly regarded XT19 ring-radiator tweeter from Vifa. The Media Desk, however, includes the more conventional, though still highly capable, BC25 from the same manufacturer. I suspect that the XT19 was both too expensive for the Media Desk's budget, and too big for the satellite front panel.

Along with the Blue Sky engineering philosophy, there's also a Blue Sky product aesthetic based on simple rectangular forms in a brushed metallic-grey finish. It's interesting that, while many loudspeaker manufacturers, in both hi-fi and pro sectors, are at last moving away from the rectangular box and coming up with complex, curved injection-moulded or die-cast forms, Blue Sky have chosen to follow a conventional MDF box-construction technique that's almost as lo-tech as it gets (the finish quality on my review product was not faultless either).

My own feeling is that, as well as it being perhaps a question of philosophy at Blue Sky that, in terms of performance per pound, there's little to be gained by hi-tech cabinet construction, there's also the issue of the high tooling costs and production numbers associated with complex moulded enclosures. Maybe Blue Sky, as new entrants to the business, are sensibly playing a little safe on their early models? Little could be more commercially damaging to a newcomer than a warehouse full of product and a massive tooling bill.

The Media Desk, however, while recognisably sharing the Blue Sky aesthetic genes, relieves the straight lines a little by integrating some subtle 'Coke bottle curve' edge profiling on the front panels of each unit. It's reasonably effective to my eyes, but my partner did ask, tongue in cheek, why on earth I'd bought a safe when she first saw the Media Desk subwoofer under my desk. The mental image of a burglar caught red-handed trying to break into the subwoofer raised a smile...

While positioning options for the Media Desk subwoofer are pretty much limited to the floor, the satellites do have some versatility. Firstly, they incorporate threaded inserts on their rear panels compatible with BT Technologies (www.btech-usa.com) and Omnimount (www.omnimount.com) wall brackets; and, secondly, they have a threaded insert on the underside that enables them, with the aid of a thread adaptor, to be attached to a microphone stand.

The same insert on the underside can also have the supplied metal foot inserted in order to lift the satellite up to a horizontal position, rather than leaning back, when it's ▶

SOUND ON SOUND

Blue Sky Media Desk **£499**

pros

- Compact dimensions with wide bandwidth.
- Revealing clarity and a neutral tonal balance.
- Great bass.

cons

- Finish quality a little amateurish.

summary

A very effective and compact active monitoring system which is particularly well suited to the home computer studio.

Loan Scheme

The performance of any set of monitors depends on the room in which they are placed, and it is often recommended that you audition a short list of monitors within your own room before making a buying decision. So you'll be pleased to know, if this review has sparked your interest, that Sonic Distribution in the UK operate a loan scheme, free of charge, for all the Blue Sky monitoring systems, including the Media Desk. All you have to do is contact Sonic directly to find your closest participating dealer, and then contact that dealer to arrange the loan of an evaluation system. Terms and conditions do apply, however, which may differ depending on whether you're an account holder with the dealer in question, and these should be clarified with them.

sitting on a desk. This seemed a little pointless to me, as typical desk height leaves the satellite below ear level anyway. If anything, the satellites leaning back further would help keep ears and tweeters on the same axis. The undersides of the satellites are also dotted with stick-on plastic feet. These, in time-honoured tradition, had already begun to move about as a precursor, no doubt, to falling off. I can't help feeling that stick-on feet represent an economy too far.

"Speakers that seem to sound bright one minute and dull the next almost always have significant problems beyond tonal balance. There are no such problems with Media Desk. It just gets on with reproducing the signal accurately and consistently, to such an extent that very little more needs saying!"

Solutions To 2.1 Design Problems

The design of any loudspeaker system brings a specific set of problems to be resolved. Sat + sub systems are particularly blessed with such problems, and small sat + sub systems are blessed even more generously than that!

The first, and perhaps most critical, is the acoustic integration of satellite and subwoofer. The whole point of a sat + sub system, is that the satellites can be physically small — this is especially so in the case of Media Desk, for obvious desk-space reasons. But there comes a point where the internal volume of a satellite, and the low-frequency cutoff that results, demands that the bandwidth of the subwoofer widens such that it encroaches on the mid-range. A subwoofer that's asked to extend too far above 100Hz is straying into a region where it will become specifically audible — adding all sorts of lower mid-range colorations, destroying the system's time-domain integrity, and skewing the stereo image.

This is something that Blue Sky have, to my mind, judged pretty much spot on with the Media Desk. The crossover between satellite and subwoofer is set at 110Hz, resulting in both subjectively good integration and a relatively small satellite. (Perhaps a further reason why Blue Sky have stuck to the rectangular box is that curved shapes are wasteful of internal volume.)

Another positive is that both the satellite high-pass and subwoofer low-pass filter roll-off rates are the same second-order, 12dB/octave types — again a sensible decision. Engineering the integration of a sat + sub system carefully, as Blue Sky have done, means not only that the ultimate performance is likely to be higher than it would otherwise be, but also that the performance is more easily accessible — you're not, for example, fighting some inherent integration problem when trying to find the best location for the subwoofer. I found the Media Desk markedly uncritical of subwoofer location, and there's no better demonstration that the integration is well managed. It's a little ironic that, while the Media Desk sub has been engineered to be straightforward to locate, Blue Sky include in the manual a page of very useful guidance on the subject.

The rear panel of the subwoofer is the connection and control centre of the Media Desk, whether as part of a 2.1 or a 5.1 system. It provides processed and amplified audio signals to the satellites, as well as driving its own internal low-frequency driver.

The 12dB/octave roll-off of the satellite is inherent in its closed-box bass loading. Those who have read my previous monitor reviews will be familiar with my views on loudspeaker design and that I'm unconvinced (to put it mildly) about the benefits of reflex (ported) loading. Reflex loading extends the low-frequency bandwidth of a speaker by introducing a high-Q low-frequency resonance. That's the positive.

The negatives are that the bandwidth extension comes at the cost of distortion, compression, and low-frequency time delay. Of course there are both serious and mild offenders — not every reflex-loaded speaker is condemned on Planet Ward, but reflex loading has become, in my opinion, predominantly a marketing-driven decision. And this is another reason why I think Blue Sky are working along the right lines and why there's a fundamental sense of 'rightness' in the way their products, Media Desk included, reproduce the bottom end of

the spectrum. Not only is the satellite a closed-box design, so is the subwoofer.

Beyond The Subwoofer

But what about the rest of the spectrum from bass and low mid-range upward? Along with the previously mentioned Vifa BC25 tweeter, the Media Desk satellites contain a proprietary 100mm plastic-coned bass/mid-range driver. Integration is handled by a small passive filter network with a crossover frequency of 2kHz. This is a surprisingly low frequency, as the majority of speakers with similar dimensions and driver line-up typically cross over at something approaching an octave higher. Not only would it be normal to run the bass/mid-range driver to higher frequencies, but using the tweeter down to 2kHz brings its fundamental dome resonance (around 1.4kHz) close to the pass band.

Using a tweeter too close to its resonance risks unnecessarily high levels of harmonic distortion and reduces power handling. Media Desk can perhaps get away with this, however, because it is intended to be used for very nearfield desktop listening, and so will never be driven so hard that the tweeter gets into difficulty. The low crossover frequency brings advantages, though, as it improves off-axis response consistency. Again, bearing in mind the intended application for Media Desk, the engineering seems well thought out.

Of course, none of the engineering would matter a jot if the subjective performance of Media Desk was poor. And it's not, it's excellent. Set up with the satellites on a large desk and the subwoofer directly underneath (against the wall but not quite equidistant between the corners), Media Desk sounded good right from the start. It is revealing of mix problems right across a wide bandwidth, and it resolves low-level detail well without being bright of balance. In fact, and unusually these days, the balance is slightly warm, made more so by the acoustic reinforcement of the large desk surface — I'd be tempted to leave a subtle low mid-range shelf cut EQ plug-in running in my main output channel while mixing.

It is always a good sign when the tonal balance of a speaker system is easy to pin down, as it is with Media Desk. Speakers that, for example, seem to sound bright one minute and dull the next almost always have significant problems beyond tonal balance — a coloration that dominates, or an off-axis response that skews that balance depending on the listening position. There are no such problems with Media Desk. It just gets on with reproducing the signal accurately and consistently, to such an extent that very little more needs saying!

Media Desk is the ideal product for my present setup, necessarily squeezed as tight as possible into a home office. It offers extended bandwidth combined with pitch, timing, and tonal accuracy in a compact and, if not particularly stylish, at least good-looking package. I'm not entirely convinced by some aspects of its finish quality, but at this UK price perhaps that's being a little unfair.

There'll be no collection necessary for the review sample. It's staying here. SOS

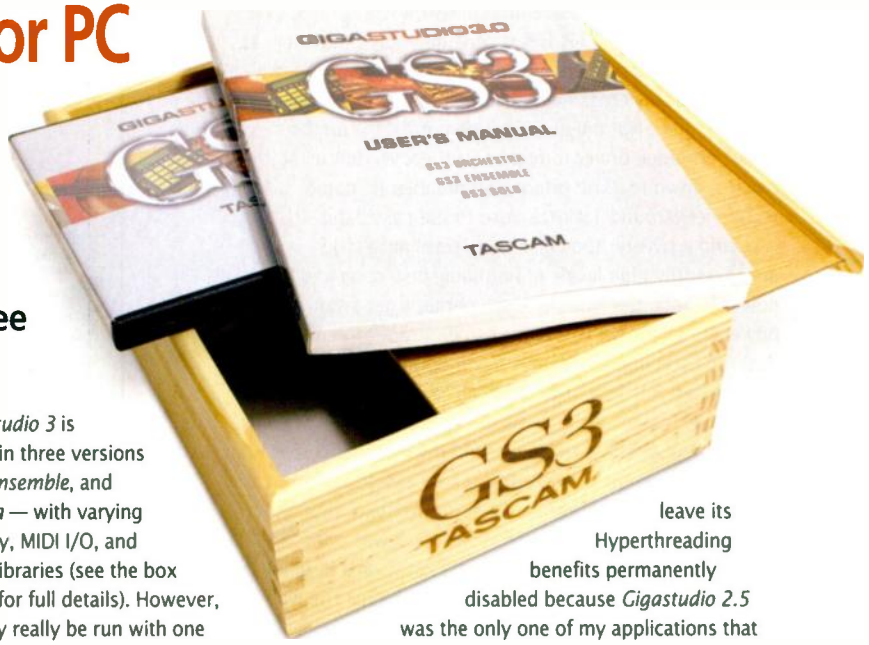
information

£ Media Desk 2.1 system, £499; Media Desk 5.1 upgrade, £500. Prices include VAT.
T Sonic Distribution +44 (0)1525 840400.
F +44 (0)1582 843901.
E sales@sonic-distribution.com
W www.sonic-distribution.com
W www.abluesky.com

Tascam Gigastudio 3

Software Sampler For PC

Version 3 of *Gigastudio* has taken a long time to arrive, and plenty of other software samplers have come along during the wait. Does it still have what it takes to see off the competition?



Martin Walker

Nemesys's *Gigastudio*, and its forebear *Gigasampler* revolutionised the sampling world, offering hitherto unheard-of voice counts using samples streamed directly from a hard drive in real time, rather than requiring them to be pre-loaded into RAM. Since this allowed users to capture sounds from acoustic instruments in their entirety without having to loop them, a new level of realism was attained. Many new world-class libraries appeared, and film composers around the world started to take the PC far more seriously as a professional music platform.

Gigastudio 3 (now sold by Tascam worldwide since they bought Nemesys in 2001) is the latest and greatest version in the series, but it's been a long haul before its final release. It was already in development in mid-2002, and rumours abounded about its possible new features, but Tascam sensibly refused to release details of what was going to be a major upgrade until it was close to completion. Then at the US NAMM show in January 2004, it was trumpeted as the 'long-awaited' new version, along with full details of its '24-bit playback, real-time convolution processing, Rewire support, VST plug-ins, and much more'.

This was followed by a deathly silence, and we've had to wait a further eight months before its eventual release. However, it's finally here, and has so many new features to discuss that I'll have to restrict myself to these — anyone wanting a more general overview should refer to my review of *Gigastudio 160* back in *SOS* November 2000 (see www.soundonsound.com/sos/nov00/articles/nemesys.htm).

Gigastudio 3 is available in three versions — *Solo*, *Ensemble*, and *Orchestra* — with varying polyphony, MIDI I/O, and bundled libraries (see the box opposite for full details). However, it can only really be run with one operating system — Windows XP with Service Pack 1. Tascam say that Windows 2000 may work, but they won't support it (although plenty of musicians seem to have got it working OK), Windows XP Media Center Edition hasn't been tested at all, while Windows 3.1, 95, 98, ME, NT, and Server 2000 are definitely not recommended.

Since I built my latest Pentium 4 2.8GHz PC with Hyperthreading a year ago I've had to leave its Hyperthreading benefits permanently disabled because *Gigastudio 2.5* was the only one of my applications that wouldn't run with it enabled. Imagine then my disappointment when I saw it stated in the two sides of A4 paper detailing '*Gigastudio 3* Known Issues' that Hyperthreading is not supported at this time and should be disabled in the BIOS. Even worse for all those power-hungry musicians with dual Xeon or Opteron machines, *Gigastudio 3* doesn't support dual-processor machines either, nor 64-bit processors. Even users of TC's Powercore are denied the chance to run its plug-ins within *Gigastudio 3* because of incompatibilities, while Steinberg's *Clean* v5 cannot even be installed on the same PC.

These issues will certainly reduce the number of potential users, but there's yet another hidden hurdle to overcome — *Gigastudio 3* installation requires a DVD-ROM drive. While many musicians already have these, nowhere in the packaging or documentation is this requirement stated, and even the User's Manual constantly refers to the 'Gigastudio 3 CD'. In its favour, the installation DVD does include new *Gigapiano II* instruments, although I can still see some *Gigastudio 2.5* users without DVD drives being caught out when upgrading.

Anyone upgrading from *Gigastudio 2.5* will also need to uninstall this before installing *Gigastudio 3*, as the two cannot co-exist on the same PC. You get the option to install library content with the application or later on, but I suggest you do it all at the same time — each time I subsequently clicked on

SOUND ON SOUND

Tascam *Gigastudio 3*

pros

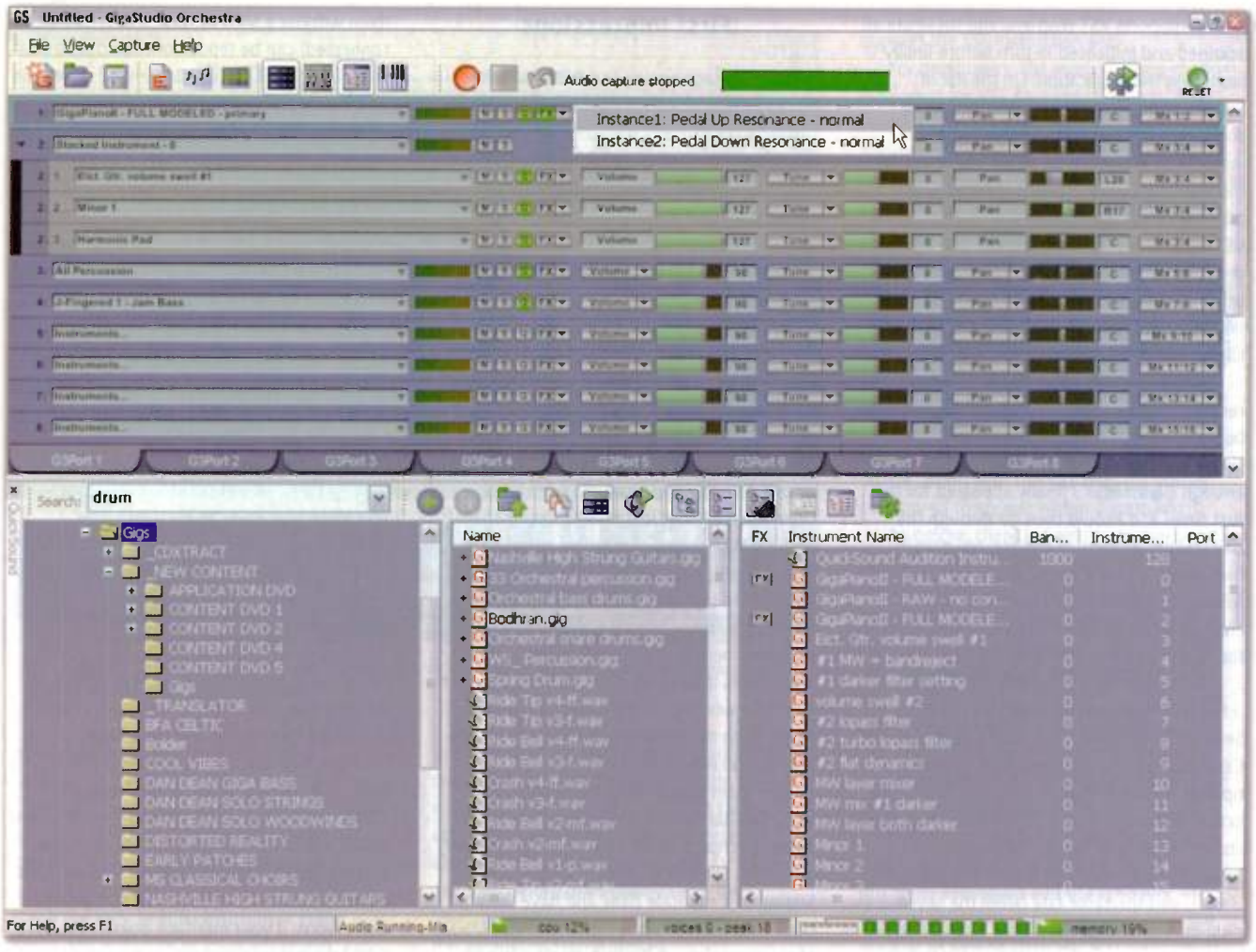
- Support for VST plug-ins at last!
- Much improved MIDI and DSP Station mixers.
- Flexible *Gigapulse* convolution reverb.
- Support for 24-bit/96kHz samples.
- Rewire connectivity.

cons

- Doesn't currently work with dual-processor machines, 64-bit processors, Hyperthreading, or Powercore DSP plug-ins.
- Some buggy behaviour still remains in version 3.02.
- Improved kernel-level MIDI timing only works with combination audio and MIDI interfaces.

summary

Gigastudio 3 has been a long time in the works, but provides an impressive list of new features. However, a few doubts remain concerning its stability on some PC systems.



The new MIDI Mixer is far better organised than its predecessor, with lots of new features including convolution instrument effects modelling (at the top), stacked instruments on the same MIDI channel (beneath), and a more refined instrument Loader Pane (at the bottom).

the 'Install Content' option, an error message popped up insisting that *Gigastudio 3* had to be uninstalled before it would continue, and I had to start all over again.

Getting Started

The first time you run *Gigastudio 3* the so-called License Authoriser pops up with a system-specific challenge, and Tascam provide 10 days' 'grace' before you need to obtain the corresponding key string and enter it. You can do this on-line automatically, or save your registration details as an HTML or text file and transfer them to another PC with Internet access to send the information to Tascam — I copied the HTML file across to my laptop and received my key 10 minutes later. One feature worthy of praise is that once you've registered, you can back up your licence to a safe place, and restore it from here if you run into future system problems.

Unfortunately I still had a final hurdle to overcome — every time I tried to launch *Gigastudio 3*, it crashed with an impenetrable error message. By now the average user would be fuming, but after a short break a possible cause occurred to me — *Gigastudio* ▶

Version Differences

All three versions of *Gigastudio 3* (*Solo*, *Ensemble*, and *Orchestra*) support VST plug-ins, Rewire, GSIF1 and 2 audio interfaces, and include the *Gigapulse SP* convolution reverb player for libraries with embedded Gigapulse impulses, which requires an SSE-compatible processor. The minimum PC requirement is a Pentium III 1GHz or AMD 1500 XP processor running Windows Service Pack 1 with 512MB of RAM, although the *Orchestra* version sensibly specifies a minimum P4 1.7GHz or AMD 2100 XP processor.

However, as you might expect, recommended configurations are somewhat more ambitious, the *Solo* processor jumping to a P4 1.7GHz (or an AMD 2100 XP) and the other two to a P4 2.8GHz (or AMD 3200 XP), with 1GB of RAM throughout. If you want to run your MIDI + Audio sequencer on the same PC and not compromise either of them, go for the fastest machine you can afford.

The main *Gigastudio 3* version differences are in polyphony, MIDI I/O, and bundled extras. *Gigastudio 3 Solo* supports up to 96 voices, two MIDI ports for up to 32 channels, and is bundled with a 'lite' version of the *Gigapiano II*. *Gigastudio 3 Ensemble* ups the maximum polyphony to 160 voices, just like *Gigastudio 2.5*, supports four MIDI ports for up to 64 channels, includes the full version of *Gigapiano II*, plus the full Giga Editor for creating your own Instruments. Finally, *Gigastudio 3 Orchestra* has unlimited polyphony, supports up to eight MIDI ports for 128 channels, and is the only package to also include the *Gigapulse Pro* encoding processor and *Sample Translator*.

As for bundled sounds, all three versions include a 3GB core library of pianos, organs, guitars, brass, drums, and percussion, while the *Ensemble* version has a 10GB three-DVD set with additional content from Sonic Implants, Jim Corrigan, and the Vienna Symphonic Library. *Gigastudio 3 Orchestra* adds a further 6GB of orchestral instruments from the Vienna Symphonic Library for a total of over 16GB of content, and is packaged in the fetching wooden case shown at the head of this review. I was impressed with the *Gigastudio 3 Orchestra* library, but since sounds are such a personal choice, I suggest you visit www.tascamgiga.com/libraries.php and study the library version differences in detail before making your final choice.

tel: 0845 025 55 55
www.absolute.ms

absolute music solutions

contact

Absolute Music Solutions Ltd
58 Nuffield Road,
Poole, Dorset
BH17 0RT.

Tel 0845 025 55 55 or
01202 684500
www.absolute.ms.

REASON

M-Audio/Reason packages

Firewire 410 with Reason 2.5 ..... rrp £548 ..... £429.00
Audiophile 2496 with Reason 2.5 ..... rrp £368 ..... £229.00
Firewire 1814 with Reason ..... rrp £748 ..... £545.00
Firewire Audiophile with Reason 2.5 ..... rrp £498 ..... £310.00

Upgrade from Reason Adapted to Reason 2.5 full version £180.00

In Stock From £180

REALTRAPS Acoustic Treatment

Take control of your studio's acoustics with RealTraps' easy fit acoustic treatment panels. Now on demo in our studios.

On Demo From £299

clearance

Ex-display & B-Stock

Evolution
MK149 ..... rrp £89 ..... £49
MK225C ..... rrp £99 ..... £59
MK249 ..... rrp £99 ..... £69

Fatar Studiologic
CMK49 ..... rrp £129 ..... £49
SL990XP ..... rrp £399 ..... £249
VMK88 ..... rrp £399 ..... £249

Kurzweil
K2500X £1,499

Mackie
HR626 ..... rrp £879 ..... £429
HR824 ..... rrp £749 ..... £499

Tapco by Mackie
S8 active ..... rrp £499 ..... £299
6306 ..... rrp £105 ..... £59

Roland
V-Synth ..... rrp £1999 ..... £1199
MC909 ..... rrp £1499 ..... £959
VS2400CD ..... rrp £1499 ..... £959
Fantom XR ..... rrp £999 ..... £749

M-Audio
Audiophile USB rrp £199 ..... £129
Audiophile 2496 rrp £69 ..... £59
Studiophile BX8 rrp £349 ..... £239
MicroMixer 18 rrp £179 ..... £49
Multi Mixer 6 ..... rrp £89 ..... £29
Midisport 8x8 ..... rrp £249 ..... £139
Firewire 410 ..... rrp £349 ..... £219
Quattro USB ..... rrp £249 ..... £139

HALF PRICE
Ex-display Evolution MK149

RRP £89, Normally £49.

Only £24 when you purchase with any item on this page!*

Half Price! £24

Media Desk

Desktop 2.1 system

In Stock! £499

RME Fireface 800

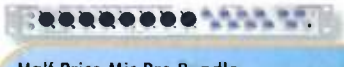
The world's most powerful FireWire audio interface ever.

rrp £999 £949

PreSonus [audio electronics]

Call for details of the amazing Presonus range

FirePod ..... rrp £599 ..... £495
Firebox £299
TubePre £95
Central Station £489
HP4 Headphone amp £95



Half Price Mic Pre Bundle
Save £50 on a TubePre when ordered with a SE 2200A mic.

Bundle Save £50

EDIROL

We stock Edirol's range of great value MIDI and audio equipment

UA-1000 ... rrp £699 ..... £499
FA101 rrp £429 ..... £299
UR80 ... rrp £369 ..... £199

Best Prices £Call

digidesign

M Box & Digi002 Rack

Guaranteed UK best price. Call for details of Factory bundle.

M Box ..... rrp £364 ... £315
Digi002Rack ... rrp £949 ... £799

In Stock! £Call

M-AUDIO

Call for great deals on the entire M-Audio range

Audiophile 2496 ..... £69
Audiophile USB £199
Firewire 1814 ..... £449
Firewire 410 soundcard £349
Firewire Audiophile £199
Firewire Solo £169
Keystation Pro 88 ..... £399
Luna £149
Midisport 8x8 ..... £249
Oxygen 8 ..... £119
Ozone (ex-display) £249
Ozonic £99
Radium 49 controller £149

TOO LOW TO PRINT!

New Ozonic

Call for full details of this and other brand new M-Audio products including the Audiophile 192, Fast Track USB, Firewire Solo and iDrum software

SPECTRASONICS

Stylus RMX £145
Trilogy £159
Atmosphere £199
In stock now.

In Stock From £145

steinberg

Cubase SX3 & Halion 3 Bundle

Considering buying SX3. Why not add Halion 3 for only £34! This exclusive package includes:

- Cubase VST5 • Halion
- Upgrade to SX3
- Upgrade to Halion 3

rrp £868 £499

Roland Fantom XR

Roland's fabulous Fantom sounds as a module. On Demo. In Stock. Available for overnight delivery.

In Stock £815

* While stocks last. All prices shown include VAT & are correct at time of going to press E&OE

tel: 0845 025 55 55 www.absolute.ms

absolute
music solutions

apple music solutions

Solution Expert

Music solutions? We've got it covered.

eMac/Cubase SE Package

- Apple eMac G4/1.25GHz/Combo
- Extra 512Mb RAM
- M-Audio Ozone interface/controller
- Steinberg Cubase SE
- Sennheiser EH350 headphones

£965 inc VAT

Powerbook/MBox Package

- Apple 15" 1.33GHz powerbook
- Lacie D2 firewire drive
- Digidesign MBox with Pro Tools LE
- M-Audio 02 controller/inteface
- Sennheiser EH350 headphones

£1,956 inc VAT

G5/Logic Pro Package

- Apple G5 Dual 2GHz/1024Mb/2 drives
- Apple 20" cinema display
- Logic Pro
- MOTU Express 128 MIDI interface
- RME Fireface 800 audio interface
- Mission Pro SM6A active monitors

£5,199 inc VAT

All prices shown include VAT & are correct at time of going to press E&OE

Tabor Audio The Box 2

Stereo Sound-stage Meter

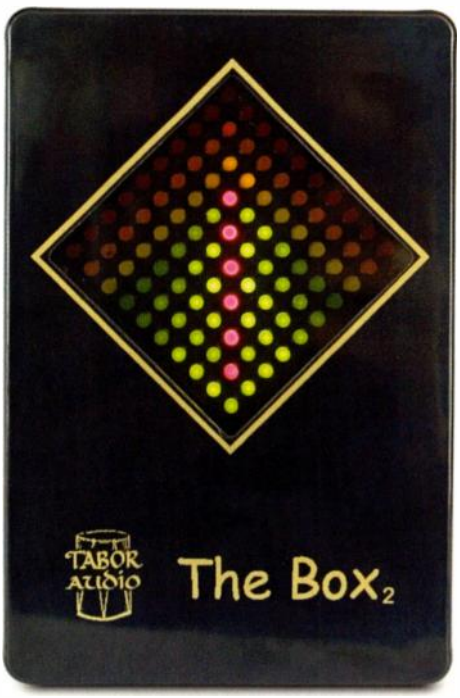
This unusual unit provides an exceptionally revealing means of metering stereo signals.

Hugh Robjohns

Audio metering is all about compromises. The VU meter hints at the perceived loudness of a signal, but gives no information about peak levels. Quasi-peak meters favoured by broadcasters do the reverse, and even these are insufficiently accurate for digital systems. Stereo metering is even more difficult, as ideally we need to see information about both the relative levels between channels and the relative phases or timing — the key factors in determining the width and quality of the stereo sound stage.

A widely employed partial solution is the dedicated 'phase meter' which indicates the 'coherence' (phase) between two channels, but level differences do not register at all. An alternative approach, favoured by the BBC and other broadcasters, is to meter the difference or Sides signal, which relates both level and timing/phase differences. This works well if the overall signal level is kept up — as it tends to be for broadcasting — but it becomes ineffective with low-level signals.

Far and away the best solution has always been the goniometer, a two-dimensional display where the signal from the left channel is shown on an axis that runs from bottom right to top left at 45 degrees, and the right channel is on an axis running in the opposite direction from bottom left to top right. Thus a perfect mono signal (identical in both channels) produces a thin vertical line and a normal stereo signal produces something resembling a circular ball of wool! A huge amount of information is presented by this kind of display — left and right levels, stereo width, mono compatibility, frequency content (very low-frequency problems are particularly obvious). With practice and experience it is even possible to determine the type of microphone arrangement used in a recording — spaced mics produce a characteristic pattern which is very different from coincident or pan-potted mics, for example.



However, hardware goniometers are still expensive devices and tend to be the exclusive province of mastering houses and very large recording consoles. Fortunately, a more affordable solution is now available in the form of The Box 2.

Readers with long memories may remember the original Stereo Soundstage Monitor designed by the late Frank Fox, or its subsequent re-engineering and re-launch by Philip Stokes and Mike Skeet under the ITZA brand. This latest incarnation — The Box 2 — is slightly smaller and better-engineered than the previous model, and is now produced by Mike Ballance of Tabor Audio in association with Skeet Music.

Goniometer Quadrant Display

Housed in a plastic case measuring 150 x 100 x 65mm (hwd), The Box 2 is taller than it is wide, with the meter display on the front and the connections to the rear. Power is via a wall-wart producing 18V DC, and is connected through a coaxial socket on the rear panel. The bottom central green LED in the display illuminates constantly when power is applied. The stereo line-level audio input is unbalanced via a TRS quarter-inch socket, intended for direct connection to the headphone output of a stereo recorder using a standard TRS-TRS cable. A momentary button on the rear panel provides a mono input to the meter to check alignment.

Construction is to a very high standard, with conventional components mounted on a fibreglass circuit board fixed to the inside of the rear panel. The metering display consists of a diamond grid of 100 intensity-matched LEDs mounted on a second circuit board supported on pillars from the rear panel to sit just behind a clear plastic window in the front of the unit. The extremely elegant circuitry uses a pair of bar-graph meter chips, one driving the left-channel axis of the LED array and the other driving the right-channel axis. The result is a distinctive diamond pattern that conveys the top quadrant of a complete goniometer display — which is sufficient to provide all the required stereo information.

The LED array comprises green, yellow, orange, and red LEDs configured much like a conventional bar-graph meter. Working up either side of the array, the first seven LEDs are green, followed by yellow, amber, and red. These colours extend into the corresponding rows across the rest of the array, with the exception that the centre vertical column is made up entirely of red LEDs. In this way, the colour of the display provides a useful indication of peak signal levels, and the central axis is indicated by the red LEDs.

Watching The Box

I used the meter by hooking it up to the headphone outputs of various recorders and mixers, as recommended. The headphone level is critical to the correct operation of the meter, but this is established simply by replaying a constant-level signal on both channels at a nominal 'zero level' and

SOUND ON SOUND

Tabor Audio The Box 2 £450

pros

- Highly intuitive display.
- Easy to interface with headphone outputs.
- Reveals subtle image flaws before they become audible.

cons

- Unbalanced inputs.
- Wall-wart PSU.

summary

An elegant and relatively affordable stereo sound-stage meter which is highly intuitive to use and extremely revealing of left-right balance, image width, and phase or timing errors in stereo signals. It's been around in various forms for many years, but this is the best-engineered and most cost-effective version yet.

adjusting the headphone level so that all of the centre red LEDs are illuminated. The display then indicates signal levels in the usual way, with yellow, orange, and red LED's warning of headroom incursions. Adjacent LEDs illuminate at roughly 3dB increments, as on a normal bar-graph meter, but low-level 'dynamic compression' ensures that the stereo image display remains fairly consistent when the signal level falls.

The provision of a mono button on the rear panel is handy to check that the meter is accurately aligned internally, and provides confidence that when it says the signal is in the middle of the stereo image, it really is! An accurate dual mono signal is shown as a thin vertical red line, and if any of the adjacent greens are illuminated there is something wrong somewhere — either the balance is off, or there is some sort of phase or timing error. I detected a one-degree phase error on a 1kHz stereo calibration tone recorded on a prototype test disc using an earlier version of The Box, so it is a remarkably accurate tool.

Panning the signal off towards the left results in the vertical line also moving to the left, with the bottom of it running up the left-hand side of the diamond pattern. A fully-left signal runs entirely up the left-hand side of the diamond pattern. Full-width stereo material is shown as a fairly full pattern of LEDs, where the outside edges are the same length and brightness as (or slightly smaller and dimmer than) the middle. If the pattern is fairly high but narrow — looking a bit like a Christmas tree — then the stereo image is quite narrow.

Should one channel be reversed in polarity the display shows a clear 'V' on the outside LEDs, with nothing illuminated in the middle at all. If the stereo image is excessively wide, or if there are phase anomalies, the edges of the display will be longer or brighter than the middle. It may sound complicated, but the display is actually very intuitive, and after a little experience you will wonder how you ever managed without it. This form of metering often highlights potential problems before they become obvious through listening. The Box 2 offers a compact, convenient, and very usable stereo sound-stage meter which is recommended for anyone involved in live stereo mixing or post-production. SOS

Information

£ £450 including VAT.
T Tabor Audio +44 (0)1908 315770.
E sales@tabor-audio.co.uk
W www.tabor-audio.co.uk
W www.binauralexperience.com


ROLAND U20
U GOT THE LOOK

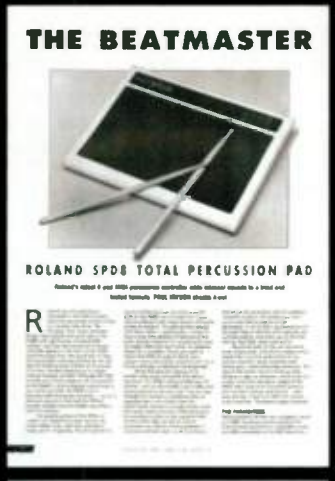

ROLAND D5


ROLAND R8M

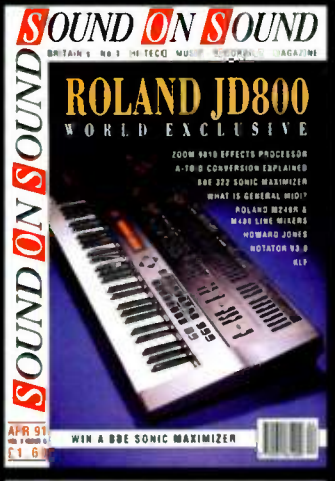

CARRY ON DOCTOR!
Boss DR550 Dr. Rhythm


ROLAND D70
SUPER LA SYNTHESIZER


Roland
S770
Sampler


THE BEATMASTER
ROLAND SPD8 TOTAL PERCUSSION PAD


ROLAND MV30
STUDIO - M
THE STUDIO IN A BOX!


SOUND ON SOUND
ROLAND JD800
WORLD EXCLUSIVE
WIN A BBE SONIC MAXIMIZER


SPACE RACE
ROLAND M480 & M240R RACKMOUNT LINE MIXERS


ROLAND
RSP550
STEREO SIGNAL PROCESSOR


ROLAND
JX1
PERFORMANCE
SYNTHESIZER


ROLAND SC55
SOUND CANVAS


ROLAND S750
SAMPLER
DIGITAL QUALITY — ANALOGUE FEEL

Designing The Future

The History Of Roland Part 3 • 1986-1991

Roland made their name with analogue synths and effects, but by the mid-1980s, they needed to go digital to remain competitive. It was a leap into the unknown for the company — but it ushered in a golden era...

Gordon Reid

In the first two parts of this history, I charted the rise of Roland from humble beginnings in 1972, through a financial crisis in 1981, and then showed how they survived the middle years of the 1980s by offering attractively priced analogue/digital hybrid synthesizers, as well as a diverse range of amplifiers, effects, guitar synths, and even computer plotters. This month, we'll see what happened when Roland jumped onto the digital bandwagon, and enjoyed what proved to be a golden age for the company.

1986

MAJOR PRODUCT LAUNCHES

AMPS, MIXERS & SPEAKERS
- DAC15B bass amp.

BOSS PRODUCTS
- CS3 Compression Sustainer.
- DD3 digital delay.
- DR DRP I, DRP II, DRP III Dr Pad.
- DR220A and DR220E Dr Rhythm.
- DSD3 digital sampler/delay.
- FT2 dynamic filter.
- RCE10 digital chorus/ensemble (Microrack system).
- RDD20 digital delay (Microrack system).
- ROD10 overdrive/distortion (Microrack system).
- RPS10 digital pitch-shifter/delay (Microrack system).
- RSD10 digital sampler/delay (Microrack system).

EFFECTS
- DEP5 multi-effects.

GUITAR SYNTHESIS PRODUCTS
- FC100 foot controller.
- GK1 synthesizer driver.
- GM70 GR-to-MIDI converter

PIANOS
- HP2000, HP3000, HP4500, HP5500, HP5600 domestic pianos.
- MKS20 digital piano module.
- RD1000, RD200, RD250S, RD300 stage pianos.

RHYTHM MACHINES
- CR1000 digital drummer.
- TR505 Rhythm Composer.

SAMPLERS
- MKS100 digital sampling module.
- S10 keyboard sampler.
- S50 keyboard sampler.

SEQUENCERS
- MC500 Micro Composer.
- MRC APL sequencer for Apple II and IIe.
- MRE IPC sequencer for IBM PC.

SYNTHS & HI-TECH
- HS10 (Synth Plus 10).
- HS80 (Synth Plus 80).
- JX10 'Super JX'.
- MKS50 module.
- MKS70 Super JX module.
- PG300 programmer.

In 1986, the world was gripped by FM fever and Roland lacked a flagship synth. The Jupiter 8 was gone, and the six-note polyphony of the JX8P looked dismal when compared to the 32-note capabilities of Yamaha's DX1 and DX5. There was only one thing to do. The industry had long embraced the 'two identical synths in a box' concept, so Roland competed against two DX7s in a six-octave keyboard by releasing two JX8Ps in a six-octave keyboard. The result was the inappropriately numbered Super JX10; possibly the holder of the 'Last Great Analogue Polysynth' award.

The JX10 was a superbly playable instrument that you could play in Whole (12-voice) mode, or Split mode (two six-voice synths), or as a layered six-voice synth. This was possible because the guts of a JX10 were truly two JX8P motherboards, plus a third board that controlled them and added a handful of additional synthesis facilities. Consequently, it offered huge pads, brasses, strings, lead sounds, and monstrous basses... in fact, everything a super-synth should. Indeed, when invoked on a Super JX10, the JX8P's Mono1 mode assigned all 24 oscillators, filters and what-have-you to a single note. Unfortunately, it was still overshadowed by Yamaha's DX synths, a point not lost on Roland's president, Ikutaro Kakehashi who, in his autobiographical book *I Believe In Music*, admits that he had to work hard to maintain the morale of his partners, which was in danger of being swept away on a tide of FM synthesis.

Alongside the JX10, there was the MKS70, a Super JX10 in modular form, which offered all the facilities of the keyboard version, with one notable difference... it was capable of saving and loading patches over MIDI. Nevertheless, when all was said and done, this was simply repackaged JX8P technology. Likewise, 1986 was the year in which Roland released a range of repackaged Alpha Junos. These were the MKS50, an enhanced Alpha Juno 2 in a 1U rackmount module, and the HS10 and HS80, repackaged Juno 1s and Juno 2s with built-in amplifiers and speakers.

Elsewhere, more products ploughed existing furrows, but Roland also doubled

Roland's last great synth to incorporate analogue technology, the Super JX10.

The rack version of the JX10, the MKS70.

▶ the size of the Boss Microrack range, and launched their first digital multi-effects unit, the DEP5. For guitarists, there was the GK1 pickup and GM70 guitar-to-MIDI converter, which — as well catering for Roland's own G-series controllers — removed the need for a dedicated guitar synth, and allowed players to control MIDI modules from their favourite guitars. All of this was good stuff, but none of it was going to take the world by storm. Fortunately, something far more significant was happening elsewhere: this was the year that the company went truly digital. However, Roland's first digital keyboards were not synthesizers; they were samplers and pianos.

By the end of 1985, sampling had been around for six years. The affordable end of the market was dominated by the Ensoniq Mirage, while Kurzweil, Emu, and Fairlight ruled the high end. But there was a large hole in the middle and, in 1986, Roland plugged it with not one, but three 12-bit samplers: the S50, the S10, and a modular version of the S10, the MKS100.

The GK1 pickup and GM70 converter unit combination freed MIDI-savvy guitarists from having to use Roland's guitar synths for the first time, allowing users to connect and trigger *any* MIDI module from their guitars.

Milestone: Structured/Adaptive Synthesis

It's sometimes hard to remember that there was a time when it was impossible to synthesize a realistic acoustic piano sound. In fact, it was as recently as 1984 that Kurzweil demonstrated that it was possible to imitate the piano using PCM-based synthesis. However, the K250 was expensive and, while some players loved its sound, few would have suggested that it was almost indistinguishable from the real thing. Two years later, Roland changed all that...

When the SAS system appeared, it was a revelation. With more than 30 keyboard 'zones' differentiated not just by pitch and brightness, but also by individual formant structures and string enharmonicities, it was far superior to any straightforward sample-replay system. For the first time, you could recreate acoustic and electronic pianos on a range of stage instruments, and — most realistically of all — on the range of domestically styled Roland Digital Pianos.

Of these, the most celebrated was the RD1000 stage piano. Famously adopted by Elton John, this featured a superb 88-note weighted, wooden keyboard housed in a stylish case, accompanied by a stylish pedal unit, and supported by an even more stylish chrome and black stand (the KS11), all of which looked and sounded as good as anything since. It offered just eight voices, but you could tweak these with a three-band EQ, and add chorus and tremolo, storing the results in a further 56 memories, or to 64 memories in an M16C cartridge. The polyphony was stingy by today's standards — just 16 voices for the acoustic pianos, and 12 for the electric-piano emulations — but par for the course in 1986.

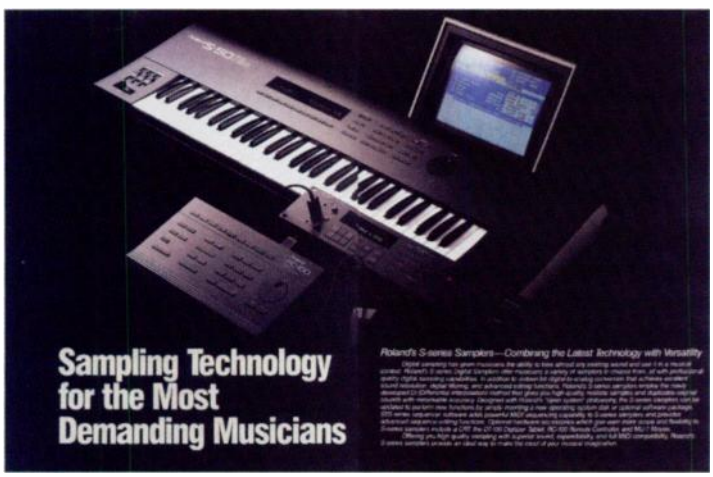
The RD1000 was a big breakthrough in the acceptance of digital piano technology. Even Elton John used one live on stage.

The same SAS system was available in a MIDI module, the MKS20, which quickly became a standard, but most interesting, perhaps, were the remarkable HP-series domestic pianos, which offered the same sounds without the editing and memories. Instead, they came with dedicated speaker systems built into heavy wooden cases that emulated the resonances and rattles of... umm, heavy wooden cases.

Roland discontinued the original SAS sound generator in 1990, replacing it with 'Advanced SA Synthesis', and then replacing it again in 1996 with a 64-voice stereo implementation. Coupled to improved acoustic design for the domestic/concert pianos and, more recently, a genuine hammer action, these developments have kept Roland at the forefront of the digital piano market for nearly two decades.

The S50 was the 'pro' instrument, and featured a number of innovations such as 96dB-per-octave anti-aliasing filters and the type of graphical operating system previously associated only with instruments that boasted external processing units, QWERTY keyboards and computer displays. It was also, perhaps, the first affordable keyboard that was upgradeable by the simple process of loading new OS software, and one of the first to offer a software sequencer (the SYS503) which was, apparently, the result of a home project by one of Roland's software engineers.

As an instrument, the S50 was 16-voice polyphonic, multitimbral, velocity- and pressure-sensitive, and offered splits, layers, and velocity crossfading. What's more, as well as offering digital filters, amplifiers and envelopes that allowed you to manipulate samples at the point of replay, it provided a limited form of resynthesis that made it possible to manipulate the sample data itself. There was also a superb library supplied on 3.5-inch diskettes, and many of these sounds have remained in use to this day.



Roland's S-series samplers innovatively offered monitor output options, so you could attach a monitor and a mouse to make editing and keygrouping easier.

The S50 should have been a winner, and the speed and elegance of its operating system should have ensured that it became the industry standard. Unfortunately, Roland had come to the market just a little too late. Akai launched their S900 rackmount sampler the same year, and although this was less slick, it established itself as the *de facto* standard. Consequently, the first question asked by many prospective S50 customers became, "is it Akai-compatible?" Since it was not, the S50 was doomed to be an also-ran.

Given the power of the S50, the existence of the S10 is a mystery. It was not only more limited than its big brother — which, given their respective price-points,

is hardly surprising — but it felt as if it had been designed and programmed by a different company. It also sported non-standard 2.8-inch 'Quick Discs', a horrible experiment in low-cost drives that were excruciatingly slow and of much more limited storage capacity. Unlike the S50, the S10 and the MKS100 deserve their ignominy.

Elsewhere, the company had used their mastery of sampling and digital technology to develop a resynthesis system that they called SAS — or Structured/Adaptive Synthesis (see the box opposite) This was not a simple sample-playback system. Instead, Roland's engineers had sampled and analysed the timbre of various instruments — but primarily acoustic pianos — at many pitches and loudnesses, and designed an algorithm that resynthesized the necessary harmonics and noises each time you played a note. For the first time, SAS made it possible to synthesize a grand piano with remarkable accuracy, and it provided the engine for a huge range of electronic pianos. Indeed, some acoustic piano manufacturers felt so threatened by Roland's flagship HP5500 and HP5600 that they complained when the company used the word 'piano' to describe them, fearing that it would confuse prospective purchasers (this paralleled a similar response to Laurens Hammond's use of the word 'organ', and the US Federal Trade Commission's assertion in 1937 that the Model 'A' and 'AB' should be classified as 'electrotones', because they did not have pipes!). Kakehashi responded by adding the word 'digital' to every Roland Digital Piano, sold thousands of them, and everybody was happy... especially the customers.

Another milestone was reached with the launch of the MC500 Micro Composer. The follow-up to the MSQ700, this five-track MIDI sequencer offered a far larger memory and greatly enhanced editing capabilities. Initially marketed alongside the HP5500 and MKS7 as part of the Roland MPU Music System, it spawned a series of stand-alone products, and its derivatives would later provide the sequencing power for Roland's keyboard workstations.

Sturdy, quick to use and reliable, the MC500 was the hardware sequencer of choice for many mid-to-late-'80s keyboard players.

On the corporate front, Kakehashi was again active, adding Roland Italy S.p.A. and the Roland Taiwan Electronic Music Corporation to his growing list of joint ventures. The second of these is today an important ingredient in Roland's worldwide manufacturing capability.

1987

MAJOR PRODUCT LAUNCHES

AMPS & MIXERS
- DAC 15D and DAC 15XD guitar amps.
- M160 16-channel rackmount mixer.
- M240 24-channel mixer.

BOSS PRODUCTS
- BF2B bass flanger.
- CE2B bass chorus.
- DS2 Turbo Distortion.
- FV50H volume pedal.
- FV50L volume pedal.
- GE7B bass EQ.
- LM2 limiter.
- MZ2 Digital Metaliser.
- NS2 noise suppressor.
- PS2 digital pitch-shifter/delay.
- RPD10 digital panning delay.
- RRV10 digital reverb.
- RV2 digital reverb.

EFFECTS
- DEP3 reverb/delay.
- FC100 foot controller.
- GP8 guitar effects processor.
- SDE3000A digital delay.

PIANOS
- HP600.
- HP700.
- HP800.
- HP6000S.

RHYTHM PRODUCTS
- MDS1 stand for PD pads.
- PD11 bass-drum pad.
- PD21 snare/tom pad.
- PD31 snare/tom pad.
- PM16 pad-to-MIDI interface.
- TR626 Rhythm Composer.

SAMPLERS
- S220 sampling module.
- S550 sampling module.

SEQUENCERS
- PR100 sequencer.
- SYS503 Director 'S' software sequencer for the S50 sampler.

SYNTHS & HI-TECH
- A110 MIDI display.
- D50 synthesizer.
- D550 synth module.
- EV5 expression pedal.
- MPD4 MIDI pad.
- MT32 expander module.
- PG1000 programmer for D50 and D550.
- VP70 Voice Processor.

If 1986 had been a landmark year, it also marked the passing of Roland's analogue era. The Jupiter range had been discontinued in 1985 and, while the company's analogue/digital hybrid synths continued to sell well, 1986 was — in terms of product launches — the swansong for these, too. Digital sampling and synthesis was the way forward, and Kakehashi knew it. So 1987 was to be the one in which Roland's developments in digital technology really bore fruit.

For a year before the release of the Korg M1, Roland ruled the synth roost with the D50 workstation (seen here with its optional PG1000 programmer), which became the must-have keyboard successor to Yamaha's DX7.

The company continued to expand their existing digital product lines, with SAS pianos, and two further sample modules; the S550, plus an improved version of the MKS100, the MKS220. But these were as nothing compared to the impact of a new Roland synth. In retrospect, 1987 was about one thing, around which all else paled, not just for Roland, but for all keyboard manufacturers and players. It was the year in which Roland redefined the concept of the synthesizer. It was the year of the D50.

To dispense with the mundane, the D50 offered what had become Roland's standard keyboard fare: velocity and aftertouch sensitivity, with splits and layers. It was also expandable, with options for ROM and RAM cards, a good MIDI implementation, a programmer, and eventually third-party expansion boards that extended its range of sounds and facilities. But there was another reason why the D50 was a sensation, toppling the DX7 from the throne it had occupied for four years. It sounded fantastic. For more reasons why, see the box on the next page on LA synthesis.

The enormous popularity of the D50 caused a whole support industry to spring up, and soon there were voice cards, libraries, and powerful editors available for it. For many owners, it was unnecessary to learn how to program the instrument — they simply plugged in their favourite sounds and played. However, for those with the courage to dabble, Roland offered an analogue-style control surface, the PG1000. With this attached, the D50 avoided the trap into which Yamaha's occasionally impenetrable FM programming system had fallen. LA Synthesis, the technology that powered the D50, not only sounded amazing — it made digital synthesis accessible again.

Roland capitalised upon the success and ▶

PART 3: 1986-1991

Milestone: LA Synthesis — The Birth Of S&S

Roland described the D50's 'Linear Arithmetic Synthesis' engine as 'A new universe of sound beyond the limits of conventional synthesis'. For once, the hyperbole was justified. The D50 and D550 produced sounds that nobody had heard before.

The first half of the secret was the invention of the technique now known as 'sample and synthesis', or S&S. Roland's engineers had discovered that much of the information that we use to identify and categorise a sound is contained in its first few hundred milliseconds. They reasoned, therefore, that synthesized sounds would be more realistic if they had snippets of the attack portions of 'real' instruments before the conventional synthesis waveforms. So the D50 contained a ROM that held 100 PCM samples. Although these were very short by today's standards, they enabled the D50 to produce imitative sounds that were far snappier, interesting and convincing than those from any previous synthesizer. Furthermore, LA synthesis provided two simultaneous tone generators — each comprising a PCM snippet and what was probably the first 'virtual-analogue' synth architecture — and you could combine each pair of these in any of seven Structures that determined how they interacted and were mixed.

The second thing that made the D50 unique was the inclusion of a digital chorus and delay/reverb unit. With 32 different types of delay and reverb effects, the D50 was the first synth that sounded lush and 'produced' without the need for expensive external effects.

Many of the D50's factory sounds became overnight standards, almost immediately appearing on every CD and in every lift around the world. 'Fantasia' was everywhere, and has appeared on almost every Roland synth since. Likewise, 'DigitalNativeDance', 'Soundtrack', 'OK Chorale', 'Nightmare', 'Glass Voices' and 'Intruder FX' became staples of the modern sonic palette. But none of the ensuing copies has ever sounded quite like the original. The D50 had a unique character, never since emulated — even by Roland.

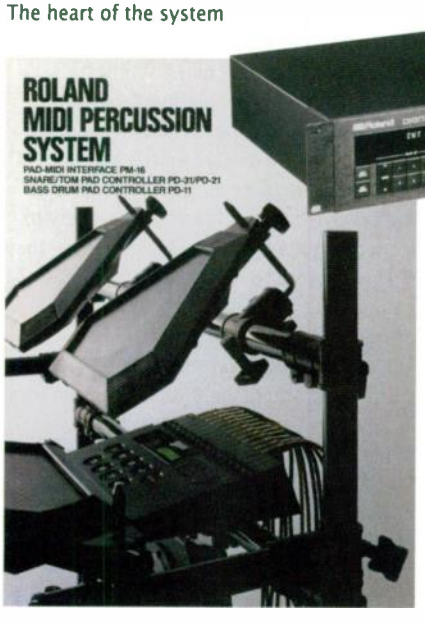
growing reputation of LA Synthesis and, later in the year, the MT32 appeared. Designed for home use alongside an electric piano or MIDI home keyboard, this used a much more limited form of LA synthesis, and its sound was in no way comparable to the 'real thing'. Unfortunately, Roland were rather naughty with the MT32 and its successors, advertising them in an ambiguous way that implied that they contained the D50's synthesis engine. I think that this was a significant mistake, and it may have backfired badly. If you had heard an MT32 in 1987 and thought that this was the sound of Roland's flagship synth, you would have wondered what all the fuss was about.

Had it not been for the D50, we might now remember 1987 as the year in which Roland introduced their first MIDI percussion system. You constructed your kit using a combination of PD21 or PD31 snare/tom pads (the latter of which offered four outputs — the main pad and three edges for rimshots and so on) and PD11 bass drum pads, all mounted on the MDS1 drum frame. The heart of the system was the PM16 Pad/MIDI interface, which offered 16 inputs catering for both the pads and acoustic triggering. Hooked up to one of Roland's samplers, or the DDR30, or one of the MIDI-equipped Rhythm Composers, the results could be surprisingly good, although it was to be another five years before Roland made electronic kits completely self-contained, and good enough to fool listeners into thinking that they were listening to a 'real' kit.

This was also the year in which Roland established the Roland Tech Corporation, a largely unseen company that designs and builds the cabinetry for the more expensive Roland products, and which develops the finishes for them. It was also the year in which Roland bought the Rhodes trademark (see the box on the next page).

Fender Rhodes and Rhodes instruments had dominated the market for electric pianos for more than 20 years, first under the ownership of CBS, and more recently under the personal ownership of the head of CBS, William Schultz. However, the heyday of the electro-mechanical piano had passed, hastened in no small measure by Roland's SAS technology. So Kakehashi purchased the Rhodes name from Schultz, no doubt with the intention of combining Roland's piano technology with one of the most famous trademarks in the music industry. On paper, it must have been a great plan. Two years later, it would seem less so.

Not content with his acquisition of Rhodes, 1987 also saw Kakehashi buy a majority shareholding in the Italian company SIEL (see the box below). One of a group of keyboard companies established on the Adriatic coast of Italy, SIEL had built ensemble keyboards for ARP and Sequential, selling them under their own name as the Orchestra (1980) and Orchestra 2 (1982). They also manufactured two analogue synths, the Cruise and Mono (1981) and three ghastly electronic pianos, the Quattro and PX (1983), and the PX Jr (1984). The company's polysynths were also less than rapturously received. The Opera 6 (1983) might have been a success, but numerous versions — some with VCOs, some with DCOs — confused everybody. Following that, the DK series (1984-1987) eventually numbered four keyboard synths and three expanders, which were universally unsuccessful, no doubt because companies



A contemporary brochure (left) showing Roland's first foray into complete electronic drum pad systems. Above: the optional DDR30 module was one of the possible sources of drum samples for the trigger pads.

SIEL & Roland Europe

Why Kakehashi bought SIEL is not clear. Whatever the reason, 1987 saw production of all SIEL products cease, and its name slipped quietly into oblivion. The following year, the company was re-established as Roland Europe SpA, and in June 1996, following an Italian government scheme that offered preferential tax treatment for publicly traded companies, it became a listed company on the Milan stock exchange. Nowadays, Roland Europe operates from five plants and employs more than 250 staff. It is the centre of the Roland Group's European research, development and production, designing and building products such as digital pianos, organs, MIDI controllers, sound modules and amplifiers. But it is best known for the E-, G- and VA-series Arranger keyboards that would start to appear the year after acquisition. Together with the HP-series digital pianos, the KR-series 'Intelligent Pianos', and the C-series harpsichords, these would form the backbone of Roland's Contemporary Keyboards division, which was destined to become one of the most important elements within the Roland empire.

DAWSONS

A cautionary tale...

As any experienced computer musician will tell you, "man cannot live on spec alone". Just because your computer meets the system requirements on the side of the software box, it doesn't mean you can look forward to hours of trouble-free music-making.

We speak to scores of musicians who have been caught out every year by off-the-shelf P.C's and laptops. Their machines are perfectly happy running games or office-based software, but they simply can't cope with the unique rigours of running music software.

With over 20 years of electronic engineering experience, we can offer you that all-important ingredient, "peace of mind", because our computers are designed and built for musicians, by musicians. It's as simple as that.

CE Approved

1. Highest quality assured!

Our systems are custom-built using the highest quality components, carefully chosen for their compatibility with both music, and home or office applications. Our assembly methods conform to the Council Directive 73/23/EEC which means all our computers carry the "CE-Approved" Logo.

2. Configured to suit your requirements

Visit www.dawsons.co.uk and try out our 2 "PC Builders" which allow you to customise the system to your specifications. You can choose from a wide range of upgrades from DVD-Rs to 17" TFT screens. Our prices are regularly monitored to keep them competitive and up-to-date.

3. Upgrading your existing system?

Need more RAM? A dual-head graphics card? How about a Molex Silent Drive or even a Zalman Flower Cooler? Then call us! We can even install them to your existing machine.

AMD Athlon XP AMD ATHLON XP SOLUTION

Starter PC which includes the Emu 0404 Soundcard and Steinberg Cubasis VST 4 Software Two mostly progressive televisions bought umpteen angst-ridden

- AMD Athlon XP2400+ 266FSB CPU
- 512Mb DDR333 Memory
- 80Gb Ultra ATA133 IDE Hard Drive
- CDRW/DVD-Rom IDE Drive
- ASUS Motherboard A7N8X NVIDIA Chipset
- 128Mb Dual Header Graphics Card
- Windows XP Home with Service Pack 2 Installed
- Keyboard and Mouse
- 4 Firewire ports + 4 USB2.0 Ports

£99 Deposit plus 12 Monthly payments of £49.
Total 0% Credit Price £687

intel inside Pentium 4 INTEL P4 3GHz SOLUTION

A powerhouse of a system that includes 2 silent drive housed 80Gig Drives coupled with a DVD Writer to back up your projects. A wireless keyboard and mouse adds to its versatility

- Intel P4 3GHz 800MHz FSB 1M L2 Cache Processor
- 2Gig DDR400 Corsair Memory
- 2 x 80Gb Ultra ATA133 IDE Hard Drive
- DVD-R/RW along with a separate DVD-Rom Drive
- ASUS Motherboard P4P800 Intel 865PE
- 128Mb Dual Header Graphics Card
- Windows XP Home with Service Pack 2 Installed
- Wireless Keyboard and Mouse
- 4 Firewire ports + 4 USB2.0 Ports

£99 Deposit plus 18 Monthly payments of £66.
Total 0% Credit Price £1287

GUITARISTS SOLUTION

Includes the NEW M-Audio FastTrack® USB Interface with Steinberg's Studiocase software featuring Guitar FX, Drum Sounds, sampling and more

- AMD Athlon XP2400+ 266FSB CPU
- 512Mb DDR333 Memory
- 80Gb Ultra ATA133 IDE Hard Drive
- CDRW/DVD-Rom IDE Drive
- ASUS Motherboard A7N8X NVIDIA Chipset
- 128Mb Dual Header Graphics Card
- Windows XP Home with Service Pack 2 Installed
- Keyboard and Mouse
- 4 Firewire ports + 4 USB2.0 Ports

£99 Deposit plus 12 Monthly payments of £58.
Total 0% Credit Price £795

centrino CENTRINO LAPTOP SOLUTION

Based around the superb Pentium M chip for superb performance coupled with outstanding battery life, this laptop package includes the NEW M-Audio Firewire SOLO Interface

- 15.4" TFT (WXGA, 1280 X 800)
- Intel Centrino® 1.4GHz mobile processor
- 512Mb DDR333 SDRAM
- 30Gb Hard Drive
- CDRW/DVD-Rom IDE Drive
- ATI Radeon 9700 Pro Graphics
- Windows XP Home with Service Pack 2 Installed
- 802.11g Wireless LAN • 3 x USB 2.0 & 1 x Firewire Port

£99 Deposit plus 18 Monthly payments of £69.
Total 0% Credit Price £1341

Recommended Software and Audio I/O

Yamaha 01X — Best selling Mian system with superb audio spec. Midi i/o and on-board DSP effects Processing — £979.99

Terratec DMX6Fire — With turntable ins, Mics ins, Midi I/O and 5.1 outputs, this ASIO2 soundcard is great value — £119.99

Behringer Mixers — From the new control surfaces to the UB series of mixers. We stock all the Behringer range — £119.99

Emu 1820 & FREE MIC — Emu's multi i/o card and breakout box plus FREE Shure PG58 Mic, Lead and Stand — £295.99

Korg Legacy — 3 Classic synths with controller. Compatible with all major sequencers - Sounds stunning — £349.99

NI Guitar Rig — Software and Hardware solution that lets you create vast numbers of sounds. Comes with footpedal — £325.99

Reason Software — Complete studio-in-a-box software from the Propellerheads - best seller — £199.99

Fostex PM Range — 3 sets of monitors in the range PM.05, PM1 and PM2. All feature incredible detail & sound — From £229.99

M-Audio Oxygen 8 — 8 Assignable rotary controllers, 25 Full size keys. Pitch bend wheel. Powered over USB — £79.99

All finance is subject to status. Written quotations are available upon request

Visit our custom PC designer at
www.dawsons.co.uk/builder
for up-to-date specs & prices

For sales and advice call us FREE on
0800 612 1385
or order online 24/7 at
www.dawsons.co.uk

Stores at Altrincham, Chester, Liverpool, Manchester, St Helens, Stockport, Warrington and Bangor (NI)

PART 3: 1986-1991

A Very Concise History Of Rhodes

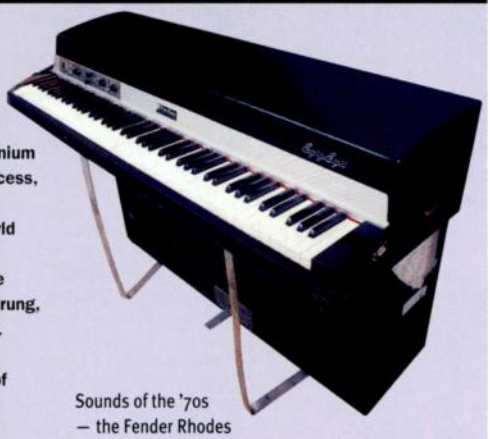
Born in 1910, Harold Rhodes was just 20 when he found himself running a chain of piano schools across the USA. A little over a decade later, he was asked to provide music therapy for wounded soldiers, and designed a small piano using cut-down aluminium pipes as the sound sources. It was a big success, and many thousands of Rhodes pianos were manufactured during the latter stages of World War II.

Following the war, Rhodes established the Rhodes Piano Corporation, and launched a strung, 3.5-octave instrument named the 'Pre-Piano'. However, this proved to be unreliable, so, in 1949, he invented a piano that used a form of tuning fork as its sound source. He built a 72-note instrument and demonstrated this widely, attracting the attention of Leo Fender, who was so impressed that he bought into the company. Unfortunately, Fender was not impressed enough to build the full-range pianos that Rhodes was developing so, from 1959 to 1964, the Piano Bass was the only Fender Rhodes manufactured.

News of Rhodes' continuing experiments reached CBS who, after visiting his workshop, offered to buy Fender's stake in the company for 13 million dollars... a huge sum in the mid-1960s. Fender agreed and, in 1965, Rhodes began manufacturing the Fender Rhodes Electric Piano, which would remain in production for 16 years. Other models, such as the Fender Rhodes Celeste and the Student Piano would come and go, but the Suitcase 73 and Stage 73, and their younger siblings the Suitcase 88 and Stage 88 soon became standard equipment for almost every serious jazz and rock keyboard player in the world.

Numerous technical upgrades followed, with improvements to the hammer tips and tone bars, and new electronics, amplifiers and speaker systems. In 1974, the name 'Fender' was removed, although there were no physical modifications associated with this other than the change of the nameplates.

In 1979, Mark II versions were launched, and these are easily recognised by the flat tops that let you place other keyboards on top of the piano. Then, in 1980, two new models appeared: the Rhodes 54, and the Rhodes Mk III (also called the EK10), which was a curious hybrid of a Rhodes piano and a primitive synthesizer.



Sounds of the '70s — the Fender Rhodes electric piano. This is a MkII Suitcase model owned by Cian Ciárán of Super Furry Animals, photographed in 2001.

The following year, CBS bought the bankrupt synth manufacturer ARP, placed the final ARP design into production, and marketed it as the 'Rhodes Chroma'. Nothing to do with Rhodes, the Chroma was hopelessly unreliable and was a huge flop.

In 1983, William Schultz, the head of CBS, bought Rhodes and, in 1984, the new company released its only product, the Rhodes Stage 73 Mark V, of which three were even equipped with MIDI. Then, in 1987, Roland bought the company, eventually producing the Rhodes MK80, MK60, Model 760, Model 660, and VK1000. Good though these were, Harold Rhodes did not like digital instruments, and entered negotiations with Roland to buy his name back. He did so in 1997, and founded the Rhodes Music Corporation. Unfortunately, no new instruments appeared, and Rhodes himself died from pneumonia in 2000.

The VK1000 was perhaps the most impressive Hammond-wannabe released while Rhodes was owned by Roland, with real drawbars. It did nothing to impress Harold Rhodes, however, and the companies eventually parted.

▶ like Roland did the same thing better.

Another important development was the creation of Roland ISM. This was an abbreviation of 'Roland's Intelligent System of Music', a method for teaching music, keyboard and arrangement skills using electronic instruments. Originally based on the HP5500, the MT32 and the PR100 sequencer, ISM used software that ranged from providing classical exercises for Beethoven and Grieg concertos to backing tracks for rock & roll, jazz and funk improvisation. ISM developed rapidly. By 1989, there was ISM software for grades I to V of the Associated Board Grade Examinations, a significant exercise and ensemble library, and a Teaching Laboratory System that allowed a teacher equipped with a Roland TL16 system console to monitor up to 16 pupils playing the dedicated TP20 electric piano. Today, ISM is used extensively in Japan, but is perhaps less well known in Europe and North America.

1988

MAJOR PRODUCT LAUNCHES

AMPS, SPEAKERS & MIXERS
- DA800 & DA1500 speaker systems.
- DAC10, DAC50D, DAC50XD guitar amps.
- M16E 16-channel rackmount mixer.
- M24E 24-channel mixer.
- MA12V micro monitor.
- MS30BK, MS30WH micro monitor.

BOSS PRODUCTS
- BE5 multi-effects.
- BX40, BX60, BX80.
- BX8 & BX16.
- DC3 Digital Space D.
- EV10 expression pedal.
- ME5 guitar multi-effects.
- TM3 training monitor/line driver.
- TU12P chromatic tuner.

EFFECTS
- E660 digital parametric EQ.
- R880 digital reverb.
- GC8 remote controller for R880.
- RE3 Digital Space Echo.

HARPSICHORDS
- C20.
- C50.

HOME/ACCOMPANIMENT PRODUCTS
- E10 and E20 'Intelligent' synths.

PIANOS
- P330 piano module.

RHYTHM PRODUCTS
- PAD80 Octapad II controller.

SAMPLERS
- CD5 CD-ROM player for S550.
- HD5 HDD for S550.
- RC100 remote controller.
- S330 sampler.
- S550 sampler.
- SYS333 Director 'S' sequencer for S330.
- SYS553 Director 'S' sequencer for S550.

SEQUENCERS
- MC300 Micro Composer.
- MC500 MkII Micro Composer.
- MT100 sequencer and sound module.

SYNTHS & HI-TECH
- A880 MIDI patcher/mixer.
- D10 LA synth.
- D20 LA synth.
- D110 MIDI sound module.
- PG10 programmer for D10, D20, D110.
- U110 RS PCM sound module.

TEACHING LAB SYSTEM
- TL16 mixer.
- TM3 training monitor/line driver.
- TP20 Teaching Lab electronic piano.

The start of 1988 must have been a happy time for everybody associated with Roland because, for perhaps the first time, they could claim to be truly at the top of their industry. Many famous competitors had ceased trading during the 1980s, and more were on the verge of doing so. Furthermore, the sheen had faded on Yamaha's FM product lines, and the world was embracing hi-tech musical products as never before.

A Short History Of Rodgers Organs

Although nobody was aware of it at the time, Rodgers Organs was conceived in 1952 when Tektronix, a huge electronics manufacturer, decided to design oscillators for unspecified new products such as electronic organs. It took four years for a team including Rodgers Jenkins to design the circuitry but, in 1957, he and fellow engineer Fred Tinker presented a business plan for manufacturing transistorised church organs.

Strangely, having funded the research, Tektronix rejected the plan. The reasons were good ones... the company was fully stretched, and the directors realised that they knew nothing about the church organ business, so in 1958 they funded the establishment of the Rodgers Organ Company, placing Rodgers and Tinker in charge.

By 1959, the new company was up and running, and numerous innovations followed. In 1961, Rodgers introduced a single-contact keying system that simplified the multiple buss systems used by Hammond and others and, the following year, the company introduced the world's first all-transistor organ and amplifier combination.

Commercial success followed and, in 1964, the company bought retail premises in San Francisco to set up the first Rodgers Organ store. Soon after, they introduced a three-manual theatre organ, the Trio and, in 1966, they became the first manufacturer to use logic technology within organs. In 1968, Kakehashi visited the company's headquarters in Oregon to try to sell them the FR1 Rhythm Ace technology for their theatre organs, but without success.

In 1970, Rodgers left his company, but this seemed to have no adverse effects... The following year they concluded an agreement with an Italian pipe organ builder, and became the first electronic organ manufacturer to represent and sell pipe organs in the USA. The company then turned their attention to pipe organs in general, designing improved stopping systems and hybrid pipe/electronic organs for chapels and small churches.

By 1975, the company had attracted the attention of CBS which, in 1977, purchased Rodgers to create a music group that included Fender, Rhodes, Steinway, Gulbransen and Leslie. A rapid period of research and development followed, culminating in 1980 with the world's first microprocessor-controlled organ and, in 1982, the company's first all-pipe organ.

In 1985, CBS decided to sell off its musical instrument companies, and Rodgers became part of Steinway Musical Properties. Nonetheless, the company continued to progress, and the following year became the first to introduce MIDI on church organs. But, just three years later, Roland purchased Rodgers, re-establishing it as the Rodgers Instrument Corporation, and upgrading its extensive manufacturing capabilities to build Roland digital pianos and keyboards as well as Rodgers Organs.

There was a boom in progress, and Roland were at the very heart of it. Yet, far from sit back and admire their achievements, Roland embarked upon the most fecund year in their history, in terms of corporate development as well as product launches.

Having acquired Rhodes and SIEL in 1987, and having opened yet another joint venture (this time in Switzerland) in 1988, Kakehashi fulfilled a dream... to be involved with the design and manufacture of classical organs. He did so by buying Rodgers Organs, one of the world's most respected manufacturers of electronic, pipe and hybrid electric/pipe organs (see the box above). This fitted his long-term strategy very well.

As well as expanding the number of niches that Roland occupied, this move provided established expertise in an area not previously addressed by Roland, and increased manufacturing capability in the company's largest market. Furthermore, there seems to have been a genuine synergy between the two companies, and this was to make it remarkably straightforward for the two to work together successfully.

What's more, at least one of Kakehashi's existing purchases was already paying off. The E10 and E20 'Intelligent Synthesizers', designed by Roland Europe, would change our perception of auto-accompaniment instruments forever. Shown for the first time at the 1988 British Music Fair, and powered by the MT32's cut-down LA synthesis engine, they offered numerous rhythm arrangements, variations, user choices of 'simple' or 'complex', fills, chord recognition, and two-track sequencing. Professional keyboard players and hi-tech users tend to look down on home keyboards, but reviewers were impressed, and we should recognise that, with the launch of the 'E' series, Roland had yet again redefined a market, raising expectations of what new technology might make possible.

Sample-based synthesis technology permitted the development of a new wave of intelligent arranger/auto-accompaniment keyboards in the late 1980s. Roland were far from the only players in this market, but the E10 and E20 were two of the first.

The same synthesis architecture lay at the heart of the D10 and D20 synths, and their rackmount equivalent, the D110. Again, these employed the limited LA synthesis pioneered by the MT32 so, in comparison to the D50, they sounded uniformly uninspiring. Nevertheless, they and their dedicated programmer, the PG10 (which also programmed the E10 and E20) were hugely popular. Unfortunately, the lacklustre sounds of the D20 have allowed its significance to be overshadowed. Launched the same year as Korg's M1, it incorporated a multitimbral sound source, a multitrack sequencer (eight tracks, plus a dedicated rhythm track), a slot for memory cards, a digital effects unit, and a 3.5-inch disk drive. So, although the Korg was the superior instrument, it's unfair to say that the M1 alone defined the shape and form of the affordable workstation. The D20 shares this accolade, and it's time that credit was given where it is due.

The D20 was overshadowed by Korg's M1, released the same year, but spec-wise it was just as capable a workstation synth. It was probably the M1's superior presets that carried the day.

Alongside their LA synths, Roland took a sideways step that took everybody else by surprise; they released two digital harpsichords which, in addition to a wide range of authentic harpsichord sounds, produced the tones of a lute, strings, and two pipe organs, all programmed to suit the baroque music at which the instruments were aimed. The difference between the C20 and C50 was in the number of legs (the C20 had one more) and the number of speakers (the C50 had one more, with five speakers driven by four separate amplifiers). Designed to look and feel as authentic as possible, both models offered a selection of medieval and baroque temperaments that allowed players to perform early music with the correct tuning, and also added coupling, bi-timbrality (you could mix the harpsichord ▶

PART 3: 1986-1991

The C20 and C50 digital harpsichords (of which the C50 is pictured, right) are some of the most obscure curios in Roland's 1980s catalogue, aimed at early-music enthusiasts.

or lute with either the strings or one of the organs) and a modern digital reverb. Beautiful to play, these instruments were only ever going to appeal to a limited market, but their quality meant that some very highbrow music institutions eventually accepted them.

As for pianos, the big news came in a small package, the P330. This underrated module incorporated an SAS engine that was almost identical to that of the MKS20, but added functions such as Attack Mute (to soften the sound for accompaniment duties) and Release Time, as well as Sostenuto, Half-Damping, and MIDI overflow, which allowed you to stack eight P330s to obtain 128-note polyphony.

Equally underrated was the S330 rackmount sampler. If the S50 can be said to have had a rackmount equivalent, it was this 1U rackmount, with the same strengths as the earlier keyboard, plus a few 'extras'. Again overshadowed by Akai's samplers, the S330 set a new price/performance standard, but was never accorded the recognition it deserved. Instead, it was the additions for the previous year's S550 that caught the imagination of Roland's customers. With its associated HD5 hard disk system, the optional SYS553 sequencing software, a mouse, a colour monitor, a DT100 digitising tablet and the RC100 remote control surface, the S550 had matured into a truly professional sampler.

Yet, despite everything else that happened in 1988, the most significant development was contained in another unassuming rackmount unit. Far from impressive, this little synth lacked all but the most basic sound-shaping facilities, didn't have any filters, and was too hissy for serious use. Roland didn't even release it in its initial form, as the T110 (shown overleaf), but as the U110, it proved to be the ancestor of all Roland's PCM-based synths, including the 'U', 'JV', 'XP' and 'XV' series, and you can't get much more significant than that (for a full explanation of the family tree, see the box below).

Another product worthy of note, but which was never sold outside Japan, was 'Musi-kun', a desktop music system comprising a PC, software, small powered monitors and an MT32 sound source. Long before such combinations became the norm, Roland yet again demonstrated their ability to anticipate the future of hi-tech music-making.

Finally, in 1988, special mention must also be made of the DSP2000, which was perhaps Roland's only foray into the world of high-end domestic hi-fi. This was a surround system that took a conventional stereo signal and created a 3D image by delaying part of the signal and presenting this to a second amplifier driving a pair of rear speakers. A common concept in today's 5.1 surround world, this type of processing was not greeted warmly in 1988, and the DSP2000 wasn't imported or sold in significant quantities in the UK. For once, Roland had proved to be just a little too far ahead of the times.

Milestone: RS PCM Synthesis

The U110 (or, rather, its unreleased prototype, the T110) is the ancestor of almost all Roland's synths and workstations from 1991 onwards. This makes it one of the most significant synths ever released. Nonetheless, the launch of the U110, which utilised what Roland called Resynthesised Pulse Code Modulation Synthesis (or RS PCM) was decidedly low-key, and the product was positioned well to the back of the company's catalogues. Perhaps this is not surprising. Sample-replay machines (which, of course, were to form the backbone of all synthesis throughout the 1990s) were not really viewed as kosher synthesizers, so Roland positioned the U110 as a low-cost, low-kudos MIDI rackmount for (and I quote from Roland's publicity of the day) 'musicians who prefer to use available sound libraries rather than create their own samples'.

Yet the U110 was a capable sound source. With 99 onboard samples, four PCM card slots (and — after a while — a moderately extensive library of cards to fill them), it could provide the backbone of many musicians' requirements. It responded to velocity and aftertouch, and was six-part multitimbral with individual outputs for each part. It even provided stereo chorus and reverb, allocating two outputs as a stereo pair to take advantage of these.

The problem with the U110 was that its digital-to-analogue converters were rather noisy. This was cured in 1989 with the release of the U220, which sounded much more 'high-end'. Sure, it lost a couple of its predecessor's slots, but gained a larger ROM, and offered a better editing system. Then there was the U20, possibly the first affordable keyboard that you could take on stage to produce convincing piano, organ, strings, brass, drums... as well as many other pads, effects, leads, basses and other important sounds. Leaping from the back pages to the front of Roland's catalogues, the U20 was a winner.

These were the only three 'U'-series instruments, although it was apparently only a marketing decision that stopped the D70 from being launched as the U70. But if the 'U's had a brief life, the same cannot be said of their descendents. When, in 1992, Roland added a filter to the U20's RS PCM sound generator, it became the heart of the MV30 Music Production System, and then metamorphosed into the JD800 keyboard synthesizer. Later, the JV80 synth appeared, and the U220 was replaced by the JV880. And, as history shows, the JV series and its successors, the XP and XV series, were to become some of the most successful and widely used synths ever produced.

1989

MAJOR PRODUCT LAUNCHES

AMPS, MIXERS & SPEAKERS
- CPM120 II compact powered mixer.
- DAC80D guitar amp.
- M120 mixer.
- MG80 guitar amp.
- PA400 & PA200 powered mixers.

BOSS PRODUCTS
- BE5B bass multi-effects.
- CH1 Super Chorus.
- GE131 graphic EQ.
- GL100 guitar driver.
- MG10 mini guitar amp.
- WS100 diversity wireless system.

EFFECTS
- GP16 guitar effects processor.
- GS6 guitar sound system.

GUITAR SYNTHS
- GK2 guitar synth pickup.
- GR50 guitar synth.

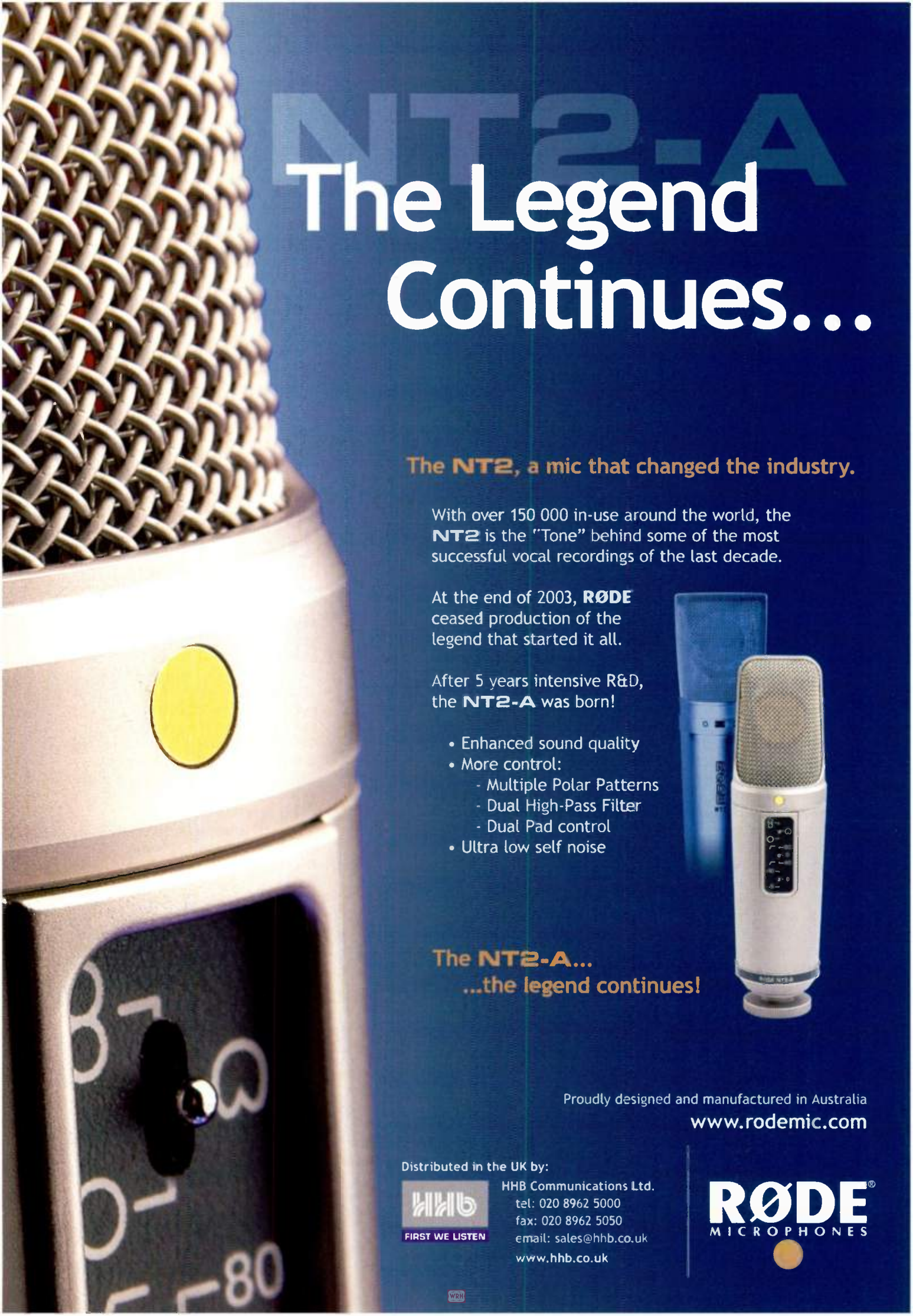
HOME/ACCOMPANIMENT PRODUCTS
- Pro E 'Intelligent' arranger.
- RA50 real-time arranger.

PIANOS
- HP2500S.
- Rhodes MK60.
- Rhodes MK80.

RHYTHM PRODUCTS
- PAD5 MIDI pad controller.
- R5 Human Rhythm Composer.
- R8 Human Rhythm Composer.

SAMPLERS
- W30 sampling workstation.

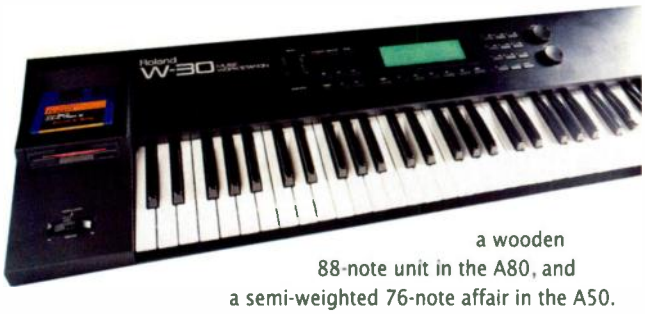
SYNTHS & HI-TECH
- A50 keyboard controller.
- A80 keyboard controller.
- CA30 'Intelligent' arranger.
- CF10 digital fader.
- CM32L LA sound module.
- CM32P PCM sound module.
- CM64 LA/PCM sound module.
- CN20 Music Entry Pad.
- D5 LA synth.
- FC100 MkII & RMC1 foot controller/RRC-to-MIDI converter.
- LAPC1 LA soundcard.
- MCB1 MIDI box for LAPC1.
- MPU IMC MIDI Interface.
- RC3 MIDI program changer.
- U20 RS PCM keyboard.
- U220 RS PCM module.


NT2-A
The Legend Continues...
The NT2, a mic that changed the industry.
With over 150 000 in-use around the world, the NT2 is the "Tone" behind some of the most successful vocal recordings of the last decade.
At the end of 2003, RØDE ceased production of the legend that started it all.
After 5 years intensive R&D, the NT2-A was born!
• Enhanced sound quality
• More control:
- Multiple Polar Patterns
- Dual High-Pass Filter
- Dual Pad control
• Ultra low self noise
The NT2-A...
...the legend continues!
Proudly designed and manufactured in Australia
www.rodemic.com
Distributed in the UK by:
HHB Communications Ltd.
tel: 020 8962 5000
fax: 020 8962 5050
email: sales@hhb.co.uk
www.hhb.co.uk
FIRST WE LISTEN
RØDE
MICROPHONES

PART 3: 1986-1991

The T110 (above) was the progenitor of all of the hugely successful sample-based synth modules Roland released in the '90s. However, the T110 was never itself released — the closest Roland came was the similar U110.

By the time 1989 rolled around, Roland were enjoying a golden age. However, despite their great breadth of products, the company's position as market leader was not secure, if only because the Korg M1 had now replaced the D50 as the synthesizer with the biggest 'Wow' factor. So Roland responded, but in a way that caught the entire industry by surprise. Rather than release an improved synth workstation to replace the D20, the company released a sampler-based workstation, the W30.



The W30 was a fine early sampling workstation — but there were no built-in effects! Still, this didn't stop the likes of Liam Howlett of the Prodigy composing most of his first three albums on it.

At the heart of the W30 lay a sampler similar to, and fully compatible with, the S550. This meant that it could take full advantage of the S-series sample libraries and, with a SCSI upgrade, it was also able to handle hard disk drives and CD-ROM drives. To complement this, an internal ROM included many of Roland's most popular samples, and you could edit and use these just as on any other PCM-based synth. The fully-spec'ed 16-track sequencer was compatible with Super MRC and Director-S formats, so in many ways the W30 was a combination of an S550, an MC500 and a simple PCM-based synthesizer. But where were the high-quality digital effects? Oh, heck... there weren't any! If Roland had hoped that the W30 would capture the workstation market, they seriously miscalculated. Above all else, the popularity of the D50 and the M1 was a consequence of the 'finished' quality of the sounds, and the W30, so capable in other areas, was unable to provide this. As a result, it only achieved a fraction of its potential, which was a terrible shame.

More successful, perhaps, were the new R8 Rhythm Composer and its little brother the R5. These included far more sounds than any previous Roland drum machine, and catered for conventional kits, Latin percussion, and electronic kits. But it was the quality and expressiveness of their sounds that made them special, and overnight they made all previous drum machines sound artificial and unrealistic. The R-series also introduced the concept of 'human feel', a timbral randomising parameter that added an additional touch of realism to programmed patterns.

Elsewhere, the MKB1000 and MKB300 were now showing their age, so Roland replaced them with the A80 and A50 master keyboards. These shared powerful MIDI controller capabilities including multiple zones, polyphonic aftertouch, four assignable control sliders, and inputs for four assignable controller pedals. They differed only in the keyboards provided: a wooden 88-note unit in the A80, and a semi-weighted 76-note affair in the A50.

Likewise, the GR300 and GR700 were now long gone, but Roland had not forgotten their guitar synth customers, releasing the GK2, the guitar/MIDI pickup that remains a standard 15 years later. The GK2 appeared alongside the GR50, the first of Roland's digital guitar synth units. This used yet another implementation of the limited LA Synthesis found in the lesser D-series synths, to the extent that you could even use a PG10 programmer to edit it.

Indeed, Roland were showing no signs of running out of ideas regarding the number of ways in which they could repackage their existing products. There was one, final, low-cost throw of the D-series dice in the form of the D5, but this is probably best forgotten. There was also a catalogue for 'computer sound modules and peripherals' that included the CM32L (a preset-only module based on the D110), as well as the CM32P (a preset-only module based on the U110) and, with stunning logic, the CM64, which integrated the two '32's into a single module. Borrowing from the E-series, the CA30 was an 'Intelligent Arranger' designed to complement the CM modules, while the CF10 and CN20 were designed to ease composition and mixing. Finally, there were two expansion cards, one of which was, in effect, an MT32 on a card.

With its repitchable drum samples and an decent-sized LCD (which made making rhythm programming using the established Roland pattern-based method even easier), the R8 and its smaller brother the R5 remain two of Roland's finest ever dedicated drum machines.

Following the purchase of the Rhodes name the previous year, 1989 was also the year that the company released the first two of only five Roland products that would bear the Rhodes name. It's unlikely that the company had ever intended to manufacture an electro-mechanical piano, but history suggests that — when Harold Rhodes found his name being sold for the fourth time — he had hoped that a large Japanese corporation would revitalise the market for his existing designs and ideas. Unfortunately, Roland and Rhodes did not see eye-to-eye, and legend has it that when Rhodes first heard the digital MK80, he 'just felt sick'. This was a cruel over-reaction, because the 88-note MK80 and its little brother the 64-note MK60 were fine instruments with excellent actions and SAS-generated electric piano sounds that are classics in their own right. Mind you, the public seems to agree with Rhodes, because neither instrument was the success that Roland might have hoped.

The year is notable for one further reason: the establishment of the 'Edition Roland Corporation', or 'Edirol'. Originally proposed by Roland Italy, Edirol was created to satisfy the increasing demand for Desktop Media Production (DTMP) products such as audio and video editors. Kakehashi realised that these might require a different business model from that employed within his music businesses, so Edirol was initially kept separate from the rest of the Roland business structure.

The CM64 repackaged LA-synthesis and U-series sound engines in a single compact module format, and was designed for use with early computer-based MIDI sequencing systems.

The company's first video system was an ISA-format video-capture board plus

Pyramix

NUENDO

Logic Pro 7

Complete control of all major digital audio workstations

Cubase SX 3

Solid State Logic's AWS 900 is a revolutionary combination of compact world class analogue mixing console and comprehensive DAW controller. Based on SSL's flagship XL 9000k series console the AWS 900 provices you with everything you need to record, edit and mix any professional project to the highest possible standard - just add the workstation of your choice
On permanent demonstration here at the KMR building, come and hear the SuperAnalogue revolution for yourself.

Solid State Logic

AWS 900

ANALOGUE WORKSTATION SYSTEM

For more information visit our website or contact us at www.kmraudio.com
020 84452446

Crane Song STC8 discrete Class A stereo compressor limiter - the smoothest sounding compression there is.

Massenburg 8200 parametic equalizer - reference standard 5 band fuily parametric EQ - the most natural of equalizers.

Neve

For the first time ever, released on its own as outboard – the legendary Neve 1073 microphone/line preamp. Previously only available with EQ this historic release is a chance to record with an acknowledged classic. This is a perfect class A discrete front end for your computer recording system, with all of the warmth, presence, character and power that Neve are famous for.
1073 DPA - £1878.82 Inc.VAT 1073 DPD - £2348.82 Inc.VAT

API 500 Series - classic modular system - build up your own signal path for that authentic API sound.

DW Fearn VT2
Recreation of the classic tube preamps of the 1960s with a clarity, transparency and warmth not often heard in modern valve equipment.

PMC MB2S - perfect for mid-sized control rooms either soffit mounted or on PMC custom studio stands. High spl's without distortion or any lack of definition.

Dynaudio AIR Series
Unique performance in terms of sound, concept and performance. Analogue or digitally connected - perfect surround solution.

Apple

Soundelux ELUX 251
Able to transform the most intimate details of a vocal performance without harshness and exceptional clarity.
Soundelux U99 - An evolution of the famous Soundelux U95 with improvements in frequency range and dynamic range. Excellent for revealing subtle timbral characteristics.

Possibly the largest & most eclectic selection of microphones in London available for you to audition. From Soundfield, Microtech Gefell, Brauner, Sony, Neumann, Oktava, Shure, AKG, Audix, Soundelux, Korby, AEA, Coles, Manley and many more.

Gefell M92.1s Vacuum tube condenser microphone. High sensitivity and ultra low signal to noise it has the typical warm full sound preferred by singers and soloists.

KMR have a reputation second to none in the design, support and installation of complete Digital Audio Workstations based around the industry's leading manufacturers. With products from such companies as Apple, Emagic, MOTU, Digidesign & Steinberg, we can specify a setup pre-configured to suit your needs, or draw up a plan with you for a totally bespoke system alleviating the strains and the traumas of all the hardware, software, connecting, updating and fine tuning.

MOTU HD192 high-definition audio interface - expansive & natural sounding 12 channel i/o converter for Logic, SX and Performer users. Expandable with other PCI-based MOTU interfaces.

* 0% 6 months deferred credit
* 12, 24, 36 or 48 months @ 9.9% apr
* Corporate leasing available

KMR AUDIO

The KMR Building in North London is a relaxed environment in which to discuss and listen to the largest selection of serious recording equipment on permanent demonstration in the UK. If you are into a high class sound, and want a high class service, call, email or pop in. If you have any recording related question, (whether you are a client or not) from complete studio builds to wiring advice, email – advice@kmraudio.com

Consultancy • Acoustics • Patching • Hire • Demonstration • Support

KMR Audio
www.kmraudio.com
020 84452446
London • N20

software, which allowed users to perform simple video editing on a PC. Called 'Video-Kun', this (like Musi-Kun the year before) never appeared outside Japan. Nonetheless, Edirol itself was soon to expand far beyond its native shores, and further Edirol companies were later established in tandem with Roland's joint ventures, with Edirol North America being established in 1994, Edirol Europe in 1998 and, most recently, Edirol Australia.

1990

MAJOR PRODUCT LAUNCHES

AMPS & MIXERS
- M12E 12-channel mixer.
- M240R 24-channel rackmount mixer.
- M480 48-channel mixer.

BOSS PRODUCTS
- CL50 compressor/limiter.
- DR550 Dr Rhythm.
- EH2 enhancer.
- GE21, GE131A, GE215, GE231 graphic equalisers.
- LM2B bass limiter.
- NS50 noise suppressor.
- OS2 overdrive/distortion.
- PN2 tremolo/pan.
- RE1000 multi echo.
- RV1000 reverb.
- SE50 effects processor.

EFFECTS
- SN550 digital noise eliminator.

HOME/ACCOMPANIMENT PRODUCTS
- E30 'Intelligent' synth.

PIANOS
- EP5.
- HP2700.
- HP3700.
- KR100 'Intelligent' keyboard.

RHYTHM PRODUCTS
- R8M sound module.
- SPD8 percussion pad.

SAMPLERS
- S770 digital sampler.
- MO7 magneto-optical drive for S770.
- OMS770 memory expander for S770.
- RAS770 expansion memory board for the S770 sampler.

SEQUENCERS
- MC50 Micro Composer.
- MRM500 MIDI file converter.
- MV30 Studio 'M' music production system.

SYNTHS & HI-TECH
- D70 Super LA synth.
- PC200 MIDI keyboard controller.
- PK5 dynamic MIDI pedal.
- Rhodes Model 660 RS PCM synth.
- Rhodes Model 760 RS PCM synth.

After the advances of the previous three years, it's fair to say that 1990 was quiet by comparison, although on the corporate side of things, the company opened two new facilities in Hamamatsu, set up a joint venture in Spain, invested in another company (this time in Hungary), and established the Roland Audio Development Corporation in the USA. However, few or no products broke new ground. Instead, there were further improvements upon existing concepts and technologies. The Boss range continued to grow, and even started to encroach on traditional Roland territory with a pair of rackmount reverb and delay processors... There were more mixers... There was a new Micro Composer, the natty MC50, and an improved arranger keyboard... There was a rackmount version of the R8, the R8M, and an Octapad that combined the pads themselves and a sound generator... There were two repackaged versions of the U20, the Rhodes Model 660 and the Rhodes Model 760... There was a Noise Eliminator that borrowed DSP technology from the E660 Equaliser and the GS6 guitar processor... There was also a range of new digital pianos that adopted a new 'Advanced' SAS system. As well as sounding better and introducing 'sympathetic resonance' for the first time on a synthesized piano, the new system also offered 'half-damping', all of which made the new models more realistic and more playable than previous instruments.

However, among none of the above was there anything radically new. Nevertheless, buried among the repackaged technologies of 1990 were at least four products that merit special mention.

The MV30 Music Production System was not, in essence, particularly innovative, because it merely combined sequencing and synthesis in a way that had by now become common. But its synthesizer engine was a version of the U20's RS PCM sound engine... with filters. This places the MV30 in the direct line of descent from the U110 to today's PCM synths.

Elsewhere, the 'M' series of general-purpose and keyboard mixers deserved a footnote in history. There were two classes in the family: those with the letter 'E' as a suffix offered EQ and microphone inputs, while those without were line-level mixers with Aux busses but no onboard equalisation. Both classes came in tabletop and rackmount forms, with 12-, 16-, 24- and 48-channel configurations, so potential users had a huge range of options. Uninspiring though such products may seem today, the 'M's became very popular, and many can still be seen gracing small PA systems.

The MV30 Studio M was an early example of a sequencing workstation, combining MC-style sequencing facilities with a U-series sample-based sound engine.

In contrast to the useful but rather dull mixers, there was a great deal of excitement about the D70 Super LA synth. Advertised as the successor to the revered D50, this promised much, and featured a unique programming feature called DLM (Differential Loop Modulation) that, in principle, made some off-the-wall sounds possible. Unfortunately, DLM seemed capable of creating only harsh buzzes, and the D70 lacked the appeal of the D50. Had it achieved its potential, the D70 would have deserved a far greater mention than this, but it proved to be a 'nearly' synth: nearly a classic, and nearly successful.

Nevertheless, I doubt that Roland's management were particularly concerned; in 1990, sales of D-series synths passed the 300,000 mark, almost certainly making them the most successful synths yet developed.

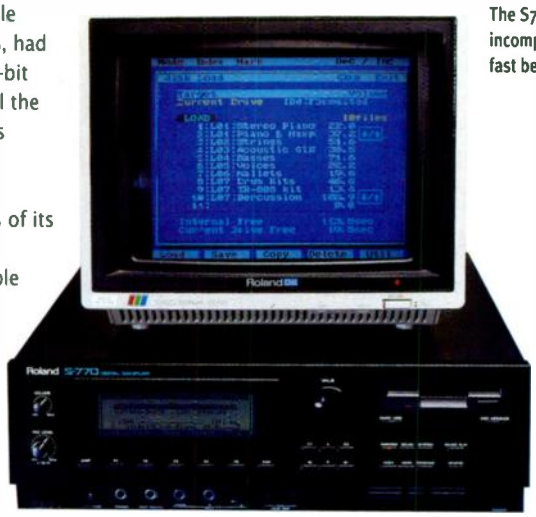
Most impressive in 1990 was the S770, a 3U rackmount sampler that, nearly 15 years later, remains a superb instrument. It was 24-voice polyphonic, incorporated an

Milestone: The Acceptance Of Digital Pianos

In his autobiographical and philosophical book, *I Believe In Music*, Kakehashi recounts how, in 1976, he was asked to predict the future of electronic pianos. To much mirth, he suggested that electronic instruments would one day account for 50 percent of all the pianos sold annually. Given that Roland was the only manufacturer of such instruments in 1978, and given their then-lacklustre sounds and poor playing characteristics, this must have seemed ridiculous. Nevertheless, Kakehashi was correct, and Yamaha's Clavinovas and Roland's HP-series digital pianos started to make serious inroads into acoustic piano sales in the late 1980s. In 1989, just 13 years after his prediction, unit sales of electronic pianos overtook those of acoustic pianos. The significance of this cannot be overestimated, because these are the instruments that people choose to have in their living rooms. Digital music technology had truly arrived.

Nowadays, the sales of digital pianos exceed those of acoustic pianos in both unit sales and earnings.

internal hard disk drive, offered sample RAM that was expandable up to 16MB, had digital inputs and outputs, offered 20-bit A-D and D-A conversion, supported all the peripherals already launched, and was compatible with the existing S-series library. But it was not the S770's specification that held the two secrets of its excellence; these were rather more intangible. Firstly, there was the sample editing system, which was a hugely powerful and elegant synth in its own right, but which was overlooked by the public at large. Secondly, there was the audio quality. Thanks to a new reproduction method called Differential Interpolation, the S770 eliminated the grainy distortion that appeared when you played at low pitches on other manufacturers' samplers. Unfortunately, just as they had on the W30, Roland had missed a trick... once again, the S770's specification lacked the crucial words 'Akai' and 'compatible'. Had it been able to load and/or convert the Akai sample library, it might have gone on to become the new standard. But it didn't, so it didn't.



The S770 was one of Roland's finest samplers, but its incompatibility with the Akai S-series sample format, which was fast becoming the industry standard, limited its appeal.

1991

MAJOR PRODUCT LAUNCHES

BOSS PRODUCTS
- AW2 auto-wah.
- BE5M multi-effects pedal.
- BL1 bulk librarian.
- CE5 chorus/ensemble.
- EH50 stereo enhancer.
- FV300H and FV300L expression pedals.
- FW3 foot wah.
- LS2 line selector.
- MT2 Metal Zone.
- PQ4 parametric EQ.

EFFECTS
- ADA8024 RSS A-D-A converter.
- RSP550 stereo signal processor.
- RSS8048 RSS sound space processor.
- SSC8004 RSS sound space controller.

HOME/ACCOMPANIMENT PRODUCTS
- E70 'Intelligent' synth.

PIANOS
- FP8 digital piano.

ORGANS
- Rhodes VK1000.

RHYTHM PRODUCTS
- CR80 Human Rhythm Player.

SAMPLERS
- S750 Sample module.

SEQUENCERS
- PR1 player and recorder.

SOUND CANVASES
- SB55 Sound Brush (SMF Sequencer).
- SC55 Sound Canvas.

SYNTHS & HI-TECH
- A220 MIDI separator.
- JD800 programmable synth.
- JX1 performance synth.
- SBX1000 MIDI cueing box.

If 1990 had been a relatively unsuccessful year in terms of groundbreaking product launches, 1991 was to be its antithesis, with three products of long-term consequence. One was a synthesizer, one was a sound module, and the other was an effects unit.

Let's start with the synth... It can't have escaped Roland's notice that its brief market leadership in 1987 had been eclipsed by the Korg M1 and its T-series successors, and that the D20, W30 and D70 had singularly failed to wrest the crown from their competitor's grasp. But when somebody in Roland leaked the news of a new digital synthesizer sporting a large, analogue-style control surface, everybody raised an eyebrow (or two). What's more, rumours suggested that it might be called the JD8, which many assumed meant 'Jupiter Digital'. Was this going to be Roland's long anticipated successor to the Jupiter 8?

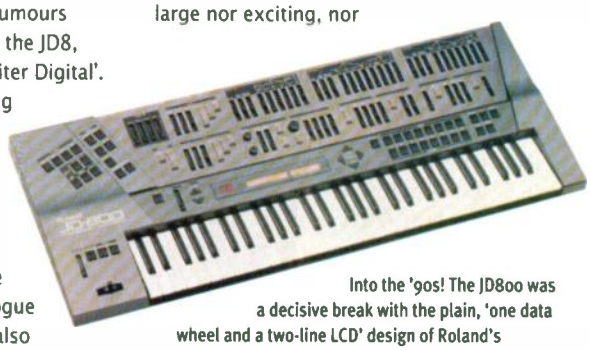
When it appeared, the JD800 appeared to be what everyone had hoped; a state-of-the-art digital synth with the appearance and feel of a top-of-the-line analogue polysynth. Many of the controls also had their roots deep in the past, having first appeared on the PG800 programmer for the JX8P, but the bright orange LEDs, the dual displays, and the large, knobbly buttons were quite startling, and made the instrument feel very modern.

The sound source drew upon 108 PCM waveforms including the conventional cyclic waveforms (often used with a touch of 'random pitch' to imitate analogue instabilities), samples, and attack snippets reminiscent of the D50's LA synthesis. Filtering came in not one but three forms, with low-, high- and band-pass modes, all with resonance, while Roland's multi-stage contour generators provided as much flexibility as most programmers would ever require. Likewise, the multiple effects structure, which offered things such as distortion and phasers as well as the usual chorus and reverb, extended the JD800 far beyond Roland's previous fare.

At first sight, the JD800 was 24-voice polyphonic, but once you layered tones to create its more complex and interesting sounds, the polyphony could drop as low as six notes, which was not impressive, even in 1991. This also made the JD800 of limited use as a multitimbral instrument, as did the limited onboard storage of just 64 patches and a single multitimbral setup. More impressive was the fact that you could assign the onboard effects slightly differently to the patches in multitimbral mode.

With its large, friendly panel, impressive programming depth and warm sounds, the JD800 might have dominated the market had it been launched a year or two before, but it arrived just as Korg released the similarly-priced 01/WFD workstation and the Wavestation, both of which proved to be more popular. Nonetheless, it's the JD800 that still turns heads in the 21st century.

Despite the sexiness of the JD800, the product that was to have the greatest legacy, both financially and in shaping the future of the music industry, was neither large nor exciting, nor did it sound particularly impressive. Yet, in introducing General MIDI (GM) and General Standard MIDI (GS), the SC55 Sound Canvas made it possible for programmers to create MIDI sequences that could be replayed predictably on products produced by any manufacturer, not just Roland. This was a huge leap forward, and nowadays the descendents of the SC55 dominate many sectors of the music industry (see the box on the next page).



Into the '90s! The JD800 was a decisive break with the plain, 'one data wheel and a two-line LCD' design of Roland's late-'80s synths, and its slider-tastic control surface means it's still popular today.

Yet had it not been for the future impact of GM and GS, an effects unit would have earned the accolade of 'milestone product' for 1991...

PART 3: 1986-1991

Milestone: The SC55 & SB55

The SC55 was far from impressive, but it had a huge impact upon Roland's fortunes — an impact that continues in full force to this day.

At first sight, (and second, and third...) there was nothing special about it. Sure, it used both RS PCM and the cut-down version of LA synthesis, came with a neat little remote control, and its complement of 315 patches, nine drum kits, 16-part multitimbrality and 24-voice polyphony was reasonable for the day. However, its limited editing capabilities precluded it from professional use, and placed it firmly in the 'home' music market.

So what made it important? The answer lay in the way that its patches were arranged and the ways in which these could be modified, which conformed to a new MIDI standard that the world called GM (General MIDI) and which Roland later extended to include additional commands and called GS, or 'General Standard'. Of course, this would have been meaningless had the SC55 had been the only instrument to use GM or GS but, right from the start, the company promised a range of compatible products that would use the same memory and edit maps. These would then be able to replay sequences correctly, no matter which you used, without having to move patches, modify MIDI receive channels, or change levels. It was a radical concept in 1991, and paved the way for the scores of GM- and GS-compatible products that have since appeared.

The first of the now-enormous Sound Canvas range, the SC55.

The SC55 was launched alongside a sequence replay module called the SB55 Sound Brush. Designed as an 'on-the-road' device that let users leave their computers in their studios, this was compatible with Standard MIDI Files, which meant that it could load and play songs originally saved from Atari, Mac, PC, and MC-series sequencers. It was also capable of loading one song while playing another, which made it ideal for use on stage.

The combination of the SB55 and SC55 redefined the art of song playback, allowing solo artists to perform with a full backing band that occupied just a single rack space. The '55s' also changed the face of karaoke forever, allowing performers to alter the pitch and tempo of backing tracks independently, which would have been impossible using tape- and CD-based karaoke machines.

Roland had been using the acronym 'RSS' since 1978 to stand for Roland Studio System but, in 1991, this changed to Roland Sound Space, a system that (the company claimed) made it possible to create a three-dimensional sound-space using conventional stereo speakers. In theory, this meant that you could position a mono sound anywhere in a three-dimensional space around the listener.

The product launch was atypically high-key for Roland. Having traditionally exhibited at music industry shows such as the Frankfurt Musikmesse and NAMM, the company stepped into the audio engineering arena by exhibiting at the Audio Engineering Society (AES) Convention, building a soundproof booth to demonstrate the sound-space that RSS could wring from a conventional stereo system.

A standard RSS system was neither small nor cheap, comprising four units: a pair of 2U-rack ADA8024 analogue-digital-analogue converters, the 2U rackmount RSS8048 Sound Space Processor, and the large, tabletop SSC8804 Sound Space Controller. Larger systems could comprise up to 16 processors!

The processor was the key to the system, combining a simulation of binaural processing (in which a performance is recorded using microphones mounted inside a dummy head) and something that Roland christened 'transaural' processing, a phase- and amplitude-manipulation process designed to overcome the limitations of binaural playback. All of this was controlled by the RSS8048 (the large unit shown below), whose large rotary controls could, so Roland claimed, position a sound above or below the listener, in front or behind, and to the left or the right.

RSS was a brave attempt to create an ambience processor that made a 3D 'theatre' experience possible using a stereo playback system. Unfortunately, many people were unconvinced, myself among them. I attended one of the AES demonstrations in 1991, and despite being told that I was hearing the sound coming from above me or behind me, I didn't. The effect was interesting, but it didn't live up to its grandiose claims, and Roland sold very few of its first-generation RSS systems. Nevertheless, the audio-processing algorithms showed promise, and would soon start to appear in the company's effects units and synths.


Roland's RSS was an innovative attempt at producing surround-sound effects using psychoacoustic principles in conventional stereo, rather than with multiple discrete channels and speakers as is the case today, but this meant that the efficacy (or otherwise...) of the effect varied from individual to individual, dependent on their hearing.

Epilogue

Promoted to Chairman of the Roland Group, Ikutaro Kakehashi had achieved many of his aims by the end of 1991. With multiple manufacturing companies, including Roland, Boss, Rodgers and Roland DG, the Rhodes brand name, and around 20 jointly held distribution companies, his position was secure as one of the all-time great pioneers of the synth and hi-tech music industry. He had even been awarded an honourary Doctorate in 1991 by the world-renowned Berklee College of Music.

However, Kakehashi could see that the digital revolution was not going to be limited to synths, samplers, and effects units, and that the separate businesses of making music and recording music were soon going to meet head-on. His great rivals, Akai and Korg, were already developing high-value, high-technology studio systems and, although the public knew nothing about it at the time, Roland were not far behind. Clearly, 1992 was going to be a significant year for the hi-tech music industry, and that's where we'll pick up this story next month. SOS

ProteusX

Desktop Sound Module

E-MU Systems brings the power and sounds of the world's most popular sound module line to your desktop with Proteus X – a 24-bit/192 kHz desktop sound module that delivers all of the filters, effects and pristine sounds of E-MU's rackmount modules to your PC. Proteus X ships with over 2 GB of sounds, including every last sample from E-MU's Proteus 2000 sound module, and can be expanded with the original soundsets from E-MU's legendary modules like Mo'Phatt, Planet Earth and Virtuoso 2000. Want even more sourds? Proteus X lets you load your favorite sound libraries (Emulator X, EOS, GigaSamp er, Akai, and many more) and play them back with Proteus X's powerful streaming engine. And, unlike other software instruments, Proteus X's audio/MIDI interface is optimized to deliver ultra-low latency performance with unmatched fidelity – Proteus X actually plays and sounds like a real hardware instrument.

£119.99*

Only E-MU could deliver a desktop sound module this good.

- *Powerful Synth Engine*
- *Over 50 Z-Plane Filters*
- *Standalone and VSTi*
- *Streaming and RAM Playback*
- *Integrated Hardware and Software Effects*
- *Over 2 GB of Sounds Included*
- *Expandable Sound Library*

Mo'Phatt, Planet Earth and Virtuoso 2000 module soundset, plus many more

CREATIVE PROFESSIONAL

Works with Windows 2000 & XP

POWER FX Hardware Accelerated VST Effects

*Estimated street price incl. VAT

E-MU

www.emu.com

0800.9012168

ORDER HOTLINE 01483 456733

ANDERTONS music

40 YEAR

MUSICIANS No.1 SUPERSTORE

NEXT DAY DELIVERY
On all 'in-stock' items!

www.andertons.co.uk

ELECTRIC PIANOS

GUITARS & BASS

DRUMS & PERCUSSION

KEYBOARDS & MODULES

COMPUTER MUSIC

PRO AUDIO & RECORDING

LIVE SOUND & PA

MIXERS & CONSOLES

STAGE & STUDIO MICS

STANDS BAGS LEADS

BOOKS & VIDEOS

WORKSTATIONS SYNTHS MODULES

DEAL OF THE MONTH!

M-Audio Keystation Pro 88
88 Key Hammer-Action USB MIDI Controller

M-AUDIO

The first USB master MIDI controller designed specifically to let you perform, program and mix music directly with your computer. The 88-key hammer action is so expressive that you simply won't want to stop playing it. And the complement of 59 assignable controls delivers more than enough tactile command over your favorite soft synths and digital audio sequencers like Reason and Live.

- 88-note hammer-action keyboard
- 59 MIDI-assignable controllers; 4 zones
- USB bus powered and class compliant
- multiple dynamic velocity curves
- MIDI I/O

ANDERTONS PRICE **£329.99**

was £369.99 TERRIFIC NEW LOW PRICE

MORE GREAT WORKSTATIONS

Korg PA1XPRO Arranger Workstation	2399.99
Korg Triton Extreme 61 Key Workstation	1499.99
Korg Triton Extreme 88 Key Workstation	2299.99
Korg Triton LE 61 Note Workstation	759.99
Korg Triton LE 76 Note Workstation	938.99
Roland Fantom X6 61 Key Workstation	1599.99
Roland Fantom X7 76 Key Workstation	1779.99
Yamaha MOTIF ES7 76 Note Workstation	1789.99
Yamaha MOTIF ES8 88 Note Workstation	2199.99

See online at www.andertons.co.uk for more

Roland Fantom-XA
61 Key multifaceted sampling workstation

NEW! ANDERTONS PRICE **£999.99**

Yamaha MOTIF ES6
61-Key Music Production Synthesizer

ANDERTONS PRICE **£1649.99**

Clavia Nord Modular G2 Rack
The Nord modular G2 engine

lots more clavia products online

ENGINE is a one unit high 19" rack version of the G2. Perfect for studios and computer studio environments. It has the same features as the G2 except for control buttons, pedal and microphone inputs (see specifications). Connect the G2 Engine via the USB port to the PC/Mac and do all your editing from the intuitive and elegant PC/Mac editor. All the G2, the G2 Engine is expandable with a voice expansion board.

ANDERTONS PRICE **£594.99**

WAS £[illegible].99 - SAVE £400!

SAVE £400!

MODULES AND SYNTHS

Nord Electro 2 Electric Keyboard	1079.99
Nord Lead 2X Virtual Analogue Keyboard	899.99
Nord Lead 2X Virtual Analogue Rack	529.99
Korg Microsynth Keyboard	259.99
Korg MS2000B Synth with Microphone	499.99
Korg X5D Keyboard	399.00
Novation K Station 8 Voice Poly Synth	264.99
Novation KS4 Synthesiser 4 Octave	349.99
Yamaha S90 88 note weighted synth	1299.99
Korg MS2000R Rackmount Synth	389.99
Korg Triton Rack Synth	849.99
Roland Fantom XR Rackmount Synth	869.99
Roland MC09 Phraselab	249.99
Roland MC909 Groove Box and Module	1195.99
Roland Varios	749.99
Roland XV2020 Module	419.00
Yamaha MOTIF Rack with two extra boards FREE!!	749.99

Call Guildford or see online at www.andertons.co.uk for more!!

novation KORG EDIROL YAMAHA Roland ALESIS

Novation KS5
Keyboard Synth with 61-Note Keyboard

save £[illegible] ANDERTONS PRICE **£419.99**

Roland V Synth
61-Note Synthesiser - Awesome new features

ANDERTONS PRICE **£1599.99**

Alesis Micron
ION analog modeling sound engine in a compact package

save £[illegible] ANDERTONS PRICE **£329.99**

2 FREE BOARDS

Yamaha Motif Rack
Comes with FREE PLG150DX and PLG150PC boards

save £[illegible] ANDERTONS PRICE **£749.99**

Novation KS-Rack
16 voice polyphonic 4-part synthesizer

The KS Rack synthesizer from Novation features 4 part multi-timbrality, 16 voice polyphony and 4 individual audio outputs. The core sound engine uses the advanced liquid analogue technology from the KS4 / 5 series synthesizers. Other exciting new features including - HYPERSYNC TM editing, oscillator waveform tables and drum maps make this the perfect sound source for the studio or gigging musician.

- Desktop or Rack mounting 5U package
- Superb Liquid Analog sound
- 4 part multi-timbral with 4 outs
- 16 Voice Polyphony. Vocoder. Arpeggiator. Audio Input

novation in music, anything is possible

ANDERTONS PRICE **£269.99**

WAS £339.99 - SAVE £70!

SAVE £70!

STUDIO GEAR

GREAT SELECTION IN-STORE AND ONLINE

t.c. electronic

T.C. Electonic M3000
Studio Reverb Processor

The M3000 is a dual-engine reverb-unit, where both software algorithms and hardware performance is optimized to the highest level. With an award winning intuitive user-interface, 600 factory presets and multiple I/O formats, the M3000 is one of the best reverb choices for high-end music- and film/post-production.

- Up to 300 User Presets
- VSS ™3 /VSS ™FP Technology
- Intuitive user interface with instant preset recall
- Compressor/Expander, De-esser, Chorus & Flanger, Tremolo, Phaser, Delay, Pitch Shift, parametric EQ
- 24 bit A/D -D/A converters
- AES/EBU,S/PDIF,Optical Tos-Link & ADAT digital I/O 's

save £600!

was £1299.99

ANDERTONS PRICE **£699.99**

ONLY WHILE STOCKS LAST

MULTITRACK RECORDERS

Alesis HD24 24 Track HD	999.99
Boss BR-1180CD Multitrack Recorder	629.99
Boss BR1600CD Digital Recording Studio	899.99
Korg 32 Track Hard Disc	1899.99
Korg D1R4 Four-track Porta Studio	199.99
Korg D1600 MKII Multitrack	845.99
Korg D16XD Digital Multitrack	1359.99
Tascam 414 Tape Multitracker	149.99
Tascam MFP01 Porta Studio	79.99
Zoom PS04 4 Track Recorder	199.99

MIXERS & CONSOLES

Behringer UB1202 Compact Mixer w/ 4 Mic Inputs	69.99
Behringer UB1204 - 12 Input Console	99.99
Mackie 1202 VLZ PRO Compact Mixer	279.99
Mackie 1402 VLZ PRO Compact Mixer	319.99
Mackie 1604 VLZ PRO 4 Bus Mixer	799.99
Mackie 1642 VLZ PRO Compact Mixer	599.99
Mackie ONYX 1220 12 Channel Mixer	489.99
Mackie Tapco6306 Compact Mixer	69.99
Soundcraft Compact 10 Mixer	159.99
Soundcraft Compact 4 Mixer	69.99
Yamaha MG102 Analog Mixer	69.99
Yamaha MG124 Mixer	125.99
Yamaha MG16/6FX 16 Channel Mixer	325.00
Yamaha O1V/96 Digital Mixer	1449.99

STUDIO MONITORS

Event SP8 Studio Precision	994.99
Event TR8 Tuned Reference 8 (Pair)	424.99
Genelec 8030A Two Way Active (Each)	299.99
Genelec 8040A Two way (Each)	515.99
Genelec 8050A Two Way (Each)	899.99
M Audio BX5 75 Watts (Pair)	209.99
M Audio BX8 (pair) 130 watts	299.99
Mackie HR624 Active (Each)	374.99
Mackie HR824 Active (Each)	524.99
Mission Pro MISSMP6 Passive	299.99
Samson Resolv65A Active Monitors (pair)	219.99
Tannoy Reveals (pair) PASSIVE	145.99
Tannoy Reveals Active (pair)	329.99
Tapco S8 Active Studio Monitors (Single)	194.99
Tapco S5 Active Studio Monitors (Each)	129.99

Headphone amps, DI boxes and Patchbays from Behringer, Phonic, Samson and Presonus

REVERBS AND OUTBOARD GEAR

TC Electronic M3000 Dual Multi Effects	699.99
TC Electronic M300 Dual Multi Effects	144.99
Lexicon MPX550 Digital Effects Processor	239.99
Lexicon MPX110 Digital Effects Processor	199.00
Avalon VT737SP Mic Pre Amp Channel	1699.99
Behringer MDX2600 Composer Pro XL	79.99
DBX 266XL Stereo Compressor	94.99
Focusrite ISA220 Session Pack	989.99
Focusrite ISA430MK11	1549.99
Focusrite Platinum 10 Twintrak Preamp	329.99
Focusrite Platinum 3 Compounder Stereo Compressor/Lim/Gate	295.99
Focusrite Platinum 4 Mixmaster	579.99
Focusrite Platinum 5 Penta Compressor	189.99
Focusrite Platinum 6 Trakmaster Channel	179.99
Focusrite Platinum 8 Octopre Preamp	619.99
Focusrite Platinum 9 Voicemaster	329.99
M Audio Tampa Mic Pre amp	199.99
Presonus Blue Max	169.99
Presonus Comp 16 Compressor	99.99
Presonus Digitube Mic Pre	149.99
Presonus EQ3B Parametric EQ	99.99
Presonus Eureka Channel Strip	359.99
Presonus TubePre (tube Mic pre)	129.95

save up to £120!

Boss BR864
8-Track Multitrack Recorder 64 virtual tracks & FX

new low price ANDERTONS PRICE **£259.99**

Yamaha AW16G
All-in-one digital recording workstation

was £779.99 ANDERTONS PRICE **£699.99**

Roland GR20
Guitar synthesizer with GK-3 divided pickup

incl GK3 pickup ANDERTONS PRICE **£339.99**

save up to £120!

Mackie DF Mixers
Easy-to-use mixers with digital FX, graphic EQ etc

also DFX12 £159.99 ANDERTONS PRICE **£99.99**

Avalon VT737SP
Class A, Mic Pre-Amp Channels in 2 rackspaces

new low price ANDERTONS PRICE **£1529.99**

Event TR5
Mixers you can trust for an unbelievably low price

price per pair ANDERTONS PRICE **£269.99**

Mackie DXB200 NEW!
PRO Mixing Console

Not only the most powerful and versatile digital console in its class, it is a console that delivers features previously found at more than five times its price. At Andertons we have this superb console on demo ready for you to evaluate.

ANDERTONS PRICE **£Call.now**

NEW AT ANDERTONS

MACKIE.

REVERBS AND OUTBOARD GEAR (cont..)

Samson CCom16 Compressor	89.99
Samson CVALVE Half rack pre amp	79.99
Samson S Com 4 - Quad Comp/ Gate	109.99
Samson S COM -Compressor	69.99
Samson S Com plus Dual Dynamics Processor/Gate/Enhancer	89.99
Samson S Gate 4 channel gate/ducker	119.99
TC Helicon Voice Live	529.99
TL Audio Ivory 2 Dual Valve Compressor	459.99
TL Audio Ivory 2 Dual Valve Equaliser	459.99
TL Audio Ivory 2 Valve Preamp & Com	289.99
TL Audio Ivory 2 Mono Valve Processor	459.99
TL Audio Ivory 2 Preset Valve Compressor	399.99
TL Audio Ivory 2 Stereo Valve Processor	1029.99

MORE ONLINE - AT GREAT PRICES!

SHOP WITH ANDERTONS ONLINE, AT THE GUILDFORD STORE OR VIA MAIL ORDER - THE MUSICIANS No.1 SUPERSTORE

ANDERTONS music

40 YEAR ANNIVERSARY

OPEN SEVEN DAYS

SHOP ONLINE andertons.co.uk

COMPUTER MUSIC

PC AUDIO SOLUTIONS

Optimised for Audio

Great new Configurations See the website or Call

Steinberg Approved and great value too!

Andertons are your PC Audio Specialists and can specify and build your dream audio computer. All of our systems are fully optimised for audio recording and music production., (No off-the-shelf numbers with latency and compatibility issues here!), and manufactured using only the best quality components. With an Andertons Syrinx Music PC all you have to do is switch on, plug-in and start recording. Call us NOW on for advice and a bombastic price on the specification of your choice.

PRICES START FROM £599.99

PC PACKAGE DEALS

Apple!

As bona fide Apple Solution Experts we are ready to discuss your Apple music requirements. Call our Apple experts today for the latest Hot Apple product news and great prices on Power Mac G5, PowerBook, iMac etc. **Visit the Guildford store for a great hands-on demonstration.**

AUDIO AND MIDI SOFTWARE + PLUG-INs

Steinberg	
Wavelab 5 Audio Editing Software	499.99
Wavelab 4.0	319.99
Warp Hughes and Kellner guitar plugin	79.99
• VSTi Collection	99.99
Virtual Guitarist Electric Edition	134.99
• System 2	239.99
SRXPhraze VST Instrument	149.99
SRVGUITAR virtual guitarist vst plug in	134.99
SRPlex Restructuring Synth	119.99
SRHYPERSONIC VSTi Workstaion	229.99
SRHALSTRING Halion String Edition	249.99
SRDCOTA D Cota Synth Plug In	119.99
Halion 2 Software Sampler with 2 Wizoo Sample Expansion Packs	139.99
Groove Agent VST Instrument	139.99
Grand Piano VST Instrument	135.99
• Cubase SX2 XL Package with SX3 upgrade (SX2, Halion 2, X-Phraze, PPG, Attack and D Pole)	529.99
Cubase SL 2 (Dual Platform)	229.99
Steinberg SX3	499.99
Native Instruments	
IPR053 Prophet 5 plug in	129.99
Reaktor V4.0 Mac / PC	279.99
Reaktor Session plug in	169.99
Vokator Vocoder plug in	179.99
Spektral Delay plug in	149.99
Software Sampler - KOMPAKT	129.99
Loop Sampler and Player - INTAKT	129.99
Kontakt Sampler Dual Platform	225.99
• Komplete 2 Upgrade	299.99
FM7 VST Instrument	144.99
• Express Keyboards	69.99
Elektrik Piano Instrument	149.99
Drum Machine - BATTERY	99.99
B4ORGAN VST Instrument	124.99
Absynth 2 VST Instrument	179.99
Battery Studio Drums Sound Library	59.99
E-Magic	
• Logic Audio Pro 7 upgrade	199.99
• Logic Audio Pro 7	699.99

Steinberg System 2

Cubase SE with five virtual instruments

new low price £199.99

Auto-Tune 4

Hailed as a "holy grail of recording"

£229.99

Korg Legacy

Software and controller package - it's all you need!

new low price £329.99

Emulator X Studio

A professional sampling system for your PC, Great!

£429.99

AUDIO AND MIDI SOFTWARE + PLUG-INs

Other	
Arturia Mini Moog VST Plug In	139.99
Arturia CS80V	139.99
Arturia ARSTORM Storm 2	79.99
Arturia ARMOOGMOD Modular VST	169.99
Spectrasonics SVIT Trilogy Bass	179.99
Spectrasonics SVIS Stylus Vinyl Groove	149.99
Spectrasonics SVIA Atmosphere Pad	217.99
Recycle Version 2	109.99
Propellorhead Reason 2.5	199.99
Novation BST Bass Station VST plug	44.99
New Sampling Generation	In Stock
Ableton Live 4 Software	299.00
Software and Hardware Bundles	
Emu Emulator X	219.99
• Steinberg Cubase System 4 Dual Platf	319.99

MORE ONLINE - AT GREAT PRICES!

INTERFACES AUDIO MIDI

GREAT SELECTION IN-STORE AND ONLINE

MOTU 896

MOTU

Superior hardware interface.

Provides 8 mic preamps, pristine 192kHz analog I/O, 8 channels of ADAT digital and stereo AES/EBU. Adapts to studio or stage. With a computer, provides 18 inputs and 22 outputs, including main out and headphone out.

LIMITED OFFER!! was £999 SAVE £200!

ANDERTONS PRICE £799.99

ONE WHILE STOCKS LAST

Midi Interfaces	
Midiman UNO 1x1 USB	39.99
Midiman SPORTMAN2X2 2x2	44.99
Midiman SPORT1X1 1x1	49.00
MOTUFLUSB FastLane USB	54.99
Steinberg MIDEX3 1in/3out	64.99
Midiman Midisport 4x4	75.00
Emagic MT4 2 In 4 Out	89.99
MOTU EXPRESS128 8 I/O	209.99
Midiman Midisport 8x8	219.00
Emagic EMI62 24 Bit Audio Interface 6 in 2 out with MIDI	249.99
Steinberg MIDEX8	259.99
Emagic AMT 8	269.99
Control Stations	
Yamaha 01X Interface & Mixer	939.99
Tascam FW1884 Firewire Audio Interface and Controller	979.99
Mackie Control	899.99
Behringer BCR2000 USB	119.99
Behringer BCF2000 Desk	157.99
Audio Interfaces	
Digidesign DIGI002	1729.99
Digidesign DIGI002 Rack	899.99
Digidesign MBOX & Protools LE Software Bundle	329.99
Edirol Firewire FA101	
Audio/Midi Interface	399.99
Edirol UA25 Audio/Midi	163.99
Emu 0404 4in 4 out PCI Card	67.99
Emu 1212m Audio Interface	143.99
Emu 1820 Audio Interface	299.99
Emu 1820M Audio Interface	349.99
M Audio Audiophile AUDIO2496	64.99
M Audio Audiophile USB	
Soundcard MIDI I/O SP/DIF	149.99
M Audio Delta 1010	349.99
M Audio Delta 44	114.99
M Audio Firewire 18/14 - Audio MIDI & ADAT Interface	399.99

MICROPHONES LOADS MORE ONLINE AND IN-STORE!

Rode NT2A NEW!

A professional large-diaphragm FET condenser. Mighty mic

new product £229.99

Blue Baby Bottle

Stellar performance in the studio with this condenser!

£359.99

AKG C1000S	99.99
AKG C2000B with Cradle	149.99
AKG C3000B Condenser	149.99
AKG C4000B Condenser	299.99
AKG Solid Tube	429.99
Audio Technica AT4033a	199.99
Audio Technica AT4040SM	149.99
Blue Mics Blue Ball Dynamic	129.99
MXL 2001/603SPACK	149.99
MXL V67G Condenser	99.99
Neumann EA1 Elastic Suspension for TLM103 & TLM193 (Nickle)	149.99
Neumann Studio Condenser	629.99
Rode NT4 Stereo Condenser	299.99
Rode NT1000 Cardiod	159.99
Rode NT1A with Shockmount	124.99
Rode NT2000 Studio Condenser	279.99
Rode NT2A Studio Condenser	229.99
Rode NT3 Condenser	185.99
Rode NTK Valve Condenser	319.99
Samson 5pce Drum Mic Set	129.99
Samson 7pce Drum Mic Set	299.00
Superlux CMH8A Condenser	59.99
Superlux 5 Piece Drum Mic Set	109.99

CONTROLLERS LOADS MORE ONLINE AND IN-STORE!

SAVE NOW!

Keystation 88

Harmonic action controller with a plethora of controls

new low price

new low price £329.99

Evolution MK425

Fantastic value MIDI controller keyboard

£99.99

Edirol PCR-1

Superb compact controller with audio interface

new low price £149.99

Edirol PCR A30 w/audio interface	209.99
Edirol PCR30 Midi Keyboard	114.99
Edirol PCR50 w/audio interface	159.99
Edirol PCR80 Controlle	209.99
Evolution MK449C Controller	139.99
Evolution MK461C Controller	169.99
Korg Micro Control 37 Note	229.99
M Audio Ozone	199.99
M Audio Radium 61 Note	149.99
Midiman Oxygen 8 2 Octave	89.99
Novation Remote25 USB 2 octave semi weighted MIDI controller	229.99

CLICK ONLINE FOR MORE!!

NEW GUITAR DEPARTMENTS AT OUR Guildford Store

OPEN SEVEN DAYS

MON-SAT 9.30am to 6pm SUNDAY 11am to 5pm

Our unique Guildford showroom is packed to the rafters with gear!

- Fully equipped demo rooms - Crank it up to your hearts content!
- NEW Electric Guitar and Bass Guitar Departments
- Hi-tech and recording demo rooms
- Trained, knowledgeable sales staff
- Qualified service and maintenance dept
- Easy to find, Easy parking
- Masses of stock and at great prices too!

SHOP ONLINE 24/7 andertons.co.uk

Buying online is simple, speedy, informative and could save you money!

- Masses of product information
- Special online offers
- Secure online purchasing

FULL SEARCH

Find it Easy

Find the products you're looking for FAST. The site includes a great search engine. Search by product, type and / or price band.

EASY CREDIT

Payment Calculator

Want to know how much your dream kit could cost you a month? Check out the Monthly Repayment Calculator on the front page.

CLEAN LAYOUT

And Fast Too!

Products within sections are clearly and cleanly represented in simple list form. If you need more information - it is just a click away.

SPECIAL OFFERS

Exclusive Deals

In addition to fantastic prices throughout the online store you'll find many exclusive web offers - bookmark and check back often!

PRODUCT INFO

Comprehensive!

Unlike other online stores, andertons.co.uk has masses of product info. Click on the 'more information' link for more information. Easy.

www.andertons.co.uk ONLINE STORE

MAIL ORDER 01483 456733

GUILDFORD STORE - OPEN 7 DAYS A WEEK!

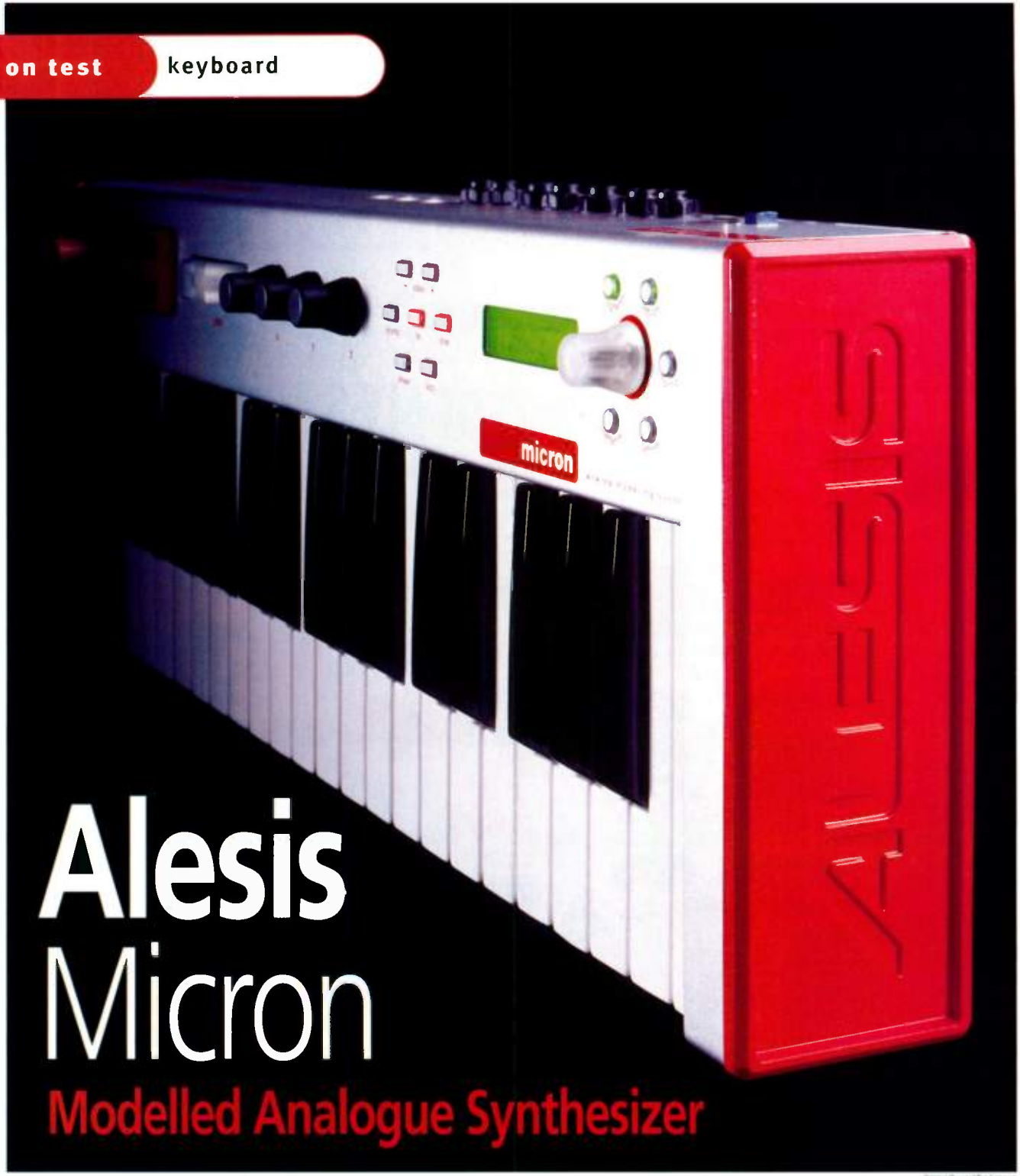
58 & 59 Woodbridge Road. Guildford. Surrey GU1 4RF

Tel: 01483 456777. Education Dept: 01483 456888. Fax: 01483 456722

VISA

Most credit cards accepted. All prices include VAT. E&OE.

WRH



Alesis Micron

Modelled Analogue Synthesizer

Less really *is* more — the 'smaller' name suggests a cut-down follow-up to 2003's Ion synth, but in fact the Micron includes most of the spec of its predecessor, and has added effects and a built-in sequencer too.

Paul Nagle

At the end of my 2003 review of Alesis's Ion, I said that if a rack version of this synth were to appear, I would find it hard to resist. However when Alesis forged ahead in their chosen direction, it was to re-cast the Ion not as a rack unit, but as a second, even smaller keyboard: the Micron.

In the trimming process, most of the Ion's expensive, high-resolution knobs have been lost, and its graphical screen has been replaced by a workmanlike two-line job. But that isn't the whole story. The Micron features a dedicated effects chip offering reverb and delay, plus a highly versatile multitimbral mode, a built-in sequencer and a rhythm programmer. These gains add up to an instrument with a unique personality. It would be wrong to dismiss the Micron as merely a budget Ion.

Size Surprise

On unpacking the Micron, you are immediately struck by its size. Shaped rather like a packet of chewing gum, this thing is *really* small. In fact, if you are habitually saved from gear-buying frenzy due to lack of space, I'll just innocently mention that its dimensions are approximately 58 x 20 x 7cm.

The Micron possesses the full synthesis power of the Ion (and is compatible with Ion patches), so I suggest now is a perfect time for a refresher courtesy of that Ion review (see *SOS* September 2003, or head for www.soundonsound.com/sos/sep03/articles/alesision.htm). Alternatively, check out the 'Micron Sound Engine' box opposite). If you're now suitably awed, we'll take the

obligatory tour around the Micron's flat red/silver exterior. I'm pleased to report that the Ion's twin audio inputs have survived intact, although the audio outputs have (understandably) been reduced to a single stereo pair. Alongside the three MIDI ports are inputs for a sustain pedal and an assignable expression pedal. A headphone socket and the connector for the inevitable external power supply complete the tidy rear panel.

The Micron's three-octave keyboard feels light and springy, offering velocity and release velocity action, but sadly no aftertouch. Performance controls are limited to three assignable 360-degree knobs (labelled x, y, and z), a horizontal pitch-bender (complete with glowing backlighting) and two horizontal assignable sliders, labelled m1 and m2. The sideways action of the wheel and sliders takes a little getting used to, but I did warm to them, and they feel durable enough to withstand plenty of wiggling.

The opaque plastic Control knob is the Micron's focal point. Around it is a ring of tiny buttons that represent the five available modes. These are Programs, Setups, Config, Rhythms and Patterns. When selected, the buttons light up green, the colour changing to red when you enter Edit mode. Since the Config button is only used to edit various global settings, it is always red when selected.

You push the Control knob to enter Edit mode, initiate actions or to navigate to editable fields. Turning the knob can, according to mode, select patches, scroll through edit pages or perform value updates. In use — and you're going to use this knob constantly — it has a slight 'give' and its notched operation is ideal for fine value adjustments. My only misgiving was that in certain edit screens, it took way too long to increment values to their extremes. For example, adjusting a modulation matrix amount from 0 percent right up to 100 percent took more than 40 full spins, by which time I'd almost forgotten why I was doing it! You'll be glad to hear Alesis have promised to investigate a means of speeding things up for a future OS revision...

Generally, operation is made bearable thanks to a succession of shortcuts — and in probably the most useful of these, the keyboard itself is drafted in. Printed above the white keys are a series of red text labels, 12 of which serve to select program categories with a further 10 designed to drop you neatly into specific edit pages. It works like this: hold the Programs button plus one of the upper keys — let's say the top 'G' on the keyboard

SOUND ON SOUND

Alesis Micron £350

pros

- Powerful analogue modelling at a tempting price.
- Reverb/delay effects.
- Built-in sequencer and rhythm programmer.

cons

- Keyboard lacks aftertouch.
- User interface could be too minimal for some.
- External power supply.

summary

Diminutive it may be, but inside the Micron's compact frame beats the heart of an Ion whose analogue-modelling engine and eight-note polyphony have survived the transplant unscathed. Most of the Ion's high-resolution knobs have been sacrificed, but Alesis have worked hard to make the most of what's left. If you can live with the spartan user interface, you get a superb-sounding synth with built-in sequencer and rhythm programmer, all at a particularly tempting price.

— and right away you're editing the envelope section. Choose the top 'A' instead to edit the LFOs, and so on. Repeatedly pressing the same note jumps quickly through the separate envelopes, LFOs, and so on.

Program selection using the shortcut technique is equally nifty. To select a program in (for example) the brass category, hold the Programs button and the lowest 'B' on the keyboard. Precise selection of all things brassy is then achieved by turning the Control knob. The keyboard is also employed in a number of other ways, for example when naming patches.

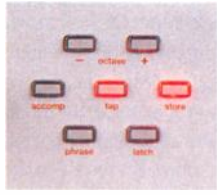
With just three assignable knobs on offer, they are going to be used extensively too. Fortunately, the assignment process is really simple: when in the Edit screen of a parameter you wish to assign, push down the Control knob whilst simultaneously turning the x, y or z knobs. That's it! You'll notice that not all parameters can be assigned; in particular,

The Micron Sound Engine

- Eight-voice polyphony.
- Three oscillators per voice, with continuously variable wave shapes, sync and FM.
- Two multi-mode filters per voice, with 20 filter types and extensive filter routing.
- Three envelopes, two LFOs, and sample and hold.
- 12-way modulation matrix, with 114 sources and 78 destinations.
- One insert drive effect per voice.
- Two master effects processors, including chorus, flanger, phaser, vocoder and now including reverb and delay.
- Fully compatible with Ion programs.

effects settings, such as phaser speed or delay feedback, are excluded. Once assigned, parameter values are transmitted as MIDI NRPNs (Non-Registered Parameter Numbers — see the Ion review for a full explanation) and when you touch any of the knobs (although not the sliders), a program edit is recognised and the Store button lights up. Edits remain even after selecting another program, until you begin a new edit.

The user interface is rounded off with seven additional buttons to the left of the display. Of these, Octave (select, with plus and minus buttons) Tap (tempo) and Store are easily understood. Latch does exactly what you'd expect, too — it simulates the holding of notes and is ideal for drones or for the permanent looping of arpeggios and bleepy patterns.



At this point, I must ask Ion owners not to be jealous, because as I move to describe the final two buttons — Phrase and Accomp — the moment has arrived to explore the Micron's secret identity.

Micro Groover

Even with the subtle clues on the panel, you'd hardly expect to find a groovebox without a plethora of dedicated knobs, buttons and flashing lights, would you? Nevertheless, a scroll through some of the factory Setups (the Alesis term for multitimbral arrangements) suggests this is *exactly* the territory that the Micron occupies. You see, as well as an arpeggiator, the Micron features a built-in sequencer and rhythm programmer.

As an introduction to pattern creation, the aforementioned Phrase button offers a fast and intuitive means to record musical phrases on the keyboard. Simply hold it down and as soon as you start playing, your notes — including chords — are captured (up to a limit of four bars). If you use the m1 and m2 sliders or the pitch wheel, these movements too are recorded (although curiously, not those of the x, y or z knobs). To finish recording, you simply hit the button again. Now whenever you hit the button, your phrase loops can be transposed via the keyboard.

Should you wish to explore this feature further (and I'd be disappointed if you didn't), hitting the Patterns button lists all stored patterns including your newly created phrase (helpfully allocated the name '* Phrase'). At this point, a push of the Control knob allows you to select and then edit any of the several hundred factory patterns, alter their length, ▶

tweak individual notes, and so on. Each pattern contains a pointer to an associated patch so that when you create new patterns, these can be paired with the most appropriate sounds.

Pattern lengths range from a quarter of a bar to four bars and are optimised for 4/4 signatures. The pattern grid may be non-destructively changed from unquantised to quantised intervals ranging from eight steps per bar to 32 steps per bar with some quirky, shuffle-type intervals along the way. Although the selection of intervals isn't extensive, there is enough flexibility for most purposes. You can switch freely between arpeggiator and sequencer modes too, with the added bonus that any continuous controllers recorded are still transmitted in the new mode. Sadly there's no way to send only the controllers (without accompanying notes) but otherwise, the sequencer is hard to fault. Even with the two-line display, editing individual steps, deleting data and even dragging and dropping notes (or whole chords) is possible.

Test Spec

- Alesis Micron OS version reviewed: v1.02.

become familiar with the process of either playing along with the metronome in real-time, or entering notes grid-style via the display. The metronome is a stored pattern, so you can modify this too if you like. Sequences, rhythms and arpeggios are transmitted over MIDI, although you need to set the Micron to Local Off mode first.

Memory & Categories

The supplied manual describes over 500 Preset programs and 32 multitimbral Setups. This was clearly inaccurate from a quick trawl through the synth, so I had another look at the Alesis web site and found an updated manual that also addresses several other important omissions. In fact, the Micron offers dynamic memory allocation rather than a fixed set of program numbers. Each time you save a program or a rhythm, the display tells you how much space remains. In the case of the factory set, there are approximately 600 programs provided, with space for around 400 more. Similarly there are about 150 Setups, over 240 Patterns and 300 Rhythms included, although the space available for more of these is quoted as a percentage. If this seems a little confusing, actually it isn't so bad in reality. Put simply, you can store about 1000 Programs, and probably more Setups, Patterns and Rhythms than you'll ever keep track of.

The category system implemented for programs makes a lot of sense in terms of quick retrieval, especially if the sounds you create fall into the preset slots of 'bass', 'lead', 'pad', 'sfx', and so on. The 'All' category gathers together every program in alphabetical order and a special 'recent' category keeps track of patches you played recently, very much like your computer remembers recent documents. Most usefully, 'faves' is an ideal means to gather patches together for a live performance, or simply for quick access.

However, the way categories are implemented means you do not have conventional patch locations to refer to. So if you wish to call up specific patches in *Cubase*, *Logic* and the like, this could be an issue. There *are* underlying bank and program numbers, but these remain unknown until you manually press and hold the relevant Programs, Setups, Patterns or Rhythms button, at which point the display yields the relevant information. You could record the action of program selection into the sequencer, but in order to select sounds from a list, you'd need all this information in advance.

Sounds & Multitimbrality

It shouldn't be too surprising to discover that the factory programs are a varied collection encompassing all that was impressive about the Ion, especially in terms of analogue-type sounds. In fact my only complaint is not with the sounds themselves, but with the seemingly random definition of the x, y and z knobs in many programs. As knobs are at a premium on the Micron, it's frustrating that these are often defined to control parameters like FM or ring-modulation amount or noise level (filter panning is another common alternative). There's nothing for it but to plough through them and reassign each knob to perform more generally useful tasks. I tended to choose filter or envelope parameters, oscillator waveforms or detune, or portamento amount, for example. Actually, almost anything works better than the choices made for you...

If the Micron's sounds delight with warm

Rhythms are an alternative way to create (non-transposable) looping patterns consisting of up to 10 drums, referred to as A-J. Drums are selected using the rhythm button in conjunction with the keyboard. Each voice has its own level and pan setting, and there are handy shortcuts, including options to send the rhythm to an existing multitimbral setup or to start a new setup. A neat touch is that the looping rhythm can be auditioned at any time by playing any of the lower notes on the keyboard; the individual drums can be played or recorded into the rhythm using the upper keys. As each percussion voice is selectable from any category — not just drums — you can build up some pretty off-the-wall kits if you wish.

The rhythm grid and lengths are set in the same way as the sequencer, and you soon

NOW SHIPPING!

We didn't mean for it to outperform tweaky mic preamps costing three times as much.

(Okay. That's a lie. We totally did.)

When you pay thousands of dollars for a "boutique" studio microphone preamp, you should expect a tight, focused high-end, superior ambience retrieval, detailed lower bass octaves, and a highly articulated midrange. In short, it should give you the most from any mic you plug into it.

Not coincidentally, that's also what you get with Mackie's new Onyx 800R 8-Channel Premium Microphone Preamp — at a decidedly less boutique price. The no-compromise Onyx 800R features new high-performance analog circuitry developed specifically for 192kHz audio, coupled with the finest A/D converters on the market, giving you impressive specs like 123dB dynamic range and an amazing 0.0007% THD. The 800R also gives you tweaky features like a Mid-Side Decoder and Variable Mic Impedance control, which lets you "tune" the preamp to any connected microphone.

So how does it sound? In the words of one our big-name studio beta testers, "The Onyx 800R brings a whole new dimension to classic mics we've used on countless records. This is by far the best mic preamp we've come across in years."

We couldn't have said it any better.
Visit your Mackie dealer to learn more.

Sam Luna proudly served on the engineering team for the Onyx 800R. So we'll forgive him for missing work today.

uk@mackie.com +44 (0) 1268 571212 +1 (425) 487-4333

MACKIE.
www.mackie.com

WRH

Round the back, the Micron loses one of the Ion's sets of audio outputs, but there are still two inputs, the full set of three MIDI connectors, and provision for connecting expression and sustain pedals. Not bad at all.

pads, thick basses and biting percussion, it's when you put them all together in multitimbral Setups that a new character begins to emerge. Perhaps inevitably, this involves a nod in the direction of dance music, but there is also a cross-section of split keyboards, layers and so on. Much of the loop-based stuff is inspiring, and it's both fun and informative to deconstruct the complex patterns, rhythms and keyboard parts.

Setups are organised in alphabetical order with each containing up to 26 parts! Yes, you read that correctly, and yes, this does mean you can quickly exhaust the Micron's eight-note polyphony — especially if you are a layering enthusiast. But plan things carefully, divide up your programs into zones over the full MIDI range and you gain tremendous flexibility — although you'll be in regular contact with those transpose keys unless you use an external keyboard.

Parts are added only as you need them, so there's no scrolling through inactive, unneeded menus. Each Part refers to a program and optionally, if sequencing is required, a pattern. You can select from the whole range of patterns available or simply pick the one already associated with the Program. Similarly, each part may have a Beat, which is merely a (non-transposable) rhythm, complete with its own key range, level and effects mix.

Parts and Beats may be latched so that they continue to play after you release the keys, and the Accomp key mentioned earlier is provided to turn off all looping patterns and rhythms for the entire setup at a stroke. As you play each part, you can activate the Latch function independently.

MIDI channels within a Setup are allocated according to the base channel defined in the Config menu. The channel number is increased automatically as new parts are created. This means if your base channel is 1 and you exceed 16 parts — as you well might — only the first 16 will be capable of sending or receiving MIDI data. Each part can be set to respond (or not) to the various performance controllers, and each has its own effects mix for FX1 (chorus, flanger, and so on). There's also an overall balance control between FX1 and FX2 (reverb, delay).

Effects

As I write this review, the Micron leads the Ion in its ability to reproduce rhythms and sequences, but I'd say that it's a safe bet these will be added in a future Ion OS update. However, the Micron still has one trump card in its hand, provided courtesy of a dedicated DSP chip, which takes it beyond the scope of the Ion. Rejoice, because the Micron has 'proper' effects.

If you recall, the Ion included chorus, a flanger, a vocoder and drive effects, but on the Micron, these are supplemented by a second processor capable of a selection of three reverbs (hall, plate and room) or three delays — one mono and two stereo algorithms. The longest delay time is 680ms, which is halved in stereo operation. Although this is not over-generous, it's still very welcome. Delays can be synchronised to the current tempo or can be set absolutely.

The quality of these effects is fine, and although you can't access their parameters in the modulation matrix or assign them for knobby control, they add a polished sheen to the Micron right out of the box. Sure, you probably have a better reverb available in your studio, but for the gigging musician they could prove invaluable.

Conclusions

Summing up is easy. The Micron sounds fabulous; rich, lush, powerful, warm... everything you would hope for. Equally, it can be harsh, dirty or percussive. It is compact, solidly made and has more programming potential than anything this tiny has a right to. At the price, it's almost too good to be true.

By including effects and a surprisingly flexible sequencer/rhythm programmer, the Micron can perform backing-type duties currently beyond the scope of the Ion. Of course, what you lose compared to the Ion is obvious at a glance. The Micron's user interface has a whole range of ingenious shortcuts but these can't replace a bank of dedicated knobs, especially for lengthy programming sessions. With no software editor currently in the pipeline from Alesis, it's a comfort to know you can edit everything using the small display and available controls.

But then, perhaps you don't care about extensive editing — not everyone does. In this case, you could download a shed-load of ready-made Ion sounds from Alesis's web site, make a few tweaks and away you go.

Ultimately, it's a clear choice. At this end of the spectrum, the Novation K-Series is the most serious hardware competition. The Micron scores with its superior 'core' synthesis — ie. the quality of its analogue modelling, range of filters and modulation matrix. The Novations score in polyphony, effects, user interface and keyboard action. Actually, though, in some ways the Micron's biggest competition could come from the Ion itself. Once you test the sound quality of the Micron, coughing up the extra wonga for better access may become too tempting. For the time being, the Micron is tasty, almost as cheap as chips, and just as fattening! SOS

OS Updates

On receipt of the Micron, my first task (as it often seems to be) was updating its operating system. This involved the tried-and-tested technique of playing a SysEx file to the synth, and went without a hitch.

Whilst on the Alesis web site, I took the opportunity to note the updates that have been created for the Ion since I reviewed it. Several new filters have been added and these are also present in the Micron. Of these, two extra comb filters are included, and these are an improvement on the older models, sounding far richer to my ears. Also, there is a new high-pass filter based on the Alesis model of the Moog four-pole ladder filter, which self-oscillates and sounds excellent. Because it wasn't based on an actual synthesizer, Alesis have apparently given it the initials of the engineer (Orly Pisa) who programmed the majority of the DSP sound engine — hence the references to the 'op filter'.

information

£ £349.99 including VAT.
T Numark +44 (0)1252 341400.
F +44 (0)1252 353810.
E uksales@alesis.com
W www.alesis.com

RED Submarine
COMPUTER MUSIC SOLUTIONS

www.sub.co.uk Tel: 0871 425 0800

e-mail: info@sub.co.uk Fax: 0871 425 0801

:: Pro Studio Systems powered by E-MU ::

The example PC's shown below include the fantastic E-MU 0404 digital audio card, which provides high quality 1/4" jack audio inputs and outputs. Red Submarine systems can also be supplied tested and configured with many other audio interfaces and music software combinations. Just log onto sub.co.uk to configure your ideal setup, order your new PC, and you'll be creating great computer music in no time at all, secure in the knowledge that your system is supported by one of the most respected names in the industry.

AMD Athlon

SPECIFICATION:
- AMD XP-3000+ Processor
- 512Mb DDR400 Memory
- 120Gb Hard Disk (partitioned for programs / audio)
- 52x CD-RW burner with software
- Windows XP Home edition

£640 +VAT (£752.00 inc. VAT)

AMD Athlon-64

SPECIFICATION:
- AMD 3200+ 64 bit processor
- 512Mb DDR400 Memory
- 160Gb S-ATA Hard Disk (Partitioned for programs / audio)
- 52x CD-RW burner with software
- Windows XP Home edition

£849 +VAT (£997.58 inc. VAT)

Intel Pentium-4

SPECIFICATION:
- 3.4Ghz Intel Penium-4 processor
- 1Gb DDR400 Memory
- 80Gb Program Hard Disk
- 200Gb S-ATA Audio Hard Disk
- 52x CD-RW burner with software
- Windows XP Professional edition

£1099 +VAT (£1291.33 inc. VAT)

Dual Intel Xeon

SPECIFICATION:
- 2 x Xeon 3Ghz Processors
- 2Gb DDR333 Memory
- 120Gb S-ATA Program Hard Disk
- 250Gb S-ATA Audio Hard Disk
- 52x CD-RW burner with software
- Windows XP Professional edition

£1849 +VAT (£2173.00 inc. VAT)

ALL SYSTEMS INCLUDE: E-MU 0404 audio interface, aluminium case with 12 expansion bays, highly upgradeable ASUS motherboard, soundcard, 128Mb ATI graphics, 300/460W power supply, 1.44Mb floppy drive, original Windows disks, 10/100 network interface, 3 year Red Sub warranty and technical support.

OPTIONAL EXTRAS:
Acoustic insulation kit, removable drive bays, computer monitor, keyboard and mouse, speakers, additional music production software.

UK system delivery charge: £35 + VAT

NEW :: 17" Pro Studio Laptop ::

These laptops are configured by Red Submarine specifically for music production and video editing applications. We are the UK's most experienced audio laptop specialist, and will supply a competitive system to your requirements.

This modular Laptop can include two internal hard drives, 1Gb of DDR Memory and a 3.4Ghz Processor, meaning you don't have to compromise on performance even if you want a portable solution.

SPECIFICATIONS:
- Up to 2 internal hard drives - ideal for intensive audio applications
- Up to 3.4Ghz CPU speed
- 2Gb DDR Memory
- 256Mb ATI graphics
- 17" Widescreen

Prices from: £1699 inc. VAT

:: Intel Centrino Laptops ::

This Laptop features Intel's new Centrino technology providing extended battery life, lightweight design (only 2.4Kg), and wireless communication options. Combine this with the Terratec Phase 26 interface, and you have a totally mobile surround sound production system.

Dimensions:
31.2cm x 27.3cm x 2.75cm

EXAMPLE SPECIFICATION:
- 1.6Ghz Centrino CPU
- 60Gb 7200rpm drive
- CD-RW Burner

Prices from: £999 inc. VAT

:: Sub.co.uk ::

Visit our interactive website sub.co.uk

- BEST UK PRICES, UPDATED BY THE HOUR
- FAST & RELIABLE
- DESIGN YOUR OWN SYSTEM SPECIFICATION
- 1000's OF PRODUCTS
- 100% SECURE
- PRIVACY OF YOUR PERSONAL INFORMATION IS GUARANTEED
- ORDER TRACKING
- CUSTOMER SERVICE CENTRE

:: Micro-Sub ::

This minature computer is deceptivley powerful, and will run even the most complex audio productions. Buy this system from Red Submarine pre-configured with your choice of professional soundcard (PCI, USB or FireWire) and music software. *Call us for advice if you need it!*

Dimensions: 20cm x 22cm x 33cm

SPECIFICATIONS:
- Up to 2 x 250Gb Hard Drives
- Up to 3.4Ghz Processor Speeds
- Up to 2Gb DDR Memory
- 1 PCI Slot
- Quiet Aluminium Case with 2 CD Drive Bays

Prices from: £899 inc. VAT

:: Subspeak ::

Martin Walker:
Sound on Sound magazine

"If you want to run yet more plug-ins and soft synths without networking multiple PCs, the dual Xeon 3.06Ghz processors in this Red Submarine PC take its performance way beyond any other machine I have measured to date, yet despite this power it still remains very quiet."

The toms needed a little damping with gaffer tape before they were close-miked by Hugh.

pretty good. However, we felt the kick needed more definition to fit in with their urban style of music, so after checking the mic position again and deciding we were getting about the best sound we were going to get, I tried a few *Logic* plug-ins to see what could be achieved.

I have to admit that I was feeling quite nervous at this point, as we'd been playing the drum kit on and off for over an hour and I half expected to see a crowd of locals with torches and pitchforks coming to get us. After all, this was a flat with neighbours above, below, and to either side! Fortunately, Fader had already warned his neighbours of our visit and it seemed they were either incredibly tolerant or out at work during our recording session.

The starting point for processing was to use the channel EQ, where around 6dB of boost at 76Hz (the kick drum's fundamental) combined with a 5.1kHz boost of 8dB (to bring out the click) started to work quite nicely. A little mid-range cut at 280Hz to tame any boxiness also improved things, but it is important when doing this to listen to the kick sound both soloed and in context with the rest of the kit, as the overheads make a very significant contribution to the sound. The other trick I tried was to use Logic's *Exciter* plug-in to bring out the kick mic click, as this can synthesise high-end harmonics based on what's going on lower down the spectrum. Again this turned out to be quite successful. The same plug-in has also proven useful in the past for rescuing dull snare tracks.

As a final kick-drum experiment, I opened Logic's *SubBass* plug-in, which creates frequencies an octave below those selected for analysis. You can think of this as being like the *Exciter* plug-in in reverse — instead of synthesising harmonics above those that are actually there, it synthesises sub-harmonics below those present in the program material. There are two sets of controls, so that you can generate two lots of sub-bass from two parts of the original audio spectrum, and by turning down the dry sound you can adjust the parameters until you get the kind of depth you're looking for. Once I added the processing back into the original kick-drum sound, this gave a welcome impression of extra depth without making the kick drum sound unnatural. I could see this was one plug-in the guys would be playing with some more in the near future, as they were quite enthusiastic about the results achieved.

Overall Compression

Rather than record entire drum tracks, the approach taken by the guys was to record sections (often against a click) to be used to create loops, so toms were rarely used. On a normal session they probably wouldn't have set up the toms at all, and if you don't need them, leaving them out reduces unwanted ringing. The snare sound was deliberately big and ringy, so we went on to try overall compression using *Logic*'s own compressor just to show how different settings can help create different feels.

Conventional settings gave added weight and evened out the sound in a fairly predictable way, but what really seemed to hit the spot was using fast attack, fast release, and a ratio of around 4:1 (hard knee, peak sensing) to make the kit sound pump in a magnificently trashy way. At gain reduction readings of over 10dB, the sound got quite animated in exactly the right way to create exciting loops.

Fader had tried adding reverb to his own recordings, but didn't like the washy sound he was getting. Just to demonstrate the principle, I used *Logic*'s *Platinumverb* set to almost its shortest possible decay time, and with the Balance ER/Reverb setting at around 65 percent early reflections, 35 percent reverb tail. With full brightness, and the bass controls turned down, this gave us a short, bright sound that worked well to add weight and presence but without adding any noticeably cloudy reverb at all. I would have preferred to try some of the *Space Designer* reverbs, but these weren't available in that particular version of *Logic*. Nevertheless, the exercise demonstrated the production value of using a short, bright reverb to liven up a drum sound without diluting the impact.

Optimising The Computer's Audio Performance

Where possible, you should record and mix at 24-bit resolution, reducing to 16-bit at the last stage in a CD-burning program such as Roxio's *Jam*. However, Fader works at 16-bit throughout so as to maximise track count, and, given the deliberately grungy, urban

Using Analogue Mix Processing With A Computer System

Fader had bought a TLA5060 compressor to use on his final stereo mixes, but to do that he'd been recording the MOTU output, via the compressor, to a stand-alone CD recorder. I explained that, as he had a couple of spare inputs on his MOTU 828, he could send his mix through the compressor, then back into the 828 and route it to a new stereo track in *Logic*. All you have to do is set the record levels, then record the mix directly into the *Logic* Song — remembering not to route this track to *Logic*'s main output while recording, though, otherwise the audio will feed back into itself and cause a howl. Then again, these guys would probably even find a way to use that!

HAND IN HAND DISTRIBUTION

TEL:01579 326155 - FAX:01579 326157 - WWW.HANDINHAND.UK.NET

HOSA YOUR TALENT YOUR CONNECTION

For 20 Years Hosa has provided a cost effective solution to the cabling needs of musicians, engineers, audio and video enthusiasts the world over. In an effort to further meet those needs, Hosa continues to add new products that make the creative individual's life easier. Indeed, much of what we offer is the direct result of suggestions made by customers and retailers.

EUREKA Single Channel Preamplifier Compressor and Equalizer

SUMMER TIME SPECIAL £359.00

PRESONUS

FIREPOD 24-bit/96k Firewire Recording studio

NOW SHIPPING

CENTRAL STATION Studio Control Center

NOW SHIPPING

ZAOLLA Flexible Hardware

Thought about your cables lately, no!
well maybe you should. You spend thousands of pounds on state of the art, hi tech equipment, and yet like thousands of musicians, listen to it through cheap cables (copper). It's like owning a top of the range high performance sports car and putting two star petrol in it. You wouldn't do it would you. And yet, when it comes to getting the best out of your, hi tech music kit you are doing exactly that. Do not think of Zaolla as just another cable. Think of it as Flexible Hardware

CENTRAL STATION REMOTE CONTROL (optional)

The Central Station Remote Control (CSR-1) can be connected to the rear of the Central Station via DB9 connector to control VOLUME, TALKBACK, MUTE, input source switching and speaker output switching functions.

PreSonus MAXRACK

With contempory styling the MaxRack perfectly complements the look of the Personal Recording Series models with a rack holding up to 6 units. The MaxRack is designed to sit on the desktop next to a computer monitor.The Personal Recording Series consists of the TubePre featuring low-noise mic / instrument preamp with switchable phantom power, variable tube drive, variable gain, phase and pad switches. The Comp16has sixteen presets that control attack, release, ratio, and knee. The HP4 answers the project studio owner's needs for headphone distribution with professional specifications and more in a small package with an affordable price. The HP4 accepts unbalanced or balanced inputs or input(1/4" TS/TRS). And the EQ3B features Three fully parametric bands with overlapping frequencies. High pass rumble filter. extremely quiet operation. Warm, wide dynamic range for recording or live.

DONT MISS OUT - FREE RACK WITH ANY 4 UNITS!!

280 Studio Precision 8 watts of Biamplified EXCELLENCE

The first time you listen to a pair of Studio Precision™ monitors, you'll almost surely shake your head in disbelief-then break out in a smile. We've seen it happen time and time again: People just can't believe that they're hearing a sound so big and so alive coming from direct field monitors. But your ears aren't deceiving you. Studio Precision monitors deliver a sound that's much wider, much deeper, much more defined, and packed with much more low-end punch than mere mortal direct field monitors. Simply put, they far exceed people's sonic expectations-and by a huge margin.

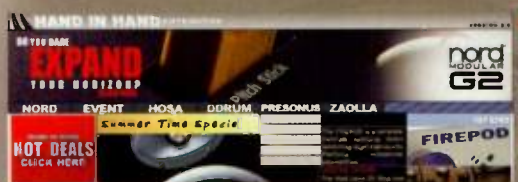
SUMMER TIME SPECIAL £995 A PAIR

DO YOU DARE EXPAND YOUR HORIZONS?

Clavia proudly presents the second generation of the Nord Modular platform - the Nord Modular G2! With the G2, Clavia introduces a truly innovative hardware platform with focus on live performance features. The G2 offers fully assignable controllers to turn, bend and tweak. In fact, the ultra-flexible user interface of the G2 takes real-time editing to a higher level. And there's plenty more...

The G2 provides a wide spectrum of modules spanning from traditional synthesizer building blocks such as oscillators, filters and envelope generators to modern effects processors plus an array of special purpose modules. This powerful tool enables you to create totally unique sounds and also use it as a traditional synthesizer.

Whether you want to play traditional synth patches or control step sequencers in real-time or make cool sounds with delays, reverb and audio processing, the G2 offers plenty of knobs and controllers to tweak! Talk about sequencing - tweaking a step sequencer will be a lot of fun and extremely easy thanks to the real-time editing controls and the visual feedback from the LCD's The fantastic Morph capabilities on the G2 offer enormous sonic variations. The G2's 8 Morph Groups per patch let you control sets of parameters from single internal control sources - and via MIDI. In fact, the Pitch Stick on the G2 can also be used to control an entire Morph Group!



www.handinhand.uk.net.....Hot Deals

Every now and then we get equipment we need to dispose of. This equipment has normally been used on photo shoots, magazines reviews and various promotional events. The items on our site are usually one off units, and will be sold on a first come basis. All products are generally in a first rate condition, and represent amazing value. All products sold from our site will come with a full one years warranty. So if you see it there and you need it, buy it quick, as there are normally only one of the units available.

WRH

nature of his mixes, this is perfectly fine. However, the issue of CPU and disk resources had still been worrying him. His songs are all mixed as audio tracks, and the one he opened by way of illustration turned out to have 41 audio tracks running together. This was enough to occasionally knock the disk's data transfer capacity over the edge and cause glitches, as confirmed by *Logic*'s performance meters. (He was using an external 7200rpm Firewire drive for audio, though tests with the internal drive had produced similar results.) Sensibly, he'd used the track freeze function to conserve CPU power on those tracks that included a lot of processing, but that doesn't help with disk access problems.

However, I noticed that several of his unfrozen tracks comprised very short repeating audio loops and segments, which make the hard drive work much harder than pieces of continuous audio. Freezing the busiest of these (which renders them into a single temporary audio file), got the disk meter reading down to around 70 percent, which I felt rather happier with. The other simple trick is to zoom the screen to show the entire song, so there are no processor-intensive graphic re-draws as the cursor reaches the end of the screen — every little helps.

Both Fader and Kaiser reported that they'd experienced timing problems when composing in *Logic*, and Kaiser, who works mainly on his G4 Powerbook, said that with his Metric Halo 2882 Interface he was hearing too much latency to allow him to record anything unless he monitored only the source while recording. Looking at Fader's *Logic* settings, it turned out that he hadn't switched on the plug-in delay compensation in *Logic*'s Audio preferences menu, and when I checked the same thing in Kaiser's Powerbook, it turned out his was switched off too.

I still don't understand why this is switched off by default when *Logic* is installed, but it is, so you have to turn it on manually. Once engaged, plug-ins loaded into track insert slots don't throw out the mix timing due to the processing delay within the plug-ins, as the timing of the other tracks is delayed to match. However, be aware that this doesn't apply if plug-ins are inserted into either the buss, master, or aux channels.

Although a stereo pair of overhead mics was not available, an unmatched pair (Audio-Technica AT4033 & AKG SE300) still gave a very usable sound once the levels were matched.

In addition, Kaiser's ASIO buffer size was set to 1024 samples, and a setting this large results in audibly high latency. I managed to reduce it to 128 without detriment to his system performance. *Logic* had to be restarted for these settings to take effect, but a quick test with his guitar proved that the latency was now low enough to allow software monitoring.

Fader was using a buffer size of 512, which is good for stability but slightly too high for real-time monitoring or playing of virtual instruments. My usual strategy is to use a buffer size of 128 or 256 when recording, as this gives an adequately low latency, but then as the mix builds up and the CPU or disk access starts to struggle, I set it to a higher value, which gives good stability when mixing and adding effects. Usually you can leave most of the CPU-hungry effects off until you come to mix.

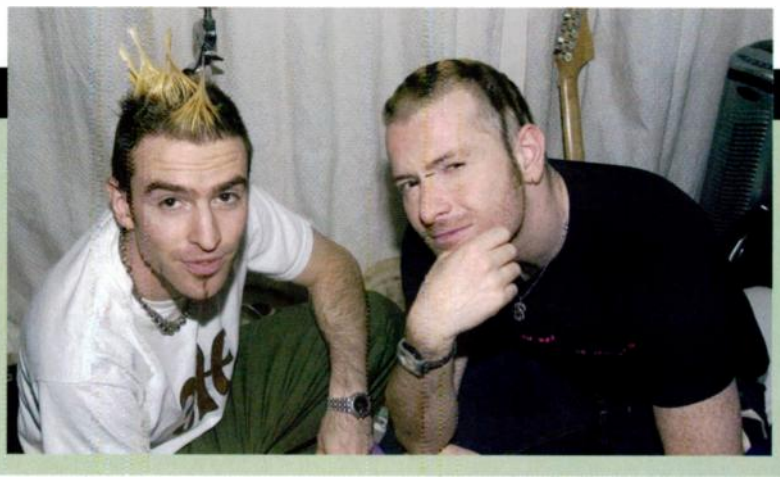
Practical Recording Tips

We finished the day with a couple more practical questions, both of which were related. Normally Fader records vocals in the same room as the computer, but we felt we could improve both the sound and spill by having the singer stand in the curtained

Comments On The Session

"Anyone who possibly can should try to record some live drums. Paul & Hugh showed us that it was relatively easy, and the results are great, with minimal fuss/experience required on our part. The team also encouraged us to try out recording more stuff (percussion, bongos, claps, ambient vocal 'vibe' tracks) all while someone plays the drums. This added loads to the recordings, and was much better than trying to add it all later. I think worrying about getting miking 'right' puts off too many people, but it's simple really, and once you start, you end up miking up everything to see how it sounds. You just need enough people to make the right noises... Thanks again for all the tips!"

W www.theloosecannons.com

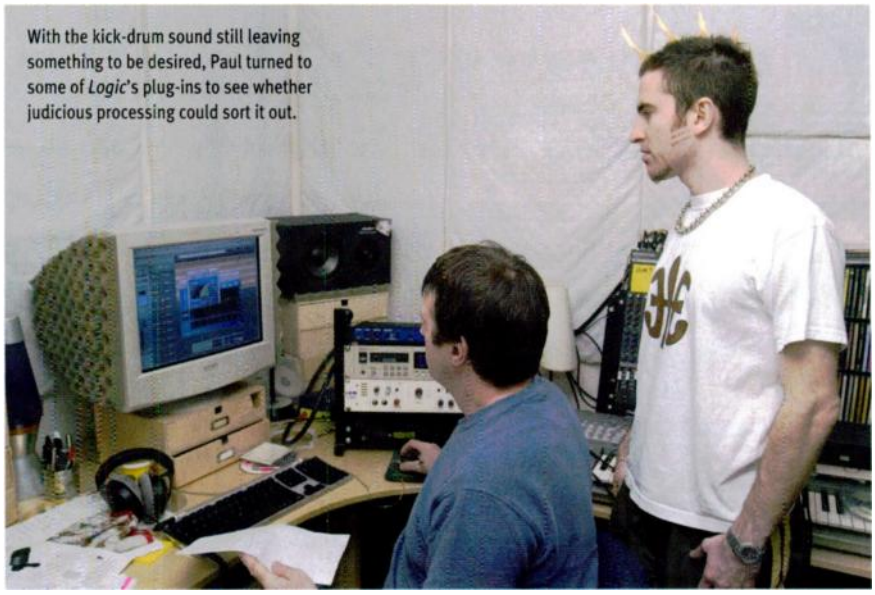


corner furthest from the computer, facing the computer. This would place the cardioid vocal mic with its least sensitive rear axis to the computer, and the curtain would also mop up some reflected sound giving a drier vocal.

Fader also records a classical acoustic guitar in this room, and the same strategy would apply there — set up with the back of the mic directed towards the computer and as far away as possible. He was also unsure as to the best mic position, and though the textbooks, including some of mine, suggest aiming the mic at the point where the neck meets the body, there's no substitute for monitoring through headphones while you move the guitar relative to the mic until you find that magic sweet spot — every guitar is different! One of the small-diaphragm capacitor mics would be best for this application.

The other related issue is that of computer noise, and it is possible to quieten G4s to some extent by putting a folded towel or rug over them, leaving the front and rear open but covering the top and sides right down to the floor. This doesn't obstruct the airflow and so shouldn't cause any heating problems. Also, hanging a folded towel in front of the computer, but again leaving room for the air to circulate, reduces the noise level noticeably, especially the high-frequency 'whine' components. Finally, as the back of the shelf holding the computer was open, with a hard plaster wall behind, we suggested hanging foam or heavy fabric on the wall itself to cut down on reflected sound from the rear of the machine.

That about wrapped it up for our visit too, and as the biscuits had all but gone we decided it was time to head for home! SOS



With the kick-drum sound still leaving something to be desired, Paul turned to some of *Logic*'s plug-ins to see whether judicious processing could sort it out.

Cakewalk Sonar 4

Derek Johnson

MIDI + Audio Sequencer For Windows

The latest version of Cakewalk's flagship sequencer brings it into the world of surround sound, makes it easy to work with folder tracks and multiple takes, and adds one of the most comprehensive Freeze functions available on any DAW.

It's less than 12 months since *Sonar 3* was let loose on the world, but already version 4 is before us. So what can have happened to justify an entire numerical increment?

The answer is quite a bit, although the basic core of the program remains the same. What we get is a collection of facilities that makes working with *Sonar* faster and more streamlined, and also brings the software up to date with regard to multi-channel audio formats. Some features seem to have been inspired by similar elements in other software, but there's no harm in taking ideas from the good things the competition does. Besides, doing so may make *Sonar* more attractive to anyone looking around for a new sequencing environment.

And I can sympathise with potential migrators. My main computer music history has been very much Macintosh-based. I must admit that Cakewalk's approach has always interested me, though I never had much hands-on contact with their software and I often wished they'd make the move to my platform. However, my latest music computer upgrade was a laptop PC, which turned out to be more powerful than the top Powerbook for around half the price. Look around at the most widely used packages on the PC, and bosh: I'm a *Cakewalk* user!

In some ways, then, this will be a review from someone who's coming to *Sonar* fresh, rather than being written by someone who's used the software since its earliest, pre-*Sonar*, incarnations. I've only been with the family for a little over a year, and I've been impressed by the cleanness of the design, the integration of virtual instruments, audio handling, MIDI handling, MIDI plug-ins, and all the nice extras that its good to have around 'just in case'. *Sonar*'s loop- and clip-based audio and MIDI sequencing has made it a hit with the dance and hip-hop crowd, but these features are tidily integrated into a program that excels in any environment where music is required, from home studio to video editing suite.

And the developers haven't been distracted by having to maintain incremental Mac OS upgrade compatibility, which seems

to be a problem for the cross-platform MIDI and audio programmers. Cakewalk can just focus on making their software work for their chosen platform.

Overview

The first positive impression I've had from opening a *Sonar* box is the manual. Not a skinny little installation-and-getting-started booklet, but a fat, well written, fact-packed manual. Not great for the planet's trees, but it sure beats PDF documents for accessibility. What's more, British users who want the full 700-page printed English-language manual, rather than the multilingual (but abridged) European version, can now choose to buy the US version of *Sonar 4*, or order the manual separately from Edirol UK. Version 4's manual is some 60 pages longer than that supplied with v3, too, which indicates some significant extra material. *Sonar* is still dongle-free: registration is via serial number and logging on to Cakewalk's web site.

As with previous versions, *Sonar 4* is available in two flavours, the *Producer* and *Studio* editions. Both offer unlimited MIDI and audio tracks, operation at any sampling rate your audio hardware can handle (up to 384kHz and beyond!), full plug-in delay compensation and sync of all MIDI and audio elements in a session. Internal resolution is better than sample-accurate for audio and virtual instruments, and 960PPQN for external MIDI instruments. Though *Sonar* can be as linear as you like, it is also very loop-friendly, whether these loops are in audio or MIDI formats, and features a number of specific editing tools that make working with loops easy. It's *Acid*-compatible, too, and on-board routines make it a doddle to match tempo and play with pitch. Any music you want to record can be done in this environment — I was amazed to see *Sonar* pigeonholed as a hip-hop/dance environment, when it works perfectly well and elegantly with traditional band sessions, any multi-instrument recording, and even multitrack film soundtrack editing.

Editing is both powerful and easily accessible, with user-friendly windows and controls. MIDI data can be viewed as a piano roll or in an event list, score or drum editor. Audio editing is also comprehensive, even if you ignore the Groove Construction window, which lets you slice up audio clips and make them tempo-independent. The automatic process gets you started, but you have full control over where slices go.

Practically any third-party virtual synth or plug-in effect can be accommodated in VST and DX formats, and Rewire compatibility means that any Rewire software can be comfortably hosted by *Sonar*. And you also free soft synths, audio and MIDI effects. The more expensive *Producer Edition* adds the well-regarded Sonitus plug-in bundle, and now features a video thumbnail track and extensive surround support.

Surrounded

The surround sound mixing and monitoring must surely be the king of the new features. It's available in the *Producer Edition* of *Sonar 4* only; surround mixes can be loaded into *Studio Edition*, but are converted to stereo in the process. Many of us may have no particular need for this option, and the surround hasn't taken off as a music listening format in as big a way as commercial interests would have wanted, but for video games and movie work, it's an essential option. Practically any surround format can be chosen — the software is equipped with fixed templates for many different flavours of the different formats — though your audio hardware may have an impact on what can actually be monitored. Standard 5.1 surround is the default for surround sessions, but most varieties up to 8.1 are options.

When you're working in surround, you'll need at least one surround buss — you'd normally be using stereo busses. And no matter which surround format you work in, tracks assigned to the surround buss will be able to be moved in space with the surround panner. This is a logically designed tool that lets you mouse the audio anywhere between a virtual representation of the surround speakers and the channels in the surround buss. Though conceptually a little more complicated than stereo panning, in operation it's easy. It's also possible to use external surround panning joysticks to take over this job.

Surround mixing also has implications for other aspects of the software. For example, the bundled Lexicon *Pantheon* reverb plug-in is now available in a six-channel surround version. Heavy on the CPU, perhaps, but both necessary and worthwhile. Note that while *Sonar Producer* is capable of mixing more than six-channel surround, *Pantheon* is not, and will not load if your session is working with seven or more surround channels.

Here's what the new surround panner tool looks like when you're working with a nine-channel 8.1 mix. Moving the mouse in the display lets you change angle and focus (that's the crosshair) and width (the two green balls) in an intuitive manner. Your virtual listener is steered between the available audio channels just as easily as if you audio was simply being panned left or right.

Likewise, the Sonitus compressor plug-in is also available in a new surround configuration. But your non-surround compatible effects can also come out to play: Cakewalk have implemented what they call the Surround Bridge, which loads enough instances of an effect, whether mono or stereo, to process all the surround channels in you current session. It's possible to link parameters across bridged effects, though you're able to set up different parameters for each instance if that's what's required. You can't, however, use Surround Bridge to set up a true surround compressor, where a peak in any channel triggers gain reduction in all of them — but that's why Cakewalk have included the Sonitus surround compressor.

Further *Producer* Additions

There's always an issue when it comes to working with 24-bit audio: how to turn the audio into a 16-bit file for general audio CD distribution. *Sonar* has always handled this easily, and *Producer* v4 adds the POWR (Psycho-acoustically Optimised Word-length Reduction) dither algorithm, which aims to produce 16-bit files that are audibly ▶

SOUND ON SOUND

Cakewalk *Sonar 4* £399/£199

pros

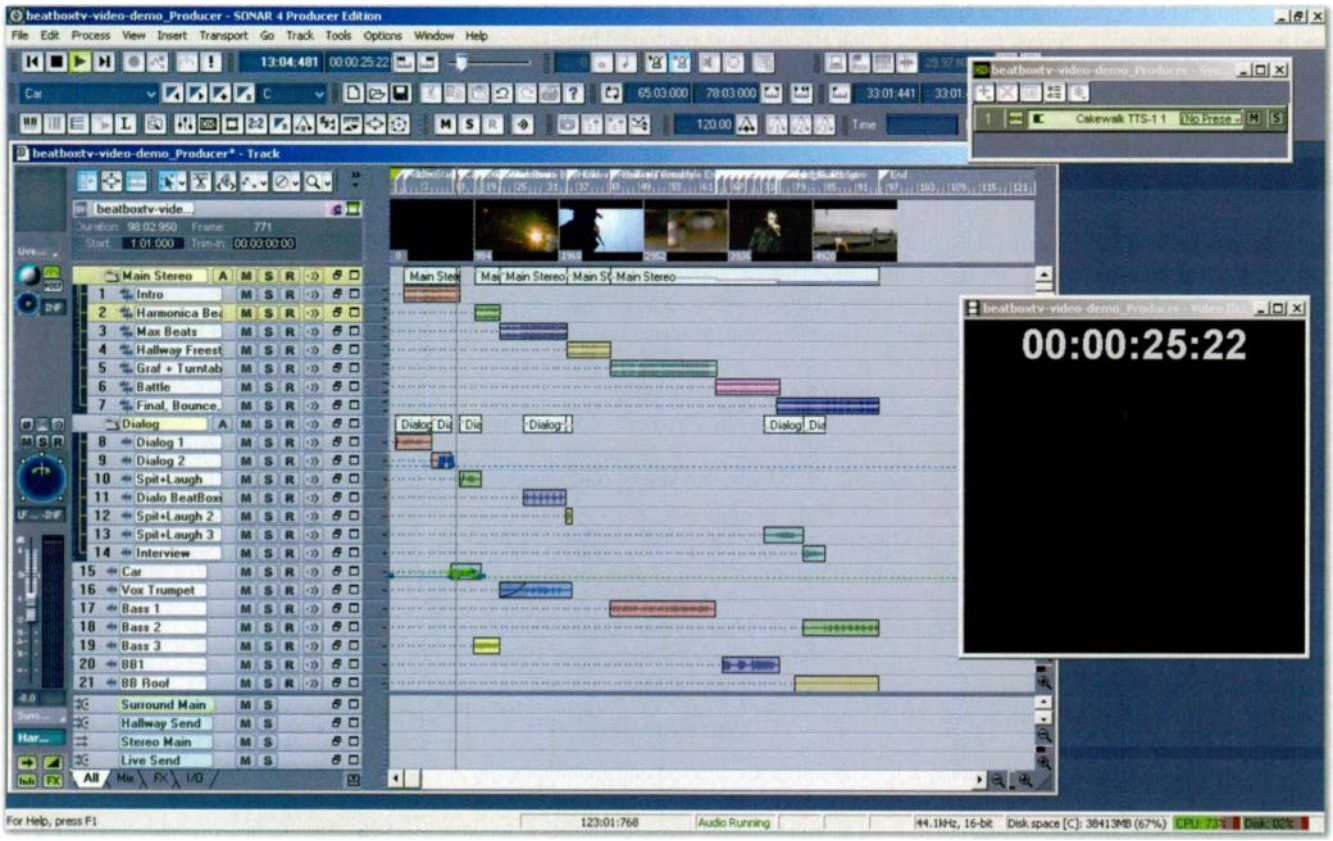
- Surround mixing for *Producer Edition*.
- Folder tracks a great addition.
- Many enhancements to the music production workflow.
- New GM/GM2 sound module.

cons

- Maybe not as dramatic an update as a full version increment might indicate.

summary

How often do you encounter software that's this stable and applicable to so many music environments? Not a colossal update, perhaps, but this is a very serious piece of software.



This session screenshot shows off *Sonar 4*'s new video thumbnail track. The example session is actually spotting music and sound effects to the video, which is previewed in the large window with the timecode across the top.

▶ indistinguishable from the original 24-bit (or 20- or 32-bit) audio. There are four options, suitable for different types of audio.

More sonic improvements are to be had with the implementation of Prosoniq's MPEX time-scaling technology. It helps with the quality of audio that's been stretched or squashed to fit a given space, such as during video editing.

Producer also gains new video editing features, with the addition of a thumbnail track. The software can already import AVI, MPEG, WMV or Quicktime movie files, allowing you to edit music and audio in sync, and where a video standard supports surround, *Sonar* keeps up, so WMV and AVI files can be loaded or saved with stereo or 5.1 surround tracks. The thumbnail track shows key frames at regular time intervals across the top of your track list. Zoom in close enough, though, and you'll see every frame in a video. This track lets you easily line up audio to video events and quickly move to a particular scene when spotting audio to picture. Beware, though: working with video at all places extra demands on your computer, and having thumbnails visible adds to those demands, especially if you *do* zoom such that every frame is visible as a thumbnail. If your computer can't handle it, show the thumbnail only when you need to spot audio or check something out.

General Enhancements

Luckily, the *Studio Edition* has also been enhanced, and the following new features apply to both versions of *Sonar 4*. Minor but worthwhile changes include background tweaks to the audio engine, improvements in metering and panning (both of which can be user configured to respond the way *you* want them to), and the option to use computer and MIDI keyboard shortcut routines from other MIDI and audio programs. If you're moving from one sequencing environment to another, it can often be a pain to have to work with different keyboard shortcuts. Now, if you use *Sonar* and one other package, then you can harmonise the shortcuts, making life just a little bit easier. Meanwhile, the metronome can now be routed to any audio buss, so if you're recording several people, and you have the headphone monitoring flexibility, each player will be able to have their own click at the level they can best play with.

More significant additions include the new track folders option. This is a very handy tool, which many may know from Steinberg's *Cubase* family. Essentially, you can bundle together a bunch or related tracks, stick them in a folder, and close it. ▶

A closer look at *Sonar 4*'s new track folders option. The new *TTS1* multitimbral sound module is grouped with a number of individual MIDI tracks that are playing it.

Test Spec

- *Sonar Producer Edition* v4.0.1.
- 3.06GHz Pentium 4 PC with 512MB RAM, running Windows XP.

Ultimate Upgrade for Digital Audio Workstations

- 44.1k - 192k Sample Rate
- Up to Four Cards per System
- Works with Magma PCI Expander for Laptops
- AU, VST, MAS, DX, & RTAS* Plug-In Support
- WinXP & OS X Panther Support

Awards for UAD-1 and/or included Plug-Ins

"The UAD-1 is possibly the **best value** of any product available for a DAW."

Mike Clute - Pro Sound News, October 2002

NEW!

Available Now! Plate 140 Classic Reverb Emulation

Included Plug-Ins	Project PAK	Studio PAK
1176LN Limiting Amplifier	•	•
1176SE Limiting Amplifier	•	•
Cambridge Parametric EQ	•	•
CS-1 Channel Strip	•	•
DM-1/DM1L Delay Modulator	•	•
DreamVerb Reverb Tool	•	•
Ensemble	•	•
EX-1 EQ & Compressor	•	•
Fairchild 670 Compressor		•
Gate/Comp	•	•
LA-2A Leveling Amplifier	•	•
Mod Delay	•	•
Mod Filter	•	•
Nigel	•	•
Phaser	•	•
Plate 140	•	•
Precision Limiter	•	•
Preflex – Amp/Cab Simulator	•	•
Pultec EQP-1A	•	•
Pultec Pro	•	•
RealVerb Pro	•	•
RS-1 Reflection Engine	•	•
Tremfade	•	•

CS-1 Channel Strip with suite of 4 plugs

EX-1 EQ & Compressor

DM-1/DM1L Delay Modulators

RS-1 ReflectionEngine

RealVerb Pro

Precision Limiter

NIGEL: Guitar processor with suite of 7 plugs •Trem/Fade •Preflex •Mod Filter •Phasor •Mod Delay •Gate/Comp

1176SE Limiting Amplifier

1176LN LimitingAmplifier

Cambridge 5-band Parametric EQ with 17 Filters

LA-2A LevelingAmplifier

Pultec Pro & Pultec EQP-1A

Fairchild 670 Vintage Mastering Compressor

DreamVerb Reverb Design Toolkit

www.uaudio.com
330 Encinal St. • Santa Cruz, CA • 95060-2101 • USA
voice: +1-831-466-3737 • fax: +1-831-466-3775

analog ears | digital minds

UNIVERSAL AUDIO

UAD-1
DSP CARD & POWERED PLUG-INS

*RTAS Support using custom FXpansion VST-RTAS Adapter. See FXpansion.com or uaudio.com for details.

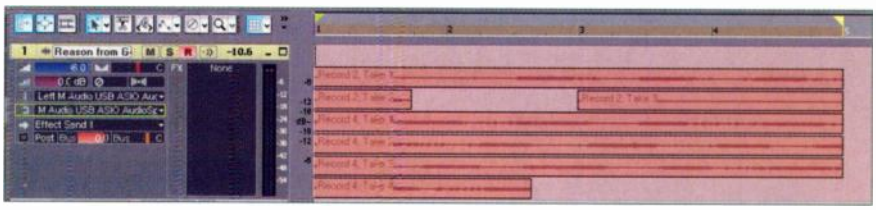
The stylishly designed *TTS1* sound module presents a high-quality collection of Roland GM2 Sound Canvas voices and adds user-editability and patch saving. Editing *is* limited, but enough to customise the sound set to your own tastes or the needs of a given session.

▶ This allows you to manage you on-screen space by letting you focus on different parts of a session or mix, without having to work around loads of tracks which you don't need to see right now. A good use for a folder track might be to gather together multitracked backing vocals, or a multitimbral virtual instrument and its various MIDI tracks. There are many ways for *Sonar*'s track list to become rather busy in even relatively unfussy sessions, making folder tracks a stress reliever and potential time-saver. Note that the MIDI or audio clips on tracks collected into a folder become a sort of composite clip, and can thus be manipulated as one, which is another advantage to the system.

If you like working with multiple takes — something which could be exploited in track folders — there are new take management options which make the job much easier. Several takes can be recorded to one track, and it's now possible to view those takes as sub-lanes within the track. Each take can be muted or soloed, enabling a composite take to be easily compiled.

Another great new feature is the updated Freeze function, which now works both with plug-in synths and with effects on audio tracks. The former option more or less instantly turns the audio produced by the MIDI track playing virtual instrument into its audio equivalent. The instrument is retired, freeing up both CPU overhead and any sample RAM used, and offering you the chance to repurpose the audio in ways not possible if it was just being played by the synth. The best news? You can always return to the original MIDI track/virtual synth pairing! Freeze Tracks does the same thing to audio plus any effects, creating a new audio file. The result can also be unfrozen, though be aware that if you destructively edit any frozen audio and try to thaw it out, you may end up with gaps in the audio or performance.

Groove Clips are an essential part of many *Sonar* sessions — it's this way of working that makes the package so great for dance styles of any kind, though working with chunks in the way they're handled by Cakewalk is also good for compiling effects and environment sounds for soundtrack work, and more abstract audio art. It's not quite Ableton *Live* in immediacy, but it's not far off! The Loop Construction view has a number of enhancements, inherited from



Multiple takes, which can be recorded when looping a section of your song, can now be displayed in separate lanes within the main track. Mute and solo options make creating a compiled track from the various takes an easy job.

Canvas Opinions

There are no new effects in *Sonar 4*, beyond the surround-enhanced variants of existing plug-ins, but there is one new instrument. This is *TTS1* (above), a multitimbral synth module based on Roland Sound Canvas technology that once again highlights Cakewalk's relationship with Roland offshoot Edirol. *TTS1* is essentially a General MIDI 2-compatible module, but its arrival does beg a question: why add *TTS1* when Cakewalk were already bundling the *VSC* Virtual Sound Canvas module with their products? The answer is fairly straightforward: *TTS1* is a much more sophisticated plug-in that offers the user much more in the way of control and edibility. It's rather like a Sound Canvas Pro in its approach.

***VSC*'s sound set is rather basic, a bare-bones Sound Canvas. The sounds for *TTS1* are much more vibrant, with more multisamples, velocity layering, effects and so on. The presentation is much more slick, too, with a comprehensive 16-channel mixer as a front end. Click a button at the top of each channel, and up pops a little voice edit window; here you can select a patch, and edit it to quite a wide degree. The parameters are largely of the offset variety, but it brings the sound set more into the creative fold than might be expected.**

Each standard voice offers filter cutoff and resonance controls and a 'character' parameter, plus a three-band 'tone' control. A simple three-stage envelope and vibrato section are also provided (though there's no separate envelope for filter), plus tuning, portamento and mod/pitch-bend response parameters. Individual sends to the global reverb and chorus effects are joined by level and pan controls.

The drum patches are a little differently specified. Filter cutoff and frequency, along with three-band tone control, are present, but only globally for the kit. Each drum sound in the patch has its own level, pan, tuning and reverb/chorus send parameters. How much more useful if filter settings could be altered for each voice, too. Whether you tweak normal or drum patches, your results can actually be saved, since the plug-in comes with four banks of 128 normal patches and a bank in which to save up to 128 drum sets. Nice touch. It stands to reason that all *TTS1* parameters can be assigned to MIDI controllers, for remote mixing or creative automation of parameter changes.

The set is, as one would expect from a Roland-sourced sound collection, uniformly useable. There's a stereo piano that might do in nearly all circumstances if you have nothing else available, and which fits pop mixes brilliantly. Roland drums are hard to beat, and the nine sets here cover the standard, analogue and orchestral bases.

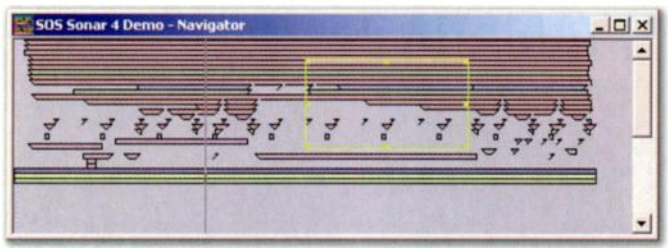
System Requirements

Windows 2000 or Windows XP (recommended), 800MHz or faster processor (1.2GHz or higher recommended), 128MB RAM, 100MB hard disk space, 1024x768 graphic resolution, Windows-compatible MIDI interface, ASIO-compatible audio interface (will work with WDM or any Windows-compatible audio interface).

the *Cyclone* DXi: it's now possible to edit pitch, level and pan position for individual slices in a clip, and these parameters have been provided with envelope automation control. It's now easier to place individual markers manually, with an auto-looping slice preview.

Bouncing tracks and exporting audio from within *Sonar* has been made easier with a range of preset controls, and easy naming options for the bounce. *Producer* also has surround bouncing options, and can import surround-encoded audio.

Some features you don't realise you were missing until you are provided with them. In this category, we'll find the option to play back only the selected clips or time regions, plus the option to mute or solo individual clips or regions. It's also nice to see the new nudge command, available either from the keyboard or the menu with user-definable 'nudge' amounts. Slip editing is now available on multiple audio or MIDI clips, too, so you can hide or reveal the end or beginning of several clips at once. Also new is the Navigator pane, which is somewhat like the project overview found in *Cubase SX*, except that it can be made to appear as a floating window as well as in the main arrange view. As you'd expect, it shows your entire session in miniature, with a mouseable window letting you focus on a given section. This could be a time-saver when moving around large, busy sessions.



The new floating Navigator lets you zoom in — by manipulating the yellow window — on any area in a *Sonar* song, and is especially valuable in large, complex sessions. A version of the Navigator can also be enabled at the top of the track list.

Conclusions

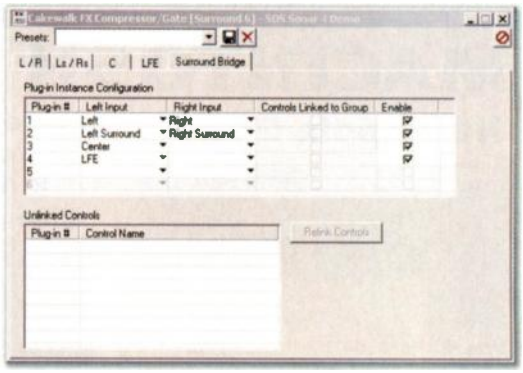
As mentioned earlier, until recently I was exclusively a Mac music kind of a guy, making a sideways jump to PCs when I saw how much laptop I could get for so much less cash than an equivalent Powerbook. I got myself a copy of *Sonar* pretty quickly, as it seemed to have quite a high standing amongst PC musicians. The experience has been interesting. It's a powerful program, with many touches that I find help the musical flow. The way Cakewalk keep on top of plug-in standards is also refreshing: it seems that almost any commercial or free plug-in effect or instrument can be used from within *Sonar* in some way. There have been some cultural differences to get used to, some of which are Windows-based, some of which are no doubt a legacy of *Sonar*'s long history. There's loads of choice when it comes to PCs and PC audio hardware, but making *Sonar* your main platform won't be a move you'll regret.

As for version 4, the environment largely feels the same, though there are enhancements even here, such as with the 'dynamic console' option in the *Producer Edition*, which offers per-channel EQ and assignable effect send controls. You don't need to open plug-in windows to access these controls.

Surround compatibility had to happen, and Cakewalk have implemented it in excellent fashion — I love that surround panner! And a surround-compatible reverb makes me rather want to permanently change my studio to surround monitoring. Other new features are less obvious, if not less useful. *Producer* users will welcome POWR dithering, and everyone else should find track folders and multiple take lanes to be time-savers and operation enhancers. The new *TTS1* virtual synth is worth having, too. There are apparently more than 100 new features in *Sonar 4*, though many won't be immediately visible — this wasn't a complete redesign, after all.

If you're already in the Cakewalk family, then you don't need persuading: you'll upgrade. Recent purchasers of v3 will even get the upgrade for free. That said, if you're still trying to justify your purchase of *Sonar 3*, especially the *Producer Edition*, then perhaps you might play it cagey. Version 3.0 (or whichever free upgrade you've taken it to in the last year) is still a top, stable, powerful and fun package that works for the enthusiastic sound hooligan as much as the finicky professional. It's up to you whether your particular situation requires all the extras that have been added to this latest release. Likewise, don't feel you're the poor relation if you buy into the *Studio Edition* rather than the *Producer*: that's a huge saving for not a lot less functionality. If you don't currently require surround mixing, don't work with video, and can manage without some of the other potentially esoteric features, *Studio* will be great for you. Session enhancers such as track folders, multiple take view, bussable metronome, navigator view and so on will be part of your v4.0 upgrade, along with the excellent *TTS1* Roland-based sound module. You don't, however, get any version — stereo or surround — of the rather fine Sonitus processing suite, though you do get a copy of Lexicon's fab *Pantheon* reverb, in 'LE' format.

I still sort of wish Cakewalk would port *Sonar* to the Mac, but as a side-by-side Windows user, I can't complain. This is top software that hits so many musical marks, and Windows users should feel a little smug. You've got to admire the stability and power of the package, and the excellent work and dedication of the development team. SOS



Surround Bridge in action, with Cakewalk's own *Compressor/Gate* plug-in assigned to a surround buss. Four instances have been created, in order to process each audio channel in a 5.1 surround mix, but all instances are managed from one window. Just below the 'presets' pop-up, you'll see a row of little folder buttons.The sub-page selected lets you customise which instance treats which buss, whether controls are lined, and whether an instance is enabled or not. Note, however, that this doesn't act like a true surround compressor.

information

£ *Producer Edition* £398.99; *Studio Edition* £199; upgrades from v3 £119 (*Producer*), £69 (*Studio*) or £149 (*Studio* to *Producer*). Prices include VAT.
T Edirol Europe +44 (0)870 350 1515.
F +44 (0)20 8747 5948.
W www.edirol.co.uk
W www.cakewalk.com

The m Corporation

YOUR PARTNER IN PRO AUDIO

MACINTOSH

New Apple G5's

Powerbooks, eMacs, iMacs & iBooks
Cinema Screens

Solutions Expert

Great Advice - Great Systems

We have over ten years of Apple sales and support experience. Call us today to see how you and your music will benefit from the amazing new range of Apple Products

Call our Mac Team Now on 01202 727151

MOTU

Universally praised - the MOTU range offer audio quality and features that are both powerful and affordable. Call us today for the very best advice (and deal) on all MOTU products.

- Digital Performa
- MTP AV-USB
- Midiexpress 128

MOTU MX4

Best UK Deals


896HD


24io


HD192


828MK2


2408MK3

EMAGIC

We are experts in integrating Emagic Logic with software synths, samplers and plug-ins.
Let us help you get the best out of your new system. Give us a call.

LOGIC Pro 7 & Logic Express BEST UK DEALS

Logic System Example1

- Apple G5 Imac/1.8mHz/256/80 /Superdrive
- Additional 1 Gig Dimm Memory
- M - Audio Firewire 410
- Emagic Logic Pro 7
- Installation in our workshops
- All software fully installed and tested for just £1,925 + VAT

Logic System Example 2

- Apple G5Dual 2GHz G/512/160 /SD/PCI-X/GeFr5200
- Additional 1 Gig Dimm Memory
- MOTU 896 • MOTU MicroLite
- Emagic Logic Pro 7
- East West Symph Orch Gold
- Reason V2.5 • Rob Papen Albino
- Spectrasonics Atmos/Stylus/Trilogy
- Synthology Ivory Virtual Piano
- Intallation in our workshops
- All software fully installed and tested for just £4,795 + VAT

MACKIE

Control Universal

The Mackie Control universal is rapidly becoming the controller of choice:

- 100mm P&G faders
- Emagic Logic Control implementation
- Digidesign Pro Tools control
- Comprehensive automation controls
- Multi-function V-Pots for fast control of panning and effects
- Expandable via optional Mackie Control Extenders and C4

Mackie Control expansion

TASCAM US2400

The Tascam US2400 offers a vast array of professional features at a really affordable price. Under £1000!!

MACKIE DXB200/ DXB400

DXB200 Professional digital production console with selectable operation up to 192kHz

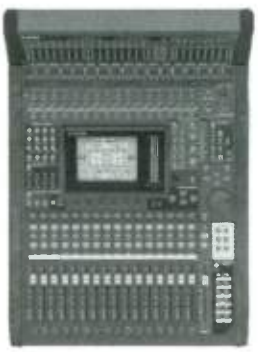
NOW AVAILABLE FOR DEMO

Call for an appointment to see the DXB200 in action

DXB200 Features include

- Dual 15" touch - screen graphic user interfaces
- Mouse Control • 25 x 100mm Penny & Giles motorized optical touch sensitive faders
- Full surround mixing and moitoring capabilities • Firewire I/O option for streaming audio to/from desktop or laptop computers • Full channel processing package including pre and post DSP nserts, parametric EQ and dynamics section
- Mackie Control Universal Layer with built in control for Pro Tools, Logic, Nuendo ect

YAMAHA



DM1000

Call for details of our DM1000 exclusive deal.
Lowest Ever Price.

02R96

Ex Demo 02R96 £4999

Proven and popular in Music or Post Pro Studios, the O2R96 / DM1000 pick up from their ground breaking ancestors and pack in a mind blowing feature list and spec that defies thier physical size

Whether you are a recording studio, broadcast and post facility or out on the road Yamaha MIxers are definitely worth a look.
Call us to discuss what they can do for you

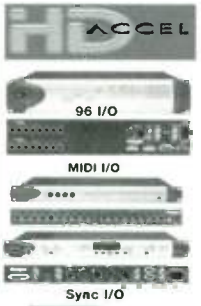
UNBEATABLE YAMAHA DIGITAL MIXER DEALS

The M Corporation. Fax: 01425 480569.
All Prices Exclude VAT and are correct E&OE.

Pro Audio 01202 727151

We are passionate about Pro Tools.
Join our growing number of satisfied clients.
Expert friendly advice. Call us today.

Digidesign Pro Tools



If you haven't spoken to us before, call our Pro Tools specialists to discuss your requirements. With over ten years of Digidesign experience, we fully understand all aspects of Pro Tools and are well placed to take you through the whole process with confidence.
We understand the issues involved and can explain the things you need to know in order to put together the best system for your needs.
Call us today to either book a demo in our 5.1 studio suite or to arrange an on site demo.

Command 8

PRO TOOLS TDM 6.7

Control 24

Fader Pack

Edit Pack

Digi 002

Professional Advice at The Right Price
Call Now 01202 727151

Digidesign System 1

- Apple G5 Imac/1.8mHz/256/80/SD
- Additional 1 Gig Dimm Memory
- Digidesign M Box
- Full intallation in our workshops
- All software installed and tested
- Price Including delivery

Only £1,449 ex vat

Digidesign System 2

- Apple G5 Imac/1.8mHz/256/80/SD
- Additional 1 Gig Dimm Memory
- Digidesign 002 Rack
- Full intallation in our workshops
- All software installed and tested
- Price Including delivery

Only £1,889 ex vat

Digidesign System 3

- Apple G5 Dual 2GHz G5/512MB /160GB/SD/PCI-X/GeFr5200
- Additional 1 Gig Dimm Memory
- Maxtor 250 Gig Serial Internet HD
- Protools HD2 ACCEL inc plus ins
- Digidesign 96I/O Audio Interface
- Digidesign Command 8
- Full intallation in our workshops
- All software installed and tested

Only £9,829 ex vat

Digidesign System4

- Apple G5 Dual 2.5GHz G5/512MB /160GB/SD/PCI-X/ATI9600XT
- Additional 1 Gig Dimm Memory
- Maxtor 250 Gig Serial Internet HD
- Protools HD3 ACCEL • SYNC I/O
- Digi 192 I/O Interface • Command 8
- Digi 192 A/D Expansion Card
- Full intallation in our workshops
- All software installed and tested

Only £14,995 ex vat

MONITORING

We can supply a range of passive and active monitoring solutions to match your room and your budget.

We supply systems from all top manufacturers including Genelec, Mackie, PMC, Dynaudio, Yamaha, KRK, ADAM, Tannoy, Alesis etc.

From simple set ups to fully configured 5.1 surround systems, we can help you make the right choice at the right price.

Blue Sky Pro Desk 5.1

Tapco S8

Adam S3A

PRIMACOUSTIC

Studio Acoustic Control

Primacoustic offer a range of 'off the shelf' studio acoustic treatments to help you get the best from your studio environment and know what you're really listening to.
The London 14 - designed for a 14'x10' studio incl...

- Europa 63 flutter wall - to reduce slap echo and standing waves
- 2 x Orientique 33 washboards to dissipate primary reflections
- 4 x Austaralis corner traps to control low frequency bass
- Scandia 74 scatter blocks for soft diffusion

£680 + VAT

HIGH END OUTBOARD

Manley VOXBOX

Avalon VT737SP

Apogee Rosetta 800

Focusrite ISA 428

Focusrite Liquid Channel

Toft Audio Designs ATC2

Tubetech SMC 2B

With over 10 years experience supplying premium audio equipment to professional studios broadcast and artists - we can assist you choose the right products for needs .

Plus Unbeatable Pro Microphone Deals

Pro Tools Specialists
Surround, High-End Outboard & Mic Specialists
Yamaha DM2000 Authorised Main Dealer
The Best Advice in The Business

Pro Audio 01202 727151

Yamaha i88X

Multi-channel Firewire Audio & MIDI Interface For Windows & Mac OS

John Walden

Yamaha's list of mLAN products continues to grow, and their new rackmounting i88X offers high-quality mic preamps, analogue, digital and MIDI I/O in a 1U rack unit.

Regular *SOS* readers will be aware of an increasing number of Firewire-based audio/MIDI interfaces. These come in all sorts of shapes and sizes, with feature sets and prices to suit almost any budget. Yamaha have a long track record in this area through their mLAN technology, which uses specially designed chips to stream audio, MIDI and sync information via Firewire (IEEE 1394). This technology, which is now in its second generation, means that all the mLAN-compatible hardware within a studio can be linked to a computer hub (perhaps running the MIDI + Audio sequencing software that forms the heart of the studio) via a single cable. The result is that mLAN-based studios are easy to connect — devices can simply be daisy-chained together via Firewire cables with a single connection ultimately made to the computer.

As Firewire is either included, or can be very easily added, to almost all Mac and PC computers, the potential of mLAN is obvious and Yamaha have pushed the technology in their own product line. Perhaps the most significant recent release was the 01X, reviewed by Paul White in the March 2004 issue of *SOS* (www.soundonsound.com/sos/mar04/articles/yamaha01x.htm). At a price around £1200, this combines the functions of digital mixer, hardware controller, audio I/O and MIDI interface into a single unit.

Yamaha have now introduced the mLAN-friendly i88X, a unit that contains much of the I/O functionality of the 01X, but minus the mixer/control surface elements (in much the same way that Digidesign introduced the Digi 002 Rack based upon the Digi 002). Housed in a 1U rack, the i88X boast an eight-in/eight-out analogue format with two high-quality mic preamps based upon those found in the top-of-the-range DM2000 mixer, plus optical and co-axial digital I/O, direct monitoring, MIDI I/O and, of course, mLAN connectivity. The eight

SOUND ON SOUND

Yamaha i88X £879

pros
- Excellent audio quality.
- mLAN connectivity means i88X could be used to expand an 01X.
- Useful collection of plug-ins included.

cons
- Only playback supported via the PC WDM driver at present.
- Limited metering of input levels.

summary
The i88X is capable of producing high-quality audio recordings and, if the packaged features fit your particular bill, represents very good value for money.

Photos: Mark Ewing

channels of analogue I/O are available simultaneously with eight ADAT channels and stereo S/PDIF, offering a total of 18 channels of I/O at 44.1 and 48 kHz; at 88.2 and 96 kHz, the ADAT connection is multiplexed to offer four channels.

One obvious application for the i88X would be to expand the number of audio I/O channels available to an existing 01X user. However, even if you have no other mLAN devices in your studio, the i88X is a self-contained audio/MIDI interface in direct competition to other multi-I/O, Firewire interfaces. At this price point, the MOTU 828 MkII and the Digi 002 Rack would be two obvious examples. I have to declare that I'm a bit of a fan of Yamaha products (I've an 01V, DSP Factory and SW1000XG doing good work in my own studio) so, with or without mLAN, I was keen to see how the i88X fared against this competition.

Quick Tour

As can be seen from the photographs and the 'Specifications Summary' box, the i88X packs a lot of connectivity into a 1U rack, although it is one of the deeper rack units I've seen at just over 37cm, so you will need plenty of room at the back of your rack to house it. With the exception of inputs 1 and 2, all the analogue and digital connectivity is housed on the rear panel. The front panel is dominated by the two XLR inputs. These both offer globally switched phantom power, and each also has a Mic/Line sensitivity switch, a Gain control and a peak LED, with channel 1 also offering a high-impedance setting for direct connection of an electric guitar or bass. The peak LED is pretty much the only metering available for setting input levels and some might find this a little limiting. Sensibly, however, it is set to activate at 3dB below clipping, so the occasionally flicker means a hot signal but, hopefully, not too hot. Input channels 3 and 4 (via the rear of the unit) have separate gain controls on the front panel, while inputs 5/6 and 7/8 are paired, each sharing a single gain control.

The Monitor section provides a Direct Monitoring function, avoiding the latency involved in sending the input signal to the computer and then back again to the i88X for output. The push button simply cycles the Direct Monitoring between off, the four analogue input pairs and the digital input. The appropriate LED lights up to indicate which input pair is selected. The Volume control can be used to balance the level of input signal being monitored to the rest of the mix coming back from the computer to the Master Output, making it easy to setup appropriate monitoring levels for the performer being recorded. Pressing and holding the push button causes one of LEDs to flash, indicating the sample rate in operation (44.1, 48, 88 or 96 kHz).

The front panel is rounded off by the Master Output volume control, a headphone output, a control to switch the optical I/O between stereo S/PDIF and eight-channel ADAT formats, LEDs indicating the master clock source, and a recessed power switch (which, unfortunately, leads to a wall-wart power supply).

Also included in the box are two CDs and two printed manuals. The first CD provides installers for both the PC and Mac mLAN tools and drivers. The second CD contains four plug-in effects: *Pitch Fix*, *Vocal Rack*, *Final Master* and *01X Channel Module*. These are bundled with the i88X but are also available separately. The first three of these were reviewed by Paul White in the February 2004 issue of *SOS* (www.soundonsound.com/sos/feb04/articles/yamahaplugins.htm) so I won't cover them in detail here, but *01X Channel Module* is described more fully below. All four plug-ins are host-powered rather than ▶

Test Spec

- mLAN Tools 2, version 1.0.2.
- PC with 2.4GHz Pentium 4 CPU and 1GB RAM, running Windows XP Pro SP2, with Echo Mia 24, Egosys Wami Rack 24 and Yamaha SW1000XG soundcards.
- Tested with Steinberg *Cubase SX* v3.0.0 and Sony *Acid Pro* v4.0f.

Specifications Summary

- 1U rack (480 x 373 x 44mm).
- mLAN connectivity to other devices/computer via IEEE 1394 (Firewire).
- Eight balanced analogue line inputs on rear-panel quarter-inch TRS jacks.
- Inputs 1 and 2 duplicated on front-panel XLR/TRS sockets, with phantom-powered mic preamps.
- Input 1 switchable between mic, line and high-impedance modes; input 2 switchable between mic and line levels.
- Inputs 1 and 2 on rear panel can serve as insert I/O to patch in an external effects unit.
- Eight analogue balanced outputs on rear-panel quarter-inch TRS jacks.
- Sampling frequencies between 44.1 and 96 kHz supported.
- Frequency response 20Hz to 20kHz.
- Standard dynamic range 110dB.
- Two IEEE 1394 connectors on rear.
- Co-axial digital stereo in/out on rear.
- Optical in/out on rear switchable between stereo S/PDIF and eight-channel ADAT.
- Direct Monitoring function.
- MIDI In and Out on rear panel.

running on any DSP in the i88X itself, and are provided in VST (Windows, Mac OS 9 and OS X) and Audio Units (OS X) formats. Two manuals cover the i88X hardware and the mLAN software/effects plug-ins separately.

In Use

On the test PC, installation of the mLAN tools, drivers and the bundled plug-ins was straightforward. Given that the 01X driver set includes both ASIO and WDM drivers, I was a little surprised that for the WDM drivers supplied with the i88X, only playback is supported. Yamaha's Nick Howes explained to me that this is a result of how Windows 2000/XP deals with dynamically adding channels on the fly if a new mLAN device is hot-plugged. While this works fine under ASIO, it is problematic under WDM. Nick also said that Yamaha expect this to be resolved when Microsoft release Longhorn — but as this currently has a target release in 2006, users requiring full WDM support have a long time to hold their breath.

One further software issue is worth noting. When using the mLAN Manager software to change the configuration of the hardware, pressing the Connect button to confirm the changes resulted in a very long pause (well over a minute) while the i88X and the test PC implemented the required changes. In testing on the PC as part of Paul White's 01X review, Martin Walker reported the same issue. While the length of time taken is rather surprising, it is not a major inconvenience, as most users will probably 'set and forget' most of these options.

All this said, the performance of the ASIO drivers with *Cubase SX* (v3.0.0) was faultless. I was able to achieve latencies of less than 4ms for both input and output with a moderately busy song featuring a few soft synths and a variety of effects plug-ins.

Configuring *SX* to feed a 5.1 surround monitoring system via the i88X also operated exactly as would be expected. *Acid Pro* (v4.0f) also gave the same excellent performance under the ASIO drivers, both with stereo and surround projects.

As ASIO support is still in development in the current version of Right Mark's *Audio Analyser* (v5.4), I concentrated on some less formal subjective listening tests of the audio performance of the i88X. Frankly, having listened to a few commercial recordings (from classical through to hip-hop), I'm not sure I would have worried too much about the exact numbers anyway — the i88X sounds very good indeed, reproducing well at both the bottom and top end of a mix.

Within *SX*, I carried out a range of typical recording tasks. These included vocals (both sung and spoken) and acoustic guitar (strummed and plucked), all recorded using a mid-priced condenser microphone via the i88X's very well specified mic preamps. The results were uniformly good, faithfully capturing the detail of both voice and instrument. With line-level signals such as my Line 6 PodXT and Roland synth module, the results were equally good. In terms of audio quality, the bottom line is simple — even in a well appointed home or project-studio environment, it is highly unlikely that the i88X is going to be the weak link in the audio signal chain.

Bundle Of Fun

As mentioned earlier, four effects plug-ins are bundled with the i88X. When Paul White reviewed the *Pitch Fix*, *Vocal Rack* and the *Final Master* plug-ins back in February 2004, the first of these was priced at £209 while the other two were £139 each, so the bundle certainly does add value to the i88X package. A PDF manual is supplied for each of the plug-ins.

I tested the VST version of *01X Channel Module* as an Insert effect within *SX*, where a single instance added about a 4 percent CPU load to my test system. This plug-in offers the dynamics and EQ processing found on the 01X mixer, and if an 01X is connected to the system, the 01X Link button allows settings to be swapped between the plug-in and a channel of the hardware mixer. Both the dynamics and EQ are well featured. The dynamics section includes useful metering while the four-band parametric EQ provides plenty of control. Both sections include a wide range of presets and these cover many of the more common applications (drums, guitars, bass, vocals and so on). The plug-in certainly sounds the part, although unless you specifically need to mimic the 01X's functionality, it is unlikely to offer anything not already found in some form within your host sequencer.

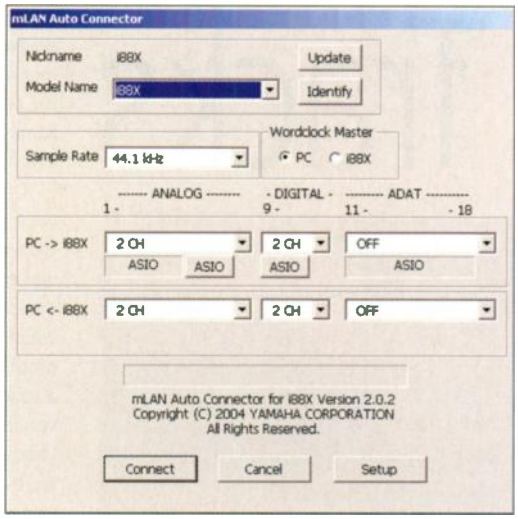
01X Channel Module provides a well specified dynamics and EQ plug-in for use within a suitable software host.

The i88X's analogue and digital I/O can all be used simultaneously, for a total of up to 18 audio inputs and outputs.

Recommended System Requirements

- PC: Windows XP (Pro or Home), Pentium 4 2.2GHz or higher, 512MB RAM or more, IEEE 1394 (Firewire) interface.
- Mac: Mac OS 9.2 (beta drivers currently available for OS X), 900MHz G4 or better, 512MB RAM or more, IEEE 1394 (Firewire) interface.

Both the MIDI and the digital I/O worked very much as advertised. Given the number of analogue inputs and outputs, there is plenty of flexibility. This is further enhanced as the channel 1 and 2 TRS jacks on the rear can also function as channel inserts, allowing an external effects processor to be patched in if required. Channel inserts can be a little hard to come by in rack-based audio I/O units and budget digital mixers, so their inclusion here is most welcome. With a mic or guitar feeding the front-panel input of channel 1, a stereo-to-paired-mono patch cable can be used to insert a favourite compressor, EQ or similar.



The mLAN Manager Auto Connector dialogue allows the sample rate, driver and channel configurations of the i88X to be set.

Conclusions

As an audio and MIDI interface, the performance of the i88X is certainly competitive with that of the other leading Firewire-based rack units such as the MOTU 828 MkII and Digi 002 Rack. While all provide multi-channel I/O connectivity, each of these units does offer something different in terms of specific features or the included software. With the i88X, the distinctive selling points are the mLAN support, the high-spec mic preamps, the ability to patch in an external effects unit and the bundled plug-ins.

The latter in particular are a useful extra, and would certainly appeal to users developing a new computer-based system.

However, if you already have your quota of pitch-correction, mastering and voice channel plug-ins, they may be less of an incentive. In addition, if the i88X is your only mLAN product, then some of the hot-plugging/connectivity advantages of that protocol may be of less relevance. This said, whether you buy into the mLAN concept or not, there is no doubting the quality of the audio hardware on offer. As the central in/out hub of a project or mobile recording system, it would do an excellent job — providing, as a PC user, you are happy to work with the ASIO drivers until the long haul for Longhorn is over. SOS

information

- £ £879 including VAT.
- T Yamaha-Kemble Brochure Line +44 (0)1908 369269.
- F +44 (0)1908 368872.
- W www.yamaha-music.co.uk
- W www.yamaha.co.jp/english

Classic Tracks

Stephen Street made his name as an engineer working with one of the most influential indie bands ever. He describes the sessions that created the title track of the Smiths' most celebrated album.

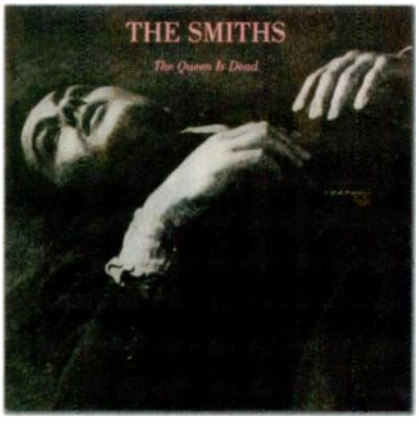
Richard Buskin

As a struggling bass player in various bands on London's post-punk scene of the late '70s, Stephen Street enjoyed spending time in the studio and decided to try to follow in the footsteps of influential young producers like Martin Rushent and Steve Lillywhite, both of whom had started out as engineers. To that end, in 1981 he got a job in the Fallout Shelter basement studio of Island Records, helping to rebuild the London facility's control room and, within about 18 months, engineering sessions. Then, in late 1983, having done a fair amount of dub mixing alongside Paul 'Groucho' Smykle, Street was asked by the studio manager if he'd like to engineer a session by a band named the Smiths.

"I nearly jumped out of my chair," he recalls. "I'd seen the Smiths perform 'This Charming Man' on *Top Of The Pops* a week or two before, and thought they were great. So, I jumped at the opportunity, and my first session with them was working on 'Heaven Knows I'm Miserable Now'."

This song title was pretty characteristic of Britain's premier indie rock band of the 1980s. The eclectic Mancunian outfit built a bridge between new wave and guitar rock, combining punk ethics, rockabilly sounds and guitarist Johnny Marr's jangling pop melodies with frontman Morrissey's theatrically self-absorbed crooning and poetic, melancholic, angst-filled lyrics... performed, you might recall, while wearing a hearing aid, with gladioli stuffed in his back pockets.

An eponymous 1984 debut album, its 1985 follow-up *Meat Is Murder*, and singles like 'This Charming Man', 'What Difference Does It Make', 'Heaven Knows I'm Miserable Now', 'William It Was Really Nothing' and 'How Soon Is Now' established the band at the forefront of the indie movement by the time *The Queen Is Dead* was released in the spring of 1986. This album, which peaked at number two on the UK charts and expanded the Smiths' cult following in America, had a denser, more-hard-edged sound than its predecessors. Probably the best example of this was the rocking title track that opened the record — a diatribe against the Royal Family, the state of the Empire, and the songwriter's own lousy situation.



On *Meat Is Murder*, the Smiths produced while Stephen Street engineered, and the roles were maintained for *The Queen Is Dead*. "It was great," Street says. "This was a chance for me to get into production as well. Obviously, when you're engineering a band and they're producing on their own, you're often used as a soundboard in terms of the sound and various ideas. Well, Morrissey, Johnny and I had a really good working relationship — we were all roughly the same age and into the same kind of things, so everyone felt quite relaxed in the studio. In fact, at that time they were going through a bit of a fiasco, with Rough Trade and EMI trying to sign up everything, but this didn't get in the way of recording because the atmosphere in the studio was very, very constructive."

Stable Situations

While the basic track for 'The Boy With The Thorn In His Side' was recorded at a small eight-track facility in Manchester, and sessions for 'Some Girls Are Bigger Than Others' and 'Bigmouth Strikes Again' took place at RAK in north-west London, tour dates preceded the recording of the bulk of the album, which took place along with the mixing at the residential Jacobs Studios in Farnham, Surrey, during the winter of 1985/86.

While overlooking the swimming pool of the Georgian mansion that is Jacobs, the Studio 1 control room also connects to two recording areas: the live room, formerly a drawing room, has a recess with large, five-sided bay window that accomodates a grand piano, while the converted stables, with their cobbled and oak floors, beams and joinery, feature three different floor levels and corresponding ceiling heights, as well as a couple of booths and a secondary isolated live area.

"The stables looked quite cool, but to be honest, the acoustics in there weren't all that brilliant," Street remarks. "And although we put the drums in the live room because it was brighter in there, it was a bit too live. That's why 'The Queen Is Dead' had to be assembled in a slightly piecemeal fashion, with the snare and bass drum recorded separately from the cymbals and tom-toms."

As was the case with most of the album's other material, the band members had already rehearsed the title track before they entered the studio. Accordingly, the first time Stephen Street heard the song was the same day they started recording it. "I think I heard Johnny

and Andy just running through it, and Mike playing along," he says. "It was then that I said 'I'd like to try sampling the drum loop so it's really, really strong and the same speed all the way through.' Not an Adam and the Ants-type thing, but something that was like a loop — it had a certain quality, I think, and a kind of darkness thanks to the constant tom pattern. On the track itself the toms do cut out every now and again, but this is just me cutting it on the desk during the mix to give it some sense of dynamic."

Situated in the middle of the room with a couple of screens around it, Mike Joyce's kit was miked with an AKG D12 on the bass drum, Shure SM57s above and below the snare, a Neumann KM84 on the hi-hat, a Sennheiser 421 on the tom, a Neumann U87 on the floor tom, and a couple of 87s as overheads. "There was a very basic little sampler called a Window that Jacobs was trying out, and I've never seen it before or since," Street continues. "It had about one and a half seconds' sampling time, so if you sampled something you could trim the front and end, and then all you could do was loop it. Well, 'The Queen Is Dead' came along quite late during the sessions — Johnny knew he ▶

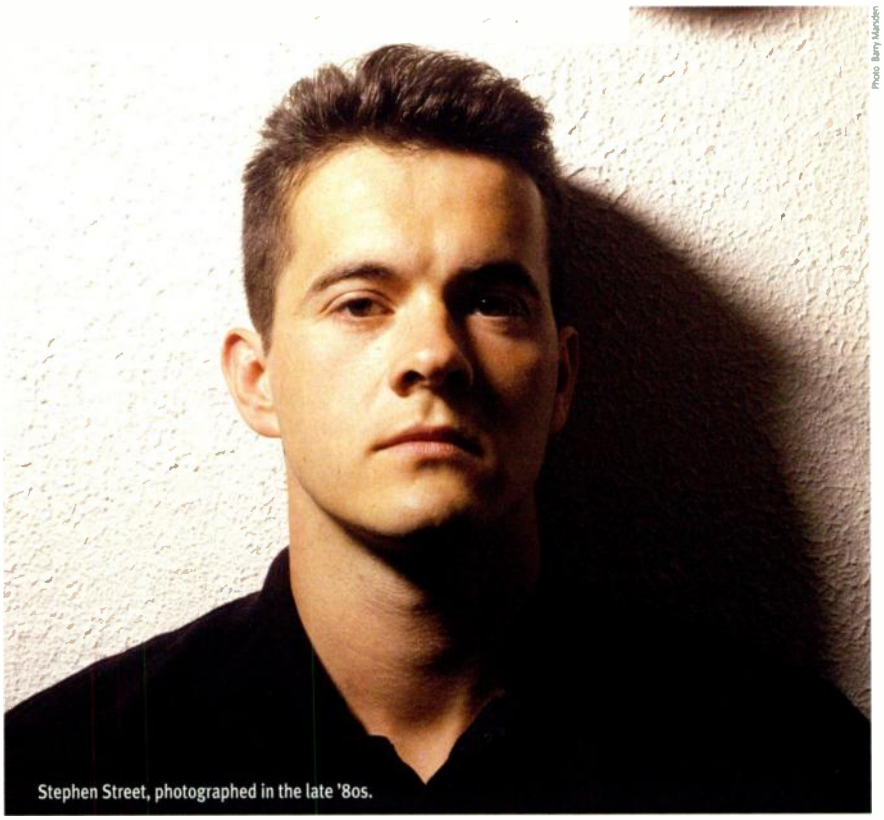


Photo: Barry Marsden

Stephen Street, photographed in the late '80s.

wanted to do this track which had a pretty strong rhythm going all the way through it, so I said 'Look, if I can just get a drum loop off the tom pattern, I'm sure I'll then be able to get a better sound separately for the snare.'

"For one thing, it was too messy when everything was going on at once. And for another, it gave us the chance to do something slightly different, something else in terms of the overall production. Mike therefore played the tom pattern that you hear at the beginning of the track, and I recorded that, sampled it, and it ran all the way through the track. I should also point out that the toms were recorded in the live room, but I didn't use so much of the ambience tracks. I just used the natural overhead tracks and close-mics on the toms, whereas when we recorded the snare I used a more distant 87 in the room and compressed it.

"Andy Rourke laid down a rough bass line to that tom pattern — a real killer bass line that pushed the track along — Johnny did a rough rhythm guitar part to it, and then Mike went back into the studio so we could record the bass drum and snare separately, enabling us to get a little more ambience on the snare without making the toms sound too wet. Later on, some cymbal crashes and swells were added on top of that — it was a very different way of recording to what they'd been used to. I mean, I knew that when John Porter worked with them he'd sometimes trigger an Akai bass drum and snare from Mike's playing, but I never did that. In most cases I'd use the actual sound of the kit. It was only on this one occasion that we used a bit of technology to see what else we could do with the drums, and I have to say it worked out pretty well."

Coates Of Many Colours

Meanwhile, take a look at the album credits and you'll see that the slightly weird-sounding, high-pitched backing vocals on 'The Queen Is Dead' and several other tracks were performed by one Ann Coates. Ever wonder what happened to her? If so, you'll be hard pressed to find out. Ms. Coates, you see, was otherwise known as Morrissey with a pitch-shifter.

"I was experimenting one day, trying the AMS harmoniser with different pitch changes, and it kind of worked and he kind of liked it," Street explains. "So, we decided to go with that; me putting him through a 1.5 on the harmoniser. You can hear it on 'Bigmouth Strikes Again' as well. Morrissey was a great one for wanting me to try out effects on his vocals. At that time, apart from the harmoniser, he didn't go for much backing vocal or harmony work — he's done that more on recent albums — but he did like to experiment. And the fact that I did this to a greater extent than John Porter, using his vocal like an instrument, probably helped endear me to Morrissey."

Print And Be Damned

Stephen Street was not afraid to record instruments to tape with their effects. "Instead of leaving everything to the mix, I would try, while we were tracking, to settle on what I wanted to do with the drums, if possible. You know, if I found a really good reverb or something else that I liked for the snare, and if I had enough tracks available, then I'd print it. And if I wasn't able to print it, I'd always make a note of what it was and get it back up so we could use it while we were tracking. That was part of the reason why I wanted to do the sampling thing and say 'That's it. That is the mix. That's the way it's going to be. That's what we'll go with.' Then again, with Mike overdubbing his snare separately, I was able to get much more of a clean and groovy sound than if he had been hitting his hi-hat and cymbals at the same time.

"Once Mike had tracked his parts, Johnny then went back in and got all this fantastic feedback, using the wah-wah pedal to change the pitch; all of that howling pitch-change stuff that you can hear weaving in and out the entire track. It was a really, really cool sound, and one of those happy accidents that can happen when you're in the studio, resulting from the guitar that he had and his proximity to the cabinet; a case of 'Hey Johnny, that's really great. Let's try to get a bit of that running all the way through.' I comped from a couple of tracks, and again we recorded quite a lot of it — I'd say there were another four minutes over and above what ended up on the actual record. First of all, I edited it down quite a bit on the two-inch. Then, when we got to the mixing stage, I told Johnny I thought we could take out a little more here and there, and this is what happened on the half-inch mixes. Still, that feedback was used to the max, giving a real kind of tension to the track."

While Andy Rourke's bass was DI'd, Johnny Marr's guitar went through a Fender Twin or Marshall stack and was recorded with what Stephen Street describes as "the usual combination of cheap mic, good mic; a Shure SM57 or 58 along with a U47 or 87. And I would try to set them up so that I could use both mics or just one. It depended, really, on the sound and what was suitable for the track."

A Kind Of Darkness

Although Morrissey rarely sang when Marr, Joyce and Rourke cut the backing tracks, he'd usually lay down his vocal immediately afterwards, helping to clarify the song's direction. "When Mike did his overdubs there were these little drop-down bits," Street recalls. "It was a jam that went on for

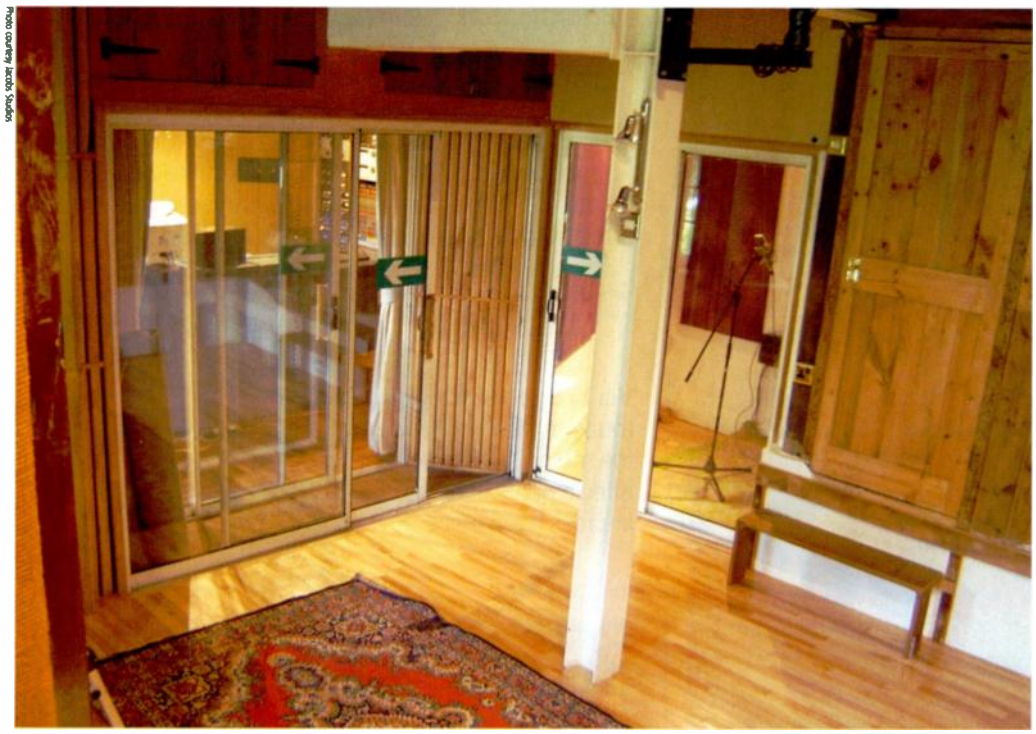


Photo courtesy Jacobs Studios

Jacobs Studios is still flourishing today, and Studio 1 looks much as it did in 1985 — this is one of the playing areas, with vocal booth.

sound line
dj line
sampling line
effects line
synths line
guitar line

VINTAGE 4

ELEKTRIK PIANO combines the sounds of four legendary electric pianos into one high-performance software instrument. Beneath the enticing user-interface lies a highly advanced sample engine producing an impressively authentic sound. Never before have software-based electric pianos sounded so powerful and dynamic. Integrated effects, a large selection of presets and complete compatibility make ELEKTRIK PIANO the musical choice both on stage and in the studio.

PURE VINTAGE CLASSICS www.ni-elektrik-piano.com

"The level of sound reproduction is stunning. Elektrik Piano is another classic from NI, it's fun to play with, looks good and sounds superb." **ATM Magazine, UK, issue 60**

"The biggest question is whether the feel and sound of the original keyboards have translated into these sampled versions, and in our view, the answer is yes." **Computer Music, UK, 07/2004**

"The four pianos are superb. The sounds respond well to velocity and are very convincing indeed." **MusicTech, UK, 6/2004**

www.arbitermt.co.uk

NATIVE INSTRUMENTS
SOFTWARE SYNTHESIS

GENERATE THE FUTURE OF SOUND

RECORDING 'THE QUEEN IS DEAD'

Photo: Stephen Wright / Redferns

The Smiths famously posed in front of Salford Lads Club for the inner sleeve of *The Queen Is Dead*; this is one of the other photos from that session. From left to right: Johnny Marr, Morrissey, Andy Rourke and Mike Joyce.

▶ quite a long time, so we just tried a few things, and then it was a case of cutting it all together. After Morrissey had done his vocal, for instance, we finished, and then we had quite a few more bars before that really good drop-down happened towards the end. So, all I had to do was get the old razor blade out and bring that forward. Arrangement-wise, something new was happening every few bars. And what's more, it was after we knew what was happening vocally — where everything was going to peak, and so on — that Mike added the cymbal crashes and swells.

"Morrissey recorded his vocals in the live room, screened off so no-one could see him. At that time I was using a U87 on him, and two or three takes were all he needed. The guy could perform. He'd get himself vibed up and just go out there and do his takes. I'd have a little check-sheet with the lyrics, and I'd make notes regarding which were the good takes and which were the slightly dodgy parts. But, to be honest with you, within two or three takes we'd have everything we needed from him. He was fantastic. In fact, the things that really turned the song around were, one, getting Morrissey's vocal on there, and secondly, Johnny's great feedback.

"I comped everything, and if Morrissey had a problem with what he heard, he'd ask for an alternative line. However, nine times out of 10 he was happy with what I did. I mean, I wasn't changing every word when I was comping. I pretty much knew a take was great from there to there, so I could use that whole chunk. You see, Morrissey has his moments when he's in the studio and he gets into things, but his tolerance of being there non-stop is pretty limited. That's why Johnny was in the actual control room with me most of the time.

"Morrissey would just come in now and again, and if he didn't like something he'd obviously make it known and try to think of something else. But he wouldn't be there all the time, giving me instructions. His thing would be to come up with the intro to 'The Queen Is Dead' — 'Oh! Take me back to dear old Blighty...' [*sampled from the 1962 film version of* The L-Shaped Room, *starring Leslie Caron*]. That's typical Morrissey — 'Can we put this on?' In those days, it really was a case of just getting out the record deck and trying something until it felt right. At that point, you'd know you had the take."

Since leaving Island's Fallout Shelter to go freelance in 1987, Stephen Street has racked up an impressive list of production credits, not least his hits with the Cranberries and Blur. Nevertheless, nearly 20 years after the fact, he is still very proud of the work that he and everyone else did on the *Queen Is Dead* album, as well as all of his other collaborations with the Smiths. "I just feel chuffed to have been given the chance to work with them," he says. "As with everything else in this industry, it was a case of being in the right place at the right time, and I'm just grateful that we were able to go on and make that record together." SOS

Desk Vs. Recorder

Like RAK, Studio 1 at Jacobs was equipped with an SSL E-series console, as well as a Mitsubishi X850 32-track digital machine and the usual array of AMS and Lexicon reverbs and delays. "I've always been a great lover of SSLs," Stephen Street says. "They're really well laid out, and while a lot of people back then weren't too sure about the EQ, I liked the console especially because of the computer. The Mitsubishi, on the other hand, was a pain — every now and again we'd hear clicks during playback, and those were annoying, but we'd get around the problem by dropping in. However, after recording 'Frankly, Mr. Shankly', we played it back and there was a massive dropout halfway through the song, meaning we had to re-record the entire track. What a nightmare. Because of that, the song wasn't complete when we finished the album, and John Porter was brought in a little later to record and mix Morrissey's vocal."

No one was willing to take the blame for the technical hitch that was causing a number of dropouts during recording. "The people who made the tape machine blamed the people who made the tape," Street recalls, "and the people who made the tape claimed there had been a power surge. So, there was a back-and-forth about who was responsible, and I've never used that machine ever since."

THE GUITAR, AMP & KEYBOARD CENTRE

79-81 NORTH ROAD, BRIGHTON, EAST SUSSEX, BN1 1YD

Up To 36 Months Interest Free Finance Available With No Deposit Required.

Once again at GAK we have come up with the best finance deals to ever hit the music industry. Products are now available on up to 36 months 0% finance with absolutely no deposit. Fill in a simple form over the phone. We send you the form to sign, you send it back and we despatch the goods. It really is that simple. Read on... Please note: Finance is not available from our sister company 'GAK.CO.UK'.

GAK Alesis Ion	£569	NO DEPOSIT	6 x £94.83 = 0%
NEW Apple Logic Pro 7	£699	NO DEPOSIT	12 x £58.25 = 0%
NEW Boss BR1600CD	£899	NO DEPOSIT	6 x £149.83 = 0%
GAK Boss BR864	£379	NO DEPOSIT	6 x £63.17 = 0%
GAK Boss BR1180CD	£629	NO DEPOSIT	6 x £104.83 = 0%
GAK EMU Proteus 2000	£469	NO DEPOSIT	6 x £78.16 = 0%
GAK Emu Virtuoso	£499	NO DEPOSIT	6 x £83.16 = 0%
GAK Emu Vintage Keys	£499	NO DEPOSIT	12 x £41.58 = 0%
GAK Emu Vintage Pro	£359	NO DEPOSIT	12 x £29.91 = 0%
GAK Fostex MR8	£259	NO DEPOSIT	6 x £43.17= 0%
GAK Fostex VF160	£529	NO DEPOSIT	6 x £81.17 = 0%
GAK Korg EMX/ESX	£479	NO DEPOSIT	6 x £79.83 = 0%
GAK Korg PRX4	£229	NO DEPOSIT	6 x £38.17 = 0%
NEW Korg Triton EX 61	£1499	NO DEPOSIT	6 x £249.83 = 0%
NEW Korg Triton EX 76	£1699	NO DEPOSIT	6 x £283.17 = 0%
NEW Korg Triton EX 88	£2199	NO DEPOSIT	6 x £366.50 = 0%
GAK Korg Triton LE	£755	NO DEPOSIT	6 x £125.83 = 0%
NEW Korg Triton LE88	£1295	NO DEPOSIT	6 x £215.83 = 0%
GAK Korg D1600+cdr	£899	NO DEPOSIT	6 x 149.83 = 0%
GAK Korg D1200	£695	NO DEPOSIT	6 x £115.83 = 0%
NEW Korg Legacy	£349	NO DEPOSIT	6 x £58.17 = 0%
GAK Mackie HR824	£1099	NO DEPOSIT	6 x £138.17 = 0%
GAK Roland VS2480CD	£2999	NO DEPOSIT	36 x £83.31= 0%
GAK Roland VS2400CD	£1699	NO DEPOSIT	6 x £283.17 = 0%
NEW Roland VS2000CD	£1299	NO DEPOSIT	6 x £216.50 = 0%
GAK Roland MC909	£1199	NO DEPOSIT	6 x £199.83 = 0%
NEW Roland Fantom X 61	£1499	NO DEPOSIT	12 x £124.92 = 0%
NEW Roland Fantom X 76	£1799	NO DEPOSIT	6 x £299.83 = 0%
NEW Roland Fantom X 88	£1899	NO DEPOSIT	6 x £316.50 = 0%
GAK Roland V Synth	£1649	NO DEPOSIT	6 x £274.83 = 0%
GAK Roland VariOS	£775	NO DEPOSIT	6 x £129.17 = 0%
GAK Roland VR760	£1399	NO DEPOSIT	6 x £233.17 = 0%
GAK Roland TD6	£1149	NO DEPOSIT	24 x £47.87 = 0%
GAK Roland VK8M	£799	NO DEPOSIT	24 x £33.29 = 0%
GAK Tascam DM24	£1999	NO DEPOSIT	24 x £83.29 = 0%
GAK Yamaha Motif 6	£1299	NO DEPOSIT	6 x £216.5 = 0%
NEW Yamaha Motif ES6	£1619	NO DEPOSIT	12 x £134.92 = 0%
NEW Yamaha Motif ES7	£1789	NO DEPOSIT	12 x £149.08 = 0%
NEW Yamaha Motif ES8	£1999	NO DEPOSIT	12 x £166.58 = 0%
GAK Motif Rack	£799	NO DEPOSIT	6 x £133.17 = 0%
GAK Yamaha AW16G	£699	NO DEPOSIT	6 x £116.50 = 0%
GAK Yamaha 01V96	£1449	NO DEPOSIT	6 x £241.50 = 0%
NEW Yamaha 01X	£999	NO DEPOSIT	6 x £166.50 = 0%
GAK Yamaha P120	£799	NO DEPOSIT	6 x £133.17 = 0%
GAK Zoom 1608 CDR	£649	NO DEPOSIT	12 x £54.08 = 0%

BEHRINGER

COMPOSER PRO IIXL £79
AUTOCOM-PRO £49
ULTRAFEX PRO £64
VIRTUALIZER PRO £95
MULTIGATE PRO £99
INTELLIGATE £89
ULTRAGRAPH PRO £99
ULTRA-Q PRO £69
TUBE ULTRA-Q £119
POWERPLAY HA4700 ..... £79
ULTRAVOICE PRO £109

UB MIXERS

UB502 ..... £29
UB802 ..... £39
UB1002 ..... £49
UB1202 ..... £59
UB1204FX £109
UB1622FX £129
UB2222FX £195
UB2442FX £225

BCF 2000 ..... £157

Behringer do it again with these fantastic value for money USB control surfaces. Available in 3 different configurations to suit your individual needs!!!

BCR 2000 ... £119
BCA 2000 ... £POA

NEW

IN STOCK & ON DEMO NOW!!!!

DDX 3216

Fantastic 32 channel digital mixer with a host of options & incredible flexility for an unbelievable price...

£POA FINANCE AVAILABLE 0%

V-AMP £99
V-AMP PRO £159
BASS V-AMP £109
BASS V-AMP PRO £159

ZOOM

MRT3 ENTRY LEVEL DRUM MACHINE £89
RT123 DRUM MACHINE + BASS SEQ £79
RT323 FLAGSHIP DRUM MACHINE £175
MRS 4 4TRK SMART MEDIA HDR £159
MRS 802 8 TRK HDR £349
RFX 2000 MIDI & SPDIF £145

ALL ZOOM IN STOCK & ON DEMO!

MRS 1608 CDR NEW

16 TRK HDR with 8 simultaneous XLR inputs. 24 bit recording, built in drum machine and bass sequencer.

£649 12 x £54.08 0 %

TASCAM

ANALOGUE 4-TRACKS STILL GOING STRONG!

US-122 ..... £160
US-224 ..... £187

414 PORTA STUDIO, 4 INPUT £149
PORTA 02 2 INPUT, ENTRY LEVEL £99
MFP 01 BUDGET 4TRK MACHINE £79

2488 HDR £UK LOW 0%

Devastating new HDR from Tascam. 24 bit, 24trk, 36 input, 40 gig HD, CDR & general midi sound module as standard!!! Unbelievable value. Call now for details.

NORD

NORD MAIN DEALER!!!

Awesome new synth from Nord combines flexible PC editing with Nord's acclaimed DSP!!!!

NEW

G2 Modular Synth
£1345 6 x £224.17 0 %

G2X 5 Octave Version
£2149 12 x £179.08 0 %

ELECTRO *Classic retro sounds!!*

61Key **£1079** 0% 73Key **£POA**

YAMAHA

AW-16G

This 16 trk recorder incorporates the 01V mixer & AW series HD engine. Inc. 2 onboard multi F/X & CDR.

£699 6 x £116.50 0 %

01-X

New production system combining hardware controller, digital mixer & audio interface.

£999 6 x £166.50 0%

MOTIF ES 6/7/8

61Key ..... £1619 12 x £134.92 0%
76Key ..... £1789 12 x £149.08 0%
88Key ..... £1999 12 x £166.58 0%

02R-96

96khz digital mixer, packed with Pro features & a powerful user interface. Complete control with this highly spec'd mixer!

£6985 6 x £1164.17 0 %

MG Series mixers

Available in various sizes, these mixers offer musical EQ, clean mic pre's & flexible routing. All at very competitive prices!!!!! Ideal for home PC recording.

MG10-2 ..... £69
MG12-4 ..... £125
MG16-4 ..... £159
MG16-6 F/X £229

01V-96

Now 24 bit/96k ready, new F/X algorithms +16 analogue inserts.

£1449 6 x £241.50 0 %

P-60/P-60s ***IN STOCK!***

£POA CALL NOW FOR INFO!

P-90 ***STAGE PIANO***

£CALL Finance Available 0 %

P-120 ***ELECTRIC PIANO***

£799 Finance Available 0%

KORG

ON DEMO & IN STOCK NOW!!!

MICROKORG

Built in mic & vocoder.

£249

EMX/ESX-1

Tube driven dance production station. Create exciting new music using up to date sounds and F/X.

£479 6 x £79.83 0 % NEW

TRITON EXTREME

New sounds, new features & a new look.

NEW

61Key ..... £1499 ..6 x £249.83 0%
76Key Pro ..... £1679 ..6 x £289.83 0%
88Key Pro X ..... £2199 ..6 x £366.50 0%

D32-XD NEW

16trk simultaneous recording. 56 inputs, 14 bus, 32 channels of automated playback, etc

£POA 0 % NO DEPOSIT
D16-XD **£POA** 0% Available

LEGACY

The ultimate software /hardware hybrid. A perfectly formed micro MS20 controller with software front end.

NEW

£349 6 x £58.17 0 %

EA/ER-1 MK2

New & improved versions of the classic Korg groove boxes. A host of new features for 2004.

NEW

£189 *ON DEMO & IN STOCK.*

MICROKONTROL

Multi col LCD, 12 pads, 8 sliders, 8 knobs USB powered.

£199 CALL US NOW!

MS2000-B

Analogue modelling is back in black. Includes a great built in mic & vocoder.

£CALL

ROLAND

NEW

VS2000-CD

20 TRK digital studio, 40 Gb HD, 8 XLR inputs. USB 2 & plug-in support.

£1299 6 x £216.50 0 %

BOSS BR1600 CD

£899 6 x £149.83 0 % NEW

FANTOM X NEW

Roland's new flagship work station in stock now!!!

61Key ..... £1449 6 x £241.50 0%
76Key ..... £1779 6 x £296.50 0%
88Key ..... £1899 6 x £316.50 0%

FANTOM RACK

All the sounds from Fantom in one rack!!!

£815 6 x £135.83 0%

SPD-S

Sampling percussion pad. Up to 380 seconds, 30 effects

£369 6 x £61.50 0 %

TD-3 Electronic Kit

Great sound & response

£POA 0%

TD-20

Electronic Kit

New Flagship model in stock now!

NEW

£4999 36 x £138.86 0%

CALL OUR DRUM DEPT FOR MORE INFO: 01273 691678

ALESIS

AIR FX/SYNTH

Innovative stage controllers from Alesis. 4 way optical sensor for FX

£95 ***NOW IN STOCK***

MICRON £299
HD24 ..... £CALL
SR16 ..... £98

ION ..... **£569** 6 x £94.83 0%

MACKIE

NEW

ONYX

Improved mic pre's, EQ & flexible routing, + firewire option, make these incredible mixers the hottest product of the year!!! Available in three sizes:

1220 ..... £499 6 x £83.17 0%
1620 ..... £699 6 x £116.50 0%
1640 ..... £1099 6 x £183.17 0%

MACKIE SRM-450 ..... £CALL

Active, bi-amped PA speakers with unrivaled clarity & performance!!!

MACKIE SRM-350 ..... £CALL

Little brother to the SRM-450. 300 watt bi-amped PA speaker.

01273 671971 MAIL ORDER HOTLINE!!!

NEXT DAY DELIVERY* - EXPERT ADVICE
0% FINANCE AVAILABLE OVER THE PHONE

GAK.CO.UK

*Next working day, subject to stock. We are a liscenced credit broker. All prices include VAT.All monthly repayments are based on no deposit & are paid over 6,12,24 OR 36 months at 0% APR. Credit subject to status. Written quotations available on request. Prices correct at time of going to press. E&OE - PLEASE NOTE GAK.CO.UK LTD IS A SISTER COMPANY & AS SUCH PRICES, STOCK & DELIVERY MAY DIFFER. 0% FINANCE IS NOT AVAILABLE ONLINE.

GAK PRO AUDIO

79-81 NORTH ROAD, BRIGHTON, EAST SUSSEX, BN1 1YD

• COMPREHENSIVE GUITAR & DRUM DEPARTMENT

PC AUDIO SYSTEMS

GAK PC's come fully configured & tested for optimum audio performance. Simply choose the system you require add hardware/software & let us take care of the rest!!! All our desktop & rack PC's come with a 3 year warranty!!!

We have several options, add-ons & up-grades available for all our systems!! Please call for further information & let us configure the right system for you. 01273 673046

GAK STUDENT TOWER.....£679
- Intel P4 2.8 GHZ
- DVD + CDR W
- 120 GB 7200 RPM HD
- 512 MB DDR 333 MHZ RAM
- 6xUSB 2, m & k

GAK CLASSIC TOWER.....£829
- Intel P4 3.0 GHZ
- DVD + CDR W
- 120 GB 7200 RPM HD
- 1GB DDR 400 MHZ RAM
- 6xUSB 2, firewire + m & k

GAK RACK LE..£599
- Intel Celeron 2.4
- 52x24x52 CDR W
- 80 GB 7200 RPM HD
- 512 MB DDR RAM
- 6xUSB 2
- Mouse & keyboard

POWER RACK..£999
- Intel P4 3.0 GHZ
- DVD + CDR W
- 120 GB HD
- 1 GB DDR 400 MHZ RAM
- 6xUSB 2
- Extra quiet CPU fan

LAP TOPS

FINANCE AVAILABLE

GAK MOBILE MUSICIAN

Ideal for the musician/producer on the move. These laptops are available as different systems to suit you. All systems come pre loaded & installed with hardware/software purchased from us, & are fully tested & configured.

SYSTEM A.....£1049
- Pentium M 1.5 GHZ
- 40 GB UDMA -100 HD
- 512 MB DDR RAM
- Intel Pro wireless LAN
- DVD + CDR W
- 14.1" XGA TFT Screen
- 2xUSB 2.0 + Firewire
- Windows XP Pro + Ability Office

SYSTEM B.....£1269
- Pentium P4 3.06 GHZ
- 60 GB ATA-100 HD
- Hyperthreading Technology
- 512 MB DDR RAM
- DVD + CDR W
- 15" SXGA TFT Screen
- 2xUSB 2.0 + Firewire
- 56k modem + gigabit LAN

Plus numerous other features!!! Please call for full specs!!! 01273 673046

MONITORING

IN STOCK NOW...

ALESIS
MONITOR 1's.....£129
MONITOR 1's ACT.....£229

BEHRINGER
'TRUTH's B2031.....£219
'TRUTH's B2030 A.....£199

DYNAUDIO
Fantastic nearfield monitors
BM5's.....£CALL
BM6's.....£CALL
BM15A's.....£CALL
BM6A's.....£1055
BM5A's.....£879

EDIROL
MA-10's.....£74
MA-10d's.....£104

SAMSON
Fantastic active monitors atan unbelievable price!!!
RESOLVE 65.....£229
0% Finance Available 12 x £19.08

YAMAHA
MSP3.....£189
MSP5.....£269

TANNOY
REVEALS.....£139
REVEAL ACTIVES.....£329

MACKIE
HR 824.....£1069
HR 624.....£UK LOW
HR 626.....£CALL

EVENT
TR5.....£279
TR6.....£CALL
SP8.....£CALL
0% Finance available.

TAPCO
S5.....£259
S8.....£POA
0% Finance available.

KRK
RP5.....£239
RP6.....£315
V4 V2.....£415
V6 V2.....£579
V8 V2.....£839

POWER AMPS
SAMSON SERVO 170.....£125
SAMSON SERVO 260.....£149
SAMSON SERVO 550.....£199
ALESIS RA 150.....£99
ALESIS RA 300.....£149
ALESIS RA 500.....£179

BEYER DT100/150
Industry standard studio headphones. Indestructible.

DT100 £80
DT150 £POA

APPLE

NEW FOR 2004 & IN STOCK NOW!!!

NEW

LOGIC PRO 7

E Magic & Apple have combined forces to bring you Logic Pro 7. The new package includes: A new modelling synth, new drum machine & guitar amp software. Plus even more plug ins & improved performance.

£699 12 x £58.25 0 %

LOGIC EXPRESS 7 £199

An entry level kit featuring Logic Audio, EVP73, EXSP24 & ES1.

UPGRADES IN STOCK!!!

PROPELLERHEAD

Reason 2.5 is a favourite amongst desk-top musicians who want power & flexibility, without getting caught up in complex sequencing environments. A whole host of instruments & F/X.

REASON 2.5.....£189
RECYCLE 2.1.....£159
SONIC REFILLS.....£49
PRO SESSIONS.....£35

WE HAVE MANY REASON REFILLS IN STOCK!!!

STEINBERG

CUBASE SX 3 *NOW IN STOCK!!!*

Dual platform music creation & production system. Audio & midi recording/editing/mixing. Advanced score editing & printing. VST compatible. True multi channel surround. 32bit resolution.

£CALL 0% NO DEPOSIT

CUBASE SL 3

Dual platform music creation & production system. VST compatible. Audio & midi recording/editing/mixing.

£CALL 0% NO DEPOSIT

CUBASE STUDIO CASE

Cubase SE, HALion SE, Virtual Guitarist SE, D'Cota SE, The Grand SE & Groove Agent SE. The Complete software starter kit from Steinberg. All are fully upgradable.

£CALL

STUDIO CASE PLUS £299

PLUG-INS
THE GRAND.....£130
D'COTA.....£119
PLEX.....£119
V GUITARIST.....£134
HYPERSONIC.....£225
X-PHRASE.....£99
HALION STRINGS.....£242
GROOVE AGENT.....£140
WALDORF ED.....£49
HALION 3.....£272

FREE!!! 2 X WIZOO SAMPLE CD'S WITH EVERY PURCHASE OF HALION. WHILE STOCKS LAST...

NEW

CUBASE SE.....£89
SYSTEM 4.....£349

NATIVE INSTRUMENTS

REAKTOR 4.....£279
REAKTOR SESSION.....£159
B4.....£109
FM7.....£144
KONTAKT.....£219
KOMPAKT.....£129
ABSYNTH 2.....£165
INTAKT.....£99
KOMPLETE 2.....£CALL
VOKATOR.....£139
SPEKTRAL DELAY.....£99
XPRESS KEYBOARDS.....£69
KOMPLETE 2 UPGRADE.....£349

ALL IN STOCK & ON DEMO!!!

GUITAR RIG.....£319
The ultimate hardware/software combination. Models of classic amps & vintage pedals.

ELEKTRIK PIANO.....£139
Rhodes, clav & wurly samples

MISC. SOFTWARE

ABLETON LIVE V4

Vastly improved version of this intuitive sequencing software. Now with VST support & a whole host of new features!!!

£259 6x43.17 0%

AMPLITUBE £204

The last word in digital amp modelling.

ALTIVERB.....£299
SPEC. STYLUS.....£145
SPEC. TRILOGY.....£159
SPEC. ATMOSPHERE.....£204
VOCALOID LOLA.....£160
MOTU MACH 5.....£269

WAVES

These high end plug-ins are available to you in various packages. From high quality reverb to multi band limiters, waves excel in every aspect of digital signal processing. An invaluable tool to any digital based studio.

GOLD BUNDLE.....£929
PLATINUM BUNDLE.....£1515
RENAISSANCE MAX.....£439
MASTERS BUNDLE.....£639
RESTORATION BUNDLE.....£879
MUSICIANS BUNDLE.....£199

ANTARES

AUTO TUNE V4.....£229
AUTO TUNE V4 TDM.....£345
FILTER.....£129
MIC MOD.....£199
TUBE.....£89

Auto tune 4 has a whole host of new features including improved auto-mode & keyboard layout!!!

ARTURIA

Arturia bring you these incredibly faithful reproductions of the originals. Using proprietary TAE technology, these VST instruments bring you analogue warmth with digital flexibility.

MOOG MODULAR.....£179
MINI MOOG.....£129
CS-80V.....£159
STORMV2.....£CALL

EAST WEST

SYMPHONIC ORCHESTRA

Absolutely stunning orchestral library. Superb recording, multiple mic positions & a host of features make this a must for budding composers & soundtrack writers.

SILVER EDITION.....£189
GOLD EDITION.....£569
PLATINUM ED.....£CALL

G MEDIA

OHM FORCE EXPERIENCE

The best overall F/X we've ever heard!!!

£179

IMPOSCAR £79

Virtual emulation of the classic synth

We are a liscenced credit broker. All prices include VAT. All monthly repayments are based on no deposit & are paid over 6,12,24 OR 36 months at 0% APR. Credit subject to status. Written quotations available on request. Prices correct at time of going to press. E&OE. PLEASE NOTE GAK.CO.UK LTD IS A SISTER COMPANY & AS SUCH PRICES, STOCK & DELIVERY MAY DIFFER. 0% FINANCE IS NOT AVAILABLE ONLINE.

IF YOU SEE A PRICE CHEAPER ELSEWHERE, PLEASE DO NOT HESITATE TO CONTACT US!

GAK.CO.UK

SECURE ONLINE SHOPPING FROM THE UK'S LARGEST INDEPENDENT RETAILER

LOOKING FOR A DEAL? CHECK OUT OUR WEBSITE!!

Web: www.gak.co.uk / Email: hitech@gak.co.uk

HUGE SHOW ROOM & MASSIVE DEMO STOCK •

CALL 01273 671971

WEB GAK.CO.UK

M-AUDIO

CALL NOW FOR INFO!

USB

AUDIOPHILE USB	£155
MOBILE PRE	£124
TRANSIT	£64
MIDISPORT UNO	£36
MIDISPORT 1X1	£39
MIDISPORT 2X2	£49
MIDISPORT 4X4	£77
MIDISPORT 8X8	£179

0% FINANCE AVAILABLE ON SELECTED PRODUCTS.

MIC PRE

TAMPA	£199
OCTANE	£349
AUDIO BUDDY	£69

FIRE WIRE

AUDIOPHILE F/W	£165
410	£258
1814	£449

PCI

AUDIOPHILE-2496	£64
DELTA 44	£119
DELTA 66	£127
DELTA 1010	£349
DELTA 1010LT	£175
OMNI STUDIO	£279

CONTROLLERS

OZONE	£196
OXYGEN 8	£POA
RADIUM 49	£115
RADIUM 61	£139
KEYSTATION PRO 88	£POA

EVOLUTION

MASSIVE STOCK!!!

This brilliant company bring you a variety of affordable controllers to suit every application. From DJ controllers to 61 note keyboards!!!

425 C	£POA
449 C	£137
461 C	£159
UC 17	£85
UC 33 E	£149

CALL NOW

E-MU

E-MU use their years of experience to bring you these unbelievable sound cards. Packed full of features & high specs at an incredible price!!!

04/04	£69
1212M	£149
1820	£299
1820M	£349
E-MU X	£219
E-MU X STUDIO	£429

MICROPHONES

AKG

C1000S	£CALL
C2000B	£CALL
C3000B	£CALL
C4000B	£CALL
C414B	£CALL
D112	£CALL
WMS40HT	£CALL
WMS80	£CALL

AUDIO TECHNICA

4033	£169
3035	£129
4040	£175
AT4035SV	£Call
ATM10A	£95
ATM33A	£114
AT R25	£39
PRO25	£75

RODE

TALK TO THE RECORDING EXPERTS!!!

NT1A	£129
NT1000	£159
NT 2000	£279
NT3	£POA
NT4	£270
NT5	£245
K2	£349

SE ELECTRONICS

SE-1A	£69
SE-2200A	£139
Z-5600	£399
ICIS	£349
GEMINI	£799

MICS

SHURE SM58	£CALL
SHURE SM57	£CALL
SHURE BETA 58	£CALL
SHURE BETA 57	£CALL
SAMSON C01	£49
NEUMANN TLM103	£629
NEUMANN U87	£1399
Behringer B1	£75
Behringer B2	£115

NOVATION

Novation expand their brilliant product range, to bring you the new X series! Now available in three sizes.

X-STN 25	£419	
X-STN49	£539	
X-STN 61	£579	*ON DEMO!!!*

EDIROL

CALL NOW

PCR 80	£229
PCR 1	£199
PCR 30	£119
FA 101	£359
UA 700	£POA
UA 20	£99
UA 1D	£64
UA 1X	£59

From 2 in/2 out USB sound cards to complex control surfaces, Edirol will meet your needs!

FOCUSRITE

ON DEMO NOW!!!

COMPOUNDER	£279
TWINTRACK	£349
MIXMASTER	£616
ISA428	£995
ISA430 MKII	£1599

OCTOPRE £569

8 Mic Pre in a 1U rack.

TRACKMASTER £175

Mono channel strip.

PENTA £179

Mono/stereo pre set Compressor & mic pre.

VOICEMASTER £349

Voice channel strip & enhancer.

ISA 220 £POA

LIQUID CH. £UK LOW

Dynamic convolution processor.

MOTU

NOW IN STOCK!

DP4.5	£POA
MACH 5	£269
MX 4	£229
896 HD	£999

828 MKII £589

2408 MKIII £799

AVALON

Pure class A studio outboard, with an incredible musical sound & unrivaled clarity.

VT-737 SP CHANNEL STRIP £UK LOW

VT-747 SP STEREO COMPRESSOR	£1849
AD-2022 DUAL MIC PRE	£2229
AD-2044 DUAL COMPRESSOR	£2229
U5 DI	£439
M5 MONO MIC PRE	£1199

PRESONUS

IN STOCK!!!

TUBE PRE £99

Little boxes. Big sound!

EQ 3B 3 BAND PARAMETRIC EQ	£99
HP 4 QUAD HEADPHONE AMP	£99
COMP 16 PRE SET COMPRESSOR	£99
FIRE POD 8 CH FIREWIRE FRONT END	£529

TL AUDIO

Come and try the TLA demo station in our Brighton show room.

IVORY 5021 DUAL VALVE COMP	£465	IVORY 5060 PRE SET COMP	£NEW
IVORY 5051 VALVE PRE AMP	£465	CLASSIC C1 ALL VALVE COMP	£999
IVORY 5013 DUAL VALVE EQ	£465	CLASSIC EQ 2 DUAL VALVE EQ	£999
IVORY 5052 DUAL CHANNEL	£CALL	*0% FINANCE AVAILABLE*	

UNIVERSAL AUDIO

ALL UA PRODUCTS AVAILABLE

NEW

UA LA 610	£1399	UA LA 2A	£2099
UA 1176	£1265	UA 2108	£POA
UA 6176	£1749	UA 2-610	£POA

EMPIRICAL LABS

NOW ON DEMO!!!

DISTRESSOR EL8 £1189

DISTRESSOR EL8 XM WITH BRIT MODE	£1399
DISTRESSOR EL8 XS STEREO BRIT MODE	£POA
FATSO JR ANALOGUE TAPE SIM	£1899

DIGIDESIGN

CALL NOW 01273 673046.

DIGI002

Fire wire based Pro Tools music production system. I/O options, 24 bit/96k sampling.

£1699

DIGI002 Rack £879

MBOX

Compact 2 channel USB audio interface. 2 Focusrite mic pre's & Pro Tools LE. Includes free audio software bundle.

...while stocks last!!!!

£327

TC ELECTRONICS

NOW ON DEMO!!

M1-XL £339

M300 ENTRY LEVEL MULTI F/X	£POA
D2 DIGITAL DELAY	£345
VOICE WORKS HARMONISER/VOCAL F/X	£505
FIRE WORX QUALITY GUITAR F/X	£699

LEXICON

Pedigree digital reverbs & multi effects.

PCM91/81	£1350	MPX550	£239
MPX1	£499	MPX110	£139

FAX: 01273 671981 / EMAIL: HITECH@GAK.CO.UK

PRICES ARE CONSTANTLY UPDATED ON OUR WEBSITE!!!

Spectrasonics Stylus RMX

Stylus RMX in 'Easy' mode.

Software Instrument For Mac & PC

It may share the same name, but Spectrasonics' new *Stylus RMX* is a very different software instrument from the original *Stylus*, with a completely reconstructed underlying sound engine and a ton of new features.

Paul White

Ever since we saw *Stylus RMX* demonstrated for the first time, we've been itching to get our hands on it. Although *Stylus RMX* has the same purple livery (and retail price!) as the original *Stylus*, and includes all the original *Stylus* 'urban'-type beats, scratches and sounds within its greatly extended library, it is actually far more sophisticated than *Stylus*, and has a completely revamped underlying technology. It is still essentially a groove-based virtual instrument plug-in, mainly for creating rhythmic loops, but in this new incarnation, it combines the flexibility of the Spectrasonics Groove Control loop format with the company's new SAGE instrument front end (Spectrasonics Advanced Groove Engine). This combination has a lot of tricks up its electronic sleeve, including the ability to allow you to use any groove or combination of grooves at any tempo with some impressive pitch, processing and effects pyrotechnics thrown in.

Stylus RMX is compatible with Macintosh OS X (Audio Units, RTAS, and VST) and Windows (VST) plug-in formats and existing *Stylus* owners can upgrade for what seems to me to be a very attractive price — $99. Installation is from two DVDs, and a third disk currently contains instructional videos in place of a paper manual. Amongst the sequencers supported are Apple *Logic* (including *Logic* v7) and *Garage Band*, MOTU *Digital Performer*, Digidesign *Pro Tools*, Ableton *Live*, Steinberg *Cubase SX* and *Nuendo*, *V-Stack*, *Fruity Loops*, and Sony *Acid Pro* plus Cakewalk *Sonar* and *Project 5*. According to the Spectrasonics web site, those customers who registered a new copy of *Stylus* for the first time after January 1st, 2004 will be upgraded free of charge (apart from shipping costs, that is).

The original *Stylus* was based on Ultimate Sound Bank's UVI engine, but the new SAGE engine was designed in house at Spectrasonics and so is rather better adapted to *Stylus*'s needs. The need to manually import Groove Control MIDI files separately to the audio loops has been eradicated, and like Apple Loops and similar systems, loops may now be directly auditioned from within a file browser at the tempo of the host sequencer. There's also the option to play loops at half or double speed relative to the host sequencer. The Groove Menu mode pioneered in *Stylus* to provide a different loop or element across multiple keyboard notes is still available, but now the loops sync to the host tempo in this mode rather than being preset. This is particularly welcome, as previously you could use either Groove Control or Groove Menus, but not both together without opening multiple instances of *Stylus* and combining the elements that way.

Not only has the core library more than doubled in size since the original *Stylus*, it is also now possible to import other Groove Control material (currently in Akai or Roland GC formats) as well as REX-format samples to extend the capability of the instrument, which addresses one of the limitations of the original *Stylus*, its non-expandability. In addition, earlier Spectrasonics Groove Control titles are being reformatted as SAGE Xpanders for *Stylus RMX*.

Lots of new tools have been provided to allow the user to layer, process or randomise the loops in a very musical and intuitive way, and up to eight physical stereo outputs are supported with up to eight parts of multitimbrality. A new multi-mode Power Filter has been added along with three sync'able LFOs, three AHDR envelopes, the ability to reverse sounds and a slider to control the sample start time, so it's very easy to make the loops sound very different from those of other *Stylus RMX* users. However, if this all seems a bit scary for the new user, there's also an Easy Edit page option (shown above) that presents just the most important controls as a small number of sliders and knobs. This means you can use *Stylus RMX* on a number of levels, from preset beat machine to full-on groove design tool.

SOUND ON SOUND

Spectrasonics *Stylus RMX* £159

pros

- Fantastic groove and kit library.
- Real-time operation over extremely wide tempo range.
- Ability to customise loops by changing or effecting individual beats.
- Clear instructional videos instead of manual.
- Expandable.

cons

- Effects section can't be used as a stand-alone plug-in.
- Old *Stylus* song parts aren't opened by *Stylus RMX*.

summary

Stylus RMX combines huge pitch, tempo and processing flexibility with world-class source material and a surprisingly straightforward user interface.

The Browser, showing just a few of the many, many built-in sounds and loops.

Stylus RMX also includes its own mixer page and effects rack with inserts and aux sends to allow layered loops to be balanced and treated to perfection. Even this offers more than it first appears to, as the Edit Groups feature allows changes to be applied to individual beats, not just to individual loops.

The library of single drum hits and effects has also been greatly expanded, and you can also call up or create drum kits of up to eight sets of single hits that conform to GM mapping conventions. This section in itself is pretty vast. Buttons on the mixer page switch between Multi and Kit modes and in Kit mode, you can assemble your own kit from the single-hit menus, set the balance, pan and effect of each sound, then save the end result as a playable kit. This doesn't limit you to just eight voices though, as loading a tom set into one part includes all the different toms in the kit. By default, Aux 1 sends to the reverb plug-in, but you can change this if you like. Rather than a paper manual, Spectrasonics currently provide a series of short Quicktime video demo sessions to explain all of these new features, although apparently there is talk of also producing some kind of Quick Start manual in the future. For now, though, I must say that the videos work really well, taking you through all key aspects of the program in a very effective and easy-to-follow way.

Down At The Library

The original *Stylus* came with around 3GB of sounds based on drum loops that were recorded to vinyl prior to mastering. The new library contains all the old sounds and maintains the same flavour of rhythmic material, but it has now been extended to 7.4GB and comprises literally thousands of grooves, hits and effects. The grooves also now cover a somewhat wider range of modern musical genres and include some impressive processed sounds. As with the original *Stylus*, the grooves are broken down into individual parts known as Elements, allowing them to be layered in different combinations. There are also new Kit modules and user Kit construction facilities — it's here that you get to build your own kits from around 10,000 single hit samples arranged by category. Furthermore, there's a great selection of single instrument loops based on percussion such as bongos, congas, shakers, tambourines, drums, cymbals and triangles that can add the feel of real players to self-constructed drum parts.

Loops that simply repeat soon get boring, but with *Stylus RMX* there are various ways to ▶

Groove Control Improvements In *Stylus RMX*

It is worth recapping the basics of the Groove Control format for the benefit of anyone who hasn't come across it before. There are various ways of changing the pitch or tempo of a drum loop, either together or independently, but typical time-stretching algorithms only work over a limited range before the sound quality is compromised. Groove Control is conceptually similar to the REX file format written by Propellerhead's *Recycle* in that the recorded drum patterns are cut into beat-sized slices and then triggered at different rates by a MIDI file running at the desired tempo, but whereas anyone can make REX files using *Recycle* software, Groove Control is only available in Spectrasonics libraries. In Groove Control loops, though, the individual slices are treated and extended in such a way that even when the tempo is slowed right down, you don't hear unnatural gaps appearing between the sliced-up beats of the original waveform. Similarly, when a tempo is increased, the release time of the beat segments is automatically shortened to prevent the sounds from smearing into one another. The end result is that loops can be varied in tempo over a wide range without sounding unnatural, and it's also possible to change the pitch of some or all the sounds in a loop without disrupting the rhythmical flow.

Just like REX files, Groove Control loops are triggered from a chromatic 'ramp' of MIDI notes, so you can edit the MIDI data to change the order in which the slices play back if you wish. In previous Groove Control libraries, you had to find the controlling MIDI file that matched the loop, and then import it into your host sequencer for editing, but in *Stylus RMX*, loops can be auditioned from within a browser, then the selected loop name can be dragged directly into any sequencer that supports drag-and-drop MIDI file import. The outcome is the same as before, but this time the program does the work of finding the right MIDI file for you. If your sequencer doesn't support drag and drop (like *Pro Tools*), you can drag the loop name to the desktop to create a copy of the MIDI file, which can then be imported conventionally. You can also play loops directly from within *Stylus RMX* and then record them as audio if you prefer, if your host sequencer allows audio to be recorded from plug-ins. User-defined sets of grooves, kits and eight-part multis can be saved separately (multis include all effects, mixer and Chaos settings). Finally, REX files may now be imported, so there is a way to get your own beat-sliced material into *Stylus RMX* at last.

Here's where you really get your hands dirty — the Edit page.

add variety. The plug-in Window actually has four main sub-windows activated by dedicated buttons that focus on different areas, but the lower part of the window is always the same and shows the eight parts along with their playback status and play/stop buttons. The top window always reflects the settings of whichever part is selected in the lower section of the window, so it's easy to jump between parts. Global controls similar to those available in the original *Stylus* allow high- or low-pass filtering to be applied to the entire part, and these can of course be automated where the host sequencer allows. And of course, there's also the much-trumpeted Chaos Designer (see the box opposite for more on this).

The Edit Window

The Edit Window's Easy option simply hides some of the deeper features, but even the full version is pretty easy to understand. However, what may not immediately be obvious is that the settings can be applied to Edit Groups (where you can choose which beats in a measure to process), so you can really change the sound of a loop very radically at beat level. Three sync'able, multi-waveform LFOs (with an optional retrigger function to ensure the waveforms trigger afresh with every slice) can control pan, level and filter settings and there are also master level and pan controls for adjusting those parameters in the currently selected Edit Group. There's also a multi-mode resonant filter with drive, envelopes for level, pitch and filter modulation, plus the master filter and pitch controls familiar to existing *Stylus* users. Edit Group sounds can be reversed and it's also possible to offset the sample-playback start point, which can yield some very interesting results, especially when used in combination with reverse. This page offers a lot of potential for sound manipulation — the envelope- and LFO-driven filter can easily generate all kinds of familiar techno sounds from the most innocuous of source material.

One way to really stretch what *Stylus RMX* has to offer is to use the Edit Groups to make changes only to certain slices. You use the Assign button to add Edit Groups to your list, so at a simple level, you might just decide to pick downbeats and backbeats, applying perhaps a filtering effect to one and a pitch-shifter to the other. In fact, you can create as many different Edit Groups as you like (up to eight can be active at any time) and pretty much every *Stylus RMX* parameter can be changed per Edit Group, including the effects and mixer settings, the way Chaos is applied, and of course all the Edit Window settings. Solo and Mute buttons let you hide or solo the currently selected Edit Group, so using these functions you could even mute the kick drum from a loop and then layer it with another kick-only loop to create a hybrid. A little experimentation can quickly produce great results, and if you've a mind to, you can bend and mangle the loops beyond all recognition.

Get Me To The Groove On Time

When you first open an instance of *Stylus RMX*, you see a 'flash screen' that disappears to reveal the Edit window when you click on it. The current patch name is shown in a display at the top of the window and clicking this or the folder icon next to it takes you straight to the loop browser, where you can then select from RMX Grooves, Classic Stylus, Groove Elements, Sound Menus or Example Groove Menus. There's also a utility section containing some useful oscillator tones and a click track.

Each of the RMX Groove Directories (and there are 174 to choose from) contains from one to a dozen or so elements that can be used as variations or for layering. Clicking on any element causes it to play back at the song tempo, and clicking on it again, or clicking on the Stop transport button, halts playback. Any elements you really like can be added directly to your Favourites library using the Add button while Jump takes you directly to the Favourites section. I'd half expected this button to toggle between the Favourites and the bank you just left, but it seems not to do this. The Classic Stylus Groove Directory is arranged in a similar way with 170 themed grooves plus 10 single-instrument percussion grooves.

Stylus RMX has a new 'Next Beat' feature for working with Grooves. When enabled, this starts the groove playing at the start of the next 16th or whole beat, depending on which option you select. This makes live performance possible, as it's almost impossible to get the loops playing out of sync unless your timing is a whole beat off — all you need to do is anticipate the start slightly and *Stylus RMX* will ensure the groove starts on time.

There are two main ways of working with loops — you can either drag the MIDI 'slice' files into a sequencer track or you can trigger a loop element from a single key. Unlike the original *Stylus*, this latter way of working lets you change the tempo so the loops are being sequenced as slices, but this time from within the SAGE engine. With the old *Stylus*, you couldn't work with a keyboard full of loop elements at the same time as having tempo flexibility, but now you can. Where the host sequencer supports it, *Stylus RMX* can also be operated as a multitimbral instrument where each part is controlled via a separate MIDI channel (1 to 8). Loading and saving is available both for single parts and also for multis.

It's important to understand the Slice Menu MIDI mode and Groove Menu MIDI mode, which can be selected using a button at the bottom right of the panel. Groove Menu mode is the one to use when you wish to work with groove elements triggered from individual keyboard notes. The topmost element in each group is assigned to middle 'C' and the groove

Test Spec

- *Stylus* version reviewed: v1.0.5.
- Dual 2GHz Apple Mac G5, with 2GB of RAM, running Mac OS v10.3.5.

volume is sensitive to note velocity. MIDI notes should normally extend the full length of the measure, and without overlapping the next note, but you can trigger just the first quarter of the loop repeatedly by playing, for example, four short beats per measure rather than one long one, which would allow you to turn a rhythmic loop in a different time signature into a four-on-the-floor rhythm. The sequencer track name includes the term Menu if Groove Menu mode was used to create it, as it is important to play back in the same mode you used for recording. If you tried to play back a Groove Menu loop in slice mode, you'd only hear the first beat of each pattern being played back, because the plug-in then expects to see one MIDI note per slice, not one note per measure.

While Groove Menu mode allows you to play back more than one element at a time, Slice Menu mode only allows you to work with one groove element at a time unless you use the plug-in multitimbrally. The advantage of working in this mode is that you can manually change the MIDI data to alter the way the slices play back and you can also use the Chaos function, which actually changes the MIDI slice data if you decide to capture the playback using Capture mode. By contrast, when using Edit Groups for a Groove Menu, you can still have Chaos on individual Grooves/keys, but it will be different every time it plays back, and is not repeatable.

One useful tip revealed on the tutorial video is to use Slice Menu mode when auditioning elements as only the currently selected element is loaded for playback, which speeds up loading time. By contrast, using Groove Menu mode loads all the elements in a set, which of course takes a little more time. Auditioning works and sounds the same way in either mode.

Existing *Stylus* users should have no problem with these concepts, but the mixer section is completely new. Here you can mix and effect either the layers in a multitimbral setup or the individual elements in a drum kit, depending on the mode used. You can also route parts to different audio outputs where your host sequencer permits. When balancing a multitimbral mix in Multi mode, operation is just like a conventional mixer, with the ability to add effects on the inserts, the four sends and the final mix. Complete multis may be named and saved for straightforward recall. Clicking the Effect button shows the insert effects in the form of a virtual effects rack and clicking on the little triangle brings up the effects menu. Clicking on the Aux 1-4 or Master buttons at the top of the screen shows the effects for those as well.

Clicking the Kit button at the top of the screen changes the mixer to Kit mode where each mixer operates on the same MIDI channel and a channel now controls one group of drum sounds, which can be selected using the patch name window or browser folder icon — either gets you to the relevant libraries. You just won't believe how many different drum hits are waiting for you in there — even the categories are divided into categories! Each sound category has its own MIDI assignment so when you assemble your kit, you won't find sounds fighting for the same MIDI note unless you use, say, two sets of kick drums or two sets of toms. The mapping pretty much follows the General MIDI standard, and where you have, say, two snares on the 'D' and 'E' keys, there are two chevrons next to the sample name rather than one. Separate effects can be added to individual drum sounds and the master filters and tunings can be applied to each sound group individually via the Edit page. Individual parts can be saved along with their effects and Edit settings or complete kits may be saved. Because the kits are compiled mainly from sections rather than individual hits, when you switch to a different hi-hat, all the correct hi-hat sounds load together (open, closed, struck and so on) so you don't have to do all the hard work yourself.

When you combine all this with the ability to apply pitch, filtering, modulation, panning, level and effect changes to individual Edit Groups, the results you can achieve are about as close to infinite as it gets in a finite universe. Using all this power takes some getting used to, but the great thing about

Organised Chaos

The splendidly oxymoronic Chaos Designer.

While it might seem that Chaos Designer is a contradictory term, what with chaos being a random thing that is not subject to the laws of design, in *Stylus RMX*, it is possible to apply something called Chaos to your audio, control the amount being added, and decide where to apply it. In this case, some rather clever programming allows random elements to creep into the timing, timbre and voicing of a loop using just a few simple sliders and knobs. Chaos can even reverse individual slices. The programming of this feature is so clever that if used in moderation, the program can give the impression that it's actually improvising in a musically sensitive way — something many drummers I've worked with have yet to achieve! The key to imitating musical intelligence is in the Edit Groups (hidden under that middle grille) that allow the user to select which beats within a measure will be affected and which will be left alone. For example, you could choose to add chaos, filtering or a pitch shift just to the off-beats or on-beats within a measure — a whole list of beat permutations is available.

As the grooves play through Chaos Designer, the timing data that controls the audio slices is modified and a section of playback may be saved using the Capture feature. The resulting MIDI file may then be dragged and dropped into your host sequencer where you can modify it further or simply take the best bits. Of course you can also let chaos reign in real time, but that precludes any 'cherry picking' after the event.

Stylus RMX is that you can start out simply and then just experiment — the only real trouble you can get into is overloading your CPU by applying too many effects.

Finally, I should mention that the current version of *Stylus RMX* passes the Audio Units validation in *Logic* v7 without problems, but updates are already posted on the Spectrasonics web site which fix a couple of minor niggles, so it's worth pulling these down at the same time as you visit their site to authorise your copy. The SAGE import application used to import existing Groove Control libraries has also been updated, so it's worth grabbing that too while you're there.

Conclusions

Stylus RMX isn't simply a Stylus update, any more than the Stealth bomber is a byplane upgrade, but it builds on the same *Stylus* Groove Control principles and, thanks to the instructional videos, is quite easy to get into. Even so, I keep discovering new things all the time. I've tried to explore most of the important aspects of the plug-in, but any attempt to be fully comprehensive is doomed to failure, simply because there is so much in there.

The core library sounds are excellent and varied, the drumkit construction facility is vast and the ability to surgically change loops at beat level in so many ways is fantastic. Having this degree of control over the source material means that there's no excuse for anyone's work to sound stale or similar to anyone else's. The Chaos feature allows the loops to 'improvise' to head off boredom, and the effects section is so good that it's a shame it isn't available as a separate *Stylus FX* plug-in.

If there is a criticism of *Stylus RMX*, it is that most of the grooves have the same type of feel (what you might call 'urban' styles, with a hip-hop, techno or industrial feel) and some users would prefer more straight dance rhythms or conventional drum patterns using acoustic drum sounds. However, this limitation is largely circumvented by the ability to import other Groove Control and REX-format libraries. Furthermore, the core library sounds can also be changed substantially, either by modifying the controlling MIDI slice pattern in your sequencer or by triggering grooves in half or quarter measures.

Anyone who already has *Stylus* really needs to check out *Stylus RMX*, but it is important to keep a copy of the original *Stylus* installed on your machine, as *Stylus RMX* is recognised as a new plug-in that's different to *Stylus*, and so won't open *Stylus* parts from old songs. In most cases, you can make a note of the *Stylus* patches used and recreate them using *Stylus RMX*, but you can't open old *Stylus* parts directly in the new program.

Stylus RMX is a significant development in groove creation and manipulation, and the way in which it handles tempo and pitch manipulation along with the ability to individually effect, tune and process every single beat in a measure is really impressive. The fact that you can also create a massive range of excellent drum and percussion kits is almost incidental by comparison, yet *Stylus RMX* goes much further in this respect than many competing sound libraries or software instruments that attempt to do nothing else. *Stylus RMX* is a terrific bargain given how much it does and how little it costs, and I'm sure we'll be hearing it on a lot of records in the near future, but unless the programmers are very lazy, the really great thing is that we probably won't know it's *Stylus RMX* that we're hearing! SOS

Mixers & Effects

Just some of the built-in effects accessible from the FX window.

Although *Stylus RMX* can feed up to eight separate stereo outputs, its mixer page enables each of up to eight parts to be effected and panned separately as well as being controlled in level, so even if you are only using it in stereo, you still retain full control over all the elements. The mixer is fairly conventional except that it runs horizontally rather than vertically, and features both insert points and four aux sends as well as level and pan controls.

The effects themselves are accessed via the Effects page, where a pull-down menu reveals a total of 24 effects including a valve limiter emulation, modern and vintage compressors, a wah-wah, the multi-mode Power Filter mentioned elsewhere, six different vintage, parametric and graphic EQs, distortion, a reverb, a gate/expander, a flanger, two types of phaser, three types of tempo-sync'able delays and the Retroplex tape delay. These effects are of surprisingly high quality and they are also reasonably processor efficient, but it pays not to get too carried away with them for processing individual parts, as you could end up deploying dozens at a time!

At a simple level, you can apply the effects conventionally, but as mentioned elsewhere in this review, you can also apply effects only to certain Edit Groups, enabling you to, for example, add reverb only to the downbeats in a loop and distortion to the backbeats. Because you can get so carried away in designing sounds using Edit Groups, it can save a lot of CPU power if you use the Edit Group aux sends rather than inserts to add things like reverb or delay. You can still have different mixer settings per Edit Group, which means you can still apply different amounts of effect to different slices, but without opening multiple effects to do so.

Naturally parameters may be automated, but because of the sheer number of parameters that it is possible to access (around 10,000 in all), you'll need to prioritise based on what your sequencer can actually support. This is made simple using a built-in MIDI Learn function that works by selecting the desired *Stylus RMX* parameter and then moving the hardware control that you'd like to assign to it. You can assign multiple controls to a single MIDI controller to create more complex changes, and there's also an un-learn option to cancel a previously made assignment.

information

£ *Stylus RMX*, £159; upgrade from *Stylus*, $99 from Spectrasonics' web site.
T Time & Space Distribution +44 (0)1837 55200.
F +44 (0)1837 840080.
E sales@timespace.com
W www.timespace.com
W www.spectrasonics.net

Ivory GRAND PIANOS

This groundbreaking sample-based Virtual Instrument was conceived and crafted to bring out the resonance, response and character of the world's finest Concert Grands. The largest piano plug-in ever.

Three Glorious Grands, One Custom-Built Piano Engine

- Bösendorfer® 290 Imperial Grand, German Steinway® D 9' Concert Grand, Yamaha® C7 Grand (Each piano can be installed separately).
- Over 25 GB of phase-perfect stereo samples in 32 bits!
- All 88 keys individually sampled in up to 8 dynamic levels (plus Bösendorfer extended low octave).
- Full length sustain samples, no loops.
- Real Release and Soft Pedal samples.
- World class digital FX including Real Ambience, Chorus and EQ.
- Optional synth pad layer for modern/pop combinations.
- Synthogy's exclusive, powerful 32 bit Sample Playback and DSP engine, engineered specifically for recreating the acoustic piano.
- Sympathetic String Resonance DSP for realistic Damper Pedal response.
- Incorporates sample interpolation technology used for ultra-smooth velocity and note transitions.
- Customizable with User controls for Timbre, Stereo Width and Perspective, Velocity Response, Mechanical Key Noise, Tuning and more.
- Dozens of user-adjustable presets.

£189

TIME+SPACE www.timespace.com

MAC OS X | MAC OS 9 | RTAS | VST | AU

SYNTHOGY

USB Ultra Focus

Ultra Focus hosted by Cakewalk's *Sonar* 3.1.1 on a PC.

Derek Johnson

Vintage Synth Sound Library & Software Instrument

Rather than using modelling technology to emulate classic synths, Ultimate Sound Bank have created an eight-Gigabyte sample library and packaged it with an accessible virtual-instrument front end.

The recent trend towards repackaging the contents of sample CDs as stand-alone virtual instruments has largely been a good thing. The new formats are accessible to anyone with a compatible computer operating system and sequencing platform, and only those who already have a given collection in an earlier format may have reason to be aggrieved. The library is instantly accessible with no sample player required, and there's no importing, editing or compiling to getting in the way of using the library. However, the concept really comes into its own with the creation of new libraries, where the results can be optimised for use with the player throughout the development process. With DVD as the medium of dissemination, the stand-alone, instrument-shaped sample library can also be much larger than previously was the case.

This brings us to Universal Sound Bank and their enormous, sample-based *Ultra Focus* synthesis anthology, a product which blurs the distinction between sample collection and synth. The company are behind numerous sample libraries and are the developers of the UVI — Ultimate Virtual Instrument — engine that's been licensed to other developers as a backbone for sample library/player combinations. The development of *Ultra Focus* started with extensive listening tests that led USB to conclude that modelled simulations of classic synths from the '60s to the '90s didn't live up to the sound of the genuine article. This brought them to the

conviction that the only way to present these instruments was via detailed, high-resolution sampling — sometimes every note of a given instrument, often at multiple velocity levels to capture the full range of a given patch or sound.

The result, *Ultra Focus*, assembles 8.4GB of finely tuned samples into more than 2000 patches and plays them back through a front end that both provides the user with easy access to those patches and allows them to be comprehensively edited. In general, samples are loaded in 16-bit format and converted to 32-bit — for the UVI signal path — on the fly. You can actually save some CPU overhead by switching to pure 32-bit mode, though this requires twice as much RAM.

It should be pointed out that USB haven't gone for the pure, unadulterated output of their vintage instruments. The sampling process involved a range of expensive and esoteric preamps, high-resolution converters, compressors and EQs, so you actually get a rather heightened version of the genuine sound produced by the original synths. This is not in itself a good or a bad thing, but worth noting — and the results speak for themselves.

Installation

Installation is straightforward, though it takes a little longer than some other software due to the necessity of copying over two 4GB data files from the double-sided DVD. The software will run on Mac (Mac OS X only, I'm afraid) or PC, and installs plug-ins in VST, RTAS, DXi, MAS and Audio Units formats, making the plug compatible with any current MIDI + Audio sequencer. Authorisation is through challenge and response, and USB give users two installs, which is great. I didn't need to mess about with dongles or multiple copies of the software in order to run it simultaneously on both my Mac and PC.

Once installed, you create an instance of *Ultra Focus* within your host software of choice and start scrolling through the preset library; its function is identical within each environment. You won't be restricted to the presets, though: not only will extras become available via USB's web site, but you can tweak the front-panel controls as much as you like and save the results as custom presets. About the only thing you won't be able to do is start from an initial 'blank' preset, though you could create one yourself if you desired. Otherwise, just start from any preset in the bank.

Those presets are organised according to themes. As shipped, these are Ultra Focus Master Presets, Classic Analog, FM Formant Synthesis, Wavetables, Vector Synthesis, Additive Sounds, PCM Synths, Analog Modeling, Stack/Chords, Bonus Machines and Pure Waveforms. This doesn't tell the whole story, because in nearly every broad category there are sub-categories, with titles such as Ethereal Atmosphere, Attack Sounds, Synth Bass, Bells and so on. It's within these sub-categories that your find the presets themselves. This makes finding sounds you'd like to use or edit an easy task.

This same hierarchy is used when selecting multisamples for your own editing. In this case, there's an extra level beyond the preset list: each offers one or two programs — essentially a sampled waveform with a set of synth parameters — that you're able to load and then edit.

Studying Architectures

The UVI synth engine could quite happily work without samples if USB wished, given a modelled oscillator or something similar. But as we've established, the company preferred not to take that route. So, the sparkling, painstakingly assembled sample collection which takes the place of oscillators in this environment is treated to a well-designed, sonically faithful, 32-bit floating-point signal path.

Central to the *Ultra Focus* architecture is the preset, which consists of two layers, each of which can accommodate a program, in effect a fully featured synth patch. Both programs in a preset have pretty much the same facilities, with only a handful of parameters applied globally to both layers. The preset and program selection pop-ups, accessed in the displays at the top of *UF*'s one and only window, initially appear the same, but as mentioned above, when selecting a program for a layer, an extra level is accessed so that you can select layers from existing presets for your own use. Don't worry: you're not just mixing preset data, as the multisample collection includes a healthy selection of 'pure' analogue waveforms, sampled without any filtering or other treatments on the original synths. Presets can, of course, consist of just one layer.

A close-up of the well specified main filter and the filter envelope.

Each layer thus has at its heart a multisample, followed by a fairly traditional subtractive synthesis signal path. First up, there's the filter, offering a choice of three low-pass and one high-pass characteristics. The low-pass choices are 'soft', 'musical with powerful resonance' and 'slightly harder'. Cutoff frequency and resonance controls are joined by keyboard tracking, envelope bias (with a negative option for inverted envelopes), and a drive control. The latter adds distortion, and it's possible to make this filter whistle, though it is also possible to hear a stepping effect as you move resonance and cutoff to extremes and at speed. A dedicated filter envelope offers the classic four stages — attack, decay, sustain, release — plus velocity control courtesy of a Sensitivity knob, and an offset parameter which determines how attack and decay will respond to velocity.

A separate amplitude envelope is specified in identical fashion to the filter envelope, bar one feature. A 'sample start' knob lets you ▶

SOUND ON SOUND

Ultimate Sound Bank
Ultra Focus **£266**

pros
- A great collection of quality multisamples ready for instant playing.
- Enough user editability to move past the feeling of a fixed collection of presets.
- Pretty much all plug-in format bases covered.
- Windows and Mac versions in one box.

cons
- Some on-screen elements a bit tiny.
- Can't load user samples.
- Limited effects.

summary
Judged on sound alone, *Ultra Focus* is a top collection, and the creators' attention to detail shows in the final product. That it allows users to fine-tune the results is a bonus. My favourite virtual instrument of the moment.

Test Spec

- *Ultra Focus* v1.1.
- PC with 3.06GHz Pentium 4 CPU and 512MB RAM, running Windows XP.
- Apple G4 Power Mac 450MHz with 896MB RAM, running Mac OS 10.3.5.
- Tested with Steinberg *Cubase SX* 2.2 (both platforms), Digidesign *Pro Tools* 6.4 (Mac), Cakewalk *Sonar* 3.1.1 (PC).

offset playback from the start of the sample, which is a good option for some of the more complicated sample sets. It might have been nice to see this under velocity control, though. One further envelope, dedicated to pitch, is much simpler, with just depth and time controls.

A word about envelopes: it'll be in the nature of software such as this that the occasional raw sample will have built into it an envelope shape that *UF*'s own envelopes won't be able to subvert: you can't make a slow attack snappier if the attack is part of the sample. In this case, have another look at the sample start parameter, as this may well let you 'trim off' the unwanted attack portion.

Moving onto modulation, we get some interesting possibilities. First of all, there are the MIDI-clockable or free-running LFOs. Two are available to each layer, and two to the

The four LFOs share one set of controls, with the one to edit chosen by the four switches at the top.

overall preset, so actually you could be hearing the effect of six LFOs at any one time! The choice of modulation waveforms is comprehensive — sine, triangle, square, analogue square, ramp up, ramp down and sample & hold — and the controls max out with depth and rate parameters. One thing I'd like is to be able to stop the LFO retriggering with every new note: for some sounds, it would be preferable for one LFO cycle to take precedence once a key has been pressed.

Assigning the LFOs to a parameter takes place in the little modulation matrix display. The five targets are pitch, filter cutoff frequency, amp (level) and pan, and each has a depth control. The four LFOs join a host of other modulators: all three envelopes, pitch-bend, note position, a user-definable MIDI controller, velocity and so on. If the list of targets seems a little limited, don't worry: nearly every knob in *UF* can be tweaked via MIDI control, so automating parameter changes from the host software should allow you to overcome the relatively small list of internal routing opportunities.

Ultra Focus's dual effects are simply laid out but capable of great results — a maximum of five parameters each shouldn't confuse anybody!

The parameter set isn't hugely complicated — in fact, it's remarkably straightforward — but if you find that you'd like to make some quick edits to both layers of a two-layer preset, engage the Link button. Each layer also has level, pan, and coarse and fine tuning controls.

Presets

Parameters that work at the preset level, affecting both programs, include velocity curve, polyphony, octave and bend ranges and glide (portamento). In addition, there's a third, 'master' filter. This features two controls, one of which changes resonance whilst the other changes the cutoff frequency of a high-pass filter (slide to the right) or low-pass filter (slide to the left). A timbre control in this vicinity adds strange filtering and detuning effects without affecting the central pitch of a preset.

Cross-modulation between layers is also provided at preset level. The results very much depend on the source samples, and you need to be prepared to jiggle levels and so on, but the options take *Ultra Focus* a little further into the abstract and strange. 'Vocoding' allows either layer to be modulator or carrier, and ring modulation modulates layer A with layer B, generating the classic clangorous effect with the right samples.

To keep you informed of the state of *Ultra Focus*, a couple of displays are provided. The Edit Info display reads out the value of the parameter you're currently tweaking — very useful, and a little too small until you get used to it! — and Memory simply lets you keep track of how much RAM you're currently using. The presence of MIDI activity is shown by the little 'scope display next to the *Ultra Focus* logo.

UF even manages to offer a handy pair of effects processors, each with up to five parameters and tempo-sync'able where appropriate. They can be switched into or out of circuit at preset level, with a balance control to adjust the wet/dry mix. It's not possible to treat layers independently. A big collection of preset treatments is provided, based on 29 effect types, which you can offset and save as part of a preset. It's not possible to save your own settings independently. Mono, stereo and ping-pong delays are joined by special effect varieties, and reverb treatments offer simple, pre-delayed and gated options. Modulation effects include everything you'd expect: flange, phase, chorus, tremolo, auto-pan, rotary speaker and auto-wah. Treatments range from the standard EQ, gate and compression through to filters, drive, ring modulator and robotiser. If I was had a complaint it would be that I'd like more than two at once! In many synths, calling up presets that are already heavily effected can give you a false impression of the quality of a sound. In *Ultra Focus*, however, disabling effects often reveals that presets stand on their own, uneffected, two feet. Credit to the raw sampled material indeed.

Minimum System Requirements

- **Mac: 512MB RAM, 1GHz G4, DVD-ROM drive, 9GB hard disk space, Mac OS 10.2.6, plus MAS, RTAS, Audio Units or VST 2-compliant host.**
- **PC: 512MB RAM, 1GHz Athlon/Duron or Pentium III, DVD-ROM drive, 9GB hard disk space, Windows Me, 2000, NT or XP, low-latency audio hardware, plus VST 2, DXi or RTAS-compliant host.**

Sharper Focus

Working with *Ultra Focus* is a breeze, which is amazing considering the sheer weight of raw material on offer. Editing is as easy as it gets, including accessing the individual multisamples. Operation is only occasionally let down by display elements that are a bit small and lacking in contrast. Being able to save edits is obviously a bonus. While I'd expect this facility, the nature of the product — essentially a sample library — didn't make it a foregone conclusion. Be warned that the multi-lingual manual, while not going into fine detail, is useful and clearly written! That's a rare occurrence. Also included in the bundle is a printed fold-out chart of all the included presets — all 2071 of them!

USB's UVI engine is obviously capable of being multitimbral — Mark Of The Unicorn's *Mach Five*, reviewed last issue, is based on the UVI, and is 16-part multitimbral. *UF* is, however, not. But of course, if you need more than one *Ultra Focus* preset in your work, you can simply call up as many instances as you need via your host's plug-in system. This may

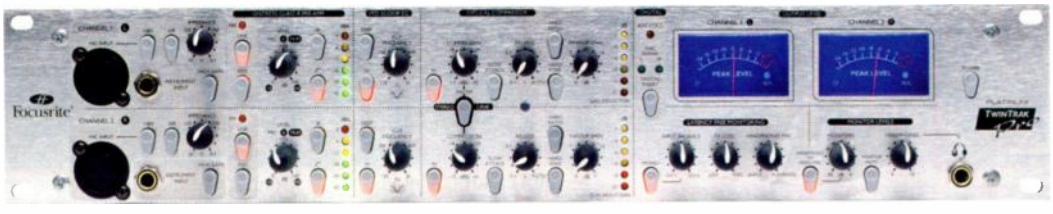
Put your toys aside and enter the realm of the Pro.

"Get it right from the start" is the mantra of professional engineers the world over, and for good reason. It's also at the very heart of the Platinum Pro philosophy - providing otherwise predominantly digital set-ups with an essential front-end analogue injection.

Whether tracking the perfect vocal, capturing the full-bodied zing of an acoustic guitar, or providing some much needed latency-free monitoring, the Platinum Pro range bring you one step closer to that illusive professional production.

So clean up your digital playroom and start to act like a pro.

TwinTrak Pro™



"This really is one serious piece of kit that's been well thought out to make sense in the real world of desktop recording."

Paul White, Sound on Sound

VoiceMaster Pro™

"I use the VoiceMaster Pro on everything, be it vocals, acoustic guitar, drums... the vintage harmonics processor just blows me away! It's a great unit, whatever the money."

Mark 'Spike' Stent- World-renowned recording engineer

"Verdict: Sound/results - 10/10. A serious overhaul of the VoiceMaster and another cracking addition to the Platinum range."

Jon Musgrave, Future Music

It takes the right toys to play like a Pro

PLATINUM pro

Focusrite®

For further information, call direct on 01494 836307 or simply visit **www.focusrite.com/pro**

Concrete FX *Kubik*

Formats: PC VST

Concrete FX's effects and instruments incline towards the less well-trodden areas of sound generation, and their latest is a wavetable synthesizer that recalls the Waldorf Microwave. Named *Kubik*, it allows for the creation of custom wavetables of up to 64 waves, and promises all the advantages of the virtual format in terms of waveform import, drawing, and even resynthesis.

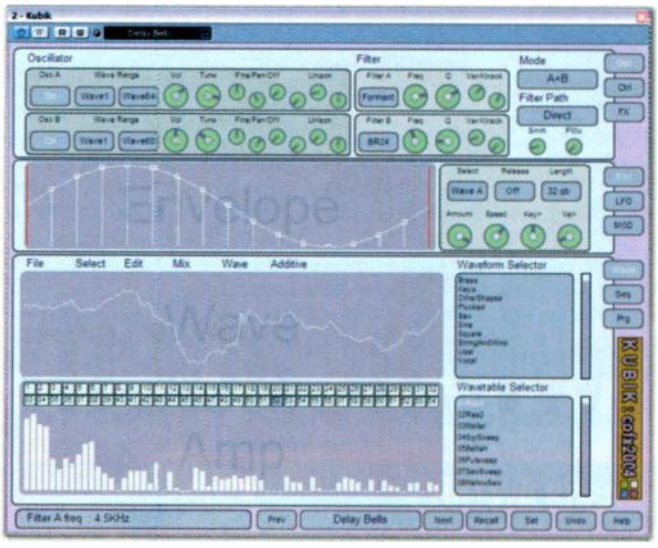
Kubik's complex interface is divided into three sections, each with three tabs for selecting various components. The default view shown in the screen shot presents the settings for oscillators A and B, the envelope panel, and both literal and additive views of the currently selected waveform, with a 64-button matrix letting you browse the wavetable.

Kubik comes with a large number of categorised preset waveforms, along with almost 100 ready-made wavetables, providing many good starting points for classic synth sounds or timbres with an acoustic flavour. For custom wavetables, the best way to get started is to draw (or import from very short, preferably single-cycle WAV-format files) a few key waves at intervals throughout the blank wavetable. You can then morph or interpolate between these to create a continuously varying pattern over the full 64-wave sequence. Oscillators A and B each access the same wavetable, sweeping it at a speed governed by the tempo-dependent Length parameter in the envelope section. Both do so completely independently, however, and in an entirely flexible manner, using different start and end points, and the complex, multi-stage envelopes described below.

Another way to feed the wavetable is by resynthesizing pre-existing samples, and *Kubik*'s 64-partial additive engine provides two ways of doing this. The first method analyses the sample for characteristic repeating waveforms spread throughout its length, and builds up a kind of snapshot animation of an evolving sound over the 64 wavetable slots. The second method takes a continuous stream of additive data from the sample and divides it across the wavetable, meaning the pitch of the resulting sound is very dependent on the length of the original sample, since more cycles will be crammed into each wave slot. Imitating samples isn't *Kubik*'s *raison d'être*, and it's clear that faithfulness isn't really the ultimate goal here, but I was surprised at how effective the single-cycle method was with simple, distinctive timbres, such as brass sounds. Likewise, the wave-splitting approach often comes in handy, particularly if you limit it to a small portion of the original sample, and both methods provide decent ways of generating new and original wavetables to experiment with and thoroughly mangle.

To help with this mangling, *Kubik* has dedicated envelopes and LFOs for the volume, pitch, and wavetable tracking characteristics of the two oscillators, and two more for the cutoff frequency of each filter. Some aspects of the envelopes are fiddly to use, but they're an extremely versatile design, with up to 16 stages, easily definable loop points, and a variety of preset patterns. The LFOs are also somewhat out-of-the-ordinary, and exceedingly configurable. They allow you to combine sine, square, and sawtooth elements into hybrid shapes, with lots of scope for fine-tuning when you want something really specific. A small bucketload of tweakable parameters includes a Humanise control for adding unpredictability to your oscillations.

Four modulators are also available, each with the ability to affect the majority of *Kubik*'s continuous parameters. Mods can be configured as either simple wave shapes or a variety of keyboard controllers, such as velocity or aftertouch, plus MIDI CCs 16-19. This amounts to a fantastic load of modulatory



options, and it's hard to run out of ways to add movement or expressive variation to the sound — an impression further strengthened by the very well implemented MIDI latching feature for assigning *Kubik*'s virtual knobs to your hardware controller. There's also a simple arpeggiator, a feature I always appreciate on virtual synths.

Next in line are a pair of multi-mode filters, assigned by default to oscillators A and B, though they can also be set to treat the mixed oscillator output in serial or parallel configurations. They're capable of satisfyingly thick sweeps at the 24dB/octave setting, and in addition to the usual flavours, formant, ring mod, and tuned-noise modes are provided. In addition, there's a versatile effects section, comprising two multi-effects processors along with EQ, compressor, widener and tremolo modules. FX1 concentrates on distortion and modulation treatments, such as phaser and chorus, whereas FX2 deals in delays, comb filtering and reverb.

Kubik's conventional elements are highly tweakable, but it's in the wave-sequencing panel that it really reveals its depths. With a vaguely tracker-like interface, the sequencer provides up to 64 slots in which individual waves can be strung together, each with adjustable parameters such as pitch, length, and pan. Whilst sequencing in this manner is laborious, it can reward determined fiddling with some fantastically complex melodic patterns, particularly since the wavetable can be sequenced separately for oscillators A and B. Many of the supplied presets do a good job of demonstrating what's possible with a decent wavetable at your disposal, and the Randomise function can come up with handy results if patient programming isn't your forte.

Kubik certainly isn't a perfect virtual instrument. I ran into a few bugs, mostly concerning the resynthesis features, and the interface feels a little clunky and unfinished in places. It could really do with enhancement in areas such as wheel-mouse integration and use of the mouse right-click, which currently behaves in a seemingly arbitrary fashion to cycle through options, produce drop-down menus, or switch views. It could certainly be more visually appealing, and by working on this area and rationalising some of the synth's more obscure functionality Concrete FX could turn a very good product into a really great one with a much wider appeal. It's a very powerful instrument already, and the essentials are there in terms of playability and programmability. At just 50 quid it's also a bit of a steal, and anyone who enjoys a bit of hardcore programming should download the demo and see what it can do. *Mike Bryant*

£ **£50.**

W **www.concretefx.com**

The keyboard your inspiration deserves

The Keystation Pro 88

The first hammer-action USB-powered MIDI controller

The new Keystation Pro 88 is the first USB master MIDI controller designed specifically to let you perform, program and mix music directly with your computer. Regardless of whether you're a seasoned pro or just ready to take your music to the next level, our 88-note hammer action is so expressive that you simply won't want to stop playing. There are an incredible 60 assignable parameters which deliver unprecedented tactile control over your favourite soft synths and digital audio sequencers such as Reason and Live. This bus-powered master controller possesses everything you need to experience the full potential of today's virtual studios - and at a price and weight that's lighter than you'd imagine.

- 88-note hammer action, velocity sensitive keyboard
- 24 MIDI-assignable rotary controllers
- 22 MIDI-assignable buttons including transport controls
- 9 MIDI-assignable Alps faders with Drawbar Mode
- 4 key zones
- USB bus powered, Class compliant
- manage unlimited presets with free Enigma librarian

M-AUDIO

www.maudio.co.uk

M-Audio, 6th Floor, Gresham House, Clarendon Road, Watford, Herts, WD17 1LA tel: 01923 204010 email: info@maudio.co.uk

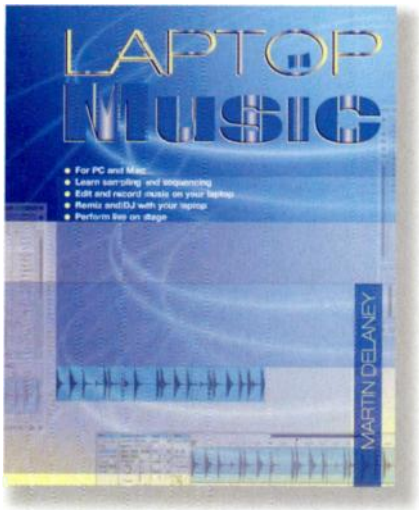
Book Review: *Laptop Music*

Martin Walker

This book from PC Publishing is not just an academic exercise detailing the Mac and PC software and hardware you'll need to make music, although there's plenty of that as well. Martin regularly performs live laptop gigs, and his practical experience really shines through in the text. Even better, the text is liberally sprinkled with mini-interviews and quotes from other practising laptop musicians, including details of gear and techniques, which really bring it to life.

The book starts by discussing laptop hardware, and what you'll need in a new model. This includes a discussion of port options; the arguments for Windows, Mac OS, or Linux; and what you'll manage using elderly hardware or when buying secondhand. Following this, he moves on to give examples of the basic audio interface options, before providing advice about carrying cases, security, insurance, maintenance, and batteries.

Several concise but informative sections then discuss various specific audio interfaces, MIDI controllers, and accessories, before concentrating on available freeware, shareware, and commercial software —



audio editors, sequencers, soft synths, plug-ins, and so forth. Although the more obvious commercial candidates such as Ableton *Live*, Propellerhead *Reason*, and Celemony *Melodyne* are all covered, exploring opinions from various musicians using them in practice, this section also covers live jamming techniques using free software.

By the next chapter we're really in the thick of things, with an in-depth look at laptop gigging and jamming. There's loads of practical advice on different ways of working with others, places to meet, and how to set up your gear. Then there's the visuals — ways to keep the audience interested when you're a lone musician hunched over a laptop. These include video capture and editing, VJ'ing with software like *Arkaos* (the visual equivalent of Ableton *Live*), and the use of webcams, projectors, and screens.

Freeware and commercial software for the laptop DJ is then touched on before the book finishes with a discussion of other portable but non-laptop gear; a look at future possibilities using wireless technology, tablets, touch screens, and more advanced controllers; and two pages of laptop music web links. Overall, I loved this book's streetwise approach — it's one of the most entertaining music technology reads I've ever had, and well worth the money! SOS

information

£ *Laptop Music* by Martin Delaney (ISBN 180775899), £12.95 including VAT.
T PC Publishing +44 (0)1953 889900.
F +44 (0)1953 889901.
E info@pc-publishing.com
W www.pc-publishing.com

DVD Review: *Surrounded By Drums*

Hugh Robjohns

Recording drum kits is always something of a challenge, and although no two engineers will ever approach the task in quite the same way, there is plenty to be learned from examining the techniques used and applying them to your own situations. That's why this DVD, produced by SPL, is so interesting.

The disc is intended to demonstrate 5.1 surround-sound techniques, with four world-class drummers providing the source material. The original impetus for the project was to record the first 5.1 drum sample library, with Chris Pfannschmidt of the *Real Mega Drums* and *Real Mega Rhythm* CD-ROM collections in the producer's chair. The four drummers involved were Simon Phillips, Kenny Aronoff, Dennis Chambers, and Mel Gaynor, and the recordings were made at Galaxy Studios in Belgium using an AMS Neve Capricorn digital console, Digidesign Pro Tools 24 hard disk recorder, and Genelec 1035B and 1038A monitors. Each performance was recorded using SPL's Atmos 5.1 surround recording system, which provided the overall surround image and room sound, as well as with a multitude of close mics festooned all over each kit — the usual array of Shure, Neumann, and AKG models.

The 5.1 surround sound is presented from the drummer's own all-enveloping perspective, the justification being that, while it is straightforward to derive the traditional 'in front of the kit' perspective from an overhead surround recording, (simply by panning the rear speakers to the front and swapping the left and right channels), it is impossible to create an enveloping sound stage from a traditional frontal recording. A second argument is that recording the kit the way the drummers actually hear it themselves allowed them to say whether the recordings were really capturing the sound properly or not — which was the goal, after all.

However, there is a teensy-weensy fly in the ointment. The video is shot from a fixed position in front of and above the drummer — an audience viewpoint if you will — resulting in a stark contradiction between the sound and picture perspectives. Seeing the drummer reach out to a crash cymbal on the right, but hearing it from the left is initially confusing and ultimately frustrating. The problem can be easily resolved by reorganising the audio outputs from your DVD player or your speaker cables, but I can't help feeling this really should have been addressed at the mastering stage! In addition to the surround mixes (presented in both Dolby Digital and DTS formats), there are also stereo downmixes, but these, rather

Noren Acoustilock gCab Computer Cabinet

Paul White

Computer noise is a major problem in the computer-based studio, especially where instruments or vocals have to be recorded in the same room. This product is designed to tackle such noise, and is essentially a soundproof cabinet with in-built cooling system. It's designed to accommodate anything up to the height of a Mac G5. There's a little width to spare, but it's not much room for any external drives, unless you can stand them on edge next to the computer. A modern Firewire drive might also fit on top of a G5 at a pinch.

Noren's cooling technology uses rods with exceptional thermal conductivity. One end of the rod projects into the box with the heat source while the other is fan cooled in a separate chamber, which means that up to 800W of heat can be extracted without needing a direct air path.

Separate fans circulate air over both ends of the rods, and extract the warm air via an acoustically absorbent ducting system. Because of the width of the heat exchanger system and the thick foam cabinet linings, the cabinet ends up being a fairly bulky 26 x 24 x 32 inches, even though the computer section measures only 22.75 x 12 x 24 inches.

The cabinet is black (although Maple finish is also available at no extra cost) and built from laminated MDF. Doors to the front and rear, held closed by basic catches, are kept airtight with foam gaskets. The rear door's gasket is thick enough to allow cables to exit the box simply by being 'trapped' in the door. A sliding base allows the computer to be slid out if necessary.

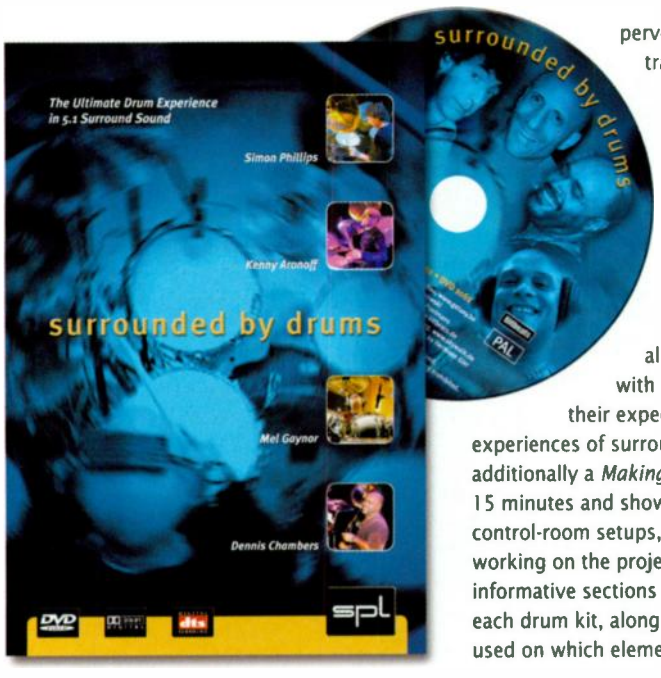
Even without the castors supplied, the gCab was too tall to fit under my studio worksurface. However, having set it up to one side, its top provided useful extra workspace.

The specifications state that the noise level of a desktop G4 computer can be reduced from 61.5dBA to 37dBA in the gCab. Tested subjectively, I found the gCab to be virtually inaudible, even when listened to in a quiet room, which after all is what you need to know. Given the complexity of building and shipping a unit like this, the UK price seems pretty fair, though it still seems a lot to pay for keeping your computer quiet, as you could buy a halfway decent PC for the same price. Nevertheless, if you need a quiet

environment and you have space to accommodate the gCab, it could make the difference between being able to record in the same room and not. SOS

information

£	£1169.13 including VAT.
T	Audio Agency +44 (0)1908 510123.
F	+44 (0)1908 511123.
E	info@audioagency.co.uk
W	www.audioagency.co.uk
W	www.norenproducts.com



perversely, are in the traditional frontal perspective and match the left-right orientation of the camera position!

As well as a pair of very impressive solos given by each of the four drummers, the disc also contains interviews with them talking about their expectations and experiences of surround sound. There is additionally a *Making Of...* video which lasts 15 minutes and shows the studio and control-room setups, as well as the team working on the project. One of the most informative sections lists the components of each drum kit, along with which mics were used on which elements.

It's important to restate that this DVD doesn't contain drum workshops or clinics, or any explicit advice about drum miking techniques. However, it does provide some superb-sounding examples of 'state of the art' drum-miking techniques, and the pictures are sufficiently detailed to see what is being used and where the mics are placed. Apart from the small issue of contradictory sound and vision perspectives, the disc is excellent — entertainingly impressive, and educationally informative in equal parts. SOS

information

£	£25 including VAT.
T	Sonic Distribution +44 (0)1525 840400.
F	+44 (0)1582 843901.
E	sales@sonic-distribution.com
W	www.sonic-distribution.com
W	www.soundperformancelab.com

Open Labs Open Synth Neko 64

Computer-based Keyboard Workstation

It's a great concept — a keyboard synth that can run computer plug-ins. Open Labs have created one by putting an entire PC inside a keyboard. But is it a recording revolution, or an overpriced processor in a fancy case?

Derek Johnson

The workstation concept has always been an attractive one: everything you need to accomplish a particular job housed in one package. In the field of music technology, workstations started with the integration of keyboard, sequencing and synthesis facilities. The idea has grown to encompass storage, more and more effects, and eventually audio recording of some form, whether as linear tracks or by means of sampling options.

But a number of questions often occur to the more thoughtful workstation synth user: wouldn't it be nice if we could swap around different bits of various manufacturers' technology to customise our workstation? What if we could add plug-ins to our main instrument? And wouldn't it be great if we could run our favourite sequencer on our workstation?

Maverick US developer Open Labs have finally provided an answer to these questions in the form of the Open Synth Neko 64, which builds a PC into a keyboard-equipped package and is therefore capable of running audio-sequencing software, virtual instruments and plug-in effects within the one case. The Neko has been a couple of years coming, and was given a long introduction back in the February 2003 *SOS* NAMM show report, but it's finally here. And it's *deep* — a keyboard workstation with an entire PC inside its case, including audio and MIDI hardware and a host of music-making software. Everything can be done in one integrated environment: MIDI sequencing, audio recording, editing and mixing, and mastering to CD. At home in the studio or on stage, Neko can be taken anywhere you'd take an ordinary synth, except it's more powerful and expandable — oh, and larger and heavier, of course!

You're also free to add the commercial software of your choice to the supplied collection. It may not be possible to assemble a 'best of' from various Korg, Roland and Yamaha synths with Neko, but given that practically everything in synthesis and sampling history has now been emulated in some form in software, you should be able to easily assemble an instrument that does what you want, in your way. That's the theory, anyway. What about in practice?

First Impressions

Most people's first impression of the Open Synth will be related to its size and weight. Once out of the box, many will marvel at the number of built-in controllers, and the huge central display — a massive 15-inch LCD which we'll return to shortly, for good reason. Bemusement might arise when out of the box also falls an Open Labs T-shirt and baseball cap — there's no doubt that this is an American product! — plus a certificate of authenticity for the first 1000 units produced. Quite how, or why, anyone would pirate Neko, though, I don't know!

More usefully, you'll also find a collection of CDs containing Windows XP Professional, the supplied music software, emergency disks and so on. There's not really a manual as such; the supplied users' guide is a bit brief and lacking in detail (and a good chunk is given over to one of the supplied applications), although it helps to get you up and running fairly quickly. But really, if this were meant to be a product aimed at people who don't think computers and music mix, then a something a little more weighty in the manual stakes should be part of the package.

Once you've placed the workstation on a sturdy keyboard stand or table, you may wish to power up. This is a two-stage affair, involving engaging the power supply at the rear, and then pressing a red power button located in a recess below the right end cheek (see right). The instrument will boot immediately, since all the software is pre-installed. The boot process is also nearly as fast as a modern synth powering up. The next big impression will be of fan noise — I really would have thought some form of silent cooling option would have been specified for a product that has the potential to be the only hardware in a recording situation. Open Labs' specs quote 'whisper-quiet' cooling fans, but it doesn't sound like it. There are up to three fans on board, and the decibels mount up. When it's been running a while, you'll also discover that Neko is rather efficient heat source.

I'll return to both these points, but a couple of things will stand out when you first boot up Neko. First of all, you'll discover that the colour screen is actually a touchscreen LCD — no mouse is required! And you'll also notice that the working environment, although PC-based, is not Windows XP. Open Labs have helped Neko feel less like a computer by implementing a shell GUI — called, handily, *Open Labs Shell* — which provides users with a focused ▶

Neko & The 'Net

In an ideal world, I wouldn't have Internet access and music applications on the same computer, but like most of you, that's exactly what I do have! It's often easier, if not necessarily advisable, to have your machine set up like this so that authorisation and updating can be undertaken more quickly. So what about Neko? It *can* be connected to the Internet, though it does not have a built-in modem. You can add one, though; you could set up a dial-up connection via a USB modem connected to one of the USB ports, or you could arrange a Broadband connection via a cable modem attached to Neko's Ethernet port. Of course, if you have another computer (or a network of computers), then the Ethernet port will allow you to interface with other computers, and it should be straightforward to set up Neko to share any networked Internet access.

SOUND ON SOUND

Open Labs Open Synth Neko 64

pros

- It really is a PC built into a keyboard!
- Great choice of audio hardware.
- Built-in CD or DVD burning.
- Supplied software suite offers everything you need to make music.
- Love that touchscreen!

cons

- Range, on the whole, expensive.
- Fans noisy.
- Rather large.
- Some way of labelling encoders and faders would have been nice.
- No UK distribution at present, so the UK customer is currently lumbered with customs duty and shipping charges from the USA.

summary

A real first, the Open Synth Neko 64 not only proves that the 'PC in a keyboard' concept can fly, but does so in an elegant and easy-to-use form. The current high prices are something of a shame, but let's hope that the new, more affordable Open Synth Neko LE points the way forward.

The second On switch is tucked away around the right-hand end of the Neko. This button boots it up once the main power switch on the rear panel is on.

environment with none of the normal PC distractions. Neko is, to all intents and purposes, a stand-alone synth, and you don't have to interact with Windows XP at all if you'd rather not.

Hardware Overview

Physically, the Open Synth is one of the most sturdy keyboards you're likely to encounter (see the photos here, on the next page, and on the last page of this review). It's also one of the largest, with the deep, sloping front panel needed to accommodate that amazing display, three controller panels and a laptop-style QWERTY keyboard. Yes, just like classic high-end audio hardware such as the Synclavier and Fairlight, the Open Synth's main music keyboard is joined by a standard computer keyboard. It was rather a strange experience to be writing part of this review on the instrument I was reviewing! That touchscreen LCD means that a mouse is largely not necessary, but a trackpad with a pair of buttons means that you have a choice if the LCD access doesn't work for you for some specific function. The pad is located under the display.

Neko 64 is available in various forms at different prices (see the 'Pricing' box at the end of this review for more details). The model under review features a standard 61-note synth-action keyboard, which feels nice to play, with a traditional light synth action, and offers velocity and aftertouch sensitivity. This is joined by a pair of good-sized rubbery pitch-bend and modulation wheels — the mod wheel is free-running, while the pitch-bend is firmly sprung, with a definite centre detent.

The rest of the front panel is arranged as three panels, dedicated to Neko's excellent array of control hardware. Open Labs have these panels built to their specification by a specialist manufacturer. Top left, there's the rotary control panel, offering 24 rotary encoders — they have continuous action, with no end stops — and 24 backlit switches.

There's space for plenty of assignable physical controllers on the Neko, with 24 rotaries and buttons in the top left-hand panel and 16 faders, each with two buttons, in the lower left-hand one. These are the default control panels supplied for the left-hand panels of the Open Synth Neko, but you can mix and match panels to your taste when you specify your instrument, as they're all standard-sized drop-in modules.

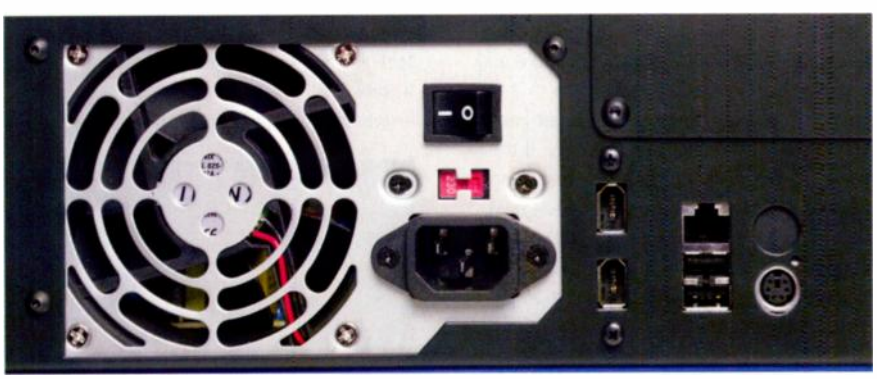
All are capable of generating MIDI data. Below that is the linear control panel, featuring 16 50cm faders and two rows of 16 backlit switches. One row toggles a value while the other offers a momentary action — they're 'on' only while you press them. Again, all the controls are fully MIDI assignable. Obviously, the rotary panel will figure heavily when it comes to synth editing, and the linear panel will serve most of its life as a mixer controller, but you can customise the controls to do whatever is required.

The final module is the master control panel, top right (shown on the next page). Here, you'll find full sequencer transport controls, a numeric keypad, a handful of buttons that access menus in the shell program, a global volume control and a global tempo control. The latter doesn't work with all software yet, but will in future.

In addition, this panel offers a 2x40-character LED display with a row of eight soft keys below it. These controls work with the novel alpha stick to provide access to most of the installed software without you having to even touch the screen (this is useful because some Neko variants don't have the touchscreen). The alpha stick, by the way, is an excellent combination joystick/knob/switch that functions in a really intuitive way; it can be customised to do almost anything, since it's capable of generating MIDI data and/or standard key strokes. The cursor buttons around the stick in a cross formation offer even more scrolling and parameter-access options.

Note that these control panels are removeable and interchangeable: if Open Labs produce something better or more suitable to your situation in future, you can simply swap the modules.

Open Labs have saved themselves a lot of trouble by not developing custom audio hardware. Instead, they've taken the sensible step of adapting an M Audio 1010LT audio card. This card, which can record at up to a sample rate of 96kHz, offers more and better interfacing than the majority of standard synth workstations. It's equipped with no less than two balanced XLR input connectors, eight unbalanced input quarter-inch jack sockets, eight unbalanced quarter-inch jack outputs and a pair of XLR output sockets. Digital interfacing may not seem as well developed, with just an S/PDIF input/output pair of phono sockets, but these are joined by word clock In and Out



The somewhat less-than-totally-silent fan dominates this view of the left-hand end of the Neko's back panel, and the main power switch can also be seen. As you'd expect of any PC, there's plenty of scope for attaching peripherals; dual Firewire ports, twin USB 2.0-compatible connectors, an Ethernet socket, and a standard PS2 serial port for attaching an external PC keyboard.

HERCULES 16/12 FW

FireWire Audio System for Windows and Mac

RRP £439 inc VAT

Key Features

- **Professional 24-Bit 96kHz audio quality**
  Using high class converters. Supports multiple sampling rates: 44.1, 48, 88.2 and 96kHz for recording and playback | A/D converters: 105 dB | D/A converters: 114 dB
- **16 independent inputs**
  12 analogue inputs: 10 analogue ins via gold-plated, balanced or unbalanced Jacks switchable between +4dB and -10dB | 2 high-quality analogue ins with mic/instrument pre-amplifiers with switchable 48-volt phantom power via Neutrik™ combo (XLR/TRS) connectors & **4 channel digital inputs:** 1 stereo S/PDIF optical input | 1 stereo S/PDIF coaxial input.
- **12 independent outputs**
  8 analogue outs via gold-plated balanced or unbalanced Jacks switchable between +4dB and -10dB - for mixing via an external mixer or for production and playback of Surround sound audio mixes on 5.1, 6.1, 7.1 outputs. | 1 stereo S/PDIF optical output and 1 stereo S/PDIF coaxial output.
- **Wordclock input/output**
- **MIDI 32-channel interface on 2 MIDI I/O**
  Connect a MIDI keyboard, sound module and/or a control surface, and you are ready to go. The FireWire cable carries both MIDI and audio so you don't need to connect an additional MIDI interface.
- **Headphone output with front-panel volume control**
- **32 front panel signal LEDs for analogue, digital, and MIDI**
- **Hardware monitoring of 2 inputs (out of 16) on outputs 1 & 2 with near zero-latency, selectable on any inputs**
- **Rack mountable**
- **Driver support for Windows and Macintosh OS X**
  ASIO 2.0, GSIF, WAV, DirectSound, DirectMusic... with Ultra low latency to play software instruments in realtime.
- **Full Music software package**
  Cubase 2.0 LE | LIVE Special Edition: Audio sequencer. | ~400Mb of sounds

The Hercules 16/12 FW - FireWire Audio interface is a next generation 24-bit/96kHz studio quality audio system, containing everything you need to turn your Windows or Mac Desktop or Laptop PC into a powerful digital audio workstation - at the best **price/performance** currently available.

The Hercules 16/12 FW - FireWire Audio interface provides 16 inputs and 12 outputs, including **12 channels of pristine 96kHz analogue recording** and **8 channels of analogue playback**, combined with 4 channels of digital I/O and **2 MIDI I/O**.

The Hercules 16/12 FW - FireWire Audio interface is designed to be used with all of the latest music and audio applications including: SONAR, Cubase, Nuendo, Logic Audio, Audition, Cool Edit Pro, Samplitude, GigaStudio, FL Studio (Fruityloops) and other multitrack music software. It's very simple to install and use and makes a great choice for you to build your home, project, pro or **portable** studio around.

computer products for musicians

et cetera DISTRIBUTION

www.etcetera.co.uk

For more information on or to buy any of our products suitable for musicians and audio specialists visit our website at **www.etcetera.co.uk** or email **sales@etcetera.co.uk**

Et Cetera Distribution | Valley House, Bradwood Court, Haslingden BB4 4PW UK | **tel:0870 873 8731 fax:0870 873 8732**

connections — seriously useful for serious studio work. MIDI connectivity is also inherited from M Audio's card: one In, a Thru and two Outs. These are joined by expression- and sustain-pedal sockets.

There *is* a headphone socket, and it's mounted round the front, just below the pitch-bend and mod wheels. A volume control is joined here, rather incongruously, by a pair of USB 1.1 connectors. These are perfect for adding dongles, compact memory devices, or a mouse. But that's not all the USB connectivity: round the back, there's a pair of USB 2.0 connectors. It's great to see this new high-speed standard being specified. Also in this vicinity, there's a pair of Firewire connectors, a Gigabit Ethernet socket, and a PS2 connector, for compatible mice and keyboards.

The Neko family is based around AMD Opteron processors; these are server-quality high-performance processors, with a 64-bit architecture (hence Neko 64). Speeds range from a single 1.4GHz-equipped model to a dual-processor 2GHz configuration. The standard price list teams this processor up with 512MB of RAM, an 80GB hard drive and a CD-RW. A DVD-RW is available as an option, and there is space inside for further hard drives. Of course there are slots for adding more RAM (the Opteron can address up to 4GB in total), and extra PCI slots mean that you can add additional hardware if required.

The master control panel, with its alpha stick (bottom right). As is evident in this and the picture on the previous page, front-panel labelling is minimal, because the physical controls can be assigned to so many potential tasks. This is fair enough, but maybe some scribble strips or overlays would have been nice to provide instant reminders of how you currently have the controls set up.

Software Overview

Before we get to the installed music and audio software, there's one package that we must discuss: *Open Labs Shell*. As you might guess, this application sits on top of Windows XP and aims to keep the workings of Microsoft's OS out of view from those who would rather not know about it. The shell allows applications to be launched and used, files to be saved, and settings made more or less as if Open Synth *were* a traditional synth workstation. Because it is essentially a computer, though, there will be functions and features that are unavoidably computer-like, though they have largely been made as easy to access as possible. And don't underestimate the influence of the touchscreen: it makes the shell — and even Windows XP — feel very accessible indeed.

The first thing you'll see when you boot Neko is a blank screen, with a little 'Open' button to the lower left. Touch this, and a little menu pops up with two buttons labelled App1 and App2. Touching either of these causes sub-menus to appear, consisting of one or more applications. It's here that you launch the tools that help you make music. You're free to add applications to this menu at any time.

The Dat 1 and Dat 2 buttons help you get to the hard-drive locations where files are stored by Neko's on-board applications. The remaining main menu items access various utility items, a file navigator, the soundcard control panel, and so on. Pressing Command and then Exit even takes you to the scary world of Windows XP! It's fully possible to operate Neko from Windows, but should you rather return to the shell, there's a short cut on the desktop that takes you back.

So what are the main applications supplied with Neko? There are three: *Karsyn*, *Tracktion* and *Orion Pro*. *Karsyn* is an interesting choice; it's actually a custom version of Brainspawn's *forte* application, and essentially lets you configure VST effect and instrument plug-ins in pretty much any way you like. In Neko's universe, it turns what is a computer loaded with software into a performance instrument with all the flexibility, if not more, of a 'real' hardware synth.

The low-latency virtual rack environment offered by *Karsyn* lets you treat your virtual instruments as if they were a rack full of standard hardware. It's your choice how they're linked, both in terms of MIDI and audio routing. Key and velocity ranges, MIDI channels, controller mapping and more are all under your control. It's a very flexible system. This application alone may well suit many gigging Neko users — in fact, that's pretty much why *forte* was developed in the first place.

Tracktion will be known to many of you as the Mackie-branded software brainchild of Julian Storer, and finding it at the heart of Neko was a pleasant surprise. It's a brilliant musical environment that's amazingly affordable even when you have to pay for it, and it offers a different way to work with MIDI, audio and loops, but one that is musical and intuitive. It's also a great host for VST instruments and effects, leaving it pretty much up to you how they link together. It's pretty capable as an audio recorder and editor, too, taking full advantage of the audio I/O offered by the Neko package. *Tracktion* can even host Rewire-compatible applications.

Synapse Audio's *Orion Pro* will also be known to many of you — it was last reviewed in *SOS* in July 2003. It's essentially a virtual studio aimed mainly at dance music producers. A great selection of tools is provided, and it was interesting, as a long-term user of Propellerhead *Reason*, to see somebody else's approach to creating a similar environment.

In common with most such software,

I/O is comprehensive, thanks to Open Labs employing an M Audio 1010LT as the Neko's output stage; there are eight jack ins and outs, plus a further two balanced inputs and two outputs on XLRs. Stereo digital I/O is provided on S/PDIF, and there are four MIDI sockets (the usual three plus an extra MIDI Out), plus connectors for word clock and expression pedals.

AVALON DESIGN

EURO AVALON
T +49 89 818 86 949
F +49 89 818 93 485
euro@avalondesign.com

AVALON USA
T +1 949 492 2000
F +1 949 492 4284

AVALON UK
T +44 (0) 207 231 9661
F +44 (0) 207 231 3002
ukavalon@avalondesign.com

www.avalondesign.com

Orion Pro offers a family of sound-making devices and ways in which to sequence with them. Wavetable, FM and analogue synths are modelled, drum machines are provided, and there's even a capable sampler on board. Effects are built in, but any VST effects — such as those installed on Neko by default — are also accessible by the software. Likewise, VST instruments can also be used alongside those built into *Orion Pro*.

Virtual Instruments & Effects

I've established that Neko has a healthy handful of host software in which to load VST instruments and effects, so what have Open Labs supplied? There's a comprehensive sampling of the freeware and shareware scene, plus a couple of commercial extras. The latter includes IK Multimedia's *Sampletank*, Linplug's *Cronox*, *RMIII* and *Delta III*, and a suite of Spin Audio effects. The selection is varied and dizzying — a full list is available at www.openlabs.com/support/support_3rdparty.htm. Old favourites such as MDA's *ePiano*, *JX10* and *DX10* are joined by more recent efforts such as the excellent RGC Audio *Triangle II* synth. I immediately got myself a copy of the latter for my own PC! Also new to me were Buzzroom's efforts: *Lallapalooza Lite* and *BB303i* are worthy additions to anyone's sonic arsenal. Green Oak's class freebie *Crystal* is also there, along with Audio Nerdz's eccentric *Delay Lama* (which really benefits from being played via the touchscreen...).

In short, a varied range of straight synthesis tools are provided, and some of the free/shareware offered here rivals or beats commercial offerings. *Sampletank* comes with a range of standard imitative sounds, so if you need a piano or some way to mimic 'real' instruments, head here first. For anything more sophisticated, you'll have to add extra plug-ins (or extra sound sets for *Sampletank*).

Effects are not neglected, and MDA are once again well represented, which is great; their established VST plug-ins are efficiently programmed and can produce excellent results. A healthy selection is provided by Spin Audio, and Big Tick, Buzz Room and Kjaerhus Audio are also represented. Between them, you'll have enough delays, reverbs, compressors and standard and non-standard effects with which to sweeten or mess up your audio.

While I wouldn't say don't go out and buy more plug-ins or install commercial software, it's true to say that you'll find everything you need to make music already on board. But of course, though Open Labs try to keep the computer in the keyboard hidden, it has all the expandability and software open-endedness of a computer. So while you may prefer working in the shell environment, don't forget that any Windows-compatible software can be installed at a later date and accessed from within that shell.

Editing Linplug's *Delta III* plug-in synth via *Karsyn*. Once you've experienced the touchscreen, using standard computer monitors will never be the same again!

Adding Your Own Software

Anyone with an existing suite of software making the move to some flavour of Neko will most probably want to load it onto the new instrument. I was very interested to get Propellerhead's *Reason* on board, because it's one of my favourite packages and because the idea of *Reason* being the sonic heart of a synth workstation is really appealing. It worked just fine, as expected.

Once loaded, all the available MIDI sources — the main keyboard as well as the separate controller panels — could be assigned to either the basic or advanced MIDI settings in *Reason*'s Preferences. And even without any fine-tuning, latency of 6ms was available, and that's practically inaudible. Neko then became a hardware *Reason* synth! Moving around the program with a touchscreen was great. One surprise was that the Master Controller panel also had some good input, with the joystick making it easy to scroll around the rack, and other controls providing instant access to the rear panel and other bits and pieces. There was no messing about with audio, either: I just selected the Neko's 1010LT output hardware, and off I went.

The ready-installed *Tracktion* MIDI + Audio sequencer is Rewire-compatible, and as soon as *Reason* was installed, it became available from within *Tracktion* — without a restart. I don't know about you, but this is the kind of pain-free computer-based music setup I want!

I had a go at using Cakewalk *Sonar*, too, again without a hitch. There's a handy step during *Sonar*'s installation that lets you have Cakewalk's *VST Adaptor* widget find all the VST plug-ins on your system and make them available to *Sonar*, which was useful. And all the Neko's audio I/O hardware was recognised during *Sonar*'s installation. As with *Reason*, there was a sense that the Neko was taking on the personality of *Sonar*, since the hardware feels much more closely integrated than in a normal computer-based situation.

In fact, the only problem was that I resented ever having to go back to the non-touch-sensitive screen on my usual studio computers afterwards! I have a similar experience when moving from my trusty Korg Trinity to other MIDI devices with large displays: I want to touch a display and get instant feedback.

Adding Extra Hardware

This was one aspect of Neko that I wasn't able to test, due to the access panel being so tightly in place that I ruined several Allen keys attempting to gain entry! However, the upshot is that there are full-size PCI slots spare under the top panel, along with space for additional RAM (as mentioned elsewhere, Opteron processors can address up to 4GB each, if you can afford the memory). The potential is there for you to upgrade the processor in the future, and everything else is as accessible as it is in a PC — maybe more so, actually, due to the hinged access panel and all that space in the Neko's case.

WHAT IS IT THAT MAKES SE MICS THE PROFESSIONALS CHOICE?

Rob Kelly

'We have used the SE Gemini on various sessions at Strongroom Studios, and they stand up to the best valve mics in our collection. They are clear, full and detailed sounding. We bought two for Strongroom, and several of our clients who got to use them have put orders in for their own mics without hesitation.'

Strongroom Studios

Geoff Dugmore

'The coolest grooves the hardest beats the funkiest vibe only come together when I'm using the meanest mics. GET THEM OR GET OUT OF THE STUDIO.'

Robbie Williams, Tina Turner, Dido, Bruce Springsteen, Jeff Beck, Rod Stewart

Sidh Solanki

'... in the studio we usually have the pick of the crop when it comes to microphones but I keep coming back to my Gemini - I use it for almost everything from recording bass cabs and kick drums to acoustic guitar and vocals - knockout detail and luscious warmth - plus the two valves glowing in the back... simply beautiful.'

Outkast

Steve Levine

'The Gemini studio tube microphone is a very unusual microphone as it combines both the traditional warmth, expected of a high quality studio tube condenser microphone, along with an exceptional transparent high end, normally only available with solid state designs.'

Culture Club, The Creatures, The Beach Boys, Westworld

Paul Borg

'The Z5600 is a great all rounder. I have found it to be a great work horse using it on vocals, acoustic guitar and even bass amps. It has plenty of depth and handles low frequencies well whilst delivering real clarity on the high end with vocals and acoustic instruments.'

Busted, Mc Solaar, James Brown, Gangstar, Urban Species, Sugababes

Sae - London

'I tried the new mics from SE Electronics and the Gemini was brilliant. It had a clean, warm representation of the vocals I recorded. You could hear every breath of sound coming off the vocal chords....just amazing.'

Mix hit · Future Music · Music Tech Excellence Award · Music Tech Recommended

0 1 5 2 5 . 8 4 0 4 0 0

www.sonic-distribution.com

SONIC DISTRIBUTION

Putting It All Together

In use, there's not much to be said: the Neko works! The shell effectively keeps the worst bits of Windows at bay, and the whole package settles onto your keyboard stand as if it were a standard synth. One could almost review Neko 64 as if it *were* a synth, but that would be missing the true expandability of the system. It's nice that Windows can be accessed if needed, but it's much nicer knowing that this doesn't ever have to happen if you don't want it to. Of course, you won't be completely immune from computer functions, since this *is* a computer. But then what is every other digital synth but a specialised computer?

What's good about the shell is that anything to do with MIDI or audio drives is ready configured, and placed out of sight. Of course, everything is accessible if you want to tweak settings, but doing so from within the shell is less daunting, especially for the computerphobic, than it would normally be. Adjusting such settings is only marginally more complicated than doing the same job in a global edit page on an ordinary synth. Accessing MIDI ports and audio ins and outs will definitely be more complicated, but as everything in the relevant menus is reasonably clearly labelled, this should not be a problem for most of us.

Note that the keyboard and the rotary and linear control panels appear as different MIDI sources, as does the MIDI In on the back of the synth. Likewise, any audio I/O menus will offer a choice of Neko's 10 ins and 10 outs.

Of course, the applications that run in the shell have all their standard computer-like functions, so you'll be accessing file saving and retrieval and any other standard software-specific functions via a menu bar. Again, in the context of the shell, and with the help of the touchscreen, the system manages to feel more like a slightly complex synth than a computer.

The most important aspect of this integration of hardware, shell and software is probably that great intangible, 'playability'. This brings us immediately to the issue of latency — the delay in any computer-based music system between playing a note and hearing it on a synth, or between making a noise in front of a mic attached to the audio hardware and hearing it though the synth's output. The good news is that it's negligible; I've played hardware workstations that have had a more sluggish feel than this. Neko might be a computer at heart, but this, at least, is a non-issue. The choice of processor and motherboard architecture, together with optimised audio and MIDI hardware and drivers, keep latency at an absolute minimum.

Even adding your own software doesn't unbalance the situation; the MIDI sources become instantly available to any new software, and if you need to play with audio settings, the 1010LT output card has its own easily accessible control panel available from within the shell software. Adjust latency settings in any newly installed

Neko running Guido Scognamiglio's *ORGANized trio* drawbar organ plug-in (which is included in the Neko's software bundle). The headphone socket is just out of sight on the lower left edge of the keyboard, below the dual mod wheels.

Pricing

Neko is available in a number of configurations, and there is a certain amount of user choice: 76-note keyboards, uninterruptible power supplies, and of course those user-configurable front panels, for example. The result is a potentially complicated pricing structure. Here, though, is the basic outline of the range. An additional complication is that there is no UK distributor at present, which means that potential UK customers are responsible for paying the not-inconsiderable shipping costs from the USA (these instruments are heavy) and also the customs and excise duty. Neither of these costs is included in the prices quoted here, and you should bear this in mind when budgeting for a Neko. These are Open Labs' suggested US retail prices, with approximate sterling equivalents afterwards in brackets (correct at time of going to press in mid-November).

- Neko 64 with a single Opteron 64-bit 1.4GHz processor, 512MB of RAM, an 80GB hard drive, CD-RW, software bundle and touchscreen; US $5495 (£2970).
- Neko 64 with dual Opteron 64-bit 1.4GHz processing, 512MB of RAM, an 80GB hard drive, CD-RW, software bundle and touchscreen; US $6000 (£3240).
- Neko 64 with dual Opteron 64-bit 2GHz processing, 512MB of RAM, an 80GB hard drive, CD-RW, software bundle and touchscreen; US $8600 (£4650).

Just as I was finishing this review, Open Labs released news of the Open Synth Neko LE, which retails for US $2600, or US $3200 with optional LCD monitor (that's currently about £1400 and £1730 respectively). The concept is the same, complete with ready-loaded software bundle, but the control panels are now optional add-ons, the processor is a Pentium 4, and you can supply your own external monitor. That said, the LE can be upgraded to a top-of-the-range Neko at any time.

software to the lowest possible figure, and you probably won't become unstuck. When I installed *Sonar*, I went immediately to a latency of around 5ms with no CPU issues or playback problems. That eminently more-than-acceptable figure was achieved without even trying hard — better might be achievable.

What about comparing other workstation synth specs, such as polyphony, multitimbrality and so on?

Well, Open Labs' own documentation quotes 128-note polyphony, but it's hard to see a real limit. Sequencer tracks number a maximum of 128, although internally, that number would depend on the sequencing software you were running — it could be effectively unlimited, of course. Effects processing is also practically unlimited; you're free to assign whichever and as many effects as you like, or your chosen host software will allow. Being a cutting-edge PC, Neko can accommodate a lot of RAM — up to 8GB on the top-rung dual-processor models — and there's space for multiple hard drives in the case. Any format of audio file acceptable to Windows XP can be imported, and in terms of controls, Neko beats much of the competition with its 24 rotary encoders, 16 faders, and multitudinous buttons, to say nothing of its comprehensive controller module.

As a studio tool, Neko 64 does suffer from one problem. Because everything is in the one package, any audio recordings you make with it will have to be in quite close proximity to the synth unless you invest in some very long leads or make up some stage boxes to extend the audio hardware. And recordings made in the same room do capture the fan noise. I'd like to see this aspect addressed in some way — surely there must be quieter fans! One-room home studios may not be the first place you'll see the fruits of Neko's labours, though, unless the owner of that room has a fair bit of spare cash. But if it *is* in your price bracket, synthesis, sequencing and audio recording doesn't get tidier or more integrated than this. I'm sure linear audio recording will be *de rigeur* amongst synth workstations in the near future, but any standard workstation synth so-equipped will still not be as readily expandable as the PC-based Neko.

Another place you'd see a workstation synth more frequently than a computer would be on stage, but I'd feel quite happy taking a Neko out live (its weight would require both a flightcase and a stand that could handle the pressure, though). As a performance computer, it's unique. The top-of-the-range model has a built-in uninterruptible power supply, and it boots up quickly, making recovery from power cuts less of a strain than on a standard computer. I certainly wouldn't be surprised to see Nekos on stage during big-name tours in the future.

Conclusions

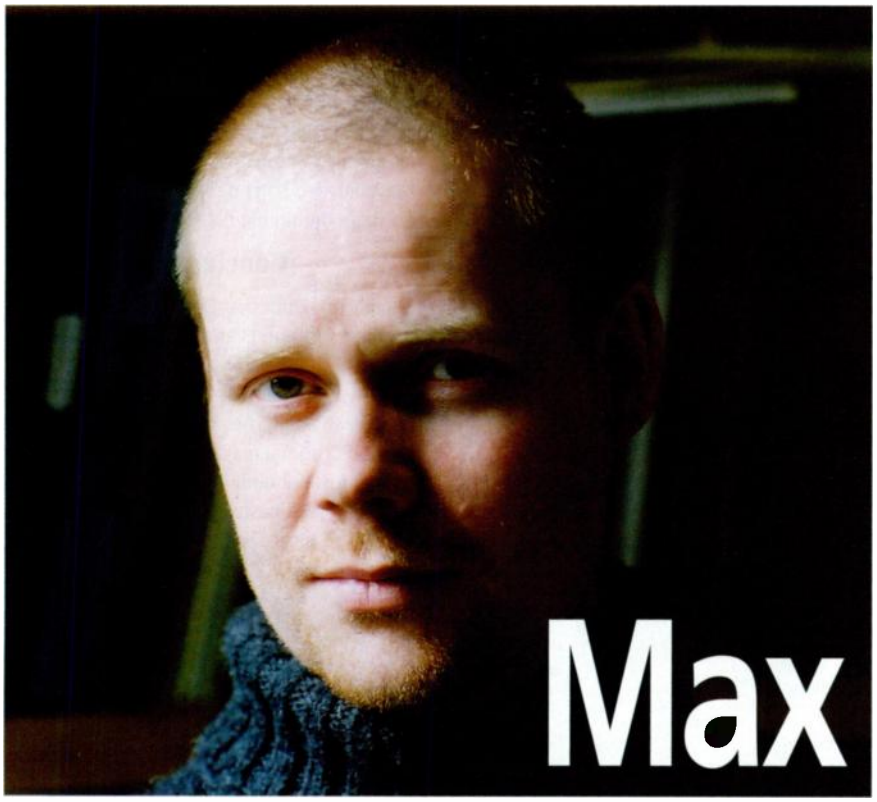
There's no doubt that Open Synth is an exciting concept. Even software that you're familiar with takes on a new life when it's actually integrated into your keyboard. The only downside has to be the price. A suitable laptop PC from a major computer chain could be had for well under £1500, a quality USB-equipped master keyboard needn't cost more than £400 (and that's for M Audio's new weighted Keystation Pro 88!), basic audio hardware doesn't have to cost more than £100, and as for software... the same shareware and freeware packages available here can be purchased on-line by anybody. Those are just rough figures; it could be done more cheaply or more expensively and still beat Neko on price.

But what you *couldn't* buy is the integration, the hiding of the computer from the user, and the way in which irritating underlying issues such as audio and MIDI drivers are taken care of in an elegant manner. You also wouldn't be buying the road-proof case, which I personally find rather elegant. Attempting to lug its bulk around without help might take the shine off that impression, though!

Currently, Neko 64 is perhaps unique, though there is a small range of devices coming on stream that aim to provide hardware playback of VST plug-ins — Muse Research's Receptor and Manifold Labs' Plugzilla come to mind. Whether there are developers waiting in the wings to see if Open Labs succeed before entering the market with similar keyboard-based products remains to be seen. But anyone attacking Neko 64 on its own terms will have to work very hard, because Open Labs have done an amazing job. SOS

information

£ See the 'Pricing' box opposite.
T Open Labs +1 512 444 6222.
F +1 512 233 2963.
E sales@openlabs.com
W www.openlabs.com



Max Richter combines chamber music with ambient recordings, spoken-word pieces and experimental electronica, creating a distinctive and beautiful blend of the traditional and the futuristic.

Max Richter

Paul Tingen

Recording *The Blue Notebooks*

Max Richter's latest album, *The Blue Notebooks*, has been praised to the skies all over the world, mainly by classical music critics; and given the ear-catching melodic lushness of Richter's orchestral and string writing, he's often pigeonholed as one of those contemporary classical composers who have rediscovered melody and tonality, such as Arvo Pärt, John Taverner, Henryk Górecki and Michael Nyman. Yet Richter's elaborate use of samples and electronics, applied in ways that are reminiscent of electronic acts like Future Sound Of London, Autechre and Boards Of Canada, places his music well outside the classical music genre.

"My string writing is indeed very traditional," muses Richter. "I listen to a lot of Purcell. And if there's a model for the big string piece on *The Blue Notebooks*, which is 'On The Nature Of Daylight', it's late Beethoven. I'm looking for that incredible intensity and clarity, using the minimum amount of notes possible. It's a case of less is more, definitely: getting things really concentrated. I'm a minimalist in that sense. At the same time, for someone living in 2004, it would be odd not to use electronics, because they are the instruments of our age. If I didn't use electronics, I'd be like an 18th-century classical composer not using the piano. It just wouldn't make sense.

"I have these two influences in my life," continues Richter, "the whole classical background, and all the other stuff that was around in the world when I was younger: electronica, early dance music, punk, psychedelia. I went through a whole musical journey, coming from my classical education, having a music degree, postgraduate stuff, having studied composition in Italy with Luciano Berio — which was amazing, incredible — to this place in the middle where I am now. One part of my music has the notes written down, it's about pitch and structure, it has a kind of classicism. Another part is about sound. That's where it gets really interesting. From working with people like the Future Sound Of London, I know that for them music is about colour, sound, and feel. And I'm trying to bring all these strands together."

The Direct Approach

Max Richter began his long march through musical genres in Germany, where he was born in 1966. Moving to Great Britain as a young child, he studied piano and composition at Edinburgh University, the Royal Academy of Music in London, and with the aforementioned Luciano Berio, the great modernistic 20th-century composer. Richter initially followed in Berio's footsteps, composing music in the hardcore atonal and serialist traditions that were the penultimate development in late 20th-century classical music. After graduating, he co-founded Piano Circus, a highly successful classical performance ensemble featuring six pianists. It was his performance experience with this group that guided him back towards tonality, as well as towards incorporating electronics.

"When we were playing music by people like Terry Riley, Steve Reich, Philip Glass and Arvo Pärt," Richter recalled, "I noticed that this music is very direct, and that audiences get off on it. They love it. One of my formative musical experiences had been listening to Kraftwerk's *Autobahn*, and later Brian Eno's *Discreet Music*. I made a live version of the latter for Piano Circus that also used electronics, and the audience response was incredible. By contrast, a lot of *avant garde* music is very head-orientated. The modernistic thing is often about a composer giving a lecture, casting down the pearls of wisdom, whereas tonal music lets people in, it's more inviting. I noticed that I preferred music with a sense of narrative, that you want to listen to more than once, that gives aesthetic pleasure and that's more intuitive. So I decided to write what I wanted to hear."

The pendulum of Richter's career swung entirely the other way in 1996, when he began collaborating with Future Sound Of London, working on their albums *Dead Cities* (1996) and *The Isness* (2002) as a piano player, co-writer, programmer, arranger and co-producer. He also did some orchestral arrangements on drum & bass pioneer Roni Size's 2002 album *In The Mode*. Having left Piano Circus, by the turn of the century Richter's focus was more and more on his own compositions, writing music for commercials, television and film, working with director Ridley Scott on his 'Future Thoughts' ad for Orange, and gradually establishing himself as a serious independent composer.

Richter's first full-length release under his own name was *Memoryhouse* (2002), released on the BBC's Late Junction label and featuring the BBC Philharmonic as well as his trademark electronic experimentation. Two years later there was *The Blue Notebooks*, released on the Fat Cat label, performed with the string quintet Richter now performs with on the live stage. On his last work, the instrumental string-samples-electronics pieces are interspersed with tracks featuring actress Tilda Swinton reading a number of selected texts by Czeslaw Milosz and Franz Kafka over musical backings that include environmental sounds and the clicking of a typewriter.

"I suppose the texts are about reclaiming beauty," ponders Richter, "the central line being the one by Milosz at the end of 'The Trees' about trees that had been cut down in childhood having regrown to become even taller than before. *The Blue Notebooks* is like telling a story. It's emotional but also a place to think. I believe music needs to have something to convey that you care about, that makes me want to run into the studio and say 'I have to get this down because I want people to hear it.' It's an hour of somebody's time when they listen to it, and I don't want to be wasting anyone's time."

Shadowy Sounds

So how exactly does Richter arrive at the point where he wants to run into a studio to get his ideas down? He explains that his music emerges from experimentation in his writing room, with electronic programming, piano noodling, or manual scorewriting all possible starting points. "There's a constant reservoir of stuff that I write, and the albums are a slice of that. An idea may turn into 50 ideas, and only one of them ends up on the record. A lot of my writing process is about trying to uncover surprises. It's like fooling my mind into delivering new things. The track 'Shadow Journal', for instance, came out of a shredded viola loop and a very unusual low sound. I think that bass sound was originally an 808 patch on a Roland 1080 module. It had a delay by accident, it was a glitch. When I heard it, it was like 'Quick, run the DAT machine.' That was quite a while ago, and then I stuck it into a computer, built some harmony and a pulse around it, and the piece came into being like that."

A lot of the synth-like sounds on *The Blue Notebooks* have a soft, warm analogue quality to them, although there are no analogue synths visible in Richter's work room. "Some people have told me that they didn't think that *The Blue Notebooks* was very electronic," states Richter. "But it is very electronic. It's just that the electronics aren't shiny. People associate electronic sounds with shiny and sparkly colours, but I'm not interested in that. I built analogue keyboards as a kid, these synth kits that you could buy on mail order. Unfortunately I don't have any of that stuff any more, but it obviously had a strong effect on me. I now tend to roll off a lot of the high end in the electronics in my music, and this makes them sound very vintage-like.

"*Reaktor* and the *Virus* Pro Tools plug-in are my main synths, and particularly *Reaktor* 3 is my synth of choice. It's grittier than *Reaktor* 4. The washy sound you hear on 'Shadow Journal' is the shredded viola loop I spoke about. It's a viola player playing the chord sequence in arpeggios, and I've treated it, cutting off the low end below 400Hz and the top end above 1500Hz, using a GRM band-pass filter plug-in that's very dirty and very brutal. This left only the inner harmonics of the viola part, so it gets ▶

On A Technical Point

The heart of Max Richter's current system is formed by his Apple Mac G5, with dual 2GHz processors and 4GB of RAM. "I dislike OS X, because it's much less stable than OS 9," says Richter, "but in order to run the VSL library, I have to run OS X. *Logic* is sequencer-wise the way to go. It's really very evolved. You can set it up any way you want, it's very quick and very easy to use, and it's pretty stable. *Melodyne* is by far the best pitch and time tool out there — massively better than, er, the one everybody uses, which sounds phasey and nasty. I don't really like messing with people's pitch and timing — I'd rather get good takes — so I don't use it for that, more for abstract type stuff like changing the tempo of audio from say 80bpm to 0.003bpm.

"I don't have many plug-ins in my new system, because I've only just migrated to it, but one that I use a lot is *Altiverb*, which is an amazing-sounding convolution reverb. Another great plug-in is the TC *Master X5*, which is fantastic for doing things for film and TV, because it makes everything sound huge, and TV and film people love things to sound huge. Also, [*Camel Audio's*] *Supercamel Phat* is a lovely compressor/EQ/band-pass filter plug-in that is cheap and sounds great on everything, especially bass and kick drums. I love the *GRM Tools* band-pass filter, and the Camel complements it nicely.

"My audio interface is provided by a MOTU 24I/O, and I have a 16-fader Mackie Logic Control and the Samson C-control, which is just a monitor controller and talkback. The Mackie is fantastic for orchestral mixing, when you need to move lots of faders at once. If I had more space, I'd have more of these, because they're brilliant. My master clock is a Rosendahl Nanosync, which makes a huge difference for digital playback. I used to have a Yamaha 02R, and it made it sound like a desk five times the price, because the clocking got so much better, all the jitter was gone, and imaging was razor-sharp.

"Outboard gear is a TLA Indigo EQ2012 parametric EQ, which is very nice, SPL Vitalizer and Transient Designer, which is fantastic for shaping the front of the note; if you want things to sound a little further away you just make the attack a bit softer. The TC Gold Channel is a nice mic preamp; my TC M3000 is a beautiful reverb, very true. The FAT PCP330 vocoder is something I use all the time, and I like the FAT Resonator. The Electro-harmonix Hot Tubes is very cool, as well as my Bob Moog Moogerfooger. I use the Hot Tubes as a kind of mastering box, for pianos, anything digital that sounds a bit plasticky goes through it. It's a fuzzbox, it adds a bit of grit. If you listen to the final track on *Memoryhouse*, 'Quartet Fragment', you'll hear it on a 60-piece string section. The drums on the track 'Arboretum' on the *Notebooks* also went through this.

"More outboard boxes: the Emagic AMT interface, Sony VHS player — short films are sent to me via broadband, but longer films on VHS — Tascam DA45 HR DAT machine, HHB compact disc player. The Kawai K5000R is a wonderful additive synth that can be very analogue-sounding — you can tune every bit of the sound, so you can build up partials and move them around, and get it to be slightly out of tune, so that it drifts, just like the Moogs and ARP synths, giving it more of a perceived analogue feel. My three Emu E4 samplers are in storage at the moment. My main keyboard is the Yamaha P300 MIDI keyboard."

Max Richter's studio is now based around an Apple Mac G5 with a 16-channel Logic Control controller.

▶ this nice whooshy, rather mysterious analogue feel."

Not Quite Knowing Where You Are

Richter explains that he has just changed his recording system, substituting a Mac G5 with 4GB RAM for his old Pro Tools Mix Cubed system, mainly because of the VSL orchestral library, "which is amazing. I regularly do orchestral mock-ups of the pieces I write for TV and film, and they are now good enough to fool the layman. Before I had this system I also used a load of Emu E4 samplers, but my current system, with *Reaktor* 3 and 4, *Logic Platinum*, *EXS24*, *Melodyne* and *Sibelius* as my main software, is fantastic. When I open the session, all the samples are there. This saves so much time. And *Sibelius* is a fantastic scoring program. There's no contest. When writing for orchestra I scribble on paper first, and then input things into the computer."

The composer calls the VSL library "a huge leap forward sound-wise, even though I still can't get it to work properly." He also uses the orchestral libraries of Peter Siedlaczek and of Miroslav Vitous ("great all-rounder, but a little too clean sometimes"), as well as Kirk Hunter's string library ("great sound, but very scrappy programming"). While these libraries are good enough for string and orchestral mock-ups in demos and for most film and TV work, Richter prefers to use real instruments on his albums. Similarly, few of the samples that make it onto his albums are canned. All outdoor environmental recordings on *The Blue Notebooks* are the real thing, recorded by him using DACS in-ear binaural mics.

"I love binaural stuff," remarked Richter. "It sounds perfect. The opening [*and title*] track of the album has four or five things happening at once. There's a recording of a windy day with a window rattling, which I processed with a nice exterior reverb from my TC M3000 to make it indistinct. It now sounds like a beach or a railway track. You don't quite know where you are, but it's a place. There's are also a typewriter and a clock ticking, and there's Tilda talking, all very close by. And there's a piano playing off to one side, in a very big space.

"On 'Shadow Journal', there's a recording I made of a forest, mixed in with a recording of some crows, which takes over when the bass drops out. The stereo percussion in 'Old Song' comes from a very cheesy, 1960s cha-cha-cha Eko drum box, treated with my favorite box, the Electro-harmonix Hot Tubes guitar pedal, and then put through *Reaktor*. On 'Iconography' I did use some canned samples, from an organ and a choir, which I treated with three different reverbs, from the TC and *Altiverb*, all shuffled together. Also, 'Horizon Variations' borrows a little bit of harmony that you often find in Bach, and that was also used by Boards Of Canada on their track 'Over The Horizon Radar'."

Old And Amazing

Once Richter had completed the demos of the tracks for *The Blue Notebooks* in his work room, usually with finished electronic tracks and mock-ups of the strings and piano, he went into Eastcote recording studios to record the strings. Some of the live piano was captured at Hear No Evil Studios and some again at Eastcote. Despite the digital nature of Richter's own setup, these studios were chosen because of their analogue recording credentials. "I like vinyl, I like old tape, I like old synths and instruments, and I like people that play and stuff," explains Richter. "We recorded most of the live material on old analogue ▶

The mix for 'Shadow Journal': the string recordings made to analogue tape at Eastcote are imported into Pro Tools (with *Logic* as a front end) for editing and combined with the other elements of the track, such as the electronica and spoken-word recordings.

SIMPLY STUNNING PERFORMANCE AT AN UNBELIEVABLE £499 INC VAT.

INTRODUCING MEDIADESK FROM blue sky

Blue Sky's entry level 2.1 system, MediaDesk offers the first ever, ground up, full-range monitoring system for the desktop and is fully optimized for computer-driven audio recording and production.

Easily expandable to a 5.1 system as with all of our systems, MediaDesk 2.1 incorporates two ultra-compact 2-way satellite speakers, each featuring a high-quality 4" driver and a 1" tweeter, along with a dedicated 8" powered subwoofer and Bass Management System.

MediaDesk can be easily upgraded to a space-efficient 5.1 multi-speaker system with an upgrade kit that includes three more satellites and a control module.

SPECS

MediaDesk 2.1 system	MediaDesk 5.1 upgrade kit
2 x 4" 2-way satellites, with one inch soft dome tweeter	3 x 4" 2-way satellites, with one inch soft dome tweeter
1 x 8" powered subwoofer	3 x 60 Watts - MediaDesk 3-Channel Upgrade Card
2.1 bass-management	Includes 5.1 bass management
Subwoofer and Master Volume, located on the back of the Subwoofer	Wired remote volume control with channel adjustments for all channels
3 x 60 Watts (60 Watts for each SAT & 60 Watts for the SUB)	+10 / 0 dB Gain LFE input switch

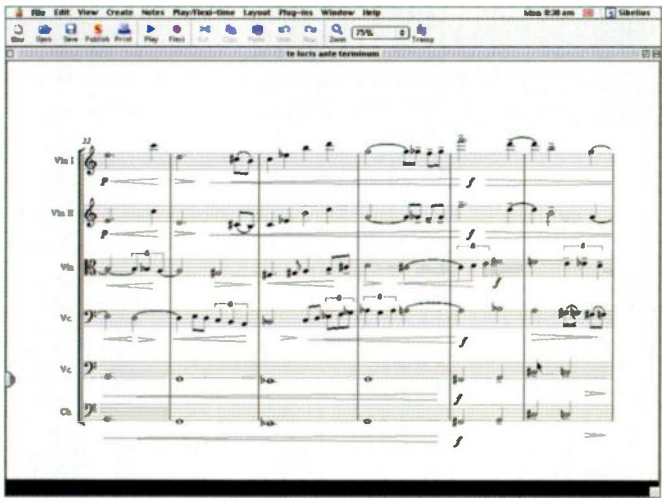
TRY OUR UNIQUE FREE 7 DAY TRIAL

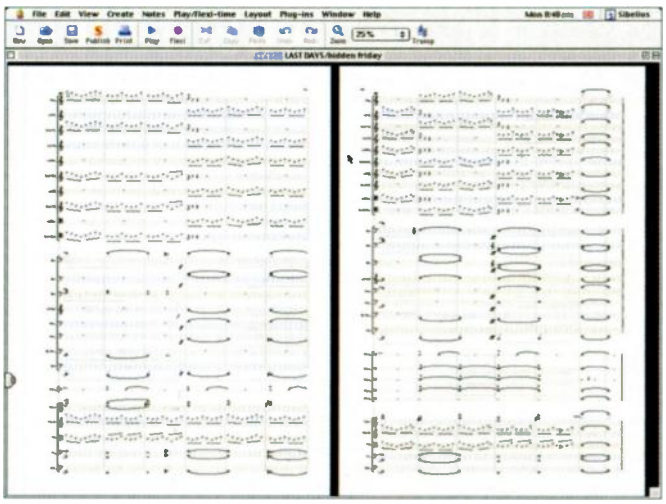
01525 . 840400

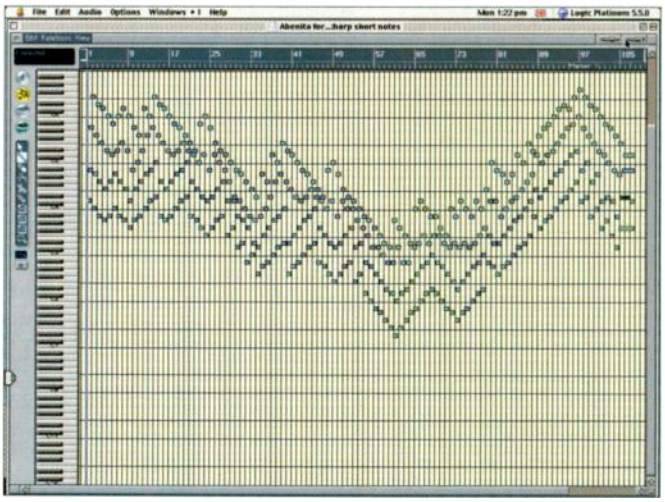
www.sonic-distribution.com

SONIC DISTRIBUTION

RECORDING *THE BLUE NOTEBOOKS*







Richter uses *Sibelius* for conventional, score-based classical writing (above, left and right), but also writes by playing directly into *Logic* and using its programming tools (right).

▶ equipment that Eastcote owner Philip Bagenal once bought from the old Decca studios and Paul McCartney. We used an MCI desk, recorded with ribbon microphones and without noise reduction to 16-track two-inch tape, I believe it was also an MCI tape recorder, and used plate reverbs. It was very important for me that we had a really beautiful sound. Eastcote also had a high-definition Pro Tools system, which we A/B-ed with the analogue. The digital wasn't bad, and if we'd used it, you would have said 'Oh, that sounds OK.' But that's not what we were aiming for. We were aiming for 'That sounds amazing, I want to hear that again!'"

All strings were recorded in one three-hour session at Eastcote, mostly without the players hearing the electronics or playing to a click track. Only on 'Shadow Journal' did they play to a click track and Richter's *Reaktor*-made loop. While the string players performed, the composer played the bass on 'Nature Of Daylight', which came from the *EXS24* sampler plug-in, "the sound you get when you don't load any samples into it manually". Plate reverb returns were recorded to the 16-track tape, and the material from the multitrack tapes was then transferred to Pro Tools at 44.1/24-bit so that Richter could take it to his workroom to bring together the electronics, strings and piano.

"I did the premixing and editing for *The Blue Notebooks* on my Pro Tools system," explains Richter, "and mixed using the Yamaha 02R desk which I had at the time. I don't really like the sound of the Yamaha, so I basically used it as a monitor controller and effects send, and didn't touch the faders. As soon as you moved the faders on the Yamaha and start messing with the sound, it sounded awful. In any case, because the string players control the dynamics themselves, I didn't need to do much to the levels. It was more an assembly process. The plate reverbs sounded fantastic on the strings, but I also added some reverb from the TC M3000.

"In the end I mixed 44.1/24 to my 24-bit Tascam DA45HR DAT machine, from which it was mastered by Mandy Parnell at The Exchange. She's an analogue nut as well. She's a bit like a mad genius, approaching the mastering process as real art, in a very tortured, Beethoven-like way. All she used was a [*Tim de Paravicini*] EAR compressor on 'Shadow Journal', for the sub-bass, and a pre-World War II Pye EQ, with big Bakelite switches and buttons. Incredible!"

It seemed an apt way to finish work on an album that takes as much from the past as from the present. As Czeslaw Milosz's poem goes in 'Shadow Journal': "How enduring, how we need durability... I cast a spell on the city asking it to last." And in combining the very old with the very new, Max Richter is doing his best to cast a spell on the world... SOS

More of Richter's gear (from top): his favourite Electro-harmonix Hot Tubes pedal, Rosendahl Nanosyncs master clock, TLA Indigo stereo EQ, SPL Vitalizer enhancer and Transient Designer.

AKG ACOUSTICS

Often copied. Never bettered.

The new C 1000 S.
Now with
Battery Status LED.

Featured microphones supplied complete with hard shell road case.

C 4000 B

C 3000 B

C 2000 B

AKG

www.akg.com

PRO Harman Pro UK

Distributed in UK and Eire by: Harman Pro UK, Cranborne House, Cranborne Road, Potters Bar, Hertfordshire, EN6 3JN
t: 01707 668222 f: 01707 668010 e: info@harmanprouk.com w: www.harmanprouk.com

CALL 01837 55200 OR VISIT

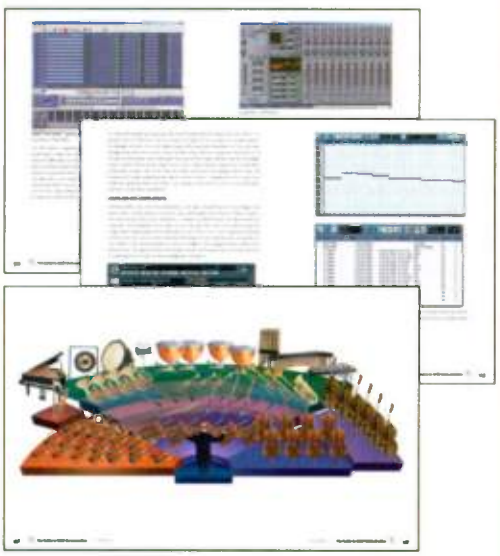
YOUR NO 1 SOURCE FOR AWARD-WINNING

We are pleased to be able to offer you the 3rd edition of Paul Gilreath's book and feel confident that you will find it enjoyable to read and full of helpful information

This hardback comprehensive text comprises over 700 pages that progresses from an overview of orchestral history to in-depth discussions of each section of the orchestra. Printed in four colour throughout. **£39.95**

The Guide to MIDI Orchestration is written for composers of all levels. Game composers, film and television composers, classical composers who want to hear their works in progress or produce a finished work in lieu of an orchestral reading. Even the serious hobbyist. Putting together a MIDI emulation is complicated and this book is intended to help you navigate the process.

Since its initial release in 1997, Paul Gilreath's ***The Guide to MIDI Orchestration*** has been the premiere text on creating realistic emulations of a symphony orchestra using samplers and computer recording techniques. Recent years have seen huge advances in sampling technology. Likewise, the demands put on the MIDI composer to produce extremely realistic orchestral textures have never been higher. Now in its 3rd edition, The Guide to MIDI Orchestration explains how to merge this ever-expanding technology with the artistry of orchestration to produce the most lifelike recordings possible.



Detailed information on each instrument's timbre, range and uses is included. Specific orchestration techniques are discussed, including how to use the various instruments for accompaniment and melody, how to approach an orchestration from the ground up and how to achieve balance and interest within the orchestration. Gilreath then shifts gears and translates these elements into the MIDI and sampling environment, providing a clear and precise approach that will allow the reader to employ the necessary techniques with assurance. Chapters on studio setup and requirements, effects processing and plug-in considerations, DAW choices and mixing guidelines highlight the text.

Detailed reviews and recommendations of orchestral libraries are included. Insightful interviews with mastering engineers Bob Katz and Bob Ludwig provide useful, real-world knowledge that can be implemented in your work on a daily basis. Interviews with library developers Eric Persing, Doug Rogers, Gary Garritan and Herb Tucmadl (among others) give the reader a look into various aspects of orchestral library development process as well as a glimpse of the future of the industry.

The book is written for composers, arrangers and MIDI musicians of all levels and will be helpful to game composers, film and television composers, traditional orchestral composers, teachers, instructors and the serious hobbyist. ***The Guide to MIDI Orchestration*** is a one-of-a-kind text that provides the information necessary to help composers who demand the best achieve successful and realistic MIDI orchestrations.

MUSIC TECH RECOMMENDED ★★★★★★★★★

"A fascinating read... Teachers, students and composers alike will find this a valuable resource."

VSL HORIZON SERIES - EPIC HORNS (VSL)

The largest all-horn ensemble ever created in the history of sampling! The name already implies that these 8 double horns can produce broad and big sounds in the truest sense of the word, but are capable of far more. The range of expression covers a vast array from subtle atmospheres and solemn, ceremonious, majestic performances to bombastic dashing bursts!

GIGA+EXS24+HALION+KONTAKT - £237

VSL HORIZON SERIES - SOLO STRINGS (VSL)

With more than 35 gigabytes of sample data, the Horizon Series' Solo Strings is the most comprehensive and sophisticated solo string library ever created. Generations of instrument makers have perfected the construction of the priceless, "regal" instruments featured in this volume. ***"Arguably the best collection of solo string samples in the world." - Sound on Sound 5 STARS***

GIGA+EXS24+HALION+KONTAKT - £296

VSL HORIZON SERIES - SAXOPHONES 1 (VSL)

The two saxophones were recorded with their solo as well as their orchestral properties in mind, so that they can be used universally: from orchestral to jazz productions . For the first time ever, the sampled saxophone sounds absolutely authentic thanks to VSL's unique Performance Tool! ***"Enormous musical depth." - Sound on Sound 5 STARS***

GIGA+EXS24+HALION+KONTAKT - £177

VSL HORIZON SERIES - OVERDRIVE (VSL)

Around 6Gb of samples, including Vienna's unique Performance Elements, featuring a seven-string distorted guitar. Along with various short and sustained notes, power chords, slides, hammer-ons, pull-offs, picked notes, and more, you get loads of effect samples like octave runs, feedbacks, scratches, and e-bowed notes – for a smooth, fat sound and unbelievably realistic performances!

GIGA+EXS24+HALION+KONTAKT - £130

SAM COMPOSERS PACK (PROJECT SAM)

SAM Brass Composer Package contains the entire Project SAM Brass Series - SAM Horns, Trombones, Trumpets and Solo Sessions in one bundled classic box set saving you £89. ***"SAM have laid a solid foundation by achieving a big, punchy, cinematic orchestral brass sound, certain to be appreciated and enjoyed by many. High-quality, orchestral samples at a reasonable price." - Sound on Sound***

GIGA OR EXS24+HALION+KONTAKT - £293.35

SAM SOLO SESSIONS (PROJECT SAM)

Recorded in the same concert hall as the section libraries, for this library Project SAM sampled 70 new articulations covering six solo instruments. Each players was recorded separately making it great for solo passages but you also get bonus ensemble patches for a really powerful sound. ***"Composers can keep on smiling, this is a worthy companion to SAM's brass ensembles." - SOS***

GIGA OR EXS24+HALION+KONTAKT - £116.70

BRASS ENSEMBLES (DAN DEAN)

This 12CD library features French Horns (section of 4), Trumpets (section of 3) and Trombones (section of 3). Since this was recorded in a large, beautifully reverberant space, both close and ambient samples feature a big 'Hollywood' brass sound. Dan Dean once again sets a new standard of excellence in playability and sound quality. ***"Expressive... musical" - Keyboard Key Buy Award***

GIGA - £436.99 OR AKAI S1000 - £375

SOLO BRASS (DAN DEAN)

This 10CD library features Bass Trombone, Cimbasso, Euphonium, French Horn, Piccolo Trumpet NV, Piccolo Trumpet V, Trombone, Trumpet NV, Trumpet V and Tuba. Each and every note of all of the instruments has been chromatically sampled in up to 8 layers of dynamics. Most instruments include basic legato, non-vibrato, portamento, staccato, forte piano and mutes articulations.

GIGA - £433 OR AKAI S1000 - £366

SOLO WOODWINDS (DAN DEAN)

This 10CD library features features chromatically multi-sampled Bassoon, Contrabassoon, Clarinet, Bass Clarinet, Flute, Piccolo, Alto Flute, Bass Flute, Oboe and English Horn. ***"When incorporated into a recording, I'm sure these instruments would fool the majority of listeners into thinking they were hearing a real performance, even if the samples were fairly exposed." - SOS 5 STARS***

GIGA - £366 OR AKAI S1000 - £333

AFRICAN SECRET (QUAZIBEAT)

Created by some of South Africa's best musicians, this CD features Steamy Shebeen, Sophia Town grooves, Acoustic 6 and 12 string guitar loops, Sax Section, Wild Sax Solos, Penny Whistle, Traditional Accordian, African Drum Loops performed on Bass, Djembes and Congo Skins, Kalimba Loops, male & female vocals & much more!

AUDIO+WAV ACID - £79.95

THE EMPEROR (PMI)

An incredible Bösendorfer 290 SE - the most realistic library available today. 12 recorded velocity layers, with 12 seperate sustain pedal down layers and release triggered samples. ***"I was beginning to give up hope of finding a truly inspirational instrument, but PMI's latest releases have given me new faith in the possibility of producing expressive music from a sampled grand." - SOS***

GIGA, EXS, HALION OR KONTAKT - £115

THE OLD LADY (PMI)

A reproduction of a Model 1923 Steinway D Concert Grand Piano. PMI were able to capture each velocity to guarantee a totally even response across the whole keyboard. ***"Layers with other keyboards like a dream, and sounds great in pop tracks... a versatile, classic sounding instrument which combines strength and beauty of tone with expression and subtlety." - Sound on Sound***

GIGA, EXS, HALION OR KONTAKT - £115

BAROQUE ORGAN (PMI)

PMI Baroque Organ brings you a stunning replica of a beautiful church organ. This 2.5Gb library is the first to offer every single stop chromatically sampled as well as the most useful combinations. All individual stops and all useful combinations of stops have been sampled which makes it possible to play every possible combination of stops with one single library, all from one computer.

GIGA, EXS, HALION OR KONTAKT - £84

VOICES OF THE AZTECS (Q-UP ARTS)

Full of Aztecs instruments, loops and vocals, these samples were recorded in Mexico from archeological artifacts. From the big Huehuetl drum to the smallest of Ocarinas, all of the sounds are unique. Water drums, wooded percussion, clay flutes, sea shell horn and much much more.

AUDIO - £59.95; WAV - £99; AKAI, EXS24, GIGA OR HALION - £130

SCARBEE RSP 73 (SCARBEE)

This is the most comprehensively sampled Rhodes piano on earth! The depth & sophistication of this project finally captures the elusive 'soul' of the Rhodes piano. The sound was captured directly from the harp, bypassing the passive tone control on the front panel in order to capture the full frequency range of the instrument and minimise unwanted noise. *"A carbon copy Rhodes... exactly like playing the real thing."* - *SOS 5 STARS*

GIGA OR EXS HALION KONTAKT - £125

SCARBEE WEP (SCARBEE)

A faithfull reproduction of the classic Wurlitzer 200A Electric Piano, recreating the wonderful sound and feel of the real instrument. Each of the 63 keys of the Wurlitzer have been sampled in 16 different velocities - both the sustained and the release sound for a total of 1512 samples. *"Thanks to this library all the desirable qualities of the Wurlitzer electric piano live on to fight another day."* - *Sound on Sound 5 STARS*

GIGA OR EXS HALION KONTAKT - £125

SCARBEE IMPERIAL DRUMS (SCARBEE)

Recorded in 24bit 88khz high definition resolution (down-sampled to 44.1 Khz for release), S.I.D. captures the true full dynamic range of every drum, providing nearly 30,000 individual drum samples on 3 DVDs. SID caters for a wide range of playing styles, offering hits using standard wooden drum sticks, reversed sticks, several types of brush sticks, mallet drum sticks and even hands and fingers. 2Gb of samples.

HALION OR KONTAKT - £249

METAMORPHOSIS (SPECTRASONICS)

Acclaimed producer Eric Persing provides an entire library of his trademark, cutting-edge loop manipulations. From floating, atmospheric Trip Hop pulsations, to experimental euro-club beats...and all the way to intense, Drum N Bass fury, this is an extremely versatile library for creative film composers, producers & remixers. Groove Control™ activated

AUDIO - £59.95; SAGE XPANDER - £55;
AKAI S3000 OR GIGA CD-ROM - £125

RETROFUNK (SPECTRASONICS)

A fresh take on the killer vintage sound. The sonic texture of these loops makes them ultra-flexible, bringing massive "vibe" to any modern track. Producer Eric Persing's mixes create a unique, dry sonic attitude in this library, making it ideal for layering with other groove elements. Groove Control™ activated.

AUDIO - £59.95; SAGE XPANDER - £55;
AKAI S3000 CD-ROM - £125

BACKBEAT (SPECTRASONICS)

Producers Eric Persing and Bob Wilson recorded 4 world-class drummers in numerous legendary studios. Create your own drum tracks using the included Variations, Fills, Fill Bars, Intros, Breakdowns, Ride and Sidestick patterns, Add-on Cymbals and more. Groove Control™ activated.

AUDIO - £59.95; SAGE XPANDER - £55;
AKAI S3000 CD-ROM - £125

STARK RAVING BEATS (ILIO)

Here's a wicked set of hard and fast grooves, based on live drum kit performances, remixed with wildly processed electronics & banging percussion. 100% Groove Control™ activated for endless tempo, feel and mix possibilities. SRB will bring out the monster in you! It's great for Progressive, Jungle and D 'n' B styles, even Pop and Rock - use your imagination to distress, distort and destroy these gems!

AUDIO - £59.95 OR AKAI S3000 - £125

ETHNO TECHNO (ILIO)

Bashin Johnson has dreamed up a groove library with sounds both familiar and mysterious, dangerous and beautiful. And mostly, a groove experience you've probably never imagined. The sounds are organic, metallic, deep and glassy. Some were created by radically conceived, hand-welded instruments, others from more traditional skins & sticks. If youre a fan of Eric Persing, you wont be disappointed!

AUDIO - £79.95 OR AKAI S3000 - £186

PHAT FINGERS (ILIO)

This collection delivers hundreds of funkified guitar and bass patterns, slides, and fills arranged into 30 song construction kits. The grooves are incredibly tight, some five or six parts deep, all tempo locked and tuned to the key of the song. Most songs consist of bass patterns, slides, fills, and some endings, guitar patterns, and occasional lead solos. Tempos range from a very groovy 75 to a blistering 160 BPM.

AUDIO - £59.95 OR AKAI S3000 - £133

KEYS TO THE CITY (ILIO)

Created and produced by one of the fastest rising stars o' the keyboard, Michael Bearden, this library delivers tons of synth and keyboard grooves organized into multi-tracked compositions. The grooves are provided as complete mixes and individual elements for astounding flexibility, perfect for Dance, Hip Hop, R&B, Pop, Funk and Electronica. The sound is first class!

AUDIO - £79.95 OR AKAI S3000 - £125

PERCUSSIONISM (LOOPMASTERS)

Percussionism is a dream for musicians looking to inject some reality into their productions with an awesome collection of looped and single hit percussion sounds from all over the world. Whether you need a funky shaker groove, Latin Rhythms, some African drums, or some technoize to skim over the top of your tracks - Percussionism has the right flavour for your productions.

REX+REASON+ACID/WAV - £39.95

JAZZ WORLD (LOOPMASTERS)

Sublime playing by some of the best session musicians and African master drummers has led to a truly original sample CD. Includes five played saxophones, flute, double bass licks and multis, keys, synths and a superb range of drum kits, hits, multis and exhaustive percussion loops and hits. If you enjoy the sounds of Buena Vista social Club and the likes of Giles Peterson, then check this CD out today!

REX+REASON+ACID WAV - £39.95

ETHNO WORLD 2 (BEST SERVICE)

Contains several rare and historical ethnic instruments from all over the world. Asia, Africa, Europe and South America. With almost 3 Gigabytes of sample material, you will find instrument sounds in a variety of playing styles, loops in different tempi, licks and a huge selection of special effects. Many renowned and famous artists from all over the world have added their skills to create this CD.

GIGA OR EXS24 HALION - £199

EUROPEAN FOLKMUSIC (BEST SERVICE)

This production contains a large range of folkmusic sounds from Austria, Germany, Slovenia, Switzerland and France. Accordion (musette, morino - solo, bass, chords), live piano, harp zither, dulcimer, fiddle, classic- and steelguitar, rhythmguitar, double bass (bowed, fingured), trumpets, tenorhorn, trombone, clarinet, flute (recorder), mouth harp, alto tenor baritone-sax, and typical drums.

AKAI S1000 - £166

pro samples

AWARD WINNING SAMPLE LIBRARIES

ONLY £29.95

HALION / EXS24 / AKAI / ACID / WAV / AIFF / AUDIO

Highquality sample libraries in multiple formats, for a super low price! The ProSamples series includes material from sample libraries that have received a number of international awards!

Vol. 01 Hip Hop & RnB Drumloops from E-Jointz
Vol. 02 Hip Hop & RnB from Black Butta 2
Vol. 03 Drum & Bass from Drum'n'Bass Construction Kits
Vol. 04 Percussive Loops from Percussive Adventures
Vol. 05 Pop & Rock Drumloops from Steve Smith Drums
Vol. 06 Experimental Grooves & FX from Asylum
Vol. 07 Future Beats from Chemical Beats
Vol. 08 World Vocals from Deeper Inside
Vol. 09 Future Beats 2 from Fields Of Motion
Vol. 10 House from Tonic House
Vol. 11 Classic Orchestra from Advanced Orchestra
Vol. 12 Dance Vocals from Voice Special 2
Vol. 13 Choirs from Classical Choirs & Hallelujah
Vol. 14 World Grooves from Fiesta Latina
Vol. 15 Dance Drums from Dance Mega Drums 2
Vol. 16 Guitar & Bass from Quantum Leap Guitar & Bass
Vol. 17 Guitar Licks from Shapeshifter
Vol. 18 Steinway Grand Piano from The Ultimate Piano
Vol. 19 Pop Brass from Quantum Leap Brass
Vol. 20 Orchestral Brass from Quantum Leap Brass
Vol. 21 Drum & Bass 2 from Total Drum & Bass
Vol. 22 Hip Hop from NY Cuts 1
Vol. 23 Trip Hop from Twisted City
Vol. 24 Breakbeat from Planet Of The Breaks
Vol. 25 Pop & Funk Brass from Phantom Horns
Vol. 26 Nu RnB & Hip Hop from Da Nu RnB & Hip Hop
Vol. 27 Dancefloor Bass from XXLarge Bass
Vol. 28 Vocal House from Housenow
Vol. 29 Dance Drumloops from XXLarge
Vol. 30 World Instruments from Ethno World
Vol. 31 Rare Ethnic Instruments from Rare Instruments
Vol. 32 Ethnic Adventures from Percussive Adventures
Vol. 33 Orchestral Loops from Symphonic Adventures
Vol. 34 Hip Hop & RnB 3 from Black Butta 3
Vol. 35 Funk & RnB from Funky Ass Loops
Vol. 36 Chillout from Ambient
Vol. 37 Dance Synths from Technofunk
Vol. 38 Trance from Trance Construction Kits
Vol. 39 Hip Hop 2 from NY Cuts 2 Off Da Hook
Vol. 40 Breakbeat 2 from Return To The Planet Of The Breaks
Vol. 41 Solo Strings from Xsample Vol 5/10/11
Vol. 42 Session Instruments from Xsample Vols 1/2/3/9
Vol. 43 Real Drum Kits from Pure Drums
Vol. 44 Real E-Basses from Pure E-Basses 1& 2
Vol. 45 Techno ID from Techno Identity
Vol. 46 Flamenco from Flamenco Sounds
Vol. 47 Breakbeat 3 from Return To The Planet Of The Breaks
Vol. 48 Disco Fever from Disco De Luxe
Vol. 49 FX Area from Future FX
Vol. 50 Real Guitars from Techno Identity
Vol. 51 Classic Orchestra 2 from Techno Identity
Vol. 52 World Instruments 2 from Techno Identity
Vol. 53 Classical & Prepared Pianos from Techno Identity
Vol. 54 Techno 138bpm from Techno Identity
Vol. 55 Retro Sampler from Techno Identity

CALL 01837 55200 OR VISIT

YOUR NO 1 SOURCE FOR AWARD-WINNING

Apple Loops for GarageBand

PROPACK FOR GARAGEBAND (ZERO-G)
Zero-G release the world's largest professional Apple Loop library. OVER 11,000 LOOPS! This DVD has to be the first choice library of loops for users of Apple's GarageBand, Soundtrack, Logic Pro 7, and Final Cut Pro!

Zero-G has cherry-picked the best loops from 43 different successful products from its back-catalog and programmed them into Apple Loops format, making them all instantly usable and interchangeable in Apple's superb new music powerhouses, GarageBand and SoundTrack, and also the latest versions of LOGIC and FINAL CUT PRO. Also, all of the 11,000+ samples are compatible with any software which can use samples in AIFF format! £99.95

SONICBOOMBOX (USB)
This awesome collection features sounds and instruments from the makers of the World Class UVI-Engine, foundation of the best-selling virtual instruments of recent years. This DVD features 222 plug-in instruments covering Drums, Percussions, Bass, Guitars, Keyboards, Synths

Also featuring more than 4000 loops, a whole new world of sounds is ready to open up to you. Find true Hip Hop vibes, make effortless remixes with awesome House loops and tons of drum and percussion loops. Want some essential acoustic guitar riffs, bass, brass and keyboards phrases? you got it! It's as easy as selecting and mixing... Your song will sound as good as professional records in a couple of seconds. **£66**

APPLE LOOPS DISC JAMS (POWER FX)
Apple Loops Disc Jams CD-ROMs are custom construction kits that are optimized to make music composition and video & film scoring a snap! Each title is dedicated to a different musical style.

Old+Alt Country is a huge and well recorded collection of instruments provide you with the coolest and hippest elements of country/folk music.

Electro Clashmatic is a Neo-Retro combination of classic Vocoder & Electro style beats & bass plus modern synth & FX one shots.

Invincible Dance is a fresh collection of dance loops featuring everything from tech house and nu electro loops to synth pads, wicked beats, bass lines and FX.

Nu Jazz House contains authentic acoustic & electric instrument samples in the Jazz vein that include drums, bass, electric piano, minor 7th chords & more.

Roots+Raw Reggae contains a virtual band with skanking guitars, rootsy drums, booming basses, vintage clavinets and roots percussion.

Rock & Pop Trio features a huge, well recorded collection of real acoustic drums, electric bass and electric guitar riffs, leads & rhythms all in straight forward rock style.

Street Stylin' features all the sounds for hip-hop compositions. Synth bass, funky guitar, synth leads & pads, vinyl scratch & FX, and of course, beats!

Studio Percussion is an indispensable collection of beautifully recorded percussion. It's like having your own percussionist whenever you want!

Each CD-ROM is available for just £29.95 and can be used with any .aiff compatible product.

£29.95 each

More Apple Loops at www.timespace.com

CHEMICAL SYNTHS (ZERO-G)
Add some sonic attitude to your track! By the same producer who brought you the popular "Ambient Textures" Refill, this brand new library for Propellerheads Reason users provides a massive collection of hard-edged synth sounds, for when you have something dirty in mind. Hard-ass basses, searing leads, riffs, loops & patches ...all dripping with attitude
REASON REFILL - £59.95

FUNKY HOUSE PRODUCER (LOOPMASTERS)
Funky House Producer brings you the sounds from the clubs of Ibiza, London, Paris and New York directly to your mix. Featuring filtered funk loops, disco guitars, huge pumping beats, funky bass lines, dreamy FX and killer keys. Whether you are looking to capture the blissed out production of Naked and Wave Records, or perhaps something deeper – you'll find it here!
REX+REASON+ACID/WAV - £39.95

GRINDING BEATS (ZERO-G)
Wanna make beats that stand out as much as Just Blaze, The Neptunes or Timbaland? Then you need to check out this totally new library of hip hop construction kits and samples from Zero-G. We've sourced the illest sounds, from some of the hottest producers in the US and the UK, who have worked with artists such as Nas, Mary J Blidge and Bilal, to bring you the best hip-hop library ever.
REASON REFILL - £59.95

RAW POWER (LOOPMASTERS)
Raw Power delivers a six barrelled assault of hard edged beats to the squelchiest analogue synths, the nastiest guitars and fuzziest basses to the growl of the Hammond B3, Raw Power delivers a sonic avalanche of sound! The Rocking sounds of London '77 meet the grimey east coast sounds of '78 to the Britpop explosion of '94 and through to alternative Nu-metal of the 21st Century
REX+REASON+ACID/WAV - £39.95

AMBIENT TEXTURES (ZERO-G)
This huge new Refill features 300 Subtractor patches, 201 Malstrom patches, 259 NN-19 Sampler patches, and 240 NN-XT Sampler patches. The Producer has been creating electronic music for the past eight years. During that time he has created a large number of synth patches, the best of which are on this superb Refill CD.
REASON REFILL - £39.95

ELECTRO MAGNETIC PULSE (BIG FISH AUDIO)
21st century schizoid loops and FX. Electro, Big Beat, Nu Skool Breaks, Mad House, hard, menacing beats, huge drums, filtered basses, panned out tweaks and morphing, annihilating, hallucinogenic loops are all in here. ***"Many of the loops featured here are powerfully hypnotic and incredibly insistent." - Music Tech***
AUDIO+WAV+REX - £62.95

FUNK UNIVERSITY (BIG FISH AUDIO)
Grab your enrollment form and get to admissions, because classes are filling up fast! We're offering specialized courses in live, funk drumming here. No basses, no guitars, just the funkiest skins you've ever heard. Our professors are top session pros, they're snap on, give you tons of variation and hot, dripping funk.
APPLE LOOPS+REX+WAV - £59.00

TOOL SHED PERCUSSION (BIG FISH AUDIO)
Tool Shed Percussion is a collection of some of the most unique loops and samples ever released! This beautifully recorded library features one-of-a-kind "found" instruments, such as steel tine leaf rakes, singing saw blades, bowed gas tanks, crusty paint rollers, pleather suitcases and thunderous sheet metal plus other rare & authentic percussion.
AUDIO+REX+WAV - £56.95

BT BREAKZ FROM THE NU SKOOL (EASTWEST)
Breakz from the Nu Skool is the first of two sample CD's in BT's signature collection and features cutting edge breakbeats hand mangled through hundreds of plug-ins, stomp boxes, pressed to vinyl, you name it! ***"Cutting-edge... the dark side is never far away, and the funk is overwhelming." - Sound on Sound***
AUDIO/WAV - £59.95; AKAI S3000 OR GIGA - £166

BT TWISTED TEXTURES (EASTWEST)
Twisted Textures is a massive two disc collection of sounds, pads and waveforms that will lead you into all realms of the human condition and beyond the doorways of ordinary reality. Included with these amazing textures is a guide organized by emotion to help you narrow your search as you explore the complexity this CD offers.
AUDIO - £59.95; AKAI S3000 OR GIGA - £166

BRUSH ARTISTRY (BIG FISH AUDIO)
A collection of classic and contemporary drum loops and samples that feature the wonderful sound of brushes! This beautifully recorded library contains a full variety of patterns, including traditional swing, be-bop swing, ballad swing, jazz waltz, bossa nova, samba and country, as well as modern six-eight, folk, funk & latin.
AUDIO+WAV+REX - £59.95

LA RIOT - THE FUNKY DRUMMERS 2 (CHRONIC)
More of that tight ass groove fest that only LA Riot's trademarked exclusive skin thrashers can deliver! You get 3 CDs in our patented short form song format with intro, verse, chorus, middle eight, and chorus out. Plus in this special offer package... four individual fills at the end of the beat for even more funkilicious goodness!
AUDIO - £59.95

LA RIOT 5 (CHRONIC)
These 4 CDs again set the new standard by bumpin' out over 80 serious urban construction kits! Nu Skool beats, live drum breaks, scratches, vocals including Ghetto vocals, Ghetto vocal hooks, Diva vocals, Ghetto talk vocals, raps, Gospel organ master riffs, guitar licks, funky and bizarre guitar, scratches, basslines, individual drum hits, FX and so much more, you gotta get on it quick!
AUDIO - £59.95; REASON - £94; MULTI-FORMAT - £125

LA RIOT - BIG ROCKIN BEATS 2 (CHRONIC)
You get 3 CDs jam packed with awesome drumming in short song format: intro, verse, chorus, breakdown and chorus out. This makes it a breeze to cut and paste an entire song structure to your needs in seconds. For rock - producers, guitarists, composers, groupies, roadies, engineers, hipster axe wielding attorneys, weekend golfers or anyone who wants to rock!
AUDIO - £59.95

WWW.TIMESPACE.COM

TIME+SPACE

VIRTUAL INSTRUMENTS AND SAMPLE LIBRARIES

AKOUSTIK BASS HITZ (ZERO-G)

Chip Jackson is a world class acoustic bass player who has worked with everyone from Elvin Jones, Horace Silver & Wynton Marsalis in the jazz world, to Natalie Marchant in the pop realm. Together with Vinnie Zummo, producer of the award winning New York Cutz series of sample CDs, Zero-G bring you this slammin' taste of NYC-style sweaty, fonky-ass, acoustic bass & drum loopz.

KONTAKT+REX-WAV DVD-ROM - £59.95

BLUE SHOCK (TEKNIKS)

A collection of hundreds of accustic and electronic drums, bass and percussion beats and samples. Unlike most librarys, this collection of samples has been recorded and processed to analog tape. There are a combination of straight live and processed loops, everything you'll need whether you make Pop, Rock, RnB or Hiphop. Also, ESX24 instrument settings are provided.

EXS24+WAV CD-ROM - £39.95

GHETTO GROOVES 2 (TEKNIKS)

Ghetto Grooves 2 brings you the hottest beatz and sounds for all you HipHop and RnB producers. GG2 gets you crunked up with 25 slamming construciton kits, then we blaze you with a selection of Bass and Synths samples and to top it off a bunch of 800 Kicks, 1000 Snares and 775 Hats and Cymbals, 145 Bass and 115 Synth Samples.

AUDIO+WAV CD - £59.95

RISING DRUM & BASS 2 (TEKNIKS)

After the success of the platinum award winning title Rizing Drum & Bass, Tekniks are proud to present this sequel. You'll find 30 construtions kits, filled to the brim with hard hitting drums, nasty breakz, thumping bass loops, multi samples and more. *"An inspiring collection with uses well beyond drum and bass."* - *Music Tech*

AUDIO+WAV CD - £59.95

BRAZIL ELECTRO (UEBERSCHALL)

Electric Lounge Club Music, Easy Listening meets Brazil. Afro Cuban, Salsa and Bossa Nova. Genuine electric lounge club sounds flavoured with spicy South American styles. A unique collection of construction kits, beat loops, live & electronic percussion, guitars, basses, keys, horns and single sounds. Give your tracks a hot and jazzy sensation!

AUDIO+WAV CD - £59.95

SMOKERS DELIGHT (E-LAB)

Turntable Jazz & Loungin' HipHop from e-Lab. This massive 3CD set contains over 1Gb of loops and samples. *"Whether you're looking for chilled jazz loops, laid-back hip-hop grooves or just a huge collection of stylish, high-quality samples... Smokers Delight more than fits the bill."* - *Sound on Sound 5 STAR AWARD*

AUDIO+WAV+REX - £59.95

BALLISTIX (E-LAB)

Ballistix is loaded with bangin uptempo nu school breaks, fx, music, bassloops (135-140bpm). A brand new chemical compound of hiphop, soul, rock and techno, all to help you create the massively insane cool grooves of artists like Fatboy Slim, Chemical Brothers, etc. Put the right funk and attitude back on your next track.

AUDIO+WAV - £59.95

PUBLIC ENEMY (EASTWEST)

A beats and loops collection from the producers and beat makers behind the ground-breaking rap group, Public Enemy. The two disc set features brand new beats and loops, presented in a construction kit format. This enables users to customize each loop by using as much or as little of the original loop as you desire. Create your own music using the PE style - LEGALLY!!

AUDIO - £59.95

JOEY KRAMER DRUMLOOPS (EASTWEST)

Joey Kramer the engine behind the legendary rock group Aerosmith, has put together the most comprehensive collection of Pump & Thump drum loops and samples available anywhere. Never before has the percussive thunder of a Rock & Roll Icon been offered for use to the general public. The collection features all of the loops and samples mixed both Dry on CD-1, and Wet on CD-2.

AUDIO - £62.95; AKAI - £199; PROTOOLS - £210

XTREME HOUSE 2 (TEKNIKS)

Tekniks present another fantastic house sample CD featuring more high quality beats, filtered loops, pulsating basses and funky synth grooves. *"The loops seem to have real depth... punchy and characterful... really inspiring to delve into... means that you need fewer samples to carry a track."* - *Sound on Sound 5 STARS*

AUDIO+WAV+EXS24 CD-ROM - £59.95

BLACK BEATS (UEBERSCHALL)

2 CD's packed with the hottest new material for HipHop & RnB productions, inspired by some of the worlds greatest producers: Neptunes, Timbaland, Erick Sermon, Dr. Dre, Busta Rhymes, Mobb Deep, Jay-Z. 32 inspiring construction kits plus extra beats, basslines, back hits and cuts for HipHop & RnB productions.

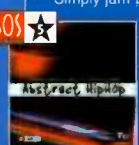
WAV CD - £56.95

HOUSE ESSENTIALS (UEBERSCHALL)

This definite house masterpiece contains more than 2500 fresh samples: drumloops, drum sounds, bass sounds, funky licks, brass & string sounds, vocals & effects. *"House Essentials exudes quality and is a fantastic source to build whole tracks from or just to dip into for inspiration."* - *Sound on Sound 5 STARS*

AUDIO+WAV CD - £59.95

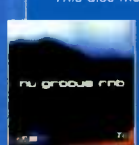
ABSTRACT HIP HOP (E-LAB)



Simply jam-packed with inspiring, deep, smooth, jazzy grooves and moods, will surely make any producer of experimental Hip Hop fall in love with this disc. *"Abstract HipHop deserves to be a firm favourite with those who like their beats laid back, funky and lovingly constructed."* - *Sound on Sound 5 STARS*

AUDIO+WAV - £59.95

NU GROOVE RNB (E-LAB)



This disc more than any other finds its inspiration from Timabaland - the genius future funk guru - so we strongly advice any HipHop producer to check out the awesome fat compressed loops. But maybe most important if you're into the sound of the current RnB charts - you can simply NOT afford to miss this groove euphoria.

AUDIO+WAV - £59.95

SAMPLE PERFECTION

5 all-new hi-definition sample CDs

Huge strides in audio quality have been made in recent years, and 24 bit recording has now become the industry standard. Sadly, with the exception of a few very expensive libraries, most of us are still using 16 bit samples.

SampleLab was formed to produce the most sonically accurate recordings possible by using only audiophile quality equipment and a fully 24 bit recording, editing and mastering process from start to finish.

All sets comprise Audio, WAV, EXS24, Halion & Reason Refill files & patches across 3 CDs, whilst comprehensive documentation is packed with detailed track listings and tips & tricks.

Luscious GROOVES

Retro to electro, downbeat to breakbeat, dreamy beats and percussive treats make up this vital set of production essentials. An groovacious selection of awesome phat breaks you won't want to stop using.

Luscious Grooves is one of five brand new 24 bit sample CDs from SampleLab. Each 3 CD Set in the series includes Audio / Wav / EXS24 / Halion and Reason Refill formats. All titles only **£59.95**

DRUM FUNDAMENTALS
The definitive acoustic & electronic drum collection - over 2,250 hits

DISCOGRAPHY
Dancefloor beatz for the new generation from retro to future

SPATIAL AWARENESS
Abstract breakz & tripped out takes - very different loops & fx final work

ANALOG ARCHIVE
Exclusive samples from the world's rarest vintage synthesizers

24 recording process

sample Lab

Photos: Mark Ewing

Philip Rees Pentium 4 PC

Music Production Computer

Martin Walker

Intel's Prescott Pentium 4 chips have proved too hot for many music PC builders to handle, but Philip Rees have used them to build machines that are both powerful and impressively quiet.

The name Philip Rees will already be well known to many musicians, as he set up his eponymous company way back in 1986, designing and manufacturing a range of MIDI accessories. These are still available, but in recent years his main focus of activities has moved to building music PCs. His flair for design continues here, with custom electronics and metalwork forming the 'central airflow control system' fitted to most of his PCs, which is claimed to produce 'astonishingly quiet machines'.

Given that the review PC contains an Intel Pentium 4 Prescott processor, already notorious for high power dissipation and cooling issues, I'll say right at the start that Phil has achieved this claim with flying colours. When I first switched on this machine I wasn't even sure it was working, and only by placing my ear directly on its case could I hear any noise at all. After this impressive start I was keen to find out how well the Prescott 3.2GHz processor, 1GB of

Corsair RAM, two 80GB SATA drives and CD rewriter performed.

Silver Machine

I've always had a soft spot for Lian-Li aluminium cases, but this ePC6070 model (Phil has added the 'e' to stand for 'enhanced', due to its many internal modifications) is the most impressive I've seen to date. It features a hinged 'front door' that seals with a rubber gasket to keep noise from the CD drive and so on to an absolute minimum, and the cool air intake is located underneath rather than on the front panel, so the case is lifted up slightly on large feet to provide a suitable gap.

Inside this PC looks very different from most, with various additional metalwork panels and ducts customising the already unusual Thermaltake Silent Tower CPU cooler. This transfers heat from the 3.2GHz Intel Pentium 4 540 processor to a huge multi-finned aluminium heatsink that sits in a tunnel, at the front and back of which are cooling fans that pull cooler air in from the front and push out the warmed air towards the rear-case exhaust fan.

The Asus P5GD2 motherboard with Intel's 915P chip set features two traditional PCI slots, three short PCI Express x1 slots, and one PCI Express x16 slot fitted with a Gigabyte nVidia GeForce PCX 5300 graphics card, thankfully fitted with passive (heatsink) rather than active (fan) cooling. One of the PCI slots in the review model had been used to install an Emu 1212M soundcard, and one PCI Express x1 slot was obscured by the 1212M daughterboard, and a second by a backplate offering two IEEE 1394b ports supporting both Firewire 400 and 800 formats and an RJ45 LAN port plugged into motherboard headers. This leaves just one PCI and one PCI Express x1 slot for future expansion, although if you chose a Firewire or USB-based audio interface instead of the Emu you'd get two of each.

Like the case used in this system, the twin 512MB sticks of RAM were of the 'luxury' variety — Corsair brand memory may cost a little more, but regularly wins awards for its reliability and ability to be overclocked, alongside other quality products from Mushkin and Kingston.

Even the hard drive mountings were exotic: two 80GB Seagate Barracuda SATA drives had been fitted into a specially modified lower drive bay after first being bolted into Zalman ZM-2NC1 heat-pipe coolers, which use 10 copper heat pipes bolted to the sides of each drive to get the heat into the cooling airstream above, with the whole assembly floating on rubber posts to absorb drive vibration. These coolers are about the same price as the popular Silentdrive sleeves, but don't require modification for SATA cables, and let the drives run cooler for greater reliability. In front of these drives the two 80mm case intake fans had also been replaced with quieter Zalman ZM-F1 fans, as had the rear case exhaust fan, all being mounted on anti-vibration gaskets.

The 520 Watt SilenX PSU is incredibly quiet (the active Power Factor Correction model was chosen here to eliminate input choke noise), but as I stated in my PC Notes May 2004 review, it's only designed to cool itself, and Phil had thus added a duct so the PSU drew cooler air from lower in the case (and therefore closer to the intake fans) than normal. Meanwhile the Thermaltake Silent Tower had also been modified with quieter Zalman ZM-F2 92mm fans, improved mounting to protect the motherboard from flexing, and a removable transit bracket to hold the tower more firmly during its 'courier experience'.

All five fans (two CPU, two front case, and one rear case) were under the control of Phil's own custom 'central airflow control system' — a four-inch-square circuit board that's bolted to the bottom case panel, into which all the fans are plugged, and to which is also attached a central thermistor (temperature sensing component) glued directly to the bottom of the CPU heatsink.

The top, bottom and side case panels had been lined with acoustic material to reduce acoustic noise levels, while the empty drive bays and remaining front-panel cavities had been filled with acoustic material to both quieten acoustic noise and to encourage the cool air to instead pass over the hot components. Finally, a series of 5mm holes had been drilled in the motherboard tray, to encourage airflow to and from the rear of the motherboard, as well as at the very top rear of the case itself, to release hot air that naturally rises to the ▶

Specifications Of Review PC

- Case: Lian-Li PC6070A with enhanced acoustic damping, internal metalwork, three 80mm Zalman ZM-F1 case fans, proprietary central airflow control system, and SilenX 520 Watt Pro iXtrema Active PFC power supply.
- Motherboard: Asus P5GD2 Premium with one LGA775 socket for Pentium 4 or Celeron processor, Intel 915P chip set running 800/533MHz front side buss, four 240-pin DIMM sockets supporting up to 4GB of 533/400MHz DDR memory, one PCI Express x16 slot, three PCI Express x1 slots and two PCI slots.
- Processor: 3.2GHz Intel Pentium 4 540 (Prescott) with 1MB cache, 800MHz front side buss.
- CPU heatsink and fan: Thermaltake CL-P0025 Silent Tower with 92mm Zalman ZM-F2 fans.
- System RAM: matched pair of 512MB sticks of Corsair XMS2-5400, running at 400MHz.
- System drive: Seagate Barracuda ST380013AS, 80GB, 7200rpm, Serial ATA.
- Audio drive: Seagate Barracuda ST380013AS, 80GB, 7200rpm, Serial ATA.
- Graphics card: Gigabyte GV-NX53128D PCI Express nVidia PCX 5300, with passive cooling and 128MB RAM.
- Floppy drive: 3.5-inch with silver bezel.
- CD-R/W drive: Asus CRW-5232AS Quietrack, ATAPI Ultra DMA 2 interface, 52x CD-ROM, 52x CD-R, 32x CD-RW, 2MB buffer.
- Active system ports: PS/2 mouse and keyboard, two RJ45 Gigabit LAN and one Wi-Fi-g wireless LAN (all disabled on music partition), eight USB 2.0, two IEEE 1394b and one 1394a, MIDI/Game port.
- Keyboard & mouse: Logitech black PS2 Internet keyboard, Genius Netscroll optical wheel mouse.
- Installed operating system: Windows XP Home Edition plus Service Pack 1.

For this particular system:

- AOC LM720A LCD monitor, black/silver, with 17-inch diagonal, 1280 x 1024 native resolution.
- Audio interface: Emu 1212M with version 1.02 drivers.
- General software: Symantec Norton *Ghost* backup utility, Symantec Norton *Internet Security*, *Open Office* office suite.
- Music software: Steinberg *Cubase SX* 2.2.

SOUND ON SOUND

Philip Rees Pentium 4 PC **£1435**

pros

- Impressive luxury case and custom cooling components.
- Proprietary central airflow control system as fitted to all Phil Rees non-laptop systems.
- Prescott 3.2GHz *Cubase* audio performance is roughly equivalent to a 3.4GHz Northwood.
- Extremely low acoustic noise when idling, and quieter than many systems even when running flat out.
- Dual-boot Windows installation for no extra charge.
- Open-source office suite installed as standard.

cons

- Keeping a Prescott cool and quiet always costs compared to using another processor.

summary

If you want to buy an Intel Prescott-based PC that's quieter than a Northwood, look no further. This Philip Rees PC is a luxury system from start to finish, featuring some of the best components available, and with lavish care and attention to detail throughout, though this luxury does of course increase the final price.

With the main air intake at the bottom of the case, the front panel is both clean and quiet.

top of the case and would otherwise be largely trapped.

The remaining PC components seemed positively mundane by comparison with this powerhouse of invention, but comprised an Asus CD writer featuring Quietrack acoustic noise reduction (which seemed to do its job well), a silver 1.4MB floppy drive, a Genius Netscroll optical mouse, and Logitech black Internet keyboard. Completing this particular review system were an AOC LM702A 17-inch TFT monitor, Emu 1212M soundcard, and *Cubase SX* 2.2, although of course you can specify a wide variety of other options if you wish. The Asus CD rewriter performed admirably during the review period, but anyone who would prefer a DVD writer can upgrade to a Sony DWU18A DVD+/-RW drive for just £36 including VAT.

Probing Prescott

A quick check in the BIOS showed that most parameters remained at their default settings, although the HD Audio controller had as expected been disabled (as its audio quality would be considerably worse than the Emu 1212M), as had both the ITE8212F and Silicon Image RAID controllers, the Speech Post Reporter (occasionally useful if you want vocal acknowledgement of system faults when for any reason your monitor won't work), and the serial and parallel ports (few people use these nowadays, especially now that USB has taken over as the preferred printer interface).

However, Hyperthreading had been enabled, as had the onboard Game/MIDI port, with its socket appearing on an extra backplate along with two extra USB 2.0 ports. With the four on the main motherboard rear panel, plus the two at the bottom of the front case panel, this brings this system to a healthy total of eight USB ports and two Firewire 800 ports, which will endear it to anyone with lots of modern peripherals. The monitor supplied with the review system was set to its best resolution of 1280 x 1024 pixels and gave a sharp image on its analogue connection, although the nVidia GeForce graphics card does provide a DVI-I connector for monitors with digital inputs, and an S-Video output for connection of a TV.

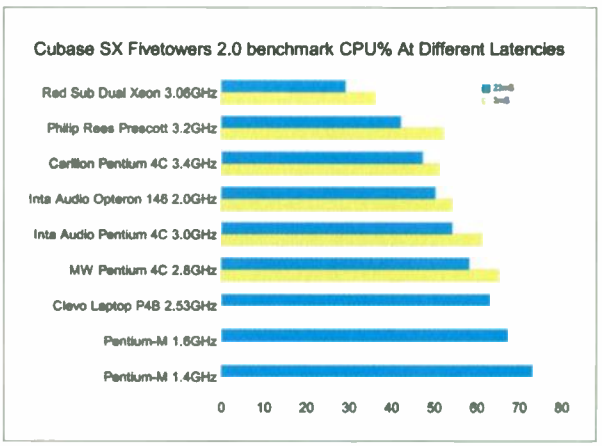
Both drives had been NTFS formatted, but while the audio drive had been left as one huge storage device, the other had been sensibly partitioned into an outer (fastest) Data partition of 42GB, and smaller 14GB System Music partition and inner (slowest) 19GB System General partition. Into these two latter partitions two instances of Windows had been installed as a dual-boot for General and Music use, using XP's standard boot menu to chose between the two at startup, allowing music-specific tweaks to be implemented in the Music partition and left alone in the General one. The popular *Nero Express* CD burning software had been installed in both partitions, while *Wavelab Lite* and *Cubase SX* 2 had been installed in Music, and Norton's *Ghost 2003*, Norton's *Internet Security 2004* and the capable 'open source' *Open Office* suite installed in General. Even the desktop background was different for each boot, to remind the user which one was currently in use.

I was pleased to see that all the recommended Windows tweaks had been carried out in the Music partition, and some Services had been switched from Automatic to Manual to fine-tune performance — the full printed checklist of BIOS and System tweaks, software installation, updates performed, hardware tests, Service tweaks, and system and verifying engineer's signatures runs to a full five A4 pages for each customer's machine.

I've already given the game away about how silent this PC was at switch-on, but of course all temperature-controlled systems have the tendency to start slow and speed up as internal temperatures rise, so final acoustic noise levels can only be judged after an hour or two. After several hours of idling the review system stabilised with a CPU temperature of 52 degrees Centigrade, and while fan noise was now audible it was still at a very low level — far quieter than I was expecting from a machine featuring the notoriously hot Prescott processor. After running the *Prime95* utility in Torture Test mode the temperature rose to 65 degrees, slightly higher than the 60 degrees adopted by Phil in most of his other systems, but still well within safe limits for a Prescott. Even then, acoustic noise levels were still a gentle purr, with the only noise coming from the rear case and PSU fans. If, like most people do, you were to place this PC on the floor under a desk, I doubt that you'd even know it was running under most conditions.

The Prescott Paradox

I discussed Intel's new 915P and 925X chip sets, along with the Socket LGA775 Prescott processors, in some depth back in PC Notes September 2004 (www.soundonsound.com/sos/sep04/articles/pcnotes.htm), so I don't intend to go into a lot of detail again here. Suffice it to say that both the chip set and processor range have been plagued with excessive heat dissipation problems, and to date the only quiet PCs using this technology have tended to be from manufacturers like Sony who have designed entirely new cases for models like their Vaio RA104. For Philip Rees to produce a machine this quiet starting with an off-the-shelf case is therefore something of an achievement.



This system turns in a surprisingly good audio performance considering the bad press given to Intel's Prescott processor, proving that a musician shouldn't always make a choice solely from mainstream benchmark tests.

Using Sisoftware's *Sandra*, memory bandwidth was 4628MB/second for both integer and float — a fairly typical ballpark

splash

Any mic pre and compressor in history

winner

mia Music Awards 2004
SPECIAL INNOVATION

Introducing The Liquid Channel. The most revolutionary channel strip in existence, fusing totally unique analogue design with cutting-edge digital processing.

Infinitely expandable and remote controllable.

"This baby lets me test 40 mic-pres without breaking a sweat. It's a dream come true!"
Mark "Spike" Stent

"I can see it becoming as much a standard studio tool as a Lexicon reverb or an Eventide multi-effects processor."
Sound On Sound review July 2004

Focusrite

THELIQUIDCHANNEL

FOR FURTHER INFORMATION, CALL DIRECT ON 01494 836307 OR SIMPLY VISIT **www.ffliquid.com**

The notoriously hot Prescott Pentium 4 CPU has been tamed thanks to Philip Rees's custom metalwork and 'central airflow control system'.

figure for most recent desktop Pentium 4 systems, and significantly beaten in my reviews to date only by Inta Audio's Opteron-based system (*SOS* December 2004) at about 5320MB/second. Meanwhile, CPU Arithmetic results for the Prescott 3.2GHz processor were 9329 MIPS (Dhrystone), 3828 MFLOPS (Whetstone), and 6547 MFLOPS (iSSE2), while Multimedia benchmarks were 22718 it/s (integer) and 30340 it/s (floating point). Looking back at my previous system results, this places the Prescott a few percent behind the Northwood core in most tests, although interestingly the Whetstone test is some 15 percent better.

However, as usual, the most appropriate test for musicians is to run a music application and see how a system's performance compares with others, so I launched *Cubase SX* 2.2 and ran the Fivetowers 2.0 test. At latencies over 20ms this gave a Stop reading (ie. with only processing and effects plug-ins active) of 24 percent CPU, and a Play result (ie. with instrument plug-ins also active) of 42 percent, while once the latency had been dropped to 3ms I repeated my tests and got values of 31 and 52 percent respectively.

These results definitely stuck out as being different from the norm. At the higher interface latency of 23ms, the Play result was some 10 percent better than that of the Carillon Northwood 3.4GHz system using exactly the same Emu 1212M soundcard — a significant increase, and well worth having. However, the 3ms Play result for the Prescott reversed this trend, by being nearly 2 percent worse than the Northwood 3.4.

Even so, both these results suggest that this Prescott 3.2GHz system can roughly equal the *Cubase* plug-in/soft synth performance of a 3.4GHz Northwood (the next clock speed up) at low latency, and exceed it if like most musicians you're working at latencies of 6ms or above. This flies in the face of some mainstream benchmarks, but my results were totally repeatable, and may be connected with the Prescott's double-size L2 cache.

Weighing The Odds

I've been really looking forward to trying out some radically new PC designs, and like Inta Audio's Opteron system reviewed in *SOS* December 2004, this Prescott-based one was a real eye-opener, this time proving that it is possible to design a PC slightly quieter than many Northwood-based machines, even when it has to dissipate significantly more CPU heat than usual. It contains the most technologically advanced cooling system I've reviewed to date, and Phil Rees has included some very clever engineering twists of his own. This is also the first PC I've reviewed featuring the latest PCI Express slots, and although at present there are few peripherals to plug into them, I suspect this standard will become the future for us all in a year or two, so this is a system that should have a long life ahead of it.

The fastest Socket 478 Northwood Pentium 4 now widely available seems to be the 3.2GHz model (Phil Rees also builds budget systems using this CPU option), and contrary to my expectations, the similarly clocked Socket 775 Prescott processor in this system seems to outperform it slightly with audio software. As I finish this review CPU prices are such that paying just £40 more would get you a 3.4GHz Prescott system (with performance roughly similar to that of a Northwood 3.6GHz model), so this

With Firewire 800, USB 2 and Ethernet, there's no shortage of connectivity.

might be a wiser choice.

If you're keen on buying an Intel-based PC then this Phil Rees system proves that 'going Prescott' is a valid option, although AMD's Athlon 64 3700+ and 3800+ processors are turning in even better performances in many benchmark tests. Unfortunately, while the Prescott range was once heralded as the great hope in pushing clock speeds to 4GHz and beyond, Intel have just announced that a 4GHz model is being abandoned in favour of other methods of improving processor performance. With this in mind, perhaps a Prescott-based PC may not offer as much long-term upgrade potential as expected, although as always, no-one really knows what's around the corner.

Anyone for whom cost is paramount should perhaps consider a system featuring an Intel P4 Northwood or AMD Athlon 64 processor, just because any Prescott-based machine will always require more exotic and therefore expensive cooling components. However, I'm extremely impressed by the high standard of engineering and build quality of this Phil Rees PC, its luxury case and fans, proprietary central airflow control system, quality RAM and drive cooling, and the attention to detail evident in features like the multi-boot install and bundled office suite. Whatever your views on Intel's Prescott processor range, this review system is an excellent advert for Phil Rees and his company. SOS

Service & Support

As this is the first PC system I've received from Philip Rees, I thought I'd give a few details on the service and support available to customers. As with most specialist retailers, you can either order on-line or by phone, and each system comes with a one-year collect-and-return warranty covering both parts and labour, with courier collection and delivery charges paid by the company and a normal turnaround of less than five working days. During years two and three labour charges are still covered, but not failed parts or carriage. Monitors are also covered by their manufacturer's warranty, which is generally three years' free on-site replacement. There's also a one-year email and on-line technical support service, where Phil and his staff aim to respond to all queries within one working day.

You can extend this support period at a cost of £25 for each subsequent year.

All systems are stress-tested using Passmark's *BurnIn Test* for at least 12 hours before being shipped to the customer, and the review system came with Norton *Ghost* backup software installed, plus three CD-ROMs containing a full backup of the General partition, and a further three for the Music partition. If possible Phil Rees prefer to supply a complete turnkey system, with all the hardware and software installed and tested together, but of course they're happy to sell you any combination of hardware and software that you choose using the on-line system configuration page if that's what you prefer.

Information

£ Basic system as reviewed without monitor, music hardware or software £1435, or £1689 with monitor; full system as reviewed including monitor, Emu 1212M soundcard and *Cubase SX* 2 £2299. Prices include VAT.

T Philip Rees +44 (0)1903 691160.

E pc4music@philrees.co.uk

W www.philrees.co.uk

Chamber Strings

GIGASTUDIO/EXS24 MKII

The orchestral gravy train rolls on. Having set the scene with their *Pro Edition*'s fine string ensembles and the exquisite *Solo Strings* (reviewed in *SOS* March and September 2004 respectively), Vienna Symphonic Library now dish up a complete string chamber orchestra of six violins, four violas, three cellos, and two double basses. The four sections were recorded separately, each contributing around 4.5GB of samples to the 18.2GB total.

Chamber Strings closely follows the format of its predecessors, but also introduces a couple of new styles: natural harmonics (flageolet), a breathy, gaseous, and ethereal timbre produced by touching the bowed string at various points along its course. Even spookier are the collection of precisely-measured harmonic glissandi, an unsettling, synth like effect used in Stravinsky's *Firebird*. None of the harmonics samples are looped; VSL have mapped them to white notes (mainly) in octave sets, so it might take a while to find the pitch you need! The other minor stylistic innovation is the 'Baroque' trill, which dwells on the initial note for a split second before starting the trill.

The two double basses play more than a supporting role — their lyrical, nicely in-tune unison sustains have an unexpected hint of lushness which continues up into the high register. The basses' performance legatos are stern and commanding, and their performance detachés powerfully energetic, though the latter suffer from noticeable latency. Add the cellos' and violas' vibrant, soaring performance legatos, and you have a fantastic foundation for a string arrangement. I'm not keen on the violins' over-the-top 'expressive' vibrato style — it sounds like a synth with its mod wheel turned up full. Thankfully, the regular sustains have a much more subtle vibrato. All the instruments are beautifully played and recorded, sounding rich and well defined.

Each section offers the usual VSL choice of dynamics, note repetitions, and note lengths, and the expansive *Performance Tool*-controlled options include some excellent Bollywood-style pitch slides. Mod wheel 'release control' can be used to tighten up the decay of all the pizzicatos, essential in fast passages. There are no grace notes, col legnos, straight glissandos or runs, and no big, flattering concert-hall acoustic, but at least that leaves you free to add your own favourite reverb.

In pop arrangements, a chamber group can be a good compromise between the overbearing sound of full orchestral strings and a string quartet's dry, slightly academic timbre. Smaller sections are also useful for programming divisi passages, and for adding musical detail to a large string arrangement. If £544 seems a lot of money for a bit of detail, bear in mind that you get nearly 32,000 samples! Definitely a specialist title, but if you specifically need a chamber string sound, this is probably the best solution you're likely to find.
Dave Stewart

£ *Gigastudio* or *EXS24 MkII* 4-DVD-ROM set, £544 including VAT.
T Time & Space +44 (0)1837 55200.
F +44 (0)1837 55400.
E sales@timespace.com
W www.timespace.com
W www.viennasymphoniclibrary.com

French Oboe

GIGASTUDIO/EXS24 MKII

My esteemed editor remarked that this library 'seems a little niche'. Well, yes. If the trend for specialisation continues, we'll soon be seeing titles like *Viola Top String: Volume One*. The point of this release — and some may think it a slender pretext for issuing a whole new title — is to give VSL's users a few alternative and bonus woodwinds. The French oboe is the main act, with a small supporting cast of English horn, 'E'-flat clarinet, and piccolo runs, bringing the sample total up to 6.7GB.

Compared to the broad timbre of the Viennese oboe in VSL's *Pro Edition*, the title instrument sounds less mellow and more pointed. Its exotic, piercing, yet sad and plaintive tone, reminiscent of oriental and Middle Eastern reeds, would sound equally at home in a conventional orchestral arrangement or a world-music setting. The oboe player delivers the full VSL complement of styles with great panache — once you hear the vivid, colourful quality of his accelerating trills, grace notes, and octave runs, you'll want to feature them in your score!

Not wishing to sound nationalistic, but much as I enjoyed the French oboe, the star attraction for me is the English horn (aka cor anglais). Played by the same performer, its tone is rich and reflective, and the lovely, expressive vibrato of its performance legatos make it a contender for pop tracks as well as orchestral work. An absolute joy, and with the *Performance Tool* facilitating the programming of smoothly contoured legato melody lines, you'd be hard pushed to know you're not hearing a live player.

The English horn and small, high-pitched 'E'-flat clarinet are limited to single notes and performance legatos, the latter style really bringing the clarinet to life. The darting piccolo octave runs supply a performance category missing from the *Pro Edition*. All good stuff, but, with three out of four instruments incomplete, this has the feel of filler material.

VSL's *Symphonic Cube* mega-edition, when it arrives, is likely to incorporate the contents of this and other Horizon-series titles. There will be a discount scheme for registered Horizon owners, but in the meantime buyers may think twice before shelling out for what amounts to an interim release. Having said that, this niche title is musically and technically on a par with the other Vienna libraries — hence the five stars.

There are two more VSL releases worth mentioning in a similar vein, both costing £177 in the UK: *Vienna Harps* gives you all the pristine harp performances from the *Pro Edition* and adds 2.1GB of samples (no glissandi) played on an equally beautiful second harp; and the exotic, largely non-orchestral samples on *FX Percussion*, which are taken entirely from the *Pro Edition*.
Dave Stewart

£ *Gigastudio* or *EXS24 MkII* DVD-ROM, £177 including VAT.
T Time & Space +44 (0)1837 55200.
F +44 (0)1837 55400.
E sales@timespace.com
W www.timespace.com
W www.viennasymphoniclibrary.com

Akoustik Bass Hitz

KONTAKT+REX+WAV

Given the title of this library, those without an interest in jazz might be tempted to pass on by in search of something more cutting edge. In doing that, however, you might just miss out ▶

MX4

MULTI SYNTH PLUG-IN

MAC OS X • AU • MAS • RTAS

Meet the new instrument plug-in powerhouse for your studio. Inspired by legendary subtractive synthesizers, MX4 combines several core synthesis techniques in a unified, hybrid synth engine that delivers fresh & vintage sounds alike. As you explore its many banks and hundreds of presets, you'll soon rely on MX4 as your "go to" instrument.

Fat basses, nasty leads, analog pads, vintage electronica — it's all at your fingertips and conveniently saved with your host application projects for instant recall. Tweaking sounds is fast and easy with clearly presented controls in one window, and with a depth true synth programmers will appreciate. MX4's flexible programming and advanced modulation architecture provide the intimacy of a vintage synth, the flexibility of a modular synth, and the innovation of a virtual synth.

FEATURE HIGHLIGHTS

- Unique hybrid 32-bit synth engine.
- Unlimited voices, polyphony and instantiations as allowed by host CPU.
- Sample-accurate playback with host apps that support this OS X feature.
- Integrated modulatable chorus and delay effects saved as part of the patch.
- 3 wavetable oscillators
- 2 resonant multimode filters
- 6 variable waveshape LFOs
- 4 ADSHR envelopes
- Dozens of wavetables, or roll your own.
- Audio input — process any audio signal with MX4's flexible synth engine.
- Modulatable waveform symmetry lets you create dynamic harmonic changes.
- Hard oscillator sync effects, just like the classic Sequential Circuits Prophet 5™ and other classic polysynths.
- Variable Filter Topology™ provides 14 different filter & distortion configurations.
- Extremely flexible and easy to use modulation archictecture.

on something a little bit different. Zero G's *Akoustik Bass Hitz* is not just another jazz-flavoured collection of acoustic bass samples. Yes, there are some jazz loops here — but there are also all sorts of other musical styles represented, including some not usually associated with acoustic bass. The collection also includes other construction-kit elements (38 kits, totalling some 900 WAV files and a similar number of REX loops) as there are a number of drum loops and a smattering of other instrumental loops designed to work with the basses.

So far, so normal. However, in experimenting with the WAV files using Sony *Acid Pro*, a number of things stood out. First, the quality of the acoustic bass playing is excellent. Chip Jackson's playing has 'attitude' written all the way through it, and whatever musical context these loops are used in they will add a distinctive character of their own. Second, the sound of the bass is huge and feels very 'live'. Of course, some of the loops are laid back and cool, but there are just as many that have a tremendous amount of energy, with loads of finger noise to add character — just take care with your speakers, as the bottom end of this lot will really get those cones moving! Indeed, with a few loops, I had to use a little EQ to stop the overall output levels getting out of control and to get the bass sitting in the mix. This said, I'd rather have the bottom end and then cut it a little rather than attempt to add it to a flimsy-sounding bass line. The other loops provided are equally inspiring — mainly drums, but also including a good number of guitar loops, while the occasional Rhodes, dobro, banjo, and mandolin are thrown in for good measure. There is easily enough material here to construct complete rhythm sections and some full backing tracks without dipping into other libraries.

However, as mentioned above, perhaps the most interesting feature is the range of musical styles covered. Folders such as 3-4 Jazz and On The Jazz Tip do, of course, deliver exactly what you might expect from the acoustic bass (although the results here are big and very much in your face) and there are also a number of lounge-style pieces. However, there are some surprises too — Jungle, Funk, Hip Hop, Dance, Reggae, Latin, Swing, Bluegrass, and even Metal all get a look in. The latter is impressive and weird in equal amounts — think lo-fi acoustic bass with distortion playing Led Zeppelin-style riffs and you will get the general idea.

Although the collection contains some repetition (the same phrases are played at a number of different pitches within some of the construction kits), it would be churlish to be too critical given the quantity of material supplied, the multiple formats, and the selling price. However, what is really impressive is the speaker-shaking sound and attitude of the playing. If you don't usually consider acoustic bass to be part of your musical palette, *Akoustik Bass Hitz* might just change your mind. *John Walden*

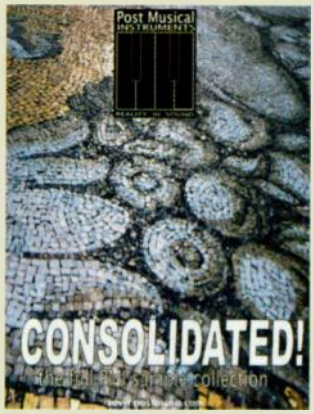
£ ***Kontakt*, REX 2, and WAV DVD-ROM, £59.95 including VAT.**
T **Time + Space +44 (0)1837 55200.**
F **+44 (0)1837 55400.**
E **sales@timespace.com**
W **www.timespace.com**
W **www.zero-g.co.uk**

Consolidated! ■■■

MULTI-FORMAT

Not! Sure! About! The! Exclamation! Mark! If ordering from a dealer, does one need to shout the title? *Consolidated!* is a compilation of sound libraries created by sound-engineer/producer Michiel Post. Formerly head of audio at the Dutch Royal Opera House, Michiel founded Post Audio Media in 1999 and produced 15 libraries before starting Post Musical Instruments, which specialises in sampled pianos.

Unsurprisingly, grand pianos predominate on this 10.7GB release: *Steinway D Grandioso* ('classic' version) and *Yamaha C7* (ambient version) are included,



along with full versions of his *Bösendorfer 290* and *Estonia* concert grands. The last two, though somewhat outgunned by PMI's recent pair of piano releases, sound very good. Also on board are PMI *Historic Keyboards* (harpsichords, fortepiano, and virginal, the latter marred by some over-loud release triggers) and the entire contents of *Post Orchestral Instruments*, which features an entertaining prepared piano. All these titles have already been reviewed in *SOS*.

This library's second largest category is organs. Pick of the bunch is the small, sweet, and friendly calliope-like (think *Magic Roundabout*) sound of the Positif single-manual church organ, offering five perfectly sampled presets. The 1935 Theatre Organ is a larger, more complex affair with big-sounding pedals and reverb, but its strong, colourful, and distinctive solo voices contain no trace of the amusingly over-the-top vibrato I was eagerly anticipating. The most varied timbres (though still no vibrato) come from Organ Toolkit, a large grab-bag of atmospheric multisamples played on four different pipe organs. Some caveats — the Solo Organ set's first two presets (one of which contains a glitchy bass sample) are not tuned to concert pitch, and the organs' documentation is often at variance with what's actually on the DVD.

The library's six accordions are excellent, though the bandoleon instrument suffers from more rogue tuning. Other clangers (though in the good sense) include a fine set of church bells and a bracing collection of anvil hits, with a dinky toy piano providing some light relief. In the miscellaneous category, lovely tuned bowl hits, a decent kalimba, and the beautiful, sustaining zither-like Small Harp achieve high marks; a totally out-of-tune dulcimer, an indifferent steel-string guitar, and a disastrous alto flute mark the low points. There are a few other wind instruments, none of them a resounding success.

Consolidated! is a curious mixture; while much of its material is of the highest musical quality, the surprisingly poor presentation and unfinished programming of some items seems to indicate they have been thrown in as an afterthought. Don't let that put you off — well-sampled keyboard instruments are hard to come by, and the large array provided here will surely plug some gaps in your sample library. *Dave Stewart*

£ ***EXS24*, *Gigastudio 2* & *3*, *Halion*, or *Kontakt* 3-DVD-ROM set, £376.69 including VAT.**
T **Time + Space +44 (0)1837 55200.**
F **+44 (0)1837 55400.**
E **sales@timespace.com**
W **www.timespace.com**
W **www.postpiano.com**

Star Rick Moranis Films

■■■■■ *Ghost Busters*
■■■■ *Little Shop Of Horrors*
■■■ *Spaceballs*
■■ *The Flintstones*
■ *Honey I Shrunk Ourselves*

STYLUS RMX

REALTIME GROOVE MODULE

SPECTRASONICS
VIRTUAL • INSTRUMENTS

POWERED BY S.A.G.E.
SPECTRASONICS ADVANCED GROOVE ENGINE

WWW.SPECTRASONICS.NET

PC VERSION

VST Instruments

Audio Units

RTAS REAL-TIME AUDIOSUITE

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4, OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

£1869 **Buzz Audio ARC 1.1**
Excellent analogue recording channel by NZ designer Tim Farrant using the best stages from the Buzz range. Clean and flexible - a great "toolkit in a box".

£2379 **API 7600**
"The American Neve". Mono input module inc. 212L mic-pre, 550A EQ and 225L compressor. Use with the 7800 master module to build a genuine API side-car.

£1739 **Chandler TG Channel**
Single channel mic-amp and TG Pultec EQ redesigned from the mastering counterpart of the original "Beatles desks". Bags of character. Sweet and creamy.

£1249 **Universal Audio 1176LN**
Bill Putnam's original 1176 was the first true peak limiter with all transistor circuitry offering classic signature sound. Ultra fast attack time and FET gain reduction.

£1399 **Universal Audio LA610**
Mono channelstrip combining a 610 valve mic-pre, DI, filter and T4 valve opto-compressor (based on the Teletronix LA-2A). A great new box at a great price!

£2799 **Empirical Labs Distressor (Brit Mode) Matched Pair**
Most of you will be familiar with this mono compressor. Optional Brit Mode provides 1176 "all buttons in" character. Available as single unit or as matched pair.

£1399 **Drawmer 1969 Mercenary Edition**
Born from a collaboration from Drawmer in the UK and Mercenary Audio in the USA. A hot-rodded 1960 mic preamp and tube compressor.

Box Of The Month

AMS Neve 1073 DP Stereo Mic Preamp

Each month our staff pick their favourite processor and invite you to take a closer look at what we feel are future classics...

The legendary Neve 1073 is acknowledged as one of the finest console modules of all time. The new **1073 DP** (Dual Pre) provides the classic signature sound of this hugely respected preamp stage at a breakthrough price. Two transformer balanced Class A mic preamps, switchable Hi/Lo impedance with balanced inserts before an optional 192kHz ADC (PCM and DSD). Now you can afford the best! Introductory pricing...

1073 DPA (ANALOGUE) - £1875
1073 DPD (inc. 192kHz ADC) - £2345

£2225 **Avalon AD2022**
Incredibly detailed and transparent 2ch pre-amp with excellent low-frequency transient response. "Reader's Choice" Best Preamp in Studio Sound magazine 2001.

£2339 **Manley Voxbox**
Mono valve channel optimised for voice recording with mic preamp, DI, opto-compressor/peak limiter, de-esser and Pultec EQ.

£3159 **DW Fearn VT-2**
A no-compromise 2-channel valve mic pre. Musical and transparent with airy highs. When people refer to that "valve sound", they're talking about this.

£2195 **TC Electronic Reverb 4000**
Stereo reverb taken from the acclaimed System 6000. Wide range of pristine algorithms including realworld ambiences and TC classics. Mac/PC editing software.

£999 **Amek CIB - END OF PRODUCTION OFFER**
Mic/line input with high and low pass filters, 4-band EQ section and compressor stage. Pure Path™ solid-state technology for exceptionally low noise and distortion.

£1049 **Audient ASP008**
A no-nonsense high quality 8ch mic-pre developed from Audient's ASP8024 console. Ultra low noise floor. Switchable input impedance. Digital option available.

£1999 **Groove Tubes Vipre**
Variable impedance mono mic pre. Eight valves, 75dB gain, variable rise-time, precision VU meter. This USA heavyweight is brought to you exclusively by DV.

£2339 **Thermionic Culture Phoenix**
Designed by Vic Keary. 2-channel vari-mu compressor. One of our favourite mix buss processors due to its exceptional low frequency control.

£2789 **Tubetech SMC2B**
Stereo multiband valve compressor with three bands per channel. A unique and highly effective tool for mixing and mastering. Absolutely gorgeous.

£2899 **AMS Neve 33609J**
Industry standard stereo mix buss compressor. Independent compressor and limiter sidechains. Equally at home in music and broadcast applications.

£985 **TL Audio C1**
Solid state input followed by two valve compressor stages. TLA's hybrid designs have earned them an enviable reputation for affordable quality outboard.

£2689 **Summit DCL200**
Dual channel compressor/limiter. Based on a hybrid design combining the best characteristics of valve warmth and low-noise solid state stages.

£1989 **Phoenix Audio Nicerizer**
8ch analogue summing mixer from (ex-Neve) designer David Rees and Shaun Leveque. Fully discrete Class A with 10 custom transformers. Sweetens DAW mixes.

£5049 **Eventide H8000**
Eventide's flagship multichannel effects processor. Reverbs, chorus, FM panner, S&H filters, vibrato, mod delays, phase shifting, pitch shifting, vocoder and more.

£2225 **Smart Research C2**
Alan Smart's ubiquitous mix compressor with "Crush" mode causing the unit to over-work and distort the frequency response with extra 3dB of gain reduction.

W. London
020 8752 9638
14 The Broadway
Gunnersbury Lane
London W3 8HR

N. London
020 8440 3440
141 High Street
Barnet
Herts EN5 5UZ

S. London
020 8763 6714
562 Brighton Road
South Croydon
Surrey CR2 6AW

Bristol
0117 946 7700
21 The Mall
Clifton Village
Bristol BS8 4JG

Educational
01708 771900

All pricing includes VAT and UK delivery

Seen it for less? Please give us a call!

Errors & Omissions Excepted

protools@digitalvillage.co.uk « « www.dvproaudio.com

Pro Tools|HD is the recognised industry standard for recording professionals. No other system offers the integrated tracking, editing and mixing features of Pro Tools with so much power and flexibility. Pristine 24-bit/192kHz conversion and support for plug-ins from the industry's best developers. Call us to arrange a demo and find out why this remains the ultimate production tool.

PRO TOOLS | HD

When making an investment of this size you need to get it right and sometimes the choice of options can seem daunting. Speak to our experienced staff who will be happy to help guide you to the best system for your specific requirements.

£3459 **Quested VS3208** Roger Quested active midfield. Use with VS115 sub.

£4569 **Dynaudio Air 20** 3-way active nearfield. 10", 5.5" & 1.1" drivers.

£1469 **Adam P22** 2-way active nearfield with ribbon tweeter.

£2179 **Genelec 8050** Minimum Diffraction Enclosure. Active. 35Hz LF response.

£1599 **PMC TB2S-A** 2-way nearfield with Flying Mole DAD M100 digital amp.

£2875 **FAR Tsunami 10** 2-way active nearfield. Programmable tuning software.

THE

Gear Love

WEB COMPETITION #2

In a follow up to last issue's hugely popular Gear Love Competition, we invite you to visit our website for a chance to win this **Focusrite ISA430 Mk2 Recording Channel**. Winner of the 2004 TEC Award for "Best Preamp"...

The ISA430 Mk2 is a combination of Focusrite's best analogue designs in one box, epitomising their "clean and musical" signature sound. An incredibly flexible audio "swiss army knife" - we can't think of a channel strip with more features. Variable impedance mic pre, instrument input, 4-band EQ, multi-format compressor, de-esser, optional 192kHz ADC and comprehensive routing. Universally acclaimed in reviews, if you can't get a good result with this box you're doing something wrong!

www.dvproaudio.com

ONLINE CATALOGUE

visit our website for detailed information on hundreds of products, technical links and the latest industry news... a great resource for the audio professional.

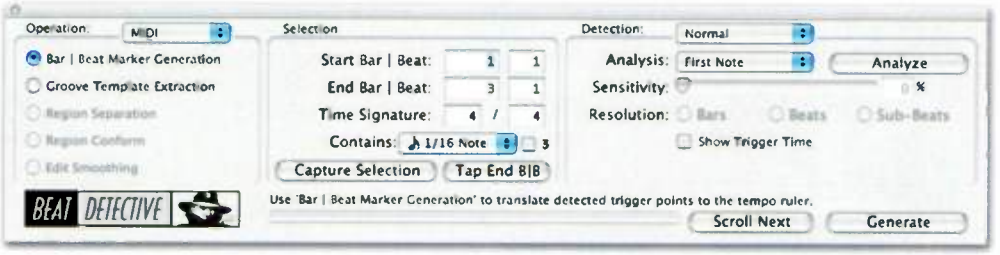
dvproaudio.com

a division of DIGITAL VILLAGE

pro tools notes

In the first Pro Tools Notes of a new year, our new columnist provides the detailed lowdown on a new version of *Pro Tools*...

Mike Thornton



Beat Detective can now be used on MIDI tracks just as on audio, allowing you to conform the tempo of your song to a freely played MIDI performance.

With the new version 6.7, Digidesign have made huge leaps forward in the area of MIDI functionality within *Pro Tools*. It's aimed squarely at the musician, improving MIDI integration and adding new features specifically designed to support the work of music composers. I would go as far as to say that a lot of users will now be able to say goodbye to that two-stage process of starting off in a sequencer like *Logic* or *Cubase* before going through a messy transfer process to *Pro Tools* to complete the project, knowing that it will become more and more difficult to revert back to your MIDI sequencer the further into your project you go. Even for people like me who mainly record 'real instruments', the benefits of tempo curves and 'tick-based' timelines, colour coding and the Patch Manager are all going to be incredibly useful. The update is free for TDM users (provided they're already running v6.4), but will cost *LE* users £50 — for details see www.digidesign.com/news/details.cfm?story_id=1663&localonly=N. It also leaves out Digi 001 owners, whose hardware is not supported in the new *LE* version.

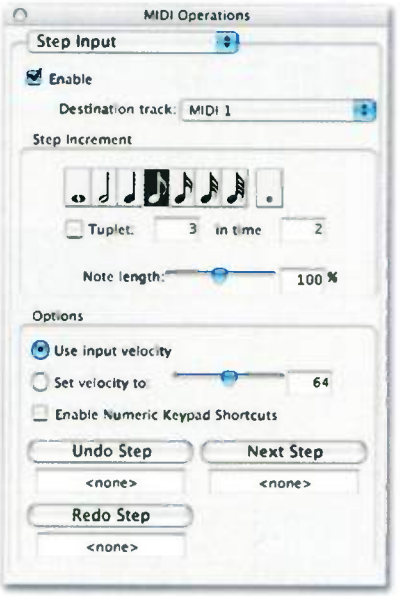
So let's take a look at the new features. All these improvements are for both Mac and Windows, and both TDM and *LE* versions, unless otherwise specified.

Beat Detective

Beat Detective, which up until now has only been available on the TDM version of *Pro Tools*, is now available in the *LE* versions too. Now *LE* users can tap into this feature to 'quantise' audio, fit it to grooves, and so on, just like you can with MIDI. The only difference now between TDM and *LE* is that TDM users can use Beat Detective across multiple tracks, which is very useful if you are quantising a drum kit's worth of tracks and want to keep the edits sample-accurate. Even without this feature, Beat Detective will be a very welcome addition for *LE* users.

MIDI Detective

Digidesign have taken all the features of Beat Detective and applied them to MIDI tracks as well. The new MIDI Detective enables you to generate tempo maps and groove templates directly from freely played MIDI performances; you can also use grooves acquired from MIDI performances and apply them to audio tracks, and *vice versa*.



The new MIDI Step Input window.

RTAS Instrument support

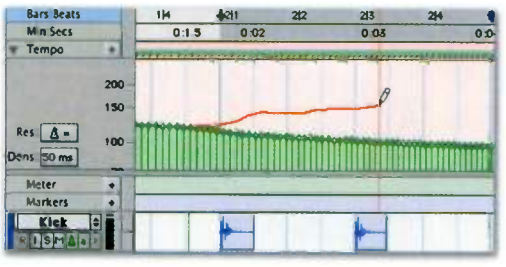
The TDM version now supports RTAS instruments on aux inputs, which will improve plug-in integration and *LE*/TDM Session compatibility — previously, you could put RTAS instruments on aux inputs in the *LE* version but not in the TDM version. They have also done a lot of 'under the hood' work to improve the support and integration of RTAS instruments into a *Pro Tools* Session. You will find things a lot more stable and consistent with v6.7. In addition, 6.7 will support multiple outputs for multitimbral soft instruments on separate *Pro Tools* tracks, but you will need to wait for the soft instrument manufacturers to update their software to support this feature.

MIDI Step Input window

Like the similar features in most sequencers, this enables you to input MIDI parts a note at a time, which is great for when you need build complex or difficult MIDI passages or, like me, you aren't a very good keyboard player!

MIDI TC/E tool

The familiar TC/E tool now works on MIDI tracks too, allowing you to time-compress or expand individual MIDI regions without affecting the tempo of the whole Session.



Tempo Editor

At last we can now edit tempos using the pencil tool to draw in your own tempo variations, or preset curves from ▶

Before You Jump

With such a tempting new upgrade available, this would probably be a good time to offer some advice on things to do before upgrading your system. First, don't update an unstable system. You are more than likely to make it worse, not better. Fix your system before you upgrade.

Second, make sure your plug-ins are up to date. Check the developers' web sites for updaters and after you have installed 6.7, but before you run it for the first time, use the 'Plug-in Validator' application in the Utilities folder in the Pro Tools folder in your Digidesign folder. This should check that all your plug-ins are up to date, though it doesn't check the Waves plug-ins. I would recommend that Waves users upgrade to v5, although there are reports that v4 users are managing to cope with a few hiccups. As far as soft instruments go, we have had reports that *Mach Five* v1.2, *Indigo* v2.4, *Atmosphere* v1.2, *Stylus RMX* v1.05, *Reason* v2.5, *Sampletank* 2, Ableton *Live*, NI *Kontakt*, *FM7* and *Reaktor* all seem to be working OK. Most developers will be releasing new versions which will be multi-output-compliant for use in *Pro Tools* 6.7, and offering improved support for the Patch Manager option, so expect loads of updates over the coming months.

ReMOTE SERIES

feels good

Novation's world class MIDI Controllers

PLAY ME AND SEE

The fantastic semi-weighted keyboard, complete with velocity-sensitivity and aftertouch, make the ReMOTEs the most tactile 2, 4 and 5 octave controllers on the market and simply a joy to play. The adjustable joystick and cool 4-part assignable touchpad are features that further set the ReMOTE apart from the crowd. 50 pre-programmed plus a further 14 user-programmable templates, each with over 60 parameters, mean that the ReMOTE works intuitively with all popular software and hardware straight out of the box.

FREE
Bass Station with every ReMOTE

ALSO AVAILABLE:

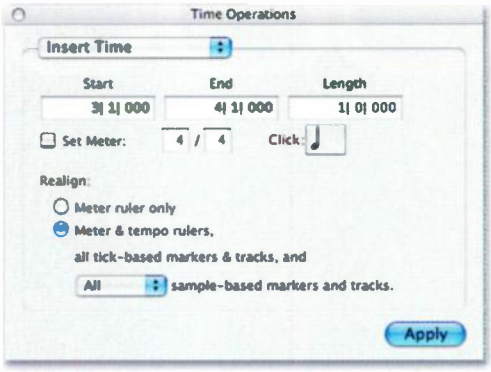
novation®

www.novationmusic.com

49 KEYS

61 KEYS

▶ the Tempo Operations window that are adjustable in same way you change the fade shapes in the Fade window.



Time Operations window

You can now easily insert or delete space globally in a Session by using the Time Operations window, so adding two bars here or taking out four bars there can be done precisely. Other options in this window include moving the song start point and Change Meter, so again you can precisely insert two bars of 2/4 time in a song.

Tick-based Audio tracks

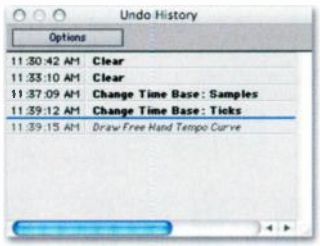
Tick, or musical tempo-based audio allows you to change the tempo of a piece and have all the region boundaries remain at the same musical position. This means you can change the tempo of a song after recording and, providing there are region boundaries in the right places, all the audio files will move in time so they remain at the same points in the song. What it won't do, though, is time-compress or expand audio to fit — it only moves region boundaries. You will need time to get your head round this one, but the impact of it for integrated MIDI and audio work in one application is enormous.

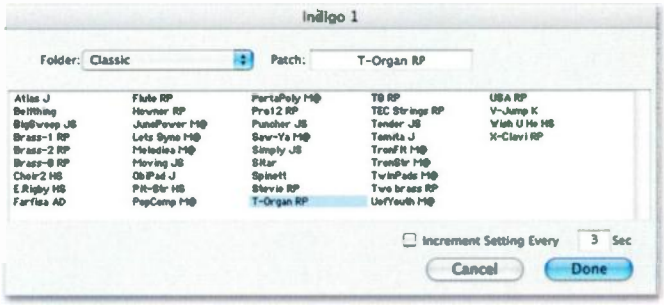
Colour coding

You can now colour-code tracks, regions, markers and much more for easy identification. You can decide what colour the regions will be in your kick-drum track, or colour code all your drum tracks red, strings blue, vocals green, and so on. I suspect some Sessions are going to look very garish before we settle down to sensible use of this feature!

Undo History

You now can view a list of the Undo options available to you, in a very similar way to how applications such as *Photoshop* present them. You still can't pick and choose which ones to undo, but you can now see what will change before you hit the Undo button.





Patch Manager

This works for plug-ins and especially well for Instruments. Trying out different patches was a drag when you had to go into the Preset menu, drill through several folders to get to a possible patch, then wait while it loaded, decide it wasn't the one and do it all again. Now there is Patch Manager, which allows you to try different patches in a number of ways. Use the '+' and '-' keys to increment your way through the list one at a time, or click on the list button and select each one from a multi-column list in one window, or even get it to change patch automatically every few seconds so you can audition the sounds.

Non-administrator user support

This option allows *Pro Tools* to be run by users who don't have 'Admin' access to their computers. This is especially useful in educational settings where administrators don't want students to have unrestricted access to the machines.

There are also several improvements that bring Windows users features that previously had been available only on the Mac platform. The Windows XP version now features the same MIDI device management that has been available on Macs through MIDI Studio Setup in OS X, plus support for MIDI Time Stamping and Digidesign's MIDI I/O unit. The XP version can also now open and convert in one step older *SDII*-based Sessions that weren't saved as Mac/PC-compatible.

All in all, this is an excellent 'incremental' upgrade which all music users of *Pro Tools* will find very useful. It now has the feel that the MIDI hasn't just been tacked on to an excellent audio tool. The integration between MIDI and audio is almost complete, and it will be interesting to see how *Logic*, *Cubase* and others respond. SOS

Teething Troubles

Of course, an update wouldn't be an update without some 'known issues', some of which have already been fixed:

• There have been reports of 'mute lag' with automatic delay compensation activated in Sessions that were created in v6.4 and then opened in v6.7. Digidesign have reported that this is due to a problem in v6.4 where the timing of mutes was not correctly handled when ADC was active. They have fixed this in v6.7, but for Sessions created in v6.4 it gives the impression of a problem. The 'workaround' for any Session that has this problem is to 'nudge' the mutes into the correct position once you open it in *Pro Tools* v6.7.

• Meanwhile, there has been a *Pro Tools* 6.7cs1 update which fixes the following 'known issues'. Attempting to reset the tempo slider to 120bpm by Option-clicking on it would result in a crash in both LE and TDM systems; when *Pro Tools* TDM was playing with a track record-enabled, stopping playback could result in a pop if the input source was bussed or was a hardware insert; with some external hardware configurations, an audio glitch could be recorded to the beginning of a file when pre-roll was activated in a TDM system; and when using a control surface in a TDM system, it was possible to assign a multiple-output instrument plug-in's output to its own input, thereby causing a crash. Again, check Digidesign's web site for the latest 'cs' version.

• There appear to be problems with *Pro Tools* 6.7 and some of the Native Instruments plug-ins, especially *B4*, *Pro 53* and *Battery* v1.3.2. These can range from graphical glitches to complete crashes to graphics problems — watch NI's web site for news of updaters to fix them.

• If you use the Save Session Copy In... function, make sure that the option to copy fade files is checked, and check the new Session before moving on. The bug causes the new Session file to be corrupt and have no regions or playlists. The workaround is just to include copying fade files when using this function.

• After a BTD (Bounce to Disk) the keyboard command focus is disabled. The workaround is to click on the desktop and back to *Pro Tools* to re-enable command focus mode.

Instant 8-track digital recording without all the freak'n'menus.

Capture Your Art

DP-01

DP-01FX

Portastudios™

EASY-TO-USE ANALOG-STYLE INTERFACE

The DP-01FX has all of the DP-01's cool features and "analogue" ease of use plus…

- Two XLR microphone inputs with phantom power for studio condenser microphones
- Built-in reverb processor bank for extra-polished mixes
- Built-in insert effects processor

Plug in. Hit RECORD on one of the eight DP-01 channel strips. Start laying down CD-quality digital tracks.

Instead of "paging" through layer upon frustrating layer of menus, you get real knobs and buttons for all important functions. Hands-on tracking and mixdown are so easy a game show hostess could do it!

Get those hits out of your head. Capture your art for under £300 with our new DP-01 Portastudio™.

Visit your TASCAM dealer, e-mail info@tascam.co.uk for a brochure or visit our web site for complete information.

WORLD'S MOST AFFORDABLE HARD DISK RECORDER!

- 8-track recording at uncompressed CD quality
- 2-track simultaneous recording
- Dedicated stereo mixdown track
- Dedicated controls on each channel for volume, pan, effect send, high and low EQ
- Two-band semi-parametric EQ
- Two ¼" TRS mic/line inputs
- Hi-Z guitar level input
- Effects send and stereo return
- RCA line-level output
- S/PDIF Digital Optical output
- Headphone output with level control
- MIDI output for MIDI Time Code or MIDI Clock
- USB 2.0 port for computer backup
- Track editing: copy, paste, move, erase, silence
- Built-in 40 GB hard drive

DP-01 Portastudio™

Capture Your Art

TASCAM

TEAC UK LTD 5 Marlin House The Croxley Centre Watford Herts WD18 8TE

Brochure hotline 01923 438888 e mail info@tascam.co.uk

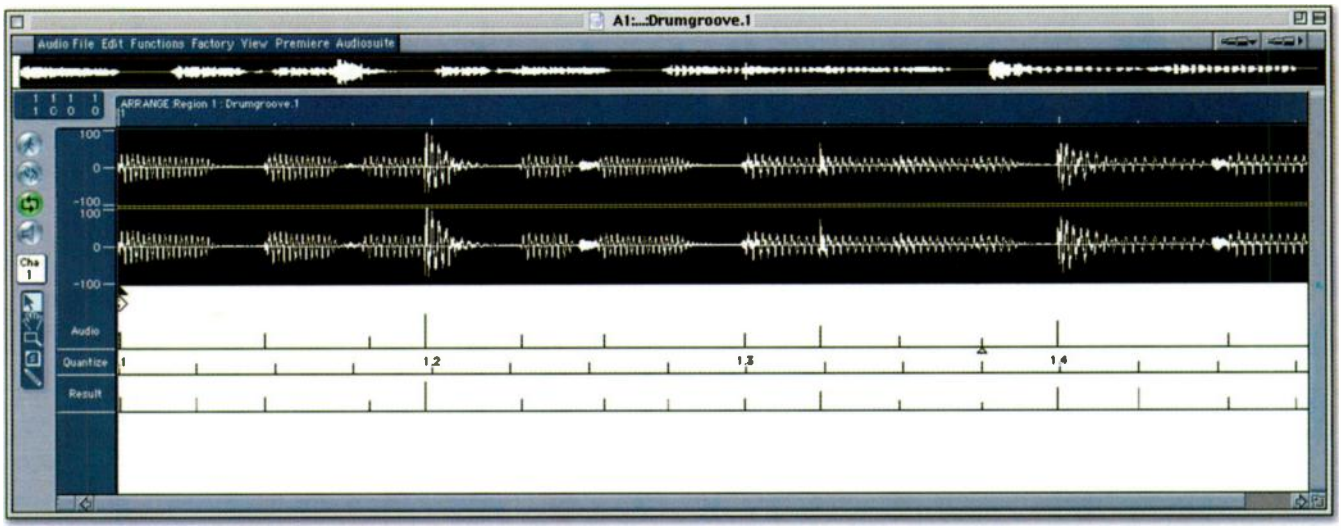
dj/producer

www.tascam.co.uk

contractor

professional audio

logic notes



Setting up a Groove Template from the Sample Editor window. You can see where the audio falls in relation to the quantisation values, and where the resulting Groove Template would place the quantisation points.

Synchronising sequences in *Logic* to live audio tracks can really help give your music the edge, but what's the best way of doing this? We look at the options, and weigh up their pros and cons.

Ingo Vauk

With live playing returning more and more into the recording process, I want to take a closer look at the different options *Logic* provides for locking up its sequencing to live takes. This means that we want to use the 'loose' timing of a player to slave further takes to, rather than correcting the player's timing to the metronome.

Two Approaches To Tempo-matching

In principle there are two very different methods of achieving lock between the MIDI sequencer within *Logic* and an audio track that the timing should be based on. Which of the two you opt for depends largely on the material you are recording and how you are interfacing with the rest of the studio's equipment. Both methods have their advantages, and you really have to decide what it is you want to achieve.

The two approaches achieve the timing variations by different means: you can either vary the tempo of the clock to follow the variations of the live take; or you can work to a fixed clock and use grove templates to adjust the timing. The former approach is more suited to a situation where you want to create a continuous reference to a take of a live band, say. The latter method is better if you are sequencing pattern-based arrangements that you want to base on loops or sections of live takes.

While mapping the clock undoubtedly gives the more solid result in a 'traditional' overdub-based recording process, the Groove-Templates method is more flexible and lends itself to nonlinear arrangement approaches, when the writing, recording, and arrangement processes blend into one. Furthermore it is possible to combine different Groove Templates and thus achieve interesting rhythmic effects. On the other hand, you can lock any number of slave devices, be they hardware- or software-based, to a tempo map, so your Rewire and VST/AU applications will lock to the drummer just as tightly as any (MIDI) drum machine or slaved sequencer.

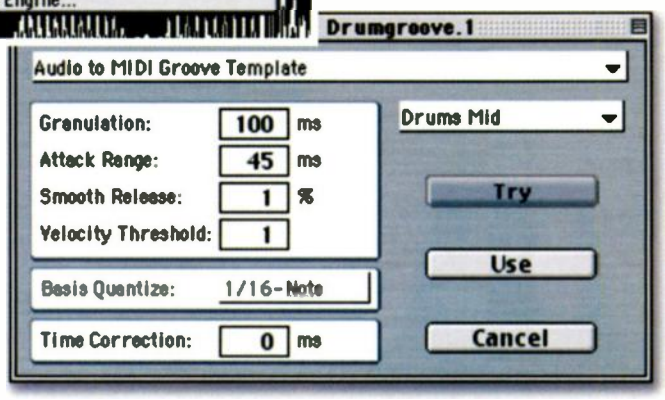
Logic provides an automatic way of re-clocking the song which Mike Senior discussed in detail in the April 2002 *Logic* Notes. However, I found that this feature doesn't really give you the accuracy you need to tightly layer percussion tracks and loops with live drums. So I create my new tempo maps manually, which gives a much higher degree of accuracy.

Essential Preparations

Whichever way you decide to work, you need to have suitable audio material to work on. Select the audio track(s) that contain the most accurate, easy-to-read

Have Your Say!

If you want to suggest changes or improvements to *Logic*, then here's your chance! The Apple development team are inviting *SOS* readers to send in their suggestions of what they'd most like added or changed in *Logic*. Email your top five suggestions (in order of preference) to logicnotes@soundonsound.com, and we'll forward your lists on to the *Logic* team. We'll be asking them for feedback on which changes users deem most important and how these might be addressed.



Call up the Audio To MIDI Groove Template option from the Audio Window's Functions menu (above), and you'll be presented with the settings dialogue box. The simplest way to work with this is to choose one of the presets available from the pull-down menu at the right.

Logic Tips

When you double-click an Audio object insert slot containing a plug-in, the plug-in's control panel opens as a floating window. If you hold the Apple and Alt keys, it will open as a normal window, allowing you to bring other windows on top of it. *Len Sasso*

Logic has Key Commands to move the Song Position Locator (SPL) by one-measure (Forward, Rewind) and eight-measure (Fast Forward, Fast Rewind) increments. With Catch mode enabled, you can use those Key Commands in time-based MIDI editors such as the Matrix Edit, Hyper Edit, or Score windows (in linear mode) to scroll quickly through their displays. *Len Sasso*

If you want to go back to the original timing of a take that has been lost due to editing in the Arrange window, use the Move Region To Original Recording Position Key Command in the functions menu of the arrange window. *Ingo Vauk*

tempo information you want to lock to. If you have a choice of microphones, select the closest, for example close-miked kick, snare, hats, and toms of a drum kit, not the overheads. Make sure that the fastest rhythmical subdivision you want to be able to lock to is included in your selection. So you might choose the bass drum and snare, together with a conga track you recorded. It is worth bouncing these tracks together if you're planning on creating a new tempo map, since a lot of editing is involved in the process and it will be more easily done on one track or stereo pair.

When bouncing these tracks, keep in mind that you are doing this purely for the tempo map, so ignore any aesthetic considerations such as balance or EQ and set the levels so that you can visually pick out attack transients in the sample editor. Don't use any dynamic processing in this bounce, since compressors and gates have a tendency to distort the shape of the attack. Obviously you should hang on to the original audio files in order to mix them down later on. It makes sense to create the bounce starting from bar one, beat one. Insert the bounced track into your arrangement.

Current Versions

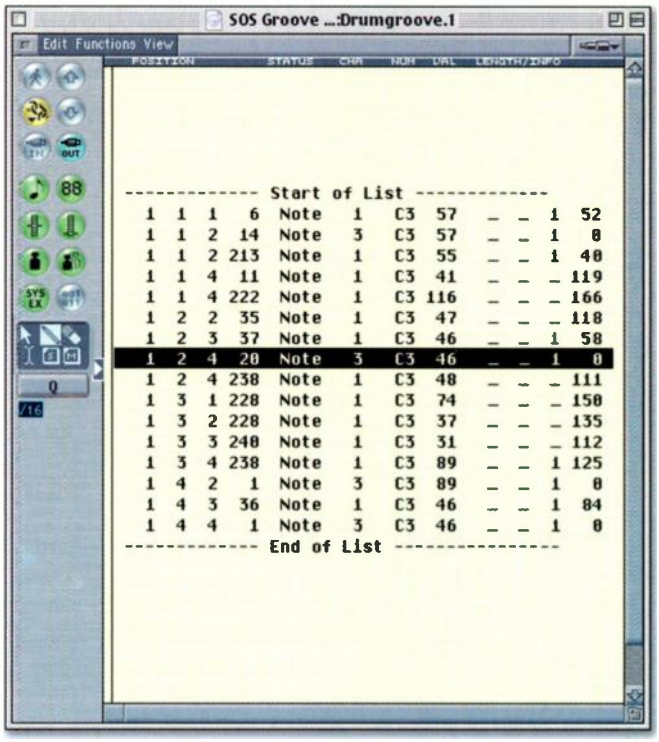
Mac OS X: Apple *Logic Pro* v7
Mac OS 9: Emagic *Logic Pro* v6.4.2
PC: Emagic *Logic Audio Platinum* v5.5.1

Using Groove Templates

If you are not planning to use a take in its entirety, but want to retain the natural timing of sections of a recording, creating Groove Templates is the quick and flexible way. After you have selected the bits of audio you want to use, open the Sample Editor and select the Audio To MIDI Groove Template option in the functions menu. Start off with one of the presets provided and adjust the parameters in the pop-up window so that the Result display makes sense to you. When you hit the Use button, *Logic* will create a 'master' MIDI object that has a note on each quantise value — the name of this is based on that of the audio file from which it was generated. This acts as the master for any subsequent quantising. At the same time, *Logic* places a Groove Template with the name of the audio file in the quantisation menus of all relevant windows.

The template will probably need to be adjusted to become usable with the audio it was generated from. To do this program up a MIDI track to run alongside the audio and quantise it to the Groove Template. Now you can adjust the quantisation grid by moving the positions of the MIDI events in the Groove Template's master MIDI sequence object using the Event List window, fine-tuning the position of each sub-beat. You can hear the result in real time, so just trust your ears. In conjunction with the quantise percentage function in the MIDI object's Extended Parameters, it is possible to achieve some very live-sounding results.

The other option for synchronising your sequences to a live audio take — creating a tempo map — is a straightforward enough procedure, but can be extremely laborious if you don't know what you're doing. Next month I'll be showing you how to go about it in the most efficient way. SOS



The Audio To MIDI Groove Template process creates a master MIDI sequence object, to which other MIDI performances can be quantised. This can be edited at any later date from a MIDI editor (such as the Event List shown here) if you want to fine-tune the Template once your Song is playing back.

Input MIDI From Your Qwerty Keyboard

You can quickly input MIDI note data into Logic's editor windows without having to connect a MIDI keyboard or do a lot of clicking and dragging with the mouse. Once you're in Input mode in your choice of editor window (the little 'MIDI Input plug' button will light up red), there are Keyboard Input Key Commands which will allow you to input MIDI in step time. First open the Keyboard window, from the main Windows menu, so that you can see what you're doing. Now select the step size and velocity using, for example, the 1/4 Note and Velocity 80 (mf) Key Commands. Then check that the little range bar above the keyboard in the Keyboard window is where you want it, using the Octave +1/-1 Key Commands as necessary, and finally choose the note's pitch using, for example, the Note 'C#' Key Command. The note will then appear and the Song Position Line will move to the end of the step ready for the next note. If you make a mistake, the Erase Key Command will remove the note and go back to the beginning of the step.

A few other Key Commands will also quickly become useful. Sustain Inserted Notes will extend the previous note by the step size every time it's pressed, and Rest will insert a gap of that size. If you want a chord, then you'll want to switch on Chord Mode before entering the first of the chord notes. When you've finished inputting the chord, the same Chord Mode Key Command will switch back to single-note input and move on the next step. Finally, you can navigate backward and forward by the step size using the Step Backwards/Forward Key Commands — this is particularly useful if you want to input a complex part with overlapping chords and notes. *Mike Senior*

This month, we present everything you ever wanted to know about SysEx but were afraid to ask, plus the whys and wherefores of *Sonar 4*'s cool new Freeze functions...

Craig Anderton

It's hard to believe we're starting our fourth year of *Sonar* Notes. During the past three years, *Sonar* has acquired its own fanatical devotees, and now that Cakewalk have started user forums, other *Sonar* users can get in touch with them directly. These forums not only serve as a direct pipeline to other users, but to Cakewalk themselves. The company's engineers are both active and responsive in the forums, and they suffer the occasional Internet idiot with patience and grace. If you haven't yet checked out the forums, at www.cakewalk.com, they contain essential information for *Sonar* aficionados.

Recording & Playing Back SysEx

Here's a tip that applies to older versions of *Sonar* as well as *Sonar* 4. If you use outboard MIDI gear with *Sonar*, you're probably taking advantage of system exclusive messages to save their patches and setups. If 'System Exclusive' is ticked under Options / Global / MIDI, *Sonar* can record SysEx data into a MIDI track and play it back. Unfortunately, the message length limit is 255 bytes — enough to send a control setting or similar, but certainly not enough for even the most modestly-sized MIDI synthesizer preset. However, if you use the Sysx View (which can store up to 8,192 banks of SysEx messages), there is a way to 'embed' triggers for the SysEx banks in a track, and have them play back at any time.

If you're not familiar with the Sysx View, see the July 2002 *Sonar* Notes; it's a window you call up by going View / Sysx, and it serves as a recorder/playback library for MIDI SysEx messages. It also lets you rename, store, load, auto-send (ie. certain messages can be sent when you open a project), and even edit SysEx messages, which can be as short as a single preset or as long as an entire bulk dump. The contents of the Sysx View are saved with a project.

To play back a SysEx bank from within a track, place the 'Now' time where you want *Sonar* to send the data, then open up the MIDI track's Event List view by going View / Event List (or typing Alt-4). Next, hit the computer keyboard's Insert key to insert an Event into the Event List at the 'Now' time position.

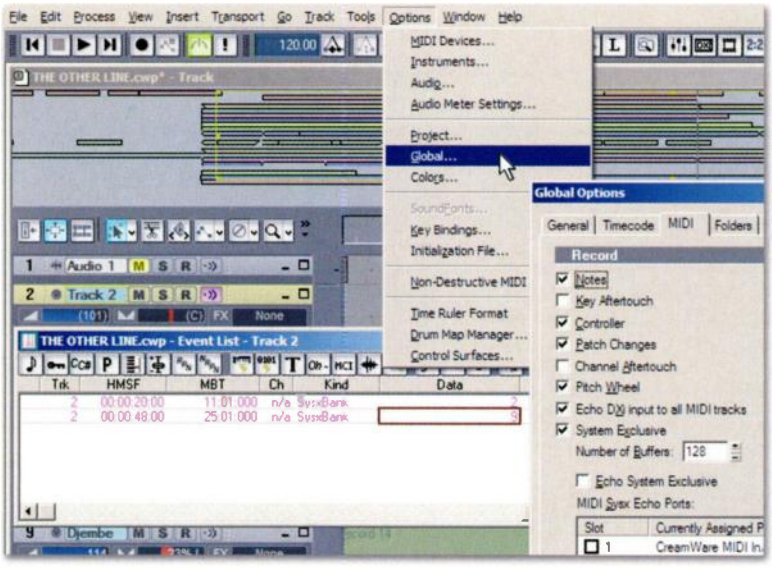
Double-click in the Event's 'Kind' field. When the 'Kind of Event' window appears, check 'Sysx Bank' under Special, then click on 'OK'. In the Event List entry's Data field, enter the number of the SysEx bank that should play back at this particular 'Now' time. When the project plays back and the 'Now' time arrives at the position you specified, the SysEx data will play back.

Sending a big bulk dump will take a while, and some instruments may 'choke' when receiving one from *Sonar*. If all you need to do is change a patch, you're probably better off saving individual patches as SysEx banks and triggering them. So wouldn't it be easier just to insert program changes instead? Yes, except that this assumes you have the same presets loaded into your instrument that were loaded when you inserted the program change command. If you edit and tweak programs a lot, that may not be the case. By sending SysEx, you're sending the actual program data itself, not just something that calls up a particular memory slot. If you save your outboard gear parameters in *Sonar*, as long as you back up your project you've also backed up the data needed to recreate the project — which is highly recommended.

It's Freezing In Here!

This seems like an appropriate Winter topic: *Sonar 4* has added a freeze function. (Actually, astute *Sonar* Notes readers already know that *Sonar* has had a freeze function since version 1, but it wasn't called that, and it required you to pre-mix the track you wanted to freeze, then archive it, instead of being a 'one click' process.)

Sonar 4 now has that one-click freeze solution for virtual ▶



The event list shows two events that trigger playback of SysEx banks. Note that Global Options has been set to record system exclusive data.

Closing The Gap

Although few programs can reach the standard set by Ableton's *Live 4* for audio that never stops, *Sonar* has made tremendous strides in reducing interruptions in the audio stream during playback, especially with complex projects. However, even with version 4, audio can be interrupted for a few seconds during routing changes, particularly if a lot of delay compensation is being applied to plug-ins.

Now the 4.0.1 maintenance update addresses this issue by adding a new variable to the AUD.INI file. This variable allows bypassing of nearly all of the CPU-intensive work that's required to recompute delay compensation after an audio-signal routing change, thus reducing gapping or eliminating it entirely.

The downside is that the audio will be slightly out of sync (although you probably won't notice this at low latencies). The loss of sync is only temporary, however, as the delay compensation is always recomputed anyway when you stop, then restart, playback.

Open the AUD.INI file in Notepad, then look for the following variable:

[Wave]
EnableLiveADCRecalc=<0 or 1>
(default = 1)

Set this to zero for minimal gapping, then save the AUD.INI file. Done!

You can see the list of bug-fixes and new features in 4.0.1 by going to http://www.cakewalk.com/Support/kb/kb2004239.asp. In particular, note that Prosoniq's MPEX2 timestretch algorithm has been upgraded to MPEX3, which alone is worth the download time. So what are you waiting for?

the definitive monitors!

Nearfields...farfields...micros... subs... how on earth do you know where you stand when every environment is different? When it comes to the highs and lows of music, outside of the cutting room you're really just guessing.

So don't guess.
You'll always be able to define the exact centre image, pinpoint stereo placement, experience true top-end and true bass– if you own a pair of DT 770 headphone 'reference monitors'.

DT 770's £99.00 inc.VAT

what's your environment?

DT 100 DT 150 DT 250 DT 770 M DT 860

big on features

DT 100's– the vocalist
DT 150's– the musician
DT 250's– the DJ
DT 770M's– FOH
DT 860's– the mix master

01444 258258
www.beyerdynamic.co.uk
sales@beyerdynamic.co.uk

UK Distributor for:
ALTEC LANSING ASL BIAMP BITTNER ClearOne cue GK KH rh xta

beyerdynamic

instruments, tracks and processors, that not only reclaims CPU power, but in the case of instruments that load samples into RAM (such as samplers that don't stream from hard disk), reclaims the RAM as well. There's little advantage to freezing an audio track unless it uses effects that cause a CPU hit, but freezing virtual instrument tracks can save a huge amount of CPU power.

Freezing is simple. In the Track View, right-click on the blank space in a track (or on its track number) and you'll see these choices if the track hasn't already been frozen:

- Freeze Synth or Freeze Track
- Freeze Options

(If you click on what you think is a standard audio track and see 'Freeze Synth', don't worry: this simply means that an effect in the track has synth properties, such as sync'ing to the host tempo. When it has been frozen, you'll hear the effect sync'd to tempo.)

If the track has been frozen (shown by a tiny snowflake and an indicator for the track type next to the track name), you'll instead see 'Unfreeze Track', 'Quick Unfreeze Track', and 'Freeze Options'. Interestingly, you can right-click on any MIDI tracks feeding a synth and be able to initiate freezing; there's also a freeze button on the synth rack view itself (see screen below).

Three tracks had been dragged into the DD Perc track for Freezing; once they're unfrozen, the Show Layers command separates them out again.

Clicking on 'Freeze' automatically pre-mixes the track or instrument audio (with any effects). The original audio-clip display disappears and what is then displayed may differ from the original audio, because it reflects any changes to the waveform caused by processing. The FX bin is also disabled.

Under Freeze Options, tick 'Fast Bounce', as this will freeze the track faster than real time. If a synth works only in real time, though, this should be unticked. I leave 'Hide MIDI Tracks' unticked, as I want to see MIDI tracks even if an Instrument track is frozen, so that I know what's going on the song. But if you really have finished fiddling with a track, hiding any associated MIDI tracks will unclutter your workspace.

'Single Bounce Per Track' pre-mixes the clips into a single frozen clip. If this is unticked, *Sonar* will create separate clips for each clip when you freeze, but you'll need to define the 'Remove Silence' gate settings so that *Sonar* recognises the silence between clips as the place to separate the clips. This seems unnecessarily complex for what should be a quick operation, so I always leave 'Single Bounce Per Track' ticked. The final option in the list of Freeze Options is the ability to set a duration that extends beyond the last clip, to accommodate tails from delays, reverb, and so on. The default is five seconds, but there's no real limit on this length.

Sampletank 2 is about to be frozen. Note that there are two places where you can access the Freeze function for instruments.

Once a track has been frozen, you can, of course, unfreeze it. This discards the pre-mix, returns the audio clip display to normal, and re-enables the FX bin. But there's also the ability to do a 'Quick Unfreeze'. This keeps the pre-mixed audio, but shows the original audio and enables the FX bin, which is useful if you want to test a change on the unfrozen track for comparison. For example, if you're not sure you like a particular effect and also want to perhaps change an envelope, do a Quick Unfreeze. Disable the effect, change the envelope, then listen. To compare this to the frozen version, just select Quick Freeze. You can toggle back and forth between the two until you make up your mind. Note, however, that you can only Freeze or Quick Freeze while the transport is stopped. It's possible to Unfreeze or Quick Unfreeze any time you like.

One limitation is that if you make a change during the 'quick unfrozen' stage and like it, you can't go directly to Freeze Track to freeze the changed version — you need to Quick Freeze, Unfreeze, then Freeze again (any changes you made to the track while in the 'quickly unfrozen' state are retained when you Unfreeze). Perhaps Cakewalk could add a 'Freeze Edited' command to save a couple of clicks?

You can do a lot with a frozen track: move it, split it, cut pieces, copy pieces, and even convert a frozen track — or a part that has been cut into its own clip — into a groove clip. As you'd expect, because this all affects the pre-mixed audio, unfreezing discards the pre-mixed audio, so that you lose any edits. However, before unfreezing you can always bounce the edited, frozen track to a new track, or even more simply, go Edit / Bounce to Clip(s) and drag the audio to a standard audio track. When you do that, unfreezing the original track does not unfreeze the copy. Very, er... cool!

What about freezing multiple tracks at the same time? In theory you can't — but I do have a workaround. Drag the audio from the tracks you want to freeze all into one track, then freeze it. If you decide you want to separate these tracks out again, no problem. Unfreeze the track, then, in the Track View, right-click on a blank space in the track and select 'Show Layers'. Each of the tracks you dragged in will be shown as its own clip. You can then freely drag out whichever clips you want. SOS

dfh SUPERIOR by Toontrack Music features all new drumkits with even more realism and user control than the award winning sample CD Drumkit From Hell!

"Leakage is what the sound of DFH Superior is all about. The use of additional recordings of drums heard from the perspective of different microphones adds tremendous realism because you hear the sympathetic resonance of each drum. Toms gently 'sing' in time with the bass drum, and snares rattle subtly as other drums are hit. The finished result is truly identical to a multitracked live session recording... but unlike on a real drum kit, leakage is completely controllable.

"Using DFH Superior is a positively spooky experience. When you listen to the rendered mic channels after a bounce, you could swear that there was a real drummer next door playing your part for you." - Computer Music Performance Award

- 35Gb data - 85,000 soundfiles (no loops)
- Ludwig, Sonar, DW, Fibes & Premiere drumkits
- Sabian, Zildjian & Istanbul & Sabian Protopype cymbals
- DW, Ludwig, Tama & Pearl snares
- Sabian, Zildjian & Sabian prototype hats
- 1 Massive MEINL Percussion Kit with congas, bongos, shakers, tambourines & much more
- 1 Cocktail Kit from Yamaha
- Easy customization of sounds via the interface
- All sounds recorded without any pre or post processing
- Multiple tool configuration choices - switch between brushes, drumsticks, mallets etc
- Multiple outputs with the choice of natural bleeding through all mics
- Randomised hits for non-linear performance
- Automatic Velocity Mapping
- **For both PC & Mac OSX in VST, AU and Re-Wire format - £166 inc VAT**

Toontrack Refill Collection - Cocktail & Percussion
Reason Refill containing the Meinl Percussion and Yamaha Cocktail kit sounds from DFH Superior. 2.5 Gb of multi-sampled sounds. £56 inc VAT

Drumkit From Hell - Multi-format CD-Rom
Multi-sampled drums and loops in Audio, Wav, EXS24, Giga, HALion, Battery, DR008 & LM4 formats. £65.95 inc VAT

Drumkit From Hell - Add-On Pack
Featuring additional toms, cymbals and mapping for Reason NN-XT, Kontakt, Giga, EXS-24, LM4, Battery, Kontakt, DR-008 & HALion. £19.95 inc VAT

Drumkit From Hell - Akai Version
Massive multisampled kits up to 250MB each for AKAI S5/S6000/Z4/8 & MPC4000 samplers. Includes both Drumkit From Hell and the Add-On. £65.95 inc VAT

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4, OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

MIRIAM

THE NEW VIRTUAL VOCALIST

BASED ON THE VOICE OF MIRIAM STOCKLEY

"I can think of a number of creative situations where Vocaloid would certainly be useful, particularly for backing vocals"
- SOUND ON SOUND Magazine

POWERED BY VOCALOID
SINGING SYNTHESIS TECHNOLOGY
LICENSED BY YAMAHA

When it comes to creating quality vocal tracks, Yamaha's VOCALOID singing synthesis technology has literally changed everything. And now Vocaloid™ MIRIAM™ raises the game to the next level of realism and efficiency! Synthesis is typically around 3 times faster AND can render in the background while your vocal line starts playing. The MIRIAM vocal range is extraordinarily wide and smooth! (Note: the improvements to the underlying Vocaloid Editor application are also available to owners of LEON and LOLA in a free software update available to registered users at www.vocaloid.com)

Zero-G's MIRIAM™ is a virtual female vocalist modelled on the voice of Miriam Stockley, that allows you to create synthesized singing of unprecedented quality and realism. MIRIAM can sing literally ANY words you wish in English - be they beautiful lyrics or comical trivialities, Monteverdi madrigals or manic chants. You can create vocal tracks in almost any style of singing, with any lyrics you want. You enter notes, type in lyrics, and the software renders the synthesized vocal. Then add expression to taste, and render again. MIRIAM is under your total control, and the results obtainable can truly sound like a professional singing voice. **LISTEN TO THE NEW MIRIAM DEMOS & DOWNLOAD THE TRY-OUT VERSION at www.zero-g.co.uk AND BE CONVINCED!**

Zero-G
VIRTUAL VOCALISTS

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4, OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

WRH

_DP_ 4.5 delivers new features that promise to fundamentally change the way users work, as well as offering smaller but crucial enhancements to existing features.

Robin Bigwood

Digital Performer 4.5 is being hailed as the most important upgrade in the application's history, and genuinely offers a huge step up over version 4.12, which, in terms of its feature set, still had its roots firmly planted in *DP* 3. As such, *DP* 4.5 might well be the catalyst that will persuade the majority of OS9 die-hards to commit to an all-OS X system. There would certainly seem to be no better time to switch, if you haven't already. As long as you have a fairly recent Mac you should find life in 'X' a thoroughly pleasant experience.

Latency Compensation

One of the greatest new features of *DP* 4.5 is plug-in latency compensation, which eradicates the timing problems caused by plug-ins (such as *Altiverb*, or various Waves processors) that impose a delay on the audio they treat. In *DP* 4.5, tracks which use these plug-ins have audio delivered to them ahead of time, so that they eventually line up with other tracks. As far as the user is concerned, everything plays in time and no thought is required! In fact, the feature has (and arguably needs) no user-configurability at all, other than an on/off switch, found in 4.5's revised Configure Studio Settings dialogue box, accessible via the Configure Audio System sub-menu in the Setup menu. Latency compensation works for MAS and AU plug-ins, and also for TDM and RTAS if you run *DP* with Digidesign hardware. TC Powercore and Mackie UAD1 cards are accommodated, at the same time if necessary, and the system works on aux and instrument tracks as well as voice tracks. Obviously, though, it doesn't work for incoming live audio — *DP* can't get musicians to play ahead of time! Also, for the time being, latency-ridden VST plug-ins hosted in *VST Wrapper* still impose a delay, though Audio Ease are incorporating latency compensation into their next release of the *Wrapper*.

The Consolidated Window

As far as workflow goes, this is the crowning glory of *DP* 4.5. *DP* has traditionally been a very 'windowy' app, and I'm sure I'm not alone in having found the resulting sprawl overwhelming at times. Quite aside from organisational considerations, having dozens of windows open, even if you can't see most of them, is a drain on processor power. Despite more recent OS X innovations such as Exposé, valuable time can be wasted just trying to find a particular window, not to mention the confusion that can be caused by editors for non-current sequences hanging around and thoroughly outstaying their welcome.

The Consolidated Window addresses all of that. Basically, it's one big window with up to three columns — a central main body plus a left and right sidebar — and potentially unlimited 'rows' within each column. The resulting 'cells' can contain *DP*'s most important windows. It's all highly configurable, and as you pass through the stages of development in a Project the Consolidated Window can offer you almost as much flexibility as individual windows, but a far greater degree of organisation and accessibility. I can't foresee a situation, except perhaps when using a multi-monitor setup, when I wouldn't use it exclusively from now on.

To start using the Consolidated Window, you have to turn it on in *DP*'s new Preferences Window, which is accessed via the *Digital Performer* menu. There's a dedicated preference 'pane' with (uppermost) an 'Enable Consolidated Editing' check box (see screen overleaf). Once you've checked this, you can choose which windows will automatically form part of your Consolidated Window when you open them, and which will open separately as normal. The options relating to rows and Event Lists, determine the maximum number of cells *DP* can create when you open windows in the normal way. As we'll see, though, it doesn't limit the complexity of your Consolidated Window when you set it up 'manually'.

If you now create a new project with the Consolidated Window preference turned on, you'll be up and running. The default Tracks Overview appears different, with 'tabs' at the upper right, and apparently two title bars, with a thin divider between them, and some new icons in the top title bar. This is the Consolidated Window in its simplest form, with just a single cell — the main body. The tabs give quick access to other main windows, and the two mini-menus do different things, the lower one handling Track Overview functions as normal, and the one above dealing with Consolidated Window functions. You can split the main body, and create a new cell very easily, by dragging down the divider between the two title bars. You're effectively dragging a new window 'past' the Tracks Overview, and *DP* will create a Sequence Editor for you, as that's the next tab along from 'Tracks'. As this new window is still part of the main body, it also ▶

A fairly complex, nine-cell Consolidated Window setup using both sidebars and varying numbers of rows. The Mixing Board has focus here, as indicated by its darker title bar.

has tabs for switching between different views. You could alternatively have opened a new main body cell by using the window buttons in the Control Panel, or with standard shortcuts such as Shift-M for the Mixing Board. However, once there are two cells open, further window-opening commands don't create a new cell but instead switch the view of one of the cells. Which one is switched is determined by a new concept known as 'focus'. You'll notice that when multiple cells are open one of them will have a title bar darker than all the others. This cell is said to have the present focus, meaning that it will be the one that switches if you send a window-opening command, and also that its contents will be affected by certain other commands (such as the Search command) as if it were the uppermost window in a 'normal' window environment. Changing focus is as simple as clicking a cell's title bar.

Dragging the divider between the two cells allows you to divide the window area as desired, but you can also drag a 'new' divider from the top to create a new cell. Cell can be re-ordered inside the window, by dragging their title bars and 'dropping' them, and you can delete a cell by giving it focus and then hitting control-W or choosing 'Close Cell' from the uppermost mini-menu.

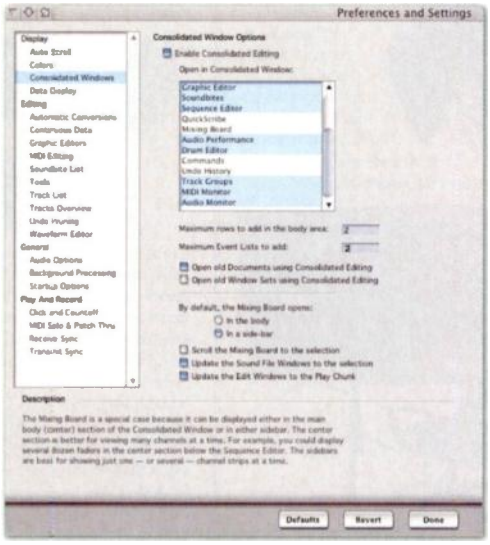
You can also split the Consolidated Window horizontally, using 'sidebars'. There's both a left and a right sidebar, each with its own new title-bar button. The right sidebar's button is at the far top right of the Consolidated Window. Pressing it causes a new column to appear, but as this is a sidebar there's a pop-up menu instead of tabs, and you're given a different choice of windows — basically, ones which are more suited to being viewed vertically. So there's no option to have the Tracks Overview or Sequence Editor in a sidebar, but you're welcome to choose Event Lists, the Soundbites Window or the Audio Monitor Window. The width of the sidebar can be adjusted, and idebars are opened automatically if you call up a window such as Soundbites or Markers. With both open, you can drag cells from one sidebar to another.

Only the window types selected in *DP*'s Preferences open automatically in the Consolidated Window. Some users might prefer, for example, the Mixing Board to always open in its own window. However, it's easy to pop most windows in and out of the Consolidated Window, by using their Popout button, or the imaginatively named 'Pop-back-in' button. These are title-bar buttons that appear either as a right and upwards facing (Popout) or a left and downwards facing (Pop-back-in) arrow. This feature works very intuitively.

Two of the new window title-bar buttons *DP* has sprouted to help with Consolidated Window control. Most of *DP*'s windows now get either a 'Pop-out' or 'Pop-back-in' button, depending on whether they're inside or outside the Consolidated Window.

Consolidated Window setups can be captured as Window Sets in the normal way, and MOTU provide some excellent ones as starting points. These are accessible via the topmost mini-menu, where there's also an option to 'Update Edit Windows to Play Chunk'. This is a godsend, meaning that if you use multiple sequences in a project, you never get 'redundant' cells belonging to other non-current sequences in a Consolidated Window.

All in all, the Consolidated Window is a triumph of interface design — massively flexible, yet intuitive and easy to use. *DP* users, especially those with laptops, have every reason to feel smug.



DP 4.5 has consolidated its preference windows too, so now all preferences are collected together in one place.

New Aux Architecture

This is one of the less obvious benefits of *DP* 4.5, but it's a very important enhancement. The Mixing Board's aux section has been, until now, one of *DP*'s weaker aspects, with poor support for stereo and surround tracks, and only the roughest indication of send level.

However, in *DP* 4.5 the aux section has been redesigned. First you can have up to 20 sends per track via the Mixing Board's 'Set Number of Sends...' mini-menu option. Each send is then allocated a vertical slice of the Mixing Board to itself, rather than being paired up as before, and quick access to stereo and surround buss Bundles is now accessible via an aux's pop-up menu.

It may not look like much, but the ability to have stereo aux sends marks a great leap forward in convenience for *DP* users.

In the case of stereo sends, you now get one send-level knob (yippee!) and one balance knob, both of which display their value as you adjust them. When it comes to surround sends (for which you need to have already set up a multi-channel buss in the Audio Bundles window), you can call up a surround panner by clicking the little circle icon that appears next to the send-level knob. And this is just the tip of the iceberg — there are other new aux-related enhancements I'll be looking at in next month's *Performer* Notes. SOS

Quick Tips

DP 4.5 has mouse scroll-wheel support, and this really comes into its own in the Consolidated Window. The scroll-wheel primarily controls vertical scrolling of windows, but holding down the Shift key enables horizontal scrolling. In the Sequence Editor, holding the mouse pointer over the vertical scroll bar before turning the scroll-wheel results in a much faster scroll, while faders, pans and aux sends in the Mixing Board can all be controlled by pointing at them and then turning the scroll wheel.

There's a nice new feature in 4.5, in the form of the Startup Clipping Window. This is a per-project window into which you can drag documents from other applications which will open after the *DP* Project opens. This is ideal for *Reason* or *Live* documents associated with individual *DP* Projects.

In Setup menu / Configure Audio System / Configure Hardware Driver, there's a new Work Priority setting. In simple terms, this determines how *DP* fits in with OS X's multi-threading capabilities. While it should normally be left on 'High', users of some audio interfaces may get better performance with it set to 'Medium' or 'Low'. Some users have also reported that a lower setting eradicates the processor spiking problem on single-processor Macs.

DP 4.5 seems to make an existing *DP* 4.1 installation unstable, so you need to be prepared to commit fully to the new version before installing it. Also, it's worth selecting a *DP* Project file in the Finder, choosing Get Info from the File menu, changing the 'Open with' setting to *DP* 4.5, then selecting 'Change All'. That way you'll never have *DP* 4.12 opening by accident.

BEM Music

020 7733 6821

Music & Audio Ready PC's

Music Tower

Order code: 101154

Transmet Tower + 350w low noise psu
Intel P4 3.0Ghz
533Mhz
DVD + CDRW
64Mb Single monitor output
120Gb 7200rpm hard drive
3 years return to base
Windows XP home
3 into 1 PCI card
1Gb DDR 333Mhz
3.5" floppy
5 button optical mouse
PS2 colour coordinated
6 x USB2
Nero CD burning software plus power DVD

£829

Music & Audio Ready PC's

Rack LE

order code: 101515

19" 4 Unit rack case + 350w
Inter P4 2.4Mhz
52 x 24 x 52 CDRW
64Mb Single monitor output
80Gb 7200rpm Hard Drive
3 Years return base
Microsoft Windows XP Home
512Mb DDR
56k Modem
3.5" floppy
3 button ball mouse (PS2)
Standard PS keyboard
6 x USB
Nero CD burning software

£599

TL Audio

IVORY 5060 PRE SET COMP	£389
IVORY 5021 DUALVALVE COMP	£465
IVORY 5051 VALVE PRE AMP	£465
IVORY 5013 DUAL VALVE EQ	£465
IVORY 5052 DUAL CHANNEL	£979
CLASSIC C1 ALL VALVE COMP	£999
CLASSIC EQ2 DUAL VALVE EQ	£999

ROLAND/BOSS RECORDERS

VS-2480-CD
VS-2480-DVD
VS-2000-CD
MV-8000
BR-1600-CD
BR-1180-CD
BR-864

WE ARE MAIN DEALERS FOR ALL ROLAND AND BOSS DIGITAL RECORDERS. BEST PRICE-PROMISE

M-audio

AUDIOPHILE USB	£159
QUATRO	£185
DUO	£179
MOBILE PRE	£125
TRANSIT	£75
MIDISPORT UNO	£36
MIDISPORT 1X1	£39
MIDISPORT 2X2	£49
MIDISPORT 2X4	£49
MIDISPORT4X4	£79
MIDISPORT 8X8	£186
AUDIOPHILE F/W	£179
OZONE	£199
OXYGEN 8	£85
RADIUM 49	£115
RADIUM 61	£139
AUDIOPHILE-2496	£69
DELTA 44	£129
DELTA 66	£159
DELTA 1010LT	£199
OMNI STUDIO	£299

AND MORE!

Behringer Mixers

UB SERIES MIXING CONSOLES

• DDX 3216 32 channel Digital Mixer	£799
• Eurorack UB1622FX-PRO Mixer	£147
• Eurorack UB502 Mixer	£33
• Eurorack UB802 Mixer	£39
• Eurorack UB1002 Mixer	£55
• Eurorack UB1202 Mixer	£69
• Eurorack UB1204 PRO Mixer	£98
• Eurorack UB1204 FX-PRO	£121
• Eurorack UB1832 FX-PRO	£187

BI MIC
£78

£68

£108

IF YOU DO NOT SEE THE PRODUCT YOU ARE LOOKING FOR GIVE US A RING!

Midi Keyboards

EDIROL PCR A30 USB Audio Keyboard	£239
EDIROL PCRA30	£123.00
EDIROL PCR-50	£163.00
EDIROL PCR-80	£239.00
EDIROL PCRA30	£239.00
EDIROL PC-160A	£67.00
EDIROL PC-180A	£84.00
EDIROL PC-300	£115.00
EDIROL SD-20	£273.00
EDIROL SD-90	£549.00
M-AUDIO RADIUM	£139.00
M-AUDIO OXYGEN 8	£89.00
M-AUDIO OZONE	£199.00
EVOLUTION MK-249	£89.00
EVOLUTION MK-361	£119.00

AND MORE!

Second Hand

E-mu Carnival Sound module	£199
Tascam DA-20 MkII	£299
Korg 1212 I/O card	£85
Novation Bass station rack	£125
YAMAHA O2R/03D ADAT CARD	£269
STUDIOELECTRONICS SEI	£699
KURTZWEIL K2000ROUND MODULE (NO SAMPLER)	£299
NORD RACK	£299
Iomega 250 Mb Zip with MPC Lead	£119
Emagic EMI 26 Multi Channel Interface	£99
Mackie Baby HUI	£250
Pure Path Channel Strip	£899
Novation Nova Desk Top	£349
Fat THC-00 Filter	£85

£78

£84

ULTRAPATCH PRO PX2000

£28

Steinberg

MIDEX 3	£59.00
SX2 XTC BUNDLE	£429.00
SL2 BPM FORCE	£218.00
GROOVE AGENT	£149.00
HALION 2	£249.00
HYPERSONIC	£249.00
MODEL E	£99.00
STUDIOCASE	£169.00
THE GRAND	£134.00
VIRTUAL GUITARIST	£138.00
WARP VST	£89.00
WAVELAB VST	£279.00
PLEX SYNTH	£144.00
LM 4 DRUM MODULE	£89.00

AND MORE!

KAOSS PAD entrancer

IN STOCK - NEW LOW PRICE!

E-MU's new digital Audio Systems deliver everything you need to produce audio on a PC with professional results - 24-bit/192kHz converters, hardware-accelerated effects and mixing, comprehensive sync options and seamless compatibility with your favourite PC audio/sequencer software. E-MU Systems has teamed up with the Creative Advanced Technology Center, a world leader in ASIC and algorithm development for a PC audio, to develop the new line of Creative Professional hardware interfaces that stand toe-to-toe with the most advanced and expensive audio systems in the world.

IN STOCK AND PRICED TO GO

1820M
1820
1212M

January Sale

ALLEN & HEATH PA-12 MIXER	£399
ALLEN & HEATH PA-20 MIXER	£599
EDIROL PCR-30 USB KEYBOARD	£123
TL AUDIO 5021	£385
TL AUDIO 5013	£385
TL AUDIO 5060	£349
TL AUDIO 5001	£379
STEINBERG MIDDEX-3	£45
ROLAND FANTOM XR MODULE	£799
DBX 231 GRAPHIC EQ	£149
DBX 266 XL COMPRESSOR/GATE	£79
AUDIO TECHNICA AT3035 STUDIO MIC	£139
EAST WEST STORM DRUM/PERCUSSION LOOPS MULTI-SAMPLES)	£179
ALESIS MICRON SYNTH	£299
KORG LEGACY COLLECTION	£339
ROLAND SP606 SAMPLING WORKSTATION	£399
KORG DX16XD DIGITAL WORKSTATION	£1250
KORG DX32XD DIGITAL WORKSTATION	£1750
TASCAM US224 USB INTF	£125
MATRIC HALO I/O WITH DSP	£799
NOVATION ASTATION MODULE	£175
MAC I-BOOK 900MHZ POWER PC/G3	£599
ROLAND FPI PIANO	£999
RME DIDI 196 PCI CARD	£179
STEINBERG WAVELAB AUDIO EDITOR	£225
STEINBERG ATTACK PERCUSSION SYNTH	£49
NOVATION BASS STATION PLUG IN	£365
ROLAND A37 MIDI CONTROLLER	£299
KORG MICRO KORG	£259

POP INTO ONE OF OUR SHOPS AND PICK UP A PRO 7 BUNDLE NOW!

Apple Solution Experts

Second Hand

BEHRINGER ULTRADYNE PRO	£89
PLANET PHAT	£349
ROLAND US1880 RECORDER	£699
MOTU MIDI EXPRESS	£129
ALESIS DM PRO	£425
ROLAND U220	£149
ALESIS QUADRAVERB 2	£249
ENSONIQ SQR MODULE	£199
ROLAND R8M	£225
ART SGE GUITAR FX, RACK	£99
E-MU VINTAGE KEYS	£269
E-MAGIC AMT-8	£149
TF PRO P3 PRE-AMP	£49
KORG 05R / W MODULE	£225
ALESIS QUADRAVERB II	£269
LEXICON MPX1 EFFECTS	£375
IOMEGA ZIP 100	£99
LEXICON PCM70 VERS 3.1	£799
ROLAND R8M	£225
E-MU PROTEUS 2000	£399
TC FINALIZER	£799
ROLAND D110 MODULE	£85
ROLAND M-DCI DANCE MODULE	£149
APHEX 109 PARA EQ	£99
Mackie 24E 8 bus Expansion Console with Meter Bridge	£1500
Roland SH101	£199
Native Instruments Kontakt	£199
Korg X5D Synth	£299
Roland AF-70 Anti-Feedback	£49
Korg M3R Sound Module	£CALL
Akai S3000 XL sampler	£285
Akai S2000 sampler	£179
E-mu E6400 sampler	£575
Mackie 1604 VLZ Pro mixer	£399
Novation Drumsatation Rack	£125
Pure Path Mic pre-amp/compressor	£799

BEM SOUTH
395 COLD HARBOUR LANE
BRIXTON, LONDON
SW9 8LQ
TEL: 020 7733 6821
NEAREST TUBE:
BRIXTON

BEM WEST
311 KINGS STREET
HAMMERSMITH, LONDON
W6 9NH
TEL: 020 8563 2222
NEAREST TUBE:
RAVENS COURT PARK

tel: 020 7733 6821

www.bem-music.com

reason notes

There are more clever tips and techniques than you can shake a stick at in this month's *Reason* Notes, kicking off with yet another fun way to fake an arpeggiator effect...

Derek Johnson

I hope Propellerhead add some form of arpeggiator device to *Reason* when they next release an update. Users certainly expend a lot of energy on trying to recreate the effect in *Reason*, and indeed we've examined pseudo-arpeggiator effects before in this column. But here's something I've been meaning to work out for a while that might be of interest to some of you.

Ups & Downs

The star of this technique is the *Malström* and its sophisticated modulators. So, first, add one to the rack, but don't bother connecting its audio to the mixer. Also add a *Subtractor*, load a patch suitable to be arpeggiated (at random, I loaded 'Acid Square 2' from the Monosynths folder in the Factory Sound Bank), and then add a *Matrix* pattern sequencer, linked to the *Sub*.

- Flip to the rear panel, and route the *Malström*'s Mod A CV output to the *Sub*'s Pitch modulation CV input.
- Back at the front panel, disable Mod A on the *Malström* and program a simple repeating note pattern on the *Matrix*. I set the pattern length to 32 steps, switched the note range to octave 2 and drew in a row of bottom Cs, with a trigger for each step in the lower gate strip.
- Returning to the *Malström*, re-enable Mod A, engage the Sync button and select modulation curve 23. If you play back the *Matrix* pattern now, you'll get a repeating pattern of notes, spread over a wide pitch range. We're now going to tame that, although it might be an effect that you'll want to remember for later! First, set the Mod A rate knob to 1/8 (the *Matrix* still has a step resolution of 1/16), then go to the rear panel again.

Quick Tips

Don't forget that the *Spider Audio* device's splitter circuit can just as easily split two mono signals independently as it can split a single stereo signal.

When triggering sound effect or impressionistic samples in *NN19*, you don't even need your MIDI keyboard: Alt-clicking the little on-screen keyboard in *NN19* (and *NNXT*) triggers them for you.

Remember that you can 'Export Loop' — the section of song playing between the left and right locators — and that the loop can then be re-imported into *NN19* or *NNXT*. If it has definite rhythm, the loop won't change tempo if you alter the song's tempo, but this can be a quick way of re-using any atmospheric or extremely effected material that you might create while noodling with the software.

Here's a quick way to create bouncing stereo delays. Simply route the left and right jacks of a *Remix* aux send — which are in stereo since v2.5 — each to a separate *DDL1* digital delay. Route a mono output from each *DDL1* to the left and right connections of the aux's return. Bingo: no-pain stereo delays! Almost any pair of timed delay values (which can be selected with the *DDL1*s set to 'Steps' mode) can produce an interesting effect.

It's worth remembering that the reverse reverb algorithm available on the *RV7000* reverb device doesn't 'fake it': the incoming audio is sampled and played back in reverse, leading in to the original audio played the right way round. Thus a true reverse reverb effect, with up to 4000ms reverb time, can be produced. However, you need to make sure that the sound being reversed starts early in your track, by the same amount of time that the reverse effect takes. This ensures that the orginal sound occurs at the desired point in time, an effect that's easier to achieve using the algorithm's tempo sync option.

- Turn the *Subtractor*'s oscillator-pitch modulation-input trim control fully left; the repeating C-notes return. But move it one step to the right and you'll start hearing pitch changes again, albeit of a fractional nature. (You might have to adjust your mouse response here, under General Preferences, to be able to easily increment parameters a step at a time. My Mouse Knob Range is set to Very Precise.) The first usable trim value is three. If the root note playing *Subtractor* is C, a repeating pattern made up of C, C-sharp, D, D-sharp and back down again is produced. The next useful value is six, offering C, D, E, F-sharp. Other good trim values include: nine (C, E-flat, F-sharp, A); 10 (C, E-flat, G, B-flat); 11 (C, E, G, B); 12 (C, E, A-flat C); 13 (C, E, A, C-sharp); and 21 (C, G, D, A).

The *Reason* devices you'll need to set up the arpeggiator effect.

Several of these might be a bit atonal or offer a rather whole-tone feel, but experiment. Some of the trim values I haven't mentioned *nearly* work — for example, five nearly produces C, D, E-flat, F, and seven nearly produces C, D, F, G. Some of the intervals produced, especially using trim parameter values not quoted, aren't exactly even-tempered — and many are downright cranky! But when the main examples are going fast, no-one will notice. Besides, the 'bad' notes in the good examples are only a few cents off with regard to equal temperament. If anything, you'll simply get a little extra texture when these are bubbling in the background.

Let's now change our repeating C-note pattern into more of a riff. The pictured example shows a simple ▶

COOL - THE TUBETRACKER

Digital Audio Workstations may offer unprecedented flexibility in multitrack recording and editing but the resulting audio mixes created by these digital audio systems seldom achieve an equal status to those produced by classic large format analogue recording consoles.

However, by introducing a Classic M3 Tubetracker with its high quality pre-amps, musical equalisation, classic summing amplifiers and revered valve circuitry, to your DAW, you can now elevate your digital recording to a truly classic status.

For full specifications, user info, stories, dealers and reviews, visit:

www.tlaudio.co.uk

MAIN FEATURES

- 8 Classic valve Mic/Line pre-amps
- 8 Classic 4 band Equalisers
- Classic design summing amplifiers
- Compatibility with all DAW's
- Classic valve output stages
- 24bit 96kHz stereo output option
- Classic console circuitry and assembly
- Classic console performance

Designed and manufactured in England

TELEPHONE
+44 (0)1462 492090 //

EMAIL
info@tlaudio.co.uk //

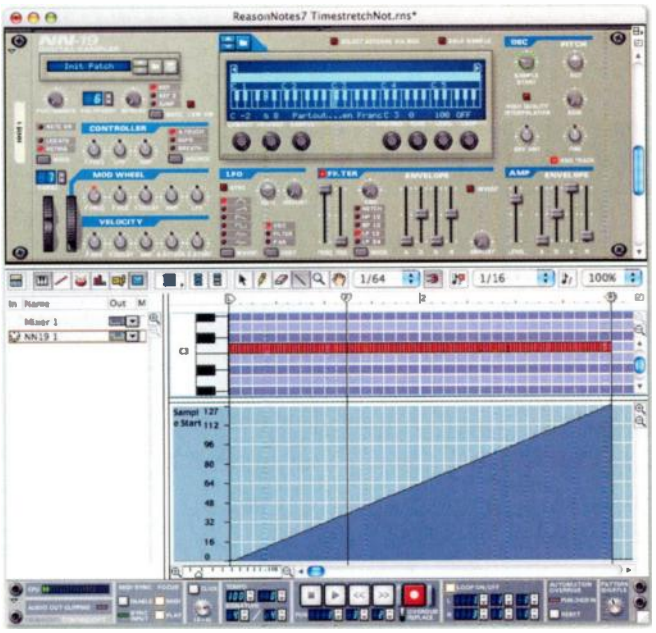
TL Audio
PASSIONATE ABOUT TUBES

▶ ascending note run with eight steps each for C, D, F and G. The result isn't, of course, a real arpeggiation, though the insistent 16-note feel is similar: we're not breaking up a chord in any way, and without a little forethought the notes produced will be rather unpredictable. However, even the unpredictability can be a good thing, turning this *Reason* rack into more of an algorithmic composition tool.

More complexity can be produced by manipulating the step resolution of the *Matrix* and the *Malström* mod, plus the amp envelope release on the attached *Subtractor*. Slow things down so that the up/down pattern doesn't finish before a *Matrix* note changes, which would happen with a *Matrix* step resolution of 1/4 and a *Malström* mod rate of 4/4, and new, unexpected patterns emerge. Play with *Matrix* pattern lengths and vary the pattern of note-on events (not to mention note pitches) too.

You can also experiment with the other stepped modulator curves on the *Malström*. Options 21-27 produce similarly predictable results, but I haven't got the space here to tabulate the notes produced. And don't forget that *NN19* has an oscillator-pitch modulation input that functions in just the same way as *Subtractor*'s.

I tend to save two- or four-bar sections of the audio produced by this fake arpeggio technique,



The fake timestretching effect illustrated in *Reason*.

treat them in *Recycle* and use the result to add extra textures to existing tracks, or even start off entirely new tracks.

Time For A Change

I'd like now to share with you a technique that's been described as 'timestretching'. I can't take credit for it, and although it's not *really* timestretching, it's still interesting. If you hunt around on Reasonstation (www.reasonstation.net), you'll find more discussions on the topic, plus a number of example songs, and there's also a discussion at the Reason users' community on LiveJournal (www.livejournal.com/community/reason_users/). While the effect produced is sonically similar to a not-very-sophisticated timestretch algorithm slicing up a sample really slowly, you don't have much control over it. However, it's still fun and may remind you of a granular synth effect. The technique starts with an *NN19* sample player.

- Load a sample, which would ideally be, for a first test, some speech. (Try anything you like later!)
- In the sequencer Edit View, draw lots of consecutive 64th notes at C3, the default note that triggers new samples loaded into *NN19*. This sounds like an irritating, finicky job, and it is. *Reason*'s maximum on-screen resolution is 32nd notes, so even though the Snap value can be set to 1/64, you don't have a grid to work to. No problem: still enable the Snap to Grid button (the magnet in the sequencer toolbar), and set Snap value to 1/64 (with the pop-up to the left of the button). Use the pencil tool to draw in one note at the beginning of the first bar. Highlight it, copy it (using Apple/Control + C), and paste it as many times as needed (Apple/Control + V). This key combination pastes the copied note immediately after the previous one; hold down the keys and the notes will appear automatically. Let go when there's enough. But how many is enough? I tried a number of options here, but if you've got a short-ish sample it works to set your left loop marker to the start of the song and the right to the start of bar five and ensure that you fill the space with 64th-note 'C's.
- In the Edit view, enable the controller lane for the Sample Start parameter (Option/Alt-click *NN19*'s Sample Start parameter knob). Drag and zoom this lane so you can see it quite large, and select the Line Tool (the line icon between the eraser and magnifying glass). Click and hold at at the lower left of the display, and draw a line right up to the top of the display, finishing at the right loop point.
- Now hit play on the transport bar. You'll hear a granulated, stretched version of the sample lasting four bars. This really neat trick synchronises controller changes for Sample Start with note-on events. You can make them play out faster or slower by drawing the Sample Start curve for fewer or more bars (ensuring there are enough note-ons, of course). Unfortunately, the effect can't really be synchronised to a host track, so it's strictly a special effect — but one that really adds something to a track when used discreetly. SOS

Stretching A Point

You might be wondering why we're using *NN19* for this technique, rather than the more sophisticated *NNXT*. Well, it's because *NNXT* doesn't offer such direct access to its Sample Start parameter. However, velocity can be assigned to Sample Start in *NNXT* as a substitute for the technique described above: in the Velocity section of the front panel, turn the 'S Start' knob fully right. Load a sample, insert as many 64th-note 'C's as you need, then view the velocity track in the sequencer Edit View and use the line tool to draw a straight velocity curve from the lower corner of the display to the top, ending at the right loop marker. When you play back, the result is the same. Making this assignment will compromise any other, more standard velocity assignment (such as velocity to amplitude) you may wish to use, but aside from that it's a valid alternative, if you prefer to use *NNXT*.

Though not as quick or flexible as a genuine timestretching tool, this technique can be expanded upon. Use a coarser resolution, such as 16th or quarter notes, to create a more choppy effect. Erase some notes in the stream while leaving the controller curve intact. And if you use the velocity-to-sample start option (also achievable in *NN19*), it'll be possible to use the Change Events process (under the Edit menu) to 'Alter Notes'. This rearranges the notes according to a percentage weighting, normally creating new musical material. In this case it will simply rearrange loads of 'C's, but the rearranged velocity levels mean that whatever sample is loaded into the *NN19* or *NNXT* will be played back in an eccentric manner, often generating strange or disturbing sound clusters, especially when 'stretching' speech. Playing with the amp envelope — start and release times especially — can also affect the end result, often eliminating clicks and making rearranged speech almost make sense!

ELECTROMUSIC

82 Copley Road Doncaster DN1 2QW

Computer Music

KORG ESX/EMX.....£489

CUBASE SE.....£99

LOGIC EXPRESS 7...£189

KORG LEGACY...£345

PRO TOOLS 6.2.3

DIGI 002....£1599

DIGI 002R.£879

DIGI Mbox.£339

MOTU 828MKII.....£599

EX DISPLAY

TASCAM 8 MIC PRE AMPS..£100

MOTU 828 MK 2.....£550

TLAUDIO 5051.....£399

GENELEC 1029a Monitors.....£450

EMAGIC USB AUDIO £120

ALESIS DM5.....£200

TASCAM CDRW750.....£350

TASCAM FW1884.....£1059

TASCAM MA8 8 PRE AMPS..£150

POWERCORE FIREWIRE.....£989

Recording Studio Gear

TLAUDIO 5051.....£465

TLAUDIO 5050.....£299

FOCUSRITE PENTA.....£199

FOCUSRITE VOICE PRO.....£349

FOCUSRITE TWIN PRO.....£355

TC HELICON QUINTET.....£299

ART TPS VALVE PRE AMP..£199

Mics and Monitors

AUDIO TECHNICA AT4040..£175

BLUE BABY BOTTLE.....£339

RODE NT1.....£129

M-AUDIO LUNAR.....£129

RODE NT1000.....£179

BEYER MCE 834.....£399

GENELEC 1029a.....£525

GENELEC 1030a.....£929

MACKIE HR624.....£739

WHARFEDALE DIAMOND...£199

SAMASON RESOLVE 65a...£209

Keyboards

KORG TRITON LE.....£730

KORG PA1X.....£2299

KORG SP200 PIANO....£499

ROLAND FANTOM X6..£1445

YAMAHA S03.....£329

CASIO AP33 PIANO.....£639

CASIO AP38 PIANO.....£739

AUDIO PC + SOFTWARE FROM £649

GENELEC MACKIE audio technica

Digital Recorders

FOSTEX MR8.....£290

FOSTEX VF80EX.....£369

FOSTEX VF160EX.....£529

ZOOM MRS1608.....£649

TASCAM 2488.....£840

TRITON EXTREME...PHONE

YAMAHA 01X.....£989

Sound Cards

M-AUDIO AUDIOPHILE 2496.....£69

M-AUDIO USB AUDIOPHILE.....£155

M-AUDIO FIREWIRE AUDIOPHILE..£169

M-AUDIO FIREWIRE 1814.....£369

TERRATEC PHASE 28.....£169

CUBASE SYSTEM 4 .....£365

TC ELECTRONICS POWERCORE £399

Tel: 01302 369999 Fax:01302 738523

MAIL ORDER AND PERSONAL CALLERS WELCOME. 30,000 SQ FEET OF SHOWROOM

www.electromusic.co.uk

cubase notes

Cubase SX has a wide selection of real-time MIDI effects that can often substitute for the more processor-hungry audio effects, as well as opening up other creative possibilities.

Martin Walker

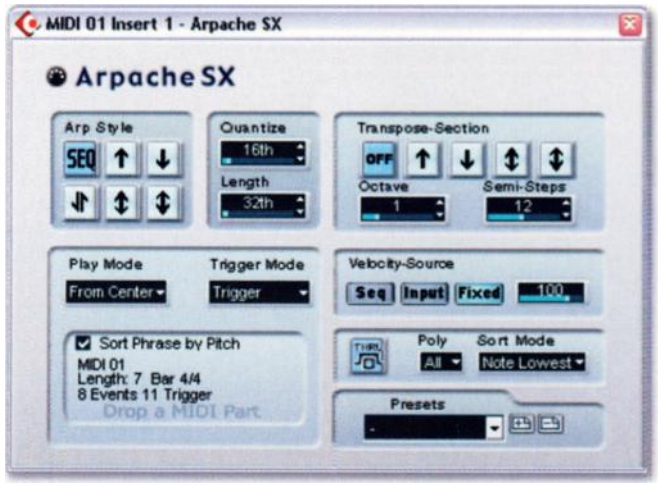
It's probably fair to say that the majority of computer-based musicians running *Cubase SX* now use plug-in effects to process their audio tracks, soft synths, and so on, consuming copious amounts of processing power to do so. What many may not have realised is that if they're using software synths and samplers, or even good old-fashioned hardware MIDI synths, there's another category of *SX* effects that uses scarcely any CPU at all: MIDI plug-ins. As a comparison, while an audio echo plug-in has to calculate a new audio stream for the duration of each echo added to the original sound, you can add *MIDI* echos simply by placing additional note on/off commands in the data stream at the appropriate moment.

Just like audio plug-ins, *Cubase SX* MIDI effects can be used as inserts and in send/return loops, and these have dedicated sections in the Inspector for each MIDI track. Each track can use up to four insert and four send effects — although, unlike the audio equivalent, MIDI sends can be different for each track. However, they operate in a similar way to audio effects, with inserts processing the original data and sends generating additional MIDI data that is added to the original track data. Some of the plug-ins are extremely simple to use, while others are surprisingly complex and full of creative possibilities.

Enter The Stream

Some of the supplied Steinberg MIDI effects are very similar to their audio cousins. *Autopan* will seem very familiar, with its selection of waveforms, Min and Max settings to determine the swing extremes, and Period parameter for altering the duration of each cycle. It's also deceptively versatile. Two of the waveforms have periodical envelopes whose amplitude varies depending on the position of the Amp Mod control, so you can generate decaying waveforms over several cycles, which is ideal for bouncing effects.

The Controller parameter not only allows controller 10 (pan) information to be sent out, but also any other MIDI controller number — there are presets for sweeping filter frequency and resonance, attack time, expression, and so on, but it's important to make sure that the destination hard or soft synth responds to these, or nothing will happen. 'Density' controls how often a new value is sent out, producing smooth waveforms at one extreme and stepped versions at the other. The latter sound effective with frequency modulation.



Arpache SX takes arpeggiation to new heights, with an option to use a note list derived from any MIDI part you care to drag and drop from the Project Window.

Arpache 5 is an arpeggiator. In addition to the normal up, down, up/down and random modes, plus quantise (arpeggio speed) and length options based on the chord shape you play, it also provides an 'Order On' play mode that lets you specify between one and eight notes from your chord by entering them into 'slots'. This is very flexible, allowing the creation of riffs that alter with chord shapes.

Arpache SX is even more versatile, adding 'mostly up' and 'mostly down' parameters, plus a new 'Seq' mode that uses a MIDI part as its pattern. Its notes (including those in chords) are then sorted into a list and played according to various Trigger rules and Play modes. Velocities of the arpeggiated notes can be sourced from the original MIDI part or live input, or fixed at a specific value, while a Thru switch allows live chords to be heard along with the arpeggiated notes.

MIDI Echo can provide between one and 12 standard repeats of input notes, with the Velocity Decay control mimicking the fading or swell effects of a digital delay. However, this plug-in can be far more flexible than its audio counterpart. For example, the Echo Decay ▶

Simpler MIDI Plug-ins

- ***Compress*** has a similar function to the Inspector's Velocity Compression parameter, evening out the velocity values in the track, but instead of the somewhat confusing fraction parameter it provides more familiar controls labelled Threshold, Ratio, and Gain.
- ***MIDIcontrol*** lets you perform basic sound editing on your synths using up to eight sliders, each of which can be assigned to your choice of MIDI controller. Since the current settings are saved with the song, this is a handy way to return to an edited sound without saving it in the synth's own preset format.
- ***Density*** is downright weird, muting occasional notes as you drop below the default 100 percent value, and randomly adding extra ones as you raise it above. You could use it to thin out solos or generate new ideas, but if you've found another use, please let me know!
- ***Micro Tuner*** works with synths that accept microtuning information. It comes with a selection of pure, equal temperament, Pythagorean, and experimental tunings. Probably one for enthusiasts only.
- ***Note2CC*** is another strange offering, generating your choice of MIDI controller information from the incoming MIDI note value. You could perhaps use it with Controller 7 so that low notes were quieter than high ones, for instance. It's least confusing if used on monophonic lines.
- ***Quantizer*** is a simple but useful addition to the main *Cubase* quantise functions, since it works in real time rather than being applied to note timing, and its Delay parameter can be automated for special effects.
- ***Track Control*** is a handy panel of the knobs and sliders that used to appear in *Cubase VST*'s MIDI Mixer for altering GS and XG synths. Like the *Control* plug-in, it preserves sound edits when you save a song.
- ***TrackFX***: Once instance of this is already used in every MIDI channel of your songs to provide the Inspector's Track parameters (you can see the current *TrackFX* total on the MIDI Plug-ins page of the *Cubase SX* Plug-In Information window). However, the stand-alone version adds Scale Transpose options for making notes conform to any key and scale mode. These are wonderful for creating exotic feels. See November 2000's *Cubase* Notes for more details.
- ***Transformer*** is a real-time version of the Logical Editor, and is also closely related to the *Input Transformer* (see 'The *Input Transformer*' box).

True Capacitor, True Value
Samson CL7

Introducing another musically empowering Samson condenser mic.

Never before has a studio mic this good been available at this price. Like the finest studio mics costing hundreds, even thousands of pounds, the CL7 has a true capacitor condenser mic element. Capacitor-based elements are warmer, brighter and bigger sounding than electret-based elements. The CL7 also has a large (1.1") gold-spluttered Mylar diaphragm, another key to the richest vocal and acoustic tones. At just £149 RRP inc VAT, Samson's CL7 brings legendary studio-style condenser technology to everyone.

For more information please call **Sound Technology** on **01462 480000**, click on **www.soundtech.co.uk**, or visit your local Samson retailer.

sound TECHNOLOGY PLC

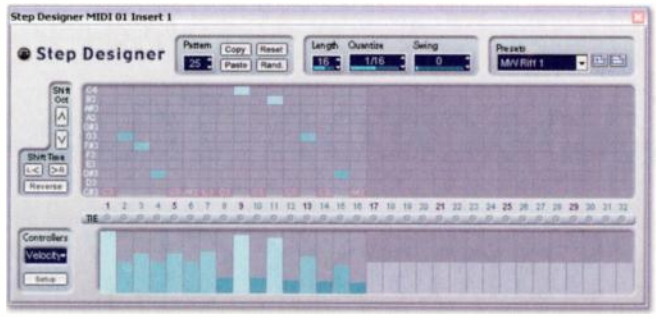
SAMSON AUDIO

▶ parameter alters how echo time changes for each repeat. At 100 percent, each will be the same, but with higher settings each echo is successively longer, while with lower ones echos get faster, like a bouncing ball coming to rest. Length Decay controls the relative durations of each repeat, but for me the *pièce de résistance* is the Pitch Decay control, which provides MIDI pitch-shifting, with non-zero values causing each repeat to play a higher or lower note. A setting of -2, for example, produces a downward cascading whole-tone scale, while more musically useful values such as +12 will attach clusters of octaves

MIDI Echo can do much that audio echos would find difficult. This preset creates a downward cascade of notes for each incoming one.

rising into the distance.

As its name suggests, *Chorder* lets you assign chords to each



The *Step Designer* is a flexible, pattern-based sequencer capable of holding up to 200 patterns that can be easily automated in real time.

MIDI note, but it goes a lot further than anything I've tried before. The default Global mode plays the selected chord over the entire keyboard range, as many analogue synth owners used to do by setting parallel intervals on oscillators. Octave mode lets you assign a different chord to each of the notes in an octave, and Normal mode goes even further, allowing a different chord for every note on the keyboard. You can also set up to eight chord variations that play depending on note velocity or note offset, or at random. I've found the velocity switching particularly useful, as you can play more complex chords the more you 'dig in'.

Step Designer, shown above, is a monophonic pattern sequencer offering up to 200 patterns, each with a length of between one and 32 steps and a step duration determined by the Quantize value. Creating and deleting notes is done by clicking on the appropriate spot in the main graphic window, with note velocity and gate values set in the lower window, as well as your choice of two other controller values — such as, for example, filter frequency and resonance. Tied notes are allowed, and various tools are available to make pattern creation more pleasurable. These include Copy and Paste, plus 'Random' for stimulating new ideas. You can also shift the current pattern up and down in octaves, shift it backwards and forwards in time, reverse it, or apply a Swing feel. It's not mentioned in the manual, but I also discovered that you can use the cursor keys to shift an entire pattern, in single steps, in any direction.

Like most computer-based pattern sequencers, *Step Designer* can be fiddly to set up, but once you've created a bunch of patterns it's made far more usable via automation, which allows you to easily switch between patterns. Because each pattern loops for as long as it is active, it's also easy to set up complex polyrhythms by setting (for instance) two tracks with loop lengths of 15 and 16 against each other. It's even possible to use *Step Designer* as a send effect, in which case you can allocate it to a different MIDI output and channel from the main track, to generate complex layered effects.

Rendering MIDI Effects

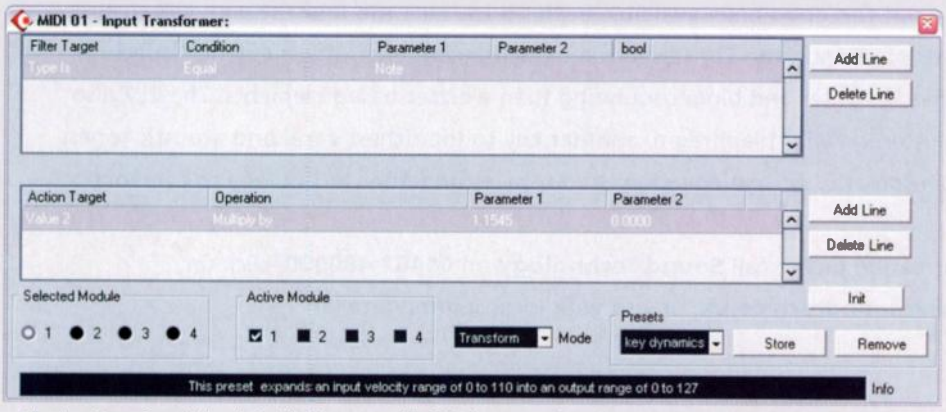
The easiest way to capture your final tracks complete with all their parameters and effects is to record them as an audio track, but at some point in the proceedings you may also want to convert your MIDI track or tracks into a permanent version. Steinberg provide the Merge MIDI In Loop function, which works as the Export Audio function does on audio tracks, for this purpose. Mute all but the track or tracks in question, set up locators around the area you wish to merge, then select the destination track.

There are options to include both send and insert effects, and to erase the destination if you've chosen a track with existing parts as the destination. You can also use the latter function to add MIDI effects to a part rather than to the whole track. Just set up the effects, place the locators either side of the part, and make sure you tick the 'Erase Destination' option. The processed part will then replace the original, and you can disable the MIDI effects so that they don't get used for the remainder of the track. SOS

The Input Transformer

This is a rather special function that you can launch from the Inspector for each MIDI track. It's very similar to both the Logical Editor and the *Transformer* plug-in to use, but where the Logical Editor works offline, and the Transformer plug-in works in real time on the MIDI output from a track, the *Input Transformer* lets you selectively filter out or transform data coming from your various MIDI inputs *before* it's recorded.

There are four 'modules', that can be activated in any combination, and two modes: Filter and Transform. The first is used if you want to prevent certain data, such as aftertouch, being recorded on a track, while the second provides more creative possibilities. An example is changing one type of controller data into another, such as aftertouch into breath controller. However, for me the most useful application is changing the velocity curve from my various keyboards to make the most of the 0-127 velocity range. In *SX* 1.0 you had to enable the *Input Transformer* and your velocity curve preset for each and every MIDI track, but from version 2.0 onwards there's a Global as well as Local option, so you can apply an *Input Transformer* effect to all tracks (although it would still be very handy to instead be able to tie an *Input Transformer* to a specific MIDI Input device).



The *Input Transformer* is handy for filtering out specific MIDI data, or, as shown here, you can use it to tweak your keyboard's velocity curve in real time.

Sounds Live

Newcastle On Tyne's leading Music Store

www.soundslive.co.uk

emagic

Logic Express 7	£199
Logic Pro 7	£699
Emagic MT-4	£89
Emagic AMT 8	£279

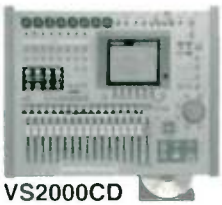
M-AUDIO

Audiophile 2496	£69
Delta 66	£133
Delta 1010LT	£175
Delta 1010	£339
Audiophile USB	£159
Firewire Audiophile	£159
Firewire 410	£258
Evolution MK-449C	£139
Evolution MK-461C	£165

E-MU

EMU 1212M	£149
EMU 1820M	£349
EMU Emulator X	£219
EMU Emulator X Studio	£429
EMU 0404	£69

Roland



VS2000CD £1299

VS2400CD £1629

TASCAM

Tascam 2488 £835

AW16G £695

YAMAHA

Korg

Korg ER/EA-1 MKII	£189
Korg ES-1 MKII	£235
Korg MX	£485
Korg SX	£485

NI Guitar Rig	£329
Reason V2.5	£200
Cubase Hypersonic	£230
Cubase SX3	£499
Cubase SL3	£249
Nuendo V2	£799
Groove Agent	£149
The Grand	£149
Virtual Guitarist	£149
X-Phrase	£99
Steinberg Midex 8	£229
Steinberg System 2	£199
Steinberg System 4	£285
Tascam US-122	£160
Tascam US-428	£249

T C Electronic

Powercore Element	£349
Powercore Firewire	£829
M3000	£679
M-One XL	£335
D-Two	£346

Monitors

Alesis Monitor 1MKII	£169
Alesis Monitor 1AMKII	£229
Behringer 2031A	£239
Dynaudio BM5A	£799
Fostex PM-05	£229
Fostex PM-1	£299
Mackie HR 624	£749
Mackie HR 824	£1079
Tannoy Reveals	£145
Tannoy Reveal Active	£349
Yamaha MSP5A	£349
Yamaha MSP10	£1099

FOSTEX

Limited Offers

MR-8 £249

VF-80EX £329

VF-160EX £469 Excluding CDRW

BOSS

BR-864 £299

BR-1600CD £899

ZOOM

MRS-1608 £649

Special Deals

Alesis Ion	£449
Alesis Micron	£349
Novation K-Station	£229
Novation KS-4	£349
Novation KS-Rack	£269
Roland Fantom XR	£815
Tascam 2488	£835
Yamaha 01X	£999
Yamaha P-60 LTD Offer	£519
Yamaha P-90 LTD Offer	£649
Yamaha P-120 LTD Offer	£769

Recording Mics

AKG C1000S	£99	AT 3035	£129
AKG C2000B	£119	MLX-990 (Limited Offer)	£75
AKG C3000B	£149	BEHRINGER B1	£77
AKG C4000	£299	BEHRINGER B2 Pro	£115
CAD M177	£159	RODE K2	£349
CAD M179	£199	Rode NT-1A	£129
AT 4040	£199	Rode NT-2000	£295
AT 3060	£229	Rode NT-K	£299

Outboard

FOCUSRITE LIQUID CHANNEL	£2149
FOCUSRITE VOICEMASTER	£345
FOCUSRITE OCTOPRE 8	£639
FOCUSRITE PENTA	£179
FOCUSRITE TRACKMASTER	£179
FOCUSRITE TWIN PACK PRO	£345
TC M-300	£149
TC VOICE WORKS	£529
TLA IVORY 5060	£379
TLA IVORY 5051 V2	£435
TLA IVORY 5021 V2	£435

MOTU 896HD £799

Limited Stock Only

MOTU DEALS

MOTU 828 MKII	£599
MOTU 2408MKIII	£799
MOTU 24 I/O	£1099

Over 3000 products now available online from our award winning website.

On Line Finance Now Available

27-29 Dean Street

Newcastle On Tyne NE1 1PQ

Tel: 0870 757 2360

Fax: 0870 757 2361

UK's No.1 MEDIA STORE

OUR LOWEST PRICES EVER!


ADAT TAPE


OPEN REEL TAPE


ZIP DISC

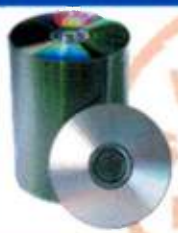
CD & DVD DISC


MINIDISC


EXABYTE TAPE

ACCESSORIES

CD-R 80 Silver/Silver



- 700 mb / 80 min.
- Silver burn dye.
- 4x - 52x compatible.
- Unbranded, bulk pack.
- Perfect for low cost CD duplication.
- 100% Grade A Premium Disc.
- Quality Guaranteed

Fantastic Value! 18p

DVDR

- 4.7 gig General Purpose.
- Unbranded.
- Grade A Premium.
- Excellent for Video, Audio and data back up.
- Rewritable and printable versions available.

8X Prices from only 33p

Ink Jet Printable CD-R

REDUCED BY OVER **60%**

- 700 mb / 80 min.
- Diamond burn surface.
- Grade A premium.
- Pro disc for high quality presentations and demo's etc.
- White or silver print surface.

Best Value In The U.K 32p

Diamond CD-R 80

- True Silver burn dye.
- Looks like a shop CD.
- The professional. presentation media.
- 80 min / 700 mb.
- 1x - 52x compatible.

Only Available From River 23p

Leading Branded Media

Bulk HHB CDR 80 34p

UK's LOWEST PRICE

CD Protection Spray

- Enhance your ink jet disc prints.
- Extra protection.
- Increased durability.
- 1000 disc yield per can.
- Protects against moisture damage.

Price per can from: Only £5.88

CD-RW Recorders

U.K's Lowest!

Bravo II Disc Publisher

- Automatic duplicator and printer.
- 25 disc capacity.
- Computer controlled.
- Comes complete with software.
- Stunning photorealistic onbody printing. PC Mac

Automatic duplicator and printer only

Bravo II DISC PUBLISHER £1,380.63

Media Packaging.

- Wide range of packaging in stock.

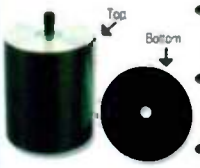
U.K's Largest Stockist.

Vinyl finish CDRs

- CDRs with true vinyl finish.
- 8cm ink jet printable centre.
- Black underside.
- Grade A discs with a retro feel.

Prices starting from only 52p

Universal CD-R



- Universal disc for all applications.
- Compatible with Digital Audio Recorders
- 1x-48x compatible.
- Unique black data side.

River Exclusive! Prices start from 29p

Taiyo Yuden CD Media

- Media from the inventors of CDR.
- Zero wave distortion.
- Low bler, jitter rates.
- Unbranded, thermal and ink jet versions.

TAIYO YUDEN

Silver top TY CDR80 from 20p

MORE MEDIA AND ACCESSORIES AVAILABLE ONLINE

www.riverproaudio.co.uk

Our team of trained technical staff can help you to make the right purchase to suite your needs, offering expert advice on all issues from media compatibility to complete professional audio solutions.Call now on 020 7231 4805 for friendly, helpful advice.

the inner city award winners 2002 - 2004

...AUTHORISED DEALERSHIP....TRADE ENQUIRIES WELCOME.

river PRO AUDIO
THE COMPLETE PRO AUDIO SOLUTION

Professional CD/DVD Duplication Solutions

CD & DVD BUNDLES - SAVE OVER £265.00

HOME

- M-Tech 1 to 1 Compact USB DVD or CD
- TDK LPCW 50 Thermal printer
- 100 CDRs or 50 DVDRs

CD £260.63 **DVD** £345.45

OFFICE

- M-Tech 1 to 3 DVD or CD
- Matisse Gold
- 100 CDRs or 50 DVDRs

CD £664.68 **DVD** £1,030.48

WORK

- M-Tech 1 to 7 DVD or CD
- Print Factory
- 100 CDRs or 50 DVDRs

CD £2,291.25 **DVD** £2,749.50

..EXCLUSIVE OFFER ONLY AVAILABLE TO SOS READERS..

CD & DVD TOWER DUPLICATORS

BUILT TO LAST

BURN PROOF - 52 SPEED CDR - STAND ALONE - NO PC REQUIRED
AUTOMATIC FORMAT RECOGNITION - 16 SPEED DVD+R

The M-Tech Range of CD / DVD Duplicators offer quality and reliability at a sensible price. With M-Tech's 'Load & Go' copying technology, duplicating CD's and DVD's has never been simpler. Whether you are making just one copy or a thousand! M-Tech has the right solution for you.

Prices starting from only £294.26

PRONTO DA5500
CD & DVD DUPLICATOR

- The worlds first automatic duplicator for under £1000.
- Full unattended duplication of up to 100 discs.
- Stand alone operation no PC required.
- DVD Pronto: 8xDVDR / 24xCDR
- CD Pronto: 52xCDR
- Copy, Compare, Verify and Emulate functions.

52x CD VERSION ONLY £699
EX VAT WHILE STOCKS LAST

Print Factory - The World's Fastest Ink Jet Disc Printer

- 4800 dpi photo printing.
- Up to 200 discs per hour.
- 50 disc autoloader.

Introducing the fastest ink jet disc printer yet! The Print Factory not only offers a throughput of up to 200 discs per hour but also unrivalled 4800dpi photo printing. Developed with HP print technology you can use their standard ink cartridges as well.

50 disc auto printer **ONLY £1,690.83** MICROBOARDS Technology

FREE DELIVERY ON EVERY PURCHASE OVER £150.00 (ex. vat)

TALK TO THE CD AND DVD EXPERTS

CALL 020 7231 4805

FAX: 020 7237 0633
email: sales@riverproaudio.co.uk

3 Grange Yard
London SE1 3AG

MAIL ORDER WELCOME

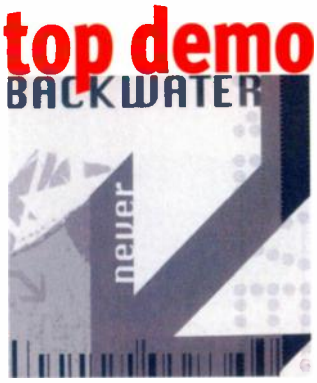
River's Guarantee
If, at any time within 7 days of your purchase from us, you find the identical item in stock and advertised at a lower price, we will fully refund the difference AND you will receive a free gift!

FULL CATALOGUE ON LINE.....EXPERT ADVICE.....

demo doctor

The main demos featured this month can be heard in MP3 format at www.soundonsound.com/sos/jan05/demodoc.htm

Resident specialist John Harris offers his demo diagnosis and prescribes an appropriate remedy.



Backwater

Venue: Home
Equipment: Apple Mac G4 500MHz, Creamware Pulsar II soundcard, Mackie UAD1 plug-in card, Emagic *Logic* v4.7, Yamaha 03D mixer, AKG C414 mic, Genelec 1030A monitors.

This is an impressive CD from Dutch rockers Backwater. Vocalist Menno Fink has done an excellent job with the recording. Having listened to the CD and read the notes, it seems that he's quite obsessive about detail, but his vocal performances clearly demonstrate that he also doesn't lose sight of the big picture. Such attention to detail often produces excellent results, but can also make you disappear up your own musical backside!

He felt that the live drums he recorded lacked punch, even after exhaustive efforts trying to get the sound right at source (particularly the snare). So he replaced the kick and toms with samples using the audio-to-MIDI function in *Logic*. This tool is designed for creating a MIDI sequence track and notation from a melody line recorded onto an audio track. It will also work for monophonic drum tracks provided you present it with a clean signal. There is a threshold control, but for individual drum tracks with excessive spill you may have to run them through a gate or, in a worst-case scenario, edit out the spill manually.

This is a fairly extreme approach, and you might reasonably suggest that he should have hired a set of MIDI drum triggers in the first place! After all, the reason Menno wanted greater control of the individual drum sounds was to apply large amounts of compression for punch and dynamic control. It seems to me that if you're going to aim for such an artificial sound in the first place, you may as well cut the effort down by reaching for the sampler straight away. In all fairness, he's sampled the drummer's toms for triggering and stuck with the original snare although he's not that happy with it. In fact it's not bad at all, but could do with being a bit louder in the mix with a touch of upper mid-frequency boost.

On the plus side, all this initial work has enabled the overall mixes to be mastered as loud as possible, and given the recording the tightness and punch which you'd associate with an American-style mix. The guitars are as aggressive as you can make them in the upper mid-frequencies without inducing listener fatigue, and I thought the vocal sound was superb. Presumably he's used the combination of the AKG C414 with one of the fine UAD1 plug-ins for this.

The songwriting is strong and the melody lines are interesting enough to use the full range of his voice. The third song demonstrates that the group can handle more mainstream material as well as live crowd pleasers, with some fine harmony vocal arrangements. It also shows a mature and more modern approach in the production by playing with the guitar motif, sometimes by use of repetition or by changing the effects used on the phrase, rather than kicking in with yet another guitar solo. Another example of this is the repeat sampled guitar used as an attention-grabber at the start of the album. This is the kind of attention to detail that I think gives more useful results, as opposed to the time-consuming and ultimately unsatisfactory work he's done on the drum tracks.

W www.backwater.nl

Bryce Jonn

Venue: Home
Equipment: Apple Mac G4 running Emagic *Logic* v6 and Propellerhead *Reason*, MOTU 828 Firewire interface, Focusrite Voicemaster Pro voice channel, Mackie VLZ1402, Mackie HR624 monitors, Neumann TLM103, Shure SM57 and AKG D112 and C414 mics.

Track one immediately grabs the listener's attention with a short, frenzied burst of radio static and a variety of beats and sounds cut together with some intelligent, tight editing. It's not a new production trick but it's still a good one, kicking your brain into gear and making it receptive for what follows. The fact that what does follow is not electronic dance music but a mix of pop and rock roughly influenced by similar acts from the '80s to the present day is not a disappointment because the songs are so well written, arranged and performed by Bryce Jonn himself.

For the voice he's used a combination of a borrowed Neumann TLM103 mic and the Focusrite Voicemaster Pro. His voice suits the material very well with just the right amount of emotion and, where required, grit. He's also confident in his vocal abilities because the voice is pushed well forward in the mix without being overly dominant. Even so, this exposes the heavy compression applied to the vocal, which gives it a slightly artificial

sound. On the opening mix this can be heard in the transients on consonants and it makes me wonder whether he's pushing the hard ratio setting on the Focusrite's compressor too far. On the second mix it's audible as sibilance, especially on the words beginning with the letter 'f'. The compression also brings up the ▶

Incredibly Simple. Simply Incredible.

eLC eligable

Following the award-winning Garritan Orchestral String library comes this brand new collection of orchestral samples from Gary Garritan. Garritan Personal Orchestra is a complete 'Orchestra for Every Musician' that is elegant, easy-to-use and such great value.

"While GPO has an obvious market for beginners, it also offers a degree of professional appeal for anyone looking to sketch out orchestral arrangements with a single computer. For composers and arrangers chasing deadlines, and musicians who like to get fast results, GPO could be the perfect solution." - ***Sound on Sound***

"With Personal Orchestra, Gary Garritan has not only triumphed in providing a pro-sounding sample library that covers an entire orchestra, he has also succeeded in adding performance elements that give it an extra dimension. Given GPO's price, these are pretty impressive feats." - ***Computer Music***

- Includes ***KONTAKT™*** Sample Player, ***CUBASIS VST*** Sequencer, ***OVERTURE™ SE*** Notation Program & ***AMBIENCE*** Reverb
- Create realistic sounding orchestral music quickly, easily and right out of the box
- Great sounding orchestral instruments, intuitive standardized controls
- Easy to use, just load a symphony orchestra and play, or
- Create your own ensembles/sections with individual instruments
- Runs off RAM
- Standalone, VST/DX/AU/RTAS Plug-In or with Notation (PC & Mac)

Mac Windows VSTi DXi RTAS

A COMPLETE ORCHESTRAL SAMPLE LIBRARY & TOOLKIT FOR JUST £179

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4, OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

ULTIMATE INSPIRATION

Albino 2 is a highly flexible, easy-to-use, virtual synthesizer by sound designer Rob Papen and Peter Linsener of LinPlug Virtual Instruments. Albino's key features include high quality presets in a wide range of styles, highly flexible oscillators, two stereo filters and an enormous range of processing and modulation options plus a very powerful arpeggiator. Computer Music Magazine (UK) said: "The included presets are very high quality, well organised, eminently usable. A wonderful improvement without any loss of its original character & charm." **£132.95**

The RM IV is a flexible and easy-to-use drum machine that combines analog-style percussion synthesis with a fully featured, intelligent percussion sampler. LinPlug recently released the v4.1 update for RM IV which includes more than 2700 MIDI grooves, 100 new drum kits, Mac OSX support and much more. What's more, the RM IV can load samples in both WAV and AIFF format. Computer Music Magazine (UK) said: "What we unarguably have here is a musically relevant drum sampler with enough bells and whistles to keep just about anyone happy." **£99.95**

EXCLUSIVELY DISTRIBUTED BY TIME+SPACE DISTRIBUTION, PO BOX 4, OKEHAMPTON, DEVON, EX20 2YL
T: +44 (0)1837 55200 F: +44 (0)1837 55400 EMAIL: SALES@TIMESPACE.COM WEB: WWW.TIMESPACE.COM
TECHNICAL SUPPORT HELPLINE: 0901 88 00 002 - OPEN 9AM-5PM MON-FRI (CALLS ARE CHARGED AT 25P/MIN)

TIME+SPACE

noises between lines like lip smacks and oddly cut breaths. While I always take out the lip smacks (after berating the poor singer for closing their mouths completely between lines) I often wonder how much of the breath between lines to leave in, and usually end up taking out the loudest ones — somehow, if you edit them all out then the vocal track begins to sound sterile!

The general sound of the CD is bright but not brash or unpleasant, with a very wide stereo spread — all things that indicate the application of post-production processing. Consequently the mixes have a very radio-friendly sound, but also a very processed one. It's a subjective production decision, but, looking at Bryce Jonn's web site, he describes the album as having 'organic melodic lines' and 'earthy' vocals which suggests to me that maybe he should have laid off the processing a bit.

Even so, I thought the standard of the playing and the sounds were very good throughout. I particularly liked the choice of room reverb for the drums on the third mix. I'd bet money that this was provided by *Space Designer* in *Logic* 6. A very natural, wide stereo reverb gives these drums a touch of class. The balance of the different instruments in the mix is also really well done and shows an excellent ear for the dynamics of the arrangement. Another big plus for me was the tasteful use of keyboards, with echoed piano, organ and the occasional textured synth.

The entire demo is available to download in MP3 format on the web site below, but as yet there's no gig list. Come on you Leeds promoters — this is surely a band worth booking!

W www.brycejohn.com

How To Submit Your Demo

Demos should be sent on CD or cassette to: Demo Doctor, *Sound On Sound*, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ, UK. Please enclose a covering letter with details of your recording setup and a band/artist photograph and/or demo artwork (which we may use here and on our web site to illustrate your demo review). Samples from the two main demos reviewed will be placed on our web site. Including contact information, such as a telephone number, web site URL or email adress, will enable anyone who is interested in your material to contact you.

QUICKIES

Phil Graves

Despite its rather serious-looking cover, Phil's demo turns out to consist of sunny pop music with an appealing '80s flavour that you can hear in the chord progressions and the choice of sounds and rhythms. It's a style that suits singer Maria's deliciously relaxed vocals and her big, fruity voice is surprisingly well captured, considering that a small-diaphragm AKG C1000 mic was used. The harmony vocals are skillfully arranged but the sequenced backing tracks leave a bit to be desired. They're not helped by the rather plodding rhythms that tend to emphasise the quantisation rather than draw attention away from it. Still, it's Phil's objective to get this played by a band some time in the future and I agree with him that the recording would be improved with this approach. The overall production sound is a bit crunchy rather than harsh, and it sounds like the Triton LE's drums have been over-processed. This, in addition to some possible enhancement using the Roland VS2400's mastering effects has created a slightly fizzy-sounding production.

W www.philipgraves.net

Innocent Johnson

The first song on this CD starts brilliantly with what sounds like a backwards filtered flute sample, before an acoustic guitar and rhythmic loop begin at a fast waltz tempo. There are some memorable lyrics, and the vocal delivery has an emotional intensity reminiscent of Marc Almond — I can see this slightly theatrical performance appealing to a wide audience. Despite the excellent ideas, it's not brilliantly recorded, with a rather muddy backing track and an over-treated drum loop. The latter has been run through what sounds like a resonant filter, which only serves to emphasise the poor quality of the sample. Some more separation in the string and guitar tracks, achieved using a small amount of EQ, would help the overall mix too. I think this demo has great potential, combining a creative and original approach to songwriting with the basic appeal of an emotive vocal. In the hands of the right producer, it could go far.

10/10

This Franco-English hip-hop collective seems to have everything in place. Having set up their own label, Apolo Records, they record and produce their own and other artists' material. It's good too, although some small technical improvements could be made in the mixes. The rapping could be lifted a touch in level and, more importantly, given a slightly harder edge by using just a touch of EQ boost at 1kHz. This would add a bit more aggression to the sound of the vocals and bring the demo into line with more commercial recordings by the likes of Mark Ronson or even some of the French artists like Hanna'M and Redgees. All the mixes could also be tightened up with some compression, particularly in the bass area of the mix, but it needs to be used with restraint. It's already very close to the 'fat' sound which is the holy grail of hip-hop producers, so just running the mixes through some high-quality analogue EQ channels and a touch of valve compression will get the required result.

W www.apolorecords.com

Cabinet

This is an enjoyable slice of 'quirky' instrumental funk, played with some style by session saxophone player Toby Kennedy. Yet I would take him to task on the dominance of the sax in some of the mixes, when the drums should really be much louder. After all, this is supposed to be a fusion of classic funk and '21st-century production'. For reference, listen to the seminal 1992 Miles Davies album *Doo Bop* — the hip-hop drums dominate the mix and help drive the tracks along, as well as giving them a more modern sound. It's not until the fourth track, 'Ex-peri-mental', that Toby achieves a similar punchy balance of instrumentation. However, there's plenty to enjoy about the production here. For example, I liked the highly resonant drum & bass-style synth which doubled up on the bass line here and there, and the use of a dynamic filter effect on the saxophone itself as a kind of more interesting wah-wah. Overall, this is a pleasing demo with some fine playing in a genre of music that I've always been rather fond of.

A huge range of Polyurethane foam based products, much denser than other branded acoustic foam, and therefore much better at helping to reduce low-mid and low frequency problems. With solutions from speaker pads to full room treatments, Primacoustic is both one of the most effective methods of treating your room, and the most affordable!

PRIMACOUSTIC™
STUDIO ACOUSTICS

Scandia 74 soft diffusion tiles from £129 inc vat, diffuses and absorbs standing waves

Europa 63 flutter wall from £188 inc vat, modular solution controlling room reflections.

Freeports: Freestanding Acoustic panels from £199 inc vat

Australis Bass Traps £229 inc vat, to control low frequency room response.

TAKE CONTROL OF YOUR ROOM

Sonic Distribution are European specialists in project and professional studio acoustic treatments. We offer a **FREE BESPOKE PLANNING SERVICE** for your room, helping you to achieve a balanced and controlled room response for recording and mixing, post production and home theatre use.

New, MiniTraps and MicroTraps from RealTraps acoustic products from £229 inc vat. The most effective method for sound absorption and basscontrol.

REALTRAPS®

A brand new range of professional standard acoustic absorption panels. Highly efficient MiniTrap panels are effective down to very low frequencies (around 60Hz), while MicroTraps deal with HF room problems (available in Black or White)

"Play any audio in (the studio) now and you get a sense of focus that just wasn't there before. We're audio producers rather than engineers but to our ears (the RealTraps) allowed us to hear an awful lot more clearly what we're doing"

Audio Media - Jerry Ibbotson - September 2004

"Over the last 15 years I've tried a variety of modular solutions to bass trapping and none of them have performed any where near MiniTraps. They looked good, were easy to fit, and made a significant improvement to my room acoustics"

SOS - Martin Walker - September 2004

For more info on the full range please check our website or give us a call

01525.840400

www.sonic-distribution.com

SONIC DISTRIBUTION

business end

The main demos featured this month can be heard in MP3 format at www.soundonsound.com/sos/jan05/articles/businessend.htm

Business End enables you to have your demo reviewed by a panel of producers, songwriters, musicians and managers. If you want your demo to be heard by them, please mark it 'Business End'.

Reporter

Howard New (HN): "This is quite a record, mega production — he's obviously a very skilled tech-head. Bored the shit out of me though. Even for this type of electronic music this is far too long for a demo; you really need to be aware of that when you're sending stuff to people."

Sam Stubbings (SS): "By the time the lead comes in you're just bored with it. You can't let people wait for five minutes before you even start to think about bringing in some kind of hook — attention spans just aren't that long when it comes to demos.

"It's very well produced but there are no bass lines and a lot of the sounds are very generic. He doesn't even have a decent hi-hat, it sounds like some sort of weak, basic VST drum machine. If you're not even going to go to the effort of finding a good hi-hat sound you should just give it up really."

HN: "If you took 30 seconds of this it could sound like the demo of a sample CD. It sounds like he's still waiting for the girl who does the top line and the lyric to arrive."

SS: "Yeah, and the guy who writes the bass line. There's a really nice bass drum, but with a nice kick drum you need a really thumping bass line — I mean this is designed to be played on a club system! And all the sounds that break up the tracks, the slowed-down speech, the waterfall sounds and the dolphin-type sounds, are just so generic — that sort of thing has been done thousands of times before."

Lauren Bloxham (HN): "I was interested in what this was going to sound like from the sleeve and the names of their tracks. I think I wanted them to be doing something really, really weird but it doesn't sound like that at all and it's a bit disappointing."

Neil Tucker (NT): "The production is very good, it's got a really good bottom end to it but you can still hear everything else as well. He must have mixed this on some pretty good speakers because you've got the full range there.

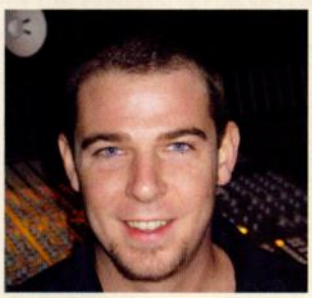
"From a programming point of view it's a bit disappointing; he says in his letter that he uses *Reason* — I use *Reason* and I know that you can get some really good sounds out of it — his sounds are just really weak. It's like the sort of thing you'd vibe out quickly as a rough idea and then go back to later and substitute the sounds for better ones. It's as though he's just knocked this out but then hasn't gone back and refined it. The sounds are very weak when you consider the tools he's got. I think he could have taken it a lot further.

"The rhythm programming's very plodding and there are no real changes. It's not really picking up any pace and it's not getting me excited — it's just in the background. Just dropping things in and out every now and again would make it more interesting."

SS: "It sounds like he's very technically proficient but he could definitely do with working on his individual sounds a bit more, especially the hi-hats. I think they're really important with this style of music — they sound really soft at the moment and they need to cut through more. The other thing is hooks — he really needs more of them."

HN: "If what you do is make sounds — if you're a sound perv, then you're automatically competing with all the other sound pervs. If you're writing a song and you've got a good song it can be recorded really badly but the song will still be ▶

This Month's Panel



Sam Stubbings is the Senior Producer for the DVD division of Metropolis. He began his career five years ago at Abbey Road and has since worked with artists ranging from Paul McCartney to Muse. More recently he has produced both the first DVD single (Bjork's 'All Is Full Of Love') and the first commercial DVD-Audio disc (Holst's *The Planets*).

He also has his own act, Redstar, who are currently recording an album and gigging in London.

Howard New has experienced both sides of the music business. Signed to Parlophone from '93 to '97, he has seen what it takes to make, tour and promote a record. He opened for Tina Turner on her European stadium tour, playing Wembley six times. More recently he has been writing and producing for the likes of Gareth Gates, Louise, BBMak, Beverley Knight and Boyzone. He still performs on his own and also lectures and runs courses on songwriting.

Neil Tucker's recording career began at a small studio in north London which he helped to wire and set up while attending SAE.

After successfully completing his diploma course he began work at Metropolis Studios as an in-house engineer and programmer specialising in Pro Tools and *Logic*.

He has since worked with a range of artists including Black Eyed Peas, Missy Elliott, Lauryn Hill, Elton John, Tom Jones, Mis-Teeq and Liberty X.

Lauren Bloxham works in sales promotions for EMI and is closely involved with the EMI field team, indie retailers and regional clubs and venues in promoting acts across the EMI, Virgin and Parlophone labels.

Lauren's interest in music began at an early age and she later went on to study Music and Music Business at university. After graduating Lauren worked for MTV Networks Europe in Talent & Music before going on to EMI.

Many thanks to Sam Stubbings and Metropolis Studios (www.metropolis-group.co.uk) for organising and hosting the session.

Next weekday UK mainland delivery from £7

9am to 5pm Monday to Saturday. Closed Wednesdays.

The Old School House,
Cossham Street
Mangotsfield, Bristol,
BS16 9EN

EMIS

(0117) 956 1855
www.emismusic.co.uk

We don't claim to be the cheapest it's just that we are cheaper than those that do!

AKG	Clavia	Faith	Maverick	Shure
Alesis	Coda	Fatar	Native Instruments	Stagg
Antares	Cort	Focusrite	Novation	Steinberg
Aria	Dan Electro	Generalmusic	M-Audio	Tanglewood
Audio Technica	Doepfer	Gould	MOTU	Vintage
AXL	East West	Kawai	Phonic	Virsyn
Beyer Dynamic	Edirol	Korg	PRS se	Waldorf
Boss	Emagic	Laney	Rode	Washburn
Cakewalk	Emu	LEM	Roland	Yamaha
Carlsbro	Event	Line-6	Samson	Zero G
Casio	Evolution	Mackie	Santos Martinez	Zoom

Special Offers

Beyer DT100
£69

Access Virus B
Keyboard **£999**

Used Equipment

Synth Keyboards

Casio CZ3000 (PD synthesis, MIDI)	£125
Evolution MK125 (25 note master)	£39
Evolution MK149 (49 note master)	£49
Evolution MK261 (61 note master) ex-demo	£99
Fatar SL880 (88 note master)	£249
Generalmusic Equinox 76	£399
Korg DW8000 (memories/MIDI)	£199
Roland JX3P (memories/MIDI)	£199
Roland HP20 (analogue piano)	£49
Roland D5 (LA synthesis)	£149
Roland JX1 (Performance synth, MIDI)	£149
Roland RS5	£249
Technics SX-K200 (early PCM sounds)	£49
Yamaha DX27 (4 operator FM)	£85
Yamaha YS200 (4-op FM, effects)	£125
Yamaha P200 (Stage piano)	£499

Synth Expanders

Akai S01 (16-bit sampler)	£49
Akai S612/MD280 (8-bit sampler)	£99
Creamware Noah	£599
Emu ESI32 (8MB RAM/SCSI)	£99
Emu ESI4000 (32Mb/SCSI/ROM drive)	£149
Emu Procussion (Drum expander)	£149
Kawai K5000R (Additive synthesis)	£399
Korg X5DR (GM expander)	£149
Novation Bass Station Rack (analogue)	£149
Novation Drum Station (drum expander)	£149
Roland SC33 (GM expander)	£149
Roland JV880	£199
Roland MT32 (LA expander)	£59
Roland SC7 (GM xpander)	£69
Roland U110 (Sample player)	£99
Yamaha FB01 (4-op FM)	£49
Yamaha SU10 (Phrase Sampler)	£75
Yamaha MU15 (GM expander)	£99
Yamaha TG300 (GM expander)	£99
Yamaha TG500 (based on SY85)	£149
Yamaha TX7 (6-op FM)	£99

Drum Machines/Sequencers

Acetone FR2 (analogue drum machine)	£99
Alesis HR16 (drum machine, MIDI)	£99
Boss DR550 (sampled drums/MIDI)	£75
Boss DR660 (sampled drums, MIDI)	£149
Boss DR670 (Sampled drums, MIDI)	£175
Kawai R100 (drum machine, MIDI)	£125
Roland R5 (drum machine, MIDI)	£125
Yamaha QX5FD (8 Track/Disk)	£99
Yamaha RY10 (drum machine, MIDI)	£99
Yamaha RX15 (drum machine, MIDI)	£69
Yamaha RX5 (drum machine - the big one)	£149

Effects

Akai EX75 (Noise reduction)	£49
Alesis MEQ230 (2x30 band Graphic)	£99
Alesis Microverb II	£49
Alesis Quadraverb+ (Multi FX)	£99
Aphex Type C (Exciter)	£85
Boss GT6 (Guitar multi fx)	£249
Boss RCL10 (Compressor)	£39
Boss RDD10 (Delay)	£69
Carlsbro D9000 (Digital Delay)	£99
DBX Mini Pre (Valve pre-amp)	£75
Ibanez HD1000 (Digital Delay)	£99
Phonic PDD3000 (Digital delay)	£89
Pioneer SR202W (Spring reverb)	£99

Misc

Doepfer MAUSI (MIDI-CV)	£99
Midiman Smartsync (Tape sync)	£49

Doepfer

R2M £175

MIDI Ribbon controller, position and pressure sensors, CV/Gate outputs, built in quantiser and pitch bend modes.

£565 £749 £969

Ultra compact 88 note hammer action master keyboards built into a flightcase. The PK88 offers basic functionality, the LMK2+ adds aftertouch and wheels plus 4 zones, and the LMK4+ adds 8 zones, more controllers and 128 performance memories.

Schaltwerk (8 Track Pattern sequencer. MIDI & CV/Gate)	£899
MCV4 (single channel MIDI to CV converter)	£79
MCV24 (24 channel MIDI to CV converter)	£375
MSY2 (MIDI to Sync 24 converter)	£59
MMR 4/4 Rack (4x4 MIDI patchbay/4-Way Merger)	£125
CTM64 (Contact to MIDI converter)	£89
MTC64 (MIDI to Contact converter)	£89

MAQ16/3 £465

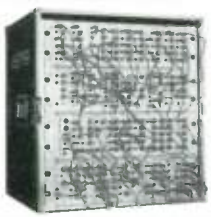
16 step / 3 track analogue sequencer with MIDI and CV/Gate.

Regelwerk £465

24 Fader MIDI controller with 16 step / 8 track analogue sequencer. MIDI & CV/Gate.

A-100 analogue modular

over 80 modules available from £21 call us for the free A-100 catalogue 17 or download it from our website



The most powerful real analogue modular system ever produced, over 80 different modules (and still growing). Systems can be custom built to any specification.

Drehbank £275

MIDI Controller with 64 knobs. Fully programmable. PC/Mac editor included

Pocket Controls

£89

MIDI Controllers with 16 knobs (Pocket Control), 16 rotary encoders (Pocket Dial) or build your own custom controllers with Pocket Electronics.

£59

Tel: 0117 956 1855

recognisable as a good song. You can't do that when you're a sound perv because when you're a sound perv the sound is everything."

Julie McManus Gilroy

SS: "So this guy Fraser Purdie's basically using this act as a vehicle to present his songs?"

HN: "Yeah, he's a songwriter who's using this girl to front his music. He wants to be Andy McCluskey or someone like that."

LB: "He's after a publishing deal basically isn't he?

"I think you've just *got* to have a really catchy chorus with this sort of thing — something that everyone's going to latch on to and remember, and this doesn't have that. I think if he's thinking of writing for girl bands he could do much more in the way of harmony and counterpoint."

HN: "There's a note she sings in the second track that's just painful to listen to. It's just like a shriek or something — a bit like a discordant Kate Bush."

NT: "The whole tone of her voice is quite unpleasant, it could have been a lot warmer — it sounds like he's just gone to town on *Logic* plug-ins or something."

SS: "I wonder if she's a trained show-singer or something, she's really belting it out a lot of the time and there's no need to do that on a pop track. When she sings quietly her voice is a lot nicer. It sounds like he's playing a synth bass but you can't hear it very well so all you've really got left is the drums and this grating vocal. The third song is a bit better in that respect — at least there are more keyboards and things to fill it out.

"Some of this is almost there as pop; the second track has quite a good pop groove. He does seem to have a grasp of what a pop song is. I think today's pop artists have got a bit more attitude than the pop artists of the '80s. You've got these bratty pop stars like Christina and Britney and they've all got quite a sassy, contemporary attitude. Also, musically you've got to be really up to date. Kylies music, if you listen to it, is generally kind of catching the mood of the moment, like if garage is popular then she'll bring out a track that sounds a bit garage — I think that's what a good pop writer needs to be doing."

NT: "It does sound a bit dated, like early All Saints or something. Its got a really late '90s feel to it. It sounds like he's listened to some tracks and tried to copy them rather than trying to write something different."

HN: "His songwriting's not really up to scratch. He's got his three moving parts, at times he's changed his rhyming scheme as he's moved into another part and he's changed the chord when he's changed the thought — he's kind of adhering to the basics but his vocabulary is very mundane and it's all a bit textbook. There's nothing that makes me think 'Fuck, I wish I'd written that.' With 30 out of the top 40 records there's generally a line or two that stands out, or some chord change or a lyric, just some twist that makes it interesting — and that's why it's in the charts."

LB: "The way he's presenting it as if it's an act is really unnecessary, and even a bit confusing when you first see it. If it's a publishing deal he's after then he doesn't need to have the girl on the cover. This girl really shouldn't be there, she does absolutely nothing for it. She needs to be ditched or at least not shown."

Songs written by Fraser Purdie

HN: "He's hedging his bets isn't he, and no-one ever gets anywhere by hedging their bets. He needs to nail his colours to the mast and say 'This is who I am and this is what I'm doing.' And if he is after a publishing deal, he needs to use other vocalists on some of the songs so it seems more like a body of work, rather than just some girl he's got to come along and bash out some of his songs."

Paul Lord

HN: "This guy is trying to write music for films but it's quite odd listening to it without the visuals. He says that a couple of these pieces have been used in indie films and it would be good if he could send them on DVD so we could see what the music is actually for."

SS: "I think his orchestral stuff is great. His drum programming leaves a lot to be desired — his loops are sometimes out of time, and, they are just loops, two of which me and Neil both know we've got.

"You do hear in a lot of particularly good drum programming in modern film production. I always listen to film soundtracks quite closely — especially end credit sequences and stuff like that and the drum programming is always awesome and often very contemporary as well. A lot of recent film soundtracks have that sort of glitchy, Warp Records-style drum programming for example. Soundtrack production is often on the cutting edge of music. The orchestral stuff is really good; I'm really impressed with that, he's got some very high-quality samples. His composition is good as well."

HN: "Sonically it's all very well balanced and mixed, he just needs to get into his Squarepusher a bit more.

"In his letter he says that he's in two minds about whether he should carry on with his music and trying to get work from it, and I have to say that he really, really shouldn't be doing that. You've got to appear to be confident about your music because you can't expect anyone else to be if you're not. I'm sure he doesn't send this letter to everybody, but just in case — the last thing you want to do is start telling people how crap you are because they'll start believing you."

NT: "You've got to be confident about your music and come across as being confident. Ninety percent of gigs are given to people so that the people giving the gigs don't have to worry about it — they just want a safe pair of hands."

LB: "I think everybody has that sort of self-doubt —it's not unusual to feel like you're blagging your way through life. He seems to be trying very hard with all this but he says he's at his wits' end with the music industry and I think, unfortunately, he's always going to be at his wits' end in this business. He's just going to have to keep pushing if he wants to get anywhere. He just needs to be more confident about it and really go for it." SOS

ACOUSTIC TREATMENT

IT'S ALL IN THE STUDIOSPARES CATALOGUE

4000 ITEM WEBSHOP
FREE 260 PAGE CATALOGUE
BY THE END OF THE M1
FREE CUSTOMER PARKING
SAME DAY/NEXT DAY DELIVERY

FREE 260 PAGE CATALOGUE

ACOUSTIC TILES
10 DIFFERENT MODELS

BASS ABSORBERS
4 DIFFERENT MODELS

ACOUSTIC WALL PANELS
3 COLOURS

SPEAKER ISOLATION
5 PRODUCTS

SOUND BARRIER SHEETS
2 VERSIONS

VOCAL BOOTHS
2 VERSIONS

SOUND ISOLATION ROOMS
MANY SIZES

ACOUSTIC SCREENS
6 VERSIONS

Studiospares

964 North Circular Road, Staples Corner, London, NW2 7JR
tel 08456 441020 fax 0800 731 3767 email sales@studiospares.com www.studiospares.com

Eddie Moors Music

0845 330 6656

The Music Corporation

AKAI

Unbeatable Deals on all Akai Equipment. Call today and save!!

Z8 & Z4 Professional Samplers

Check out our great upgrade and memory packages

MPC4000 & MPC2000XL Drum Samplers

Let us Beat your Best quote on any Akai Equipment!! All models in stock

DPS24 24 Track Digital Studio New Low Price

Used Akai Drum Samplers From £399!! Call Now

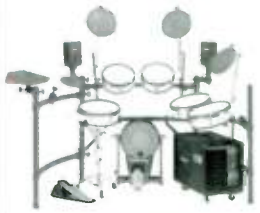
Korg Triton Studio 88

Top of The Range Professional Synthesizer

This amazing Exclusive Deal brings you The Top of the Range 88 note weighted action Triton Studio at under £2000. powerful professional performance synthesizer with superb master keyboard controllers. Ideal for Live or Studio applications.

RRP £2999 Now From £1699

Roland TD10K

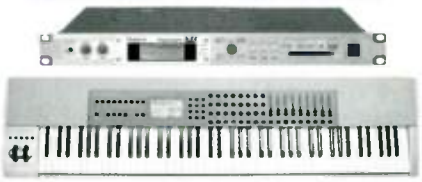


We have secured two ex demonstration top of the range TD10K V - Drum Systems at an unbelievable price. Both systems come with Roland Warranty. Plus ex dem PM 3 Monitor system (as shown) rrp £699 Now £449

RRP £4499 Now Only £2499

Exclusive Package

Roland Fantom XR + M Audio 88 Pro



Ex Demo Fantom XR Module + M Audio Keystation Pro 88

RRP ~~£1469~~ Only £999

Yamaha AW16G

16 Track Digital Studio with CDRW

Exclusive New low price on this best selling digital multitrack

Limited stock of new and ex-demo models

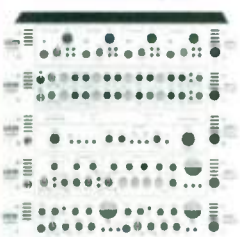
Available from only £649

RRP £949 Now From £649

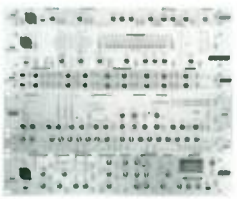
TC Electronic

TC Voice One - Brand New Product combining voice modelling and pitch correction in one powerful professional unit. *Let us beat your best prices on all TC processors. Including TC - Helicon, M300, Gold Channel, Fireworx, Finalizer Express*

TL Audio



Focusrite



Platinum Penta £199

Best prices on Mixmaster, Penta, Trakmaster, Compounder, ISA220, ISA428 and ISA430. Call for details.

Call us for Best deals on Alesis, Drawmer, DBX and many more.

Edirol

Midi Controllers

PCR 1	RRP £229	£209
PCR 30	RRP £150	£119
PC 300	RRP £140	£115

Best UK Deals

Korg

Triton LE88

88 note version from the amazing Triton LE series with built-in 16 track sequencer, 512 programs. Includes stunning Grand Piano Sample exclusive to LE88

RRP £1599 Ex Demo **£1149**

Korg Triton

Workstations

As one of Korg's largest UK Dealers we are always able to offer you the very best prices on all Korg synths and equipment. Call today and see how much you can save

Ex demo models From **£699**

Roland TD6

V Drum System

Limited ex demo and new stock at the lowest ever price.

Prices include dedicated stand

RRP £1199 Now from **£699**

Mackie

DFX6 / DFX12

High Spec Mackie mixers with on board digital effects from under £100.These are the best mixers you can buy for the money.

FROM £99

Roland

SPD20

Professional Percussion system with 8 pads and 700 top quality voices

RRP £549 Ex Demo from **£399**

Roland

SPDS

Sampling percussion pad with 6 zones and three edge triggers

RRP £449 Ex Demo from **£299**

Akai

MPC 1000

Drum Sampler/Music production system. Limited stock at this price

RRP £699 EX Demo From **£499**

EMU XK6

Xtreme Lead Synth

61 note keyboard with interactive superBEATS, arpeggiators and effects all synced to BPM for fantastic control.

To Clear From **£349**

Nord

Synthesizers

• Lead 3 KB £1199 (ex dem) • Lead 2x Rack £ 575 • Electro Rack £Best • Modular G2 £Best

Best Deals

Alesis

Pro Synthesizers

Unbeatable Deals on Andromeda and Ion Synthesizers. Call Now and Save Money

Best UK Deals **£Call**

Hammond

Drawbar Organs

Recreate the legendary sound and feel of the classic B3. We Stock the entire range. XB1. XK2. XK3

Used Prices From **£599**

The Music Corporation

We will not be beaten on price!

Eddie Moors Music, 679 Christchurch Road, Bournemouth BH7 6AE

Fax: 01202 397622. All prices include VAT and correct E&OE

Unbeatable Deals on all Samplers, Synths, Modules, Outboard & Effects.

More Deals at: www.theMcorporation.com

Key Station Pro

88 Note Professional Master Contoller

Fully Professional 88 note master keyboard controller. Featuring a host of real time and assignable contollers

Packaged with • Roland XV2020 £699 • Roland Fantom XR • £1149 • Yamah Motif Rack • £999 Korg Triton Rack £1199

RRP £399 Now From £319

Roland Fantom S

Professional Synthesizer

We have secured a limited number of this top range Roland Synthesizer at the amazing price of only £799. Some units are Roland ex demo stock . All units come with Roland Warranty.

RRP £1499 Now From Only £799

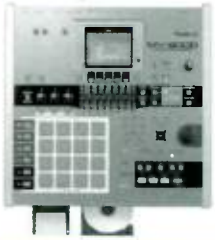
Roland MV8000

Music Production System

Production studio with 16 dynamic pads plus on board sampling and cd burning.

£RRP £1799

Ex Demo From Only £1299



Roland MC909

Sampling Groovebox

- XV synthesis • sampling
- 6-track sequencer
- effects and graphic LCD
- smartMedia™ storage
- USB • Dual D Beams
- Turntable Emulation
- velocity pads (EX DEMO)

SAVE 40%

RRP £1499 Now £899

Roland SH32

Modelling Synth and Drum Module

Perfect for all kinds of dance music production
The SH32 features analog synth modelling with a host of controllers for real time editing and programming.
Programmable Drums
Powerful step time sequencing

RRP £449 Now From £199

Fostex VF160

16 Track Digital Studio

Limited Stock of these superb digital studios at a fraction of the original Price

Don't Miss out on This Superb Deal.
A 16 Track Digital Studio with on board effects for under £500

Price excludes optional CDRW

RRP £1199 Now From £449

Boss BR-1180CD

Digital Multitrack

New 10 track digital studio from Boss Features include • 10 tracks • 80 virtual tracks • 20GB hard drive • 2 XLR mic inputs with phantom power • COSM effects processing • On board CDRW

RRP £799 Ex Demo from £499

Roland

XV2020 Expander

• 64 Voice Synthesiser Module • 1083 wave forms • 768 patches •17 Rhythm sets • USB • Multi FX • accepts SRX Boards

RRP £499 Ex Demo from £299

Roland Fantom

Synthesizers

Lowest UK Prices on all Fantom Synthesizers. New Models Now in stock. Fantom XA • X6 • X7 • X8 Call Now and Save Money

Best UK Deals Now From £849

Tascam 2488

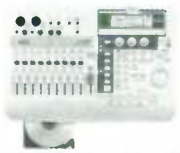
24 Track Studio

The worlds most affordable 24 track digital studio. Call now for our exclusive new low price

RRP £999 New Low Price £Call

Korg D1200 MKII

12 Track Studio +CDRW



12 track digital studio with CDRW and USB

RRP £899 Now From £599

Roland VK8

Drawbar Keyboard

Latest version of Roland's classic virtual tone wheel drawbar organ. Ex demo with warranty

RRP £1499 One Only £899

Roland

V-Synth

Flagship 61-note synthesizer with multiple oscillator technologies, user sampling and new COSM filtering for incredibly dynamic new sounds

RRP £1999 Ex Demo From £1149

Roland

FANTOM XR

Powerful sampling and synthesis in a compact 1u rack
128Mb of internal wave ROM
Expandable with up to six SRX cards
WAV/AIFF compatible for loadind samples via USB

RRP £1099 Ex Demo from £699

Korg D1600 MKII

16 Track Studio + CDRW

Korg D1600 MkII Digital Studio with on board CDRW and USB interface.

Units are ex demo with Full Korg Warranty. Don't Miss Out

RRP £1199 Limited Stock £769

TC Electronic

M300 multi Effects

Dual engine digital effects processor. Features include:
- Dedicated reverb DSP
- Dedicated multi-effects block
- 100 User Presets
- Realtime parameter control
- Effects include: tap delays, flanger, chorus, compressor, de-esser plus 15 reverb algorithms

RRP £250 Now From £129

Roland

FANTOM X7

Top range Roland 76 Note Fantom synthesizer.
Rare chance to purchase ex demo model with warranty at a a really low price

RRP 1999 Ex Demo From £1499

Roland

RD 700 Stage Piano

Top of the range Roland Stage Piano.
We have 2 ex demo models available with Roland Warranty Don't miss out

RRP 1699 Ex Demo From £999

- Huge stocks ready for immediate delivery
- Friendly and efficient sales staff
- We love to save you money. Call NOW!!

Mail Order: 0845 330 6656

Eddie Moors Music

0845 330 6656

The Music Corporation

Mackie Exclusives

HDR24/96

HDR24/96 computer independent 24 track hard disk recorder.
Monitor shown is optional and not included in the price.

RRP £3999 Now Only £2299

Professional 24 Track Digital Recorders

SDR24/96

24 tracks of simultaneous professional quality 24 bit hard disk recording plus non-linear recording and editing. Comprehensive analogue and digital i/o options. Limited Stock. Order Today.

RRP £2199 Now From £899

Yamaha o2R96V2

56 Input 24/Bit 96kHz Digital Console

RRP £8499 Ex Demo £Call

Mackie HR624 & HR824

Ex Demo Mackie Monitor Sale

As one of the UK's largest Mackie Dealers we can always offer you the very best deals. We have a quantity of ex demo HR624 and HR824 active monitors at unrepeatable low prices. Call us today and Save Money.

HR 624 From £599 HR824 From £899

Alesis Masterlink

2 Track HDR and CDRW

Fully Pro Hi Res 2 track hard disc recorder with selectable bit rate and sample resolution
Burns standard Red Book or CD24.
We have a limited stock available at nearly half price. Dont miss out. Call today

RRP ~~£999~~ Call For Lowest Ever Price

Tascam DP-01FX

8 Track Digital Studio with Digital Effects

The first digital studio with the ease of use of a portastudio. Dedicated knobs for each channel means you wont need to battle through complex menus to make great music.

Price Includes Mic and Headphones worth £79

RRP £429 Now Only £329

Mackie

Control Universal

Industry Standard Professional Digital Audio Controller

RRP £1099 ex demo from £799

Edirol

USB Audio Interfaces

UA1000	RRP £749	£Call
DA 2496	RRP £499	£Call
UA5	RRP £250	£Call
UA20	RRP £160	£Call

Call for Best Prices on all Edirol Keyboards and Monitors

Best UK Deals

Steinberg

Recording Software

Call for all the best deals on Steinberg software.

Best UK Deals

Emagic

Software/ Interfaces

- Last Big Box stock at only £169
- Platinum Pro The ultimate Platinum Package Call Now for Price

AMT8	RRP £349	£call
Unitor 8 II	RRP £499	£call

We can beat any Emagic Price

Best UK Deals

Event

Active Monitors

Call us for Event's powerful active monitors. TR6, TR8, SP6 and SP8. Let us beat your best quote

Active Monitors From £349

Joe Meek

Pro Studio Microphone

If it sounds right it is right!! The jm47 is recognised as an industry standard in the world of pro studios. Transform your vocal and instrument recordings. Limited stock (ex shock)

Original RRP £549 NOW £99

RME

Fireface 800

The worlds most powerful FireWire audio interface with up to 56 channels of record and playback. Call today and let us save you money

RRP £999 Best UK Deal £Call

Korg D16XD

16 Track Studio

- 16 simultaneous recording tracks
- 8 XLR mic inputs
- 40 gig internal drive
- CDR/W
- 96 kHz / 24 bit
- USB computer interface
- 11 programmable effects

RRP £1899 Ex-Demo From £1349

Korg

D32XG Digital Studio

Top of The Range Korg 32 track studio • 16 track simul record • Mix automation •CDRW

RRP £2599 Ex-Demo From £1849

Mackie

8 buss Mixers

Simply the very best 8 buss consoles for the money. Used by Pro musicians worldwide. 32 and 24 channel options

Lowest Mackie 8 Buss Prices £Call

M-Audio

Audio Interfaces

FW410	RRP £350	£Call
Delta 1010	RRP £599	£Call
Omni Studio	RRP £499	£Call
Audiophile	RRP £180	£Call

Call for Best Prices on all M-Audio Products

Best UK Deals

MOTU

Audio Interfaces

2408 Mk3	RRP £995	£Call
828 Mk2	RRP £795	£Call
MTP AV USB	RRP £439	£Call
128 8x8	RRP £249	£Call

Call for Best UK Prices on all MOTU hardware & software

Best UK Deals

PA Systems

Unbeatable Deals

SRM450, SRM 1530, Mackie Subs, CFX Mixers.

Lowest Mackie PA Prices £Call

Alesis

Pro Active

Affordable Professional surround system

Limited Stock £299

Tascam

Audio Interfaces

US122	RRP £180	BEST
US224	RRP £265	£195
US428	RRP £449	£249

Lowest Ever Prices!! Call Now!!

Best UK Deals

The Music Corporation

We will not be beaten on price!

Eddie Moors Music, 679 Christchurch Road, Bournemouth BH7 6AE
Fax: 01202 397622. All prices include VAT and correct E&OE

Massive Discounts on all pro audio equipment

New & ex demo gear at lowest UK prices

Roland VS2000 CD

Professional 18 Track Digital Studio

Pro Features Include
- 24 bit and 16 bit recording
- 8 Balanced XLR/TRS inputs
- 40 channel Mixer

Limited ex demo models with warranty. Don't Miss Out

RRP £1499
Now From £999

Optional Monitor shown is not included

Alesis HD24

Professional 24 Track Digital Recorder

Our best ever digital multitrack deal offers you an incredible 24 tracks of simultaneous professional quality 24 bit hard disk recording plus non-linear recording and editing. Flexible I/O options as standard

Save 50% EX Demo From £899

SAMSON DB500A

1000 Watt Active PA System

~~RRP £1099~~
Now £699

With separate amps for the low and high frequency drivers, these superb 15"/ 500 watt Powered Cabs deliver top quality sound at an amazing low price. The Bullet Proof Moulded Cabinets cut down on weight making the this a truly portable package

EX500

EX500 Active Sub RRP ~~£500~~ Now £349

EX500 500watt Sub Only £349 (when bought with DB 500a)

Roland VS2400 CD

Professional 24 Track Digital Studio

This high spec fully professional digital studio includes many of the features found on the £4000 top of the range Roland Model. Nothing beats the VS2400CD at our exclusive price

Limited ex demo models with warranty. Don't Miss Out

RRP £2099 Now From £1399

Genelec Best UK Deals

Professional Studio Monitoring

Our Genelec Deals are unbeatable.

NEW 8000 SERIES NOW AVAILABLE

Call Today for a Great Deal

Audio Technica

AT-3035 Studio quality vocal mic rrp £289 **From £99**

Stunning audio clarity with legendary Audio Technica build quality.

Best prices on all Audio Technica mics including: AT 31A, AT4035SV, Pro 25 and Wireless systems Call Now!!

Rode

Best Prices on Rode mics including: NT1, NT1000, NT2, NT3, NT5 (pair), NT and Classic II.
Call now and Save!!

SE Electronics

Best Prices on all SE Electronic mics including: • SE1a • SE2200a • Z3300a • Z5600a
Call Now and Save!!

Sennheiser

Now you can afford the ultimate audio quality & reliability of a UHF wireless mic system. The new evolution UHF series feature 4 switchable frequencies & are deregulated. With the same component quality and audio performance as the £800 models the EW165 is simply the very best wireless solution. From £329

Call for best UK Deals on CAD, Beyer, Neumann, Shure, Sony, MXL and many more.

BOSS BR864

8Track Studio with Effects

RRP £449 ex demo from **£229**

BOSS BR1600 CD

16 Track Studio with CDR/RW

RRP £1099 ex demo from **£769**

ZOOM 1608

16 Track Studio

Zooms most powerful ever digital studio.Packed with pro features at an amazing low price

Best UK Deal New Low Price **£Call**

ZOOM 802

8 Track Studio

Great value digital 8 track with on board effects and drum machine. Price inc mic and phones worth £79

RRP £458 Now Only **£329**

Yamaha 01X

Mixer/ Controller /Interface

Ex Demo From **£899**

Yamaha 01V96

Digital Mixer

Ex Demo From **£1299**

Mackie

24/4 vlz pro Exclusive

Professional feature packed 24 channel 4 buss mixing console. Call for info and spec

RRP £1549 Limited Stock **£799**

Roland DS30A

Active Digital Studio Mons

30 watt bi amped design delivers pristine 24bit/96kHz monitoring. The perfect match for any digital studio

RRP £499 Ex Demo from **£229**

TC Electronic

Voiceworks

VoiceWorks is the ultimate harmony processor and includes a high-quality mic-pre, compression and EQ, 4 fully-programmable humanised harmony voices, 2 lead voice doubling voices, pitch correction with special live control feature, Tap-tempo Delay, TC Reverb and S/PDIF and analog I/O.

RRP £599 ex demo from **£449**

- Huge stocks ready for immediate delivery
- Friendly and efficient sales staff
- We love to save you money. Call NOW!!

Mail Order: 0845 330 6656

apple notes

Another crop of news, advice and tips is presented in the latest instalment of our essential Apple-users' column.

Mark Wherry

Apple have staged a fair number of special events dedicated to music in the last few months, and on 26th October Steve Jobs used another such event to say "hello, hello" to a collaboration with U2, who are currently promoting their new single, 'Vertigo', as well as announcing a new generation of iPod with a colour screen capable of displaying photos.

A More Colourful Two Inches

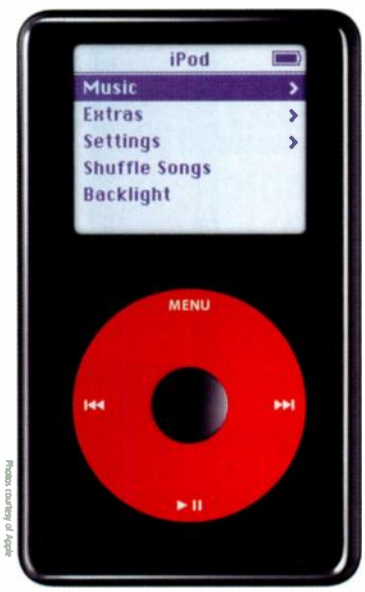
The iPod Photo is the newest member of the iPod family and, significantly, features a two-inch 220x176 backlit LCD screen capable of displaying 65536 colours, compared to the greyscale screen of the same size used on the regular iPod, or the 1.67-inch screen on the iPod Mini. In the same way you've always been able to synchronise music from your iPod with *iTunes*, the iPod Photo, in conjunction with *iTunes* 4.7, allows you to sync to your photo library (so long as the pictures are stored in JPEG, BMP, GIF, TIFF or PNG formats) in *iPhoto* (for Mac users), or in Adobe *Photoshop Album* or *Elements* (for Windows users). It's then possible to browse the photos on your iPod, of course, or run a slide-show using music from your *iTunes* music library. And any album artwork you may have stored in *iTunes* is also transferred to your iPod Photo and can be viewed with the appropriate song.

Not everyone will want to see your photos on a two-inch screen, so for this reason the iPod Photo offers the ability to connect to your TV or video via S-Video, with the included iPod Photo Dock and AV cable. While the addition of a colour screen to the iPod might suggest the battery life will be worse than the 12 hours offered by the standard iPod, the reverse is actually true and the iPod Photo's reported battery life is an impressive 15 hours — or five hours of continuous slide-shows with music. To accommodate all of your photos and music, the iPod Photo is available with either a 40 or 60GB drive capable of storing 10,000 and 15,000 songs respectively (based on four-minute songs encoded at 128kbit/s).

The iPod Photo is an attractive little gadget, although it's slightly bigger and heavier than its older siblings. The front of the new device measures the same as the iPod, at 4.1x2.4 inches, but the depth of the former (in either 40 or 60GB configurations) is 0.75 inches, compared to either 0.57 or 0.69 inches for the latter (20 or 40GB models). The iPod Photo weighs in at 6.4 ounces, as opposed to the regular iPod, which weighs either 5.6 or 6.2 ounces; and in terms of cost, the iPod Photo is priced at either £359 or £429 for the 40 and 60GB models respectively.

After introducing iPod Photo, Jobs went on to announce the iPod U2 Special Edition, a new model based on a standard 20GB with a new colour scheme featuring a black surface with a red click wheel, along with signatures of each member of the band on the back of the iPod. Can't wait for the iPod Chumbawamba! The iPod U2 retails for $349 in the US (£248.99 in the UK), and although that's $50 more expensive than the regular 20GB iPod model, which sells for $299 (£219), it includes a $50 (£40) voucher towards purchasing a copy of *The Complete U2* from the iTunes Music Store. This collection includes 400 U2 tracks, including all albums and 25 rare and previously unreleased tracks. It should be available by the time you're reading this in the middle of December.

The iPod Photo is the most feature-rich iPod ever, offering a colour screen and a 40 or 60GB drive.



Photos courtesy of Apple

The iPod U2 Special Edition should be a hit with fans of the band.

Aside from new iPods, Apple also announced a European Union version of the *iTunes* Music Store, to be available in Austria, Belgium, Finland, Greece, Italy, Luxembourg, Netherlands, Portugal and Spain. The store features approximately 700,000 songs, and each one is available for 0.99 euros.

Net Results

After discussing *Logic 7*'s new distributed-audio feature set in last month's Apple Notes, I wanted to make a few more observations, after a little experimentation, this month. Firstly, I wanted to clarify one of the comments I made about needing Power Macs to run as node computers (using the *Logic Node* application) since they have both a G5 processor and a Gigabit Ethernet connection. There is, of course, one other model in Apple's Mac product range that fits both of these requirements: Xserve.

In many ways, you might consider Xserve to be the ideal *Logic Node* computer, especially with its elegant 1U design that ▶

FACTORY DIRECT PRICES

Smart Sound DIRECT

LIVE PERFORMANCE

"This system offers excellent value, combined with good sound quality in a compact format" "Excellent cost performance ratio" SOUND ON SOUND

"Good points: Very Light, Compact, Powerful Bad Points: NONE" DJ

"...this is a definite for solo performers, acoustic acts and small bands... will also suit the gigging DJ" MUSIC MART

"Compact and affordable system" IDJ

SMART SOUND EXCLUSIVE!

Matched System Approach

Full range ideal for electronic music

Full Range – all featuring 1" compression driver
(Quoted ratings are per speaker)

- LP108 • 275W RMS, 550W prog, 8" woofer £299 per pair
- LP110 • 350W RMS, 700W prog, 10" woofer £319 per pair
- LP112 • 450W RMS, 900W prog, 12" woofer £379 per pair
- LP115 • 550W RMS, 1100W prog, 15" woofer £449 per pair

Covers from £29.99 per pair


LP115

Sub-woofers – all featuring built-in crossover

Powered by EMINENCE

- LP2SP • 400W RMS, 800W prog, 12" woofer £229 each
- LP5SPi • 550W RMS, 1100W prog, 15" woofer £319 each
- LP8SP • 650W RMS, 1300W prog, 18" woofer £359 each

Covers from £29.99 per pair


LP5SPi

Pub and Club MkII

High power and ultra portable

- 3000 watts (prog. power)
- 10" tops, 12" subs,
- FREE cables and poles

£6.50 per week

£777 Saving £38

Gig Friendly MkII

Our most popular system

- 4000 watts (prog. power)
- 12" tops, 15" subs,
- FREE cables and poles

£8.50 per week

£1017 Saving £36

Pure Power MkII

Serious power, exceptional quality

- 4800 watts (prog. power)
- 15" tops, 18" subs,
- FREE cables and poles

£10 per week

£1162 Saving £34

Ultra Bass System

With 4 channel amp giving double power

- 2600 watts (prog. power)
- 18" subs
- PL1204 power amp
- FREE cables

£8.36 per week

£999 Saving £268

Plugs and Connectors

Your system is only as good as the cables linking it, play safe, use our high quality range to ensure you get the best results.

Speaker Cable Connectors


¼" Jack £1.09


Banana Plug £1.79


2 Pack 4 Pole Speakon £4.99

Signal Cable Connectors


Male XLR £0.89


Female XLR £0.99


¼" Mono Jack £0.99


¼" Stereo Jack £1.09

Convertor Plugs


F XLR to F XLR £4.29


2 Pack M XLR to M XLR £3.09


2 Pack M XLR to ¼" Mono Jack or 2 Pack F XLR to ¼" Mono Jack £3.69


2 Pack F XLR to ¼" Stereo Jack £3.69

Rolls/Bellari

SMART SOUND EXCLUSIVE

Rackmount mixers, mini mixers, headphone amps, phantom power supplies, Bellari professional tube equipment and more. Huge range of problem solvers - visit www.rolls.com

- HA43 • Headphone amplifier, ¼" stereo input, 4 x ¼" stereo output, 20Hz–20KHz response £39.99
- Bellari MP105 • Tube mic preamp, Input imp: XLR 600Ω (100KW padded), ¼" jack 10KΩ. Output imp: 50Ω, SN ratio >88dB £79.99
- RM67 • 7ch mic/line mixer, 3 XLR mic inputs, 4 stereo phono inputs, stereo record out, master level/bass/treble control £249.99

- Bellari RP583 • Studio tube compressor/ limiter, all tube gain circuitry, side chain ¼" & XLR inputs/outputs, smooth lively tube sound £499.99

Cables, Multicore and Stageboxes

New lower prices

Speaker Cables

"Pure Sound" Series

1.5mm oxygen-free copper

- HPC-1.5/1.5 P • 1.5m jack - jack £2.99
- HPC-3/1.5 P • 3m jack - jack £3.09
- HPC-10/1.5 P • 10m jack - jack £6.49
- HPC-10SJ/1.5 P • 10m speakon - jack £6.89
- HPC-2SS/1.5 • 2m speakon - speakon £7.99
- HPC-10SS/1.5 P • 10m speakon - speakon £9.79
- HPC-10XJ/1.5 P • 10m F XLR - jack £6.19
- HPC-10XX-1.5 P • 10m M XLR - F XLR £6.79

2.5mm oxygen-free copper - for big bass

- HPC-1.5/2.5 P • 1.5m jack - jack £2.79
- HPC-3/2.5 P • 3m jack - jack £4.09
- HPC-10/2.5 P • 10m jack - jack £11.09
- HPC-10SJ/2.5 P • 10m speakon - jack £12.19
- HPC-2SS/2.5 2m speakon - speakon £9.99
- HPC-10SS/2.5 P • 10m speakon-speakon £14.49
- HPC-10XJ/2.5 P • 10m F XLR - jack £10.89
- HPC-10XX-2.5 P • 10m M XLR - F XLR £10.59

Bulk Cable - 100m drums

- Roll HP65/1.5 • 1.5mm speaker cable £59.99
- Roll HP80/2.5 • 2.5mm speaker cable £89.99
- Roll M60/2 • 2 conductor cable £49.99

Available in red, green, blue - add £10

Guitar Leads

"Vintage Tweed" Series

- GC-6VT • 6M Tweed guitar cable £5.79

Various multicolours

"MetalFlex" Series

- GC-3MT • 3M Metal sheath guitar cable £7.89

Jack - Angled Jack

- GC-6JJL • 6m Jack - Angled Jack £4.69
- GC-10JJL • 6m Jack - Angled Jack £6.99

Signal Cables

"Studio Sound - NK"
Features genuine Neutrik connectors

XLR Cables

- MC-01XX/NK • 1m M Xlr - F Xlr £3.19
- MC-03XX/NK • 3m M Xlr - F Xlr £3.89
- MC-06XX/NK • 1m M Xlr - F Xlr £5.09
- MC-10XX/NK • 10m M Xlr - F Xlr £6.79
- MC-01XJ/NK • 1m F Xlr - Mono Jack £3.39
- MC-03XJ/NK • 3m F Xlr - Mono Jack £3.79
- MC-06XJ/NK • 6m F Xlr - Mono Jack £4.69
- MC-10XJ/NK • 10m F Xlr - Mono Jack £5.79

Jack Cables

- GC-1.5/NK • 1m Mono Jack - Mono Jack £2.99
- GC-3/NK • 3m Mono Jack - Mono Jack £3.09
- GC-6/NK • 6m Mono Jack - Mono Jack £3.89
- GC-9/NK • 9m Mono Jack - Mono Jack £4.69

RCA (Phono) Cables

2 x RCA to 2 x RCA

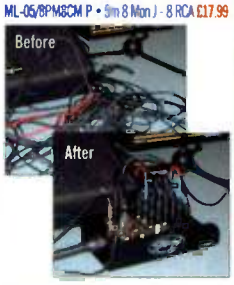
- YC-01/2C2C • 1m 2x RCA - 2x RCA £2.79
- YC-02/2C2C • 2m 2x RCA - 2x RCA £2.99
- YC-06/2C2C • 6m 2x RCA - 2x RCA £4.69

MIDI cable

- MDC-1DL P • 1m cable - Metal Din plugs £2.09
- MDC-3DL P • 3m cable - Metal Din plugs £2.89
- MDC-6DL P • 6m cable - Metal Din plugs £3.99
- MDC-10DL • 10m cable - Metal Din plugs £6.49

Multicores

- ML-03/8PM8PM P • 3m 8 Mon J - 8 Mon J £9.99
- ML-05/8PM8PM P • 5m 8 Mon J - 8 Mon J £12.99
- ML-05/16PM16PM • 5m 16 Mon J-16 Mon J £33.99
- ML-05/8XF8PM • 5m 8 F XLR - 8 Mon J £22.99
- ML-05/8XM8PM • 5m Male XLR - 8 Mon J £22.99
- ML-05/8XF8XM • 5m 8 F XLR - 8 MXLR £26.99
- ML-15/8XF8XM • 15m 8 F XLR - 8 M XLR £48.99
- ML-03/8PM8CM P • 3m 8 Mon J - 8 RCA £12.99
- ML-05/8PM8CM P • 5m 8 Mon J - 8 RCA £17.99



Versatile Bag

ACB1 • Versatile carry bag, numerous usages, ideal for multicores and smaller stageboxes. Dim (HxWxD): 12.6" x 12.6" x 5.5" £10.99

We also stock splitter cables, patch cords, stage boxes and more. These are some examples of our extensive range, call for full list. Hundreds more on www.smartsounddirect.com

ABS Flight Cases

High grade polyethylene, light, stackable, front & back rails, gasket sealed moisture protection, optional wheel board for easy transportation.

- ABS02 • 420mm deep 2U rack £52.99
- ABS04 • 420mm deep 4U rack £60.99
- ABS06 • 420mm deep 6U rack £68.99
- ABS08 • 420mm deep 8U rack £75.99
- ABS10 • 420mm deep 10U rack £82.99
- ABS12 • 420mm deep 12U rack £88.99
- ROLLER4 • 420mm deep 4U rack on rollers with handle £71.99


ABS

- ROLLER6 • 6U £79.99
- ROLLER8 • 8U £86.99


Roller

Pro Aluminium Heavy Duty Flightcases

Industrial strength alu stackable case with recessed handles, latches and steel corner knuckles for added strength. Gasket sealed. Up to 12U available.

- FC-2U £82.99
- FC-4U £99.99
- FC-6U £109.99

Padded Flight Bags

Splash & dust-proof reinforced nylon covers with rigid plywood inner shell and carrying straps, zipped pocket.

- RC02 • 420mm deep 2U rack £35.99
- RC03 • 420mm deep 3U rack £39.99
- RC04 • 420mm deep 4U rack £43.99
- RC06 • 420mm deep 6U rack £49.99

Mixer Flight Cases

Winter special – 10% off these prices

- G-Mix L 16"x18" • Lightweight, heavy duty EPS foam protection £44.99
- ABS-FMR • Slant mounted for 19"/12U rack mixer £69.99
- G-Mix 12"x24" • Military grade poly-ethylene, pull-out handle with wheels £74.99
- G-Mix 8PU • "Pop-up" ratchet case with wheels and pull-out handle £119.99

Why not visit our showroom (Mon–Fri 9–5.30. 1st Sat each month 10.30–3, next open days Sat 8th Jan and Sat 5th Feb 2005)

To order or for free catalogue,
order line 0800 7317541
info line 01883 346647

Check out our massive range of products & great prices
visit www.smartsounddirect.com
email sales@smartsounddirect.com

Call for a demo:
Seven House,
Units 5–7,
38/40 Town End,
Caterham,
Surrey CR3 5UG

Smart Sound DIRECT

fits into a standard 19-inch rack. What's more, the Xserve G5 is available in two configurations: as a standard server with three SATA drive bays and an optical drive; or as a so-called Cluster Node with just one SATA drive and no optical drive. The Cluster Node is designed for grid-computing-style systems where you want more processing power but don't need the inbuilt drive options (or the unlimited client license of OS X server included with the standard Xserve G5 model). This makes it potentially ideal to use for running the *Logic Node* application.

However, at the time of writing, what makes the Xserve G5 models not quite ideal as *Logic* nodes is the issue of processing power and price. A single-processor 2GHz Xserve G5 starts at £2399, a dual-processor 2GHz model costs £3199, and a dual-processor 2GHz Cluster Node also sells for £2399. Looking back to the Power Mac models, the high-end dual-2.5GHz costs less than the single-processor Xserve, at £2199. The only downside with the Power Mac is that it isn't so easy to rackmount. Companies such as Marathon (web site at www.marathoncomputer.com/g5rackmounts.html) offer vertical-mount solutions, plus a horizontal mounting that requires you to cut the handles from your Mac, but these are not for the faint-hearted.

Aside from choosing suitable Macs to be your *Logic* nodes, there's one important thing to realise about the current implementation of distributed audio in *Logic 7*, and that's the fact that you can only run *Logic*'s own instruments and effects on other computers, with the notable exceptions of *EXS24* and *Ultrabeat*, as mentioned last month. This means that if you have a channel that uses suitable *Logic* instruments and effects exclusively, this channel can be offloaded to a *Logic* node on playback. However, as soon as you add an Audio Unit to a channel, that channel must now be calculated on the host — including any *Logic* instruments and effects you might be using on that channel, since the synchronisation issues involved would add too much latency.

Personally, I consider this a little disappointing, but it's not all bad news. Firstly, if you run large quantities of *Logic* instruments and effects, especially *Space Designer* or *Sculpture*, the current idea of distributed audio will suit you and your studio very well. However, what's potentially more interesting in the long term is to remember that while Audio Unit plug-ins can't currently be calculated on *Logic* nodes, Apple are also responsible for the AU specification. This means that there is at least a possibility of change in the future. SOS

Bite-sized Apple Notes

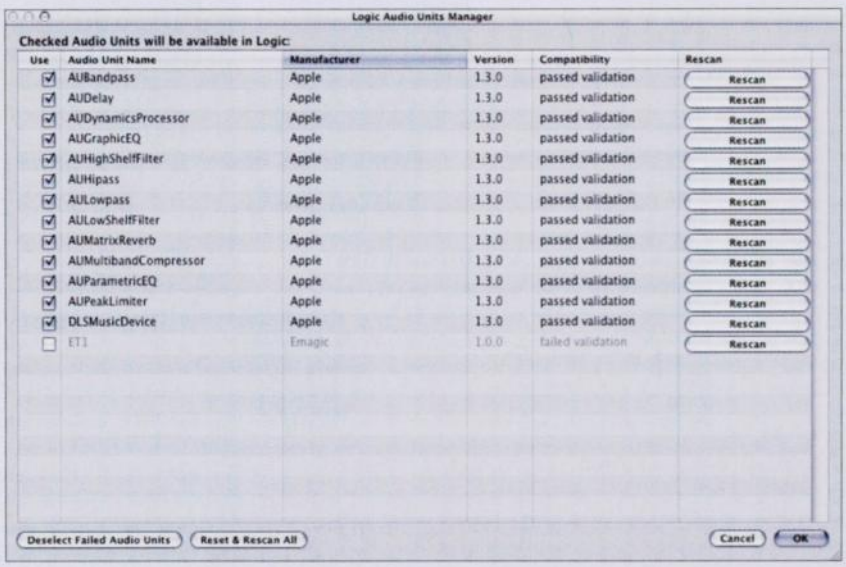
- Both the iMac G5 and the Airport Express offer an optical audio output in the same connection as their mini-jack headphone output, so you need a mini optical-to-Toslink adaptor to patch the audio output of these devices digitally. While it's nothing you couldn't get in most hi-fi stores, Griffin Technology offer the Xpress Cable, an appropriate Toslink-to-Toslink audio cable with adaptors for both ends to use mini optical connections — see www.griffintechnology.com/products/xpress/index.php for more. Griffin have also introduced a black-coloured version of their iTrip FM transmitter (which lets a radio receive the iPod's audio output), to match the new iPod U2.
- Digidesign released version 6.7 of the company's Core Audio driver this month (download from www.digidesign.com/download/coreaudio). The main benefits of this update, according to Digidesign, are fixes for large TDM systems where the driver would 'time-out' waiting for the *Manager* application to auto-launch, and for a problem which caused older versions of *Avid Xpress DV* and *Avid Xpress Pro* to produce noise on outputs 5-8.

Logic 7 & Audio Unit Compatibility

Upgrades of one part of a system are often the cause of other parts of the same system becoming incompatible, and one example of this in the recent *Logic 7* upgrades has been many Audio Unit plug-ins becoming incompatible with the latest version. *Logic 7* incorporates Apple's *Audio Units Validation Tool*, meaning that only Audio Units deemed by Apple's tool to be fully compatible with the Audio Units specification can be loaded and used by *Logic* (with one caveat described below). In some ways this is obviously a good thing, as it means that users should encounter the minimum of problems caused by third-party Audio Units plug-ins when using *Logic*, but it is equally a rather brute-force way of ensuring plug-in developers strictly observe the standard.

Most plug-in developers who were affected by this situation, such as Native Instruments, now have suitable updates ready for download, offering full compatibility with the validation tool. Apple provide a list of compatible plug-ins at http://docs.info.apple.com/article.html?artnum=300170. For those who are interested, the guideline pages for Audio Units developers (http://developer.apple.com/softwarelicensing/agreements/audio.html) offer a download of the latest version of the *Audio Units Validation Tool* utility.

As a side note, it is actually possible to re-enable Audio Units that fail the Audio Units validation test, in the *Logic Audio Unit Manager* (Preferences / Start Logic AU Manager). Obviously, this isn't recommended. In fact, Apple state that Audio Units that crash the validation and are manually enabled can affect the testing of other plug-ins, crash *Logic*, and lead to the corruption of song files. Consequently, it's useful to remember that you can hold down Shift and Alt while starting *Logic*, to run the application in Audio Unit Safe Mode. In this mode, only validated plug-ins will be used and any manually enabled plug-ins are ignored.



The *Logic Audio Unit Manager* utility allows you to see which plug-ins have passed or failed the new validation test, and manually re-enable any plug-ins at your own risk.

Philip Rees

MODERN MUSIC TECHNOLOGY

The sum of its parts

An excellent computer system design is the sum of many small choices and consistent attention to detail.

For example, there is not a single magic bullet for a software set-up which will run audio software without glitches. Instead, a smooth running configuration is the result of a large number of tweaks and detailed decisions, We streamline the system by turning off all the superfluous software elements. This work is based on knowledge, experience and extensive practical experiments.

We recommend systems which use *Intel* chipsets and processors, because we believe that these truly provide the best electronic compatibility for demanding audio hardware.

We have made a speciality of building astonishingly quiet actively-cooled machines, even when using power-hungry modern components, such as the latest *Intel Pentium 4* processors. This involves the choice of the quietest disk drives and careful design and selection of mechanical parts to damp vibrations and to manage the airflow. It also involves the selection and modification of cooling components to maximise efficiency.

See the panel to the right for an example of one of our superb quiet studio PC systems.

Example complete ultra-quiet high-spec *Pentium 4* system

- *Lian-Li PC6070* quiet aluminium ATX tower case with enhanced acoustic damping, enhanced metalwork package and *Zalman ZM-F1* replacement fans
- *Philip Rees* central airflow control system
- *SilenX* 520w <14dBA Pro iXtrema PSU active PFC
- *Asus P5GD2 Premium* motherboard
- *Intel Pentium 4 540* 3.2GHz 800FSB LGA 775 CPU
- *Thermaltake CL-P0025 Silent Tower* CPU cooler with two *Zalman ZM-F2* replacement fans
- *Corsair* 1 GByte (2 x 512 Mbyte) DDR2 PC5400 240 DIMM memory pair
- *Gigabyte GV-NX53128D* PCI Express *nVidia PCX 5300* Graphics card 128 MB
- 1.4 Mbyte Floppy disk drive, silver bezel
- 2 x 80 Gbyte 7200 rpm SATA *Seagate Barracuda 7200.7* HDD
- *ASUS CRW-5232AS QuieTrack* CD-ReWriter
- *E-MU 1212M* audio interface
- *AOC LM720A* 17 in. TFT Active Matrix monitor
- *Genius Netscroll Optical* mouse
- Standard black *Windows* PS2 keyboard
- *Microsoft Windows XP Home Edition* (dual boot)
- *Steinberg Cubase SX 3.0* sequencer s/w
- *Symantec Norton Ghost* backup and restore s/w
- *Symantec Norton Internet Security*
- *OpenOffice.org* open-source office suite
- One year email and online technical support service
- Standard UK computer hardware warranty

System price: .. £2295 inc. VAT

Studio PC systems

We supply studio computer systems in smart *Lian-Li* aluminium tower cases or rugged 4U steel rackmount enclosures.

We take a serious engineering approach and build our systems from components we know we can trust, like *Asus* mother-boards with *Intel* chipsets.

All of our *Studio PCs* are fitted with our exclusive **central airflow control system**, at no extra charge!

STUDIO PCs from £750 inc. VAT

Let us build your new computer, and get everything working properly ..... which leaves you free to get on with your music.

Many times one can be lucky, and computer installation and set-up go smoothly. At other times there are problems, and these can be a challenge even for experienced technicians with full workshop resources

Let us take responsibility for making sure you have a stable, fully-working system. We offer personal attention and we aim only to sell components we know work well together. We are real specialists, and this makes the big difference when you buy a complete ready-to-go music computer system from us.

Centrino laptops

Centrino PCs are light, quiet, and perform extremely well with audio applications.

Centrino technology includes the amazing *Pentium M* processors. On real-world tests with music software, a 2.0GHz *Pentium M* can give similar performance to a 3.7GHz *Pentium 4*!

CENTRINO PCs from £895 inc. VAT

Call 01903 691160 or visit www.philrees.co.uk

PHIL REES MUSIC TECH, Unit 1A, Garcia Trading Estate, Canterbury Road, WORTHING, West Sussex BN13 1AL

pc notes

Intel abandon their 4GHz Pentium processor speed target and shift their attention to the dual-core technology first espoused by AMD. Whatever is going on?

Martin Walker

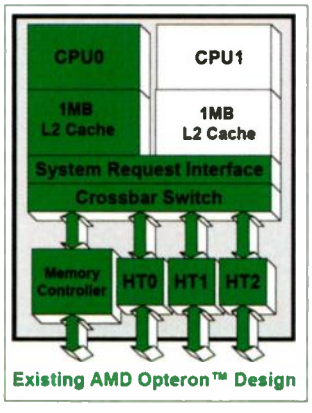
In a surprise move announced in mid-October, Intel have abandoned their plans to release a 4GHz version of the Pentium 4 Prescott processor (originally promised by the end of 2004) and have moved their engineers onto other projects. They are now focusing on other Pentium 4 processor models with up to 3.8GHz clock speeds, initially increasing their performance using a larger 2MB Level 2 cache similar to their expensive existing 'Extreme Edition' models (discussed in PC Notes February 2004).

A larger cache benefits any application that needs to repeatedly access lots of the same data — games, for instance, and some reverb plug-ins — but often makes little difference to the performance of mainstream applications. Nevertheless, a Prescott 3.8GHz P4 with 2MB cache is now scheduled for release in early 2005, and models with slower clock speeds should follow.

For years, major new designs of processor from both AMD and Intel were often accompanied by a reduction in the chip's core size and operating voltage, such that it could operate at lower temperatures and, ultimately, be persuaded to run at faster clock speeds. A higher clock speed always results in greater power dissipation, and with Intel's Prescott range the heat was almost too much to handle, mostly resulting in noisy systems — and, consequently, fewer sales than expected. I was fully expecting Intel to solve these initial problems and take the Prescott Pentium 4 range to significantly faster clock speeds, especially as they were speculating about clock speeds of 15 to 20GHz by 2010.

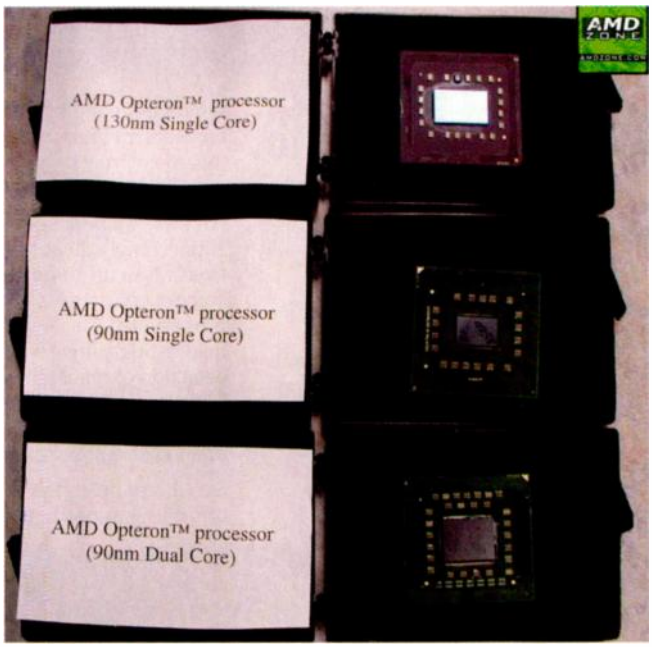
However, it now seems that multiple-core technology — the placing of two or more processor cores onto a single piece of silicon, either sharing common cache memory or each having its own — is the more likely long-term solution to greater computing power. It would be possible to use such a design in a CPU package identical to that used by existing processor models, with the same pin-out and footprint, relying on internal connections to distribute the power and signals to each core. Although a BIOS update would no doubt be required, this approach would meet with the approval of anyone wanting to upgrade an existing PC. Each of the cores would generally be under-clocked, compared with their single-processor equivalents, and would run at a lower voltage, so that while a pair would provide significantly faster performance than a standard processor (apparently up to 55 percent faster), they wouldn't run much hotter. We'll just have to wait and see what actually emerges.

AMD announced a new dual-core design way back in June 2004, and they aim to release it in mid-2005. Indeed, their original Opteron/Athlon 64 processors were designed from the ground up for multiple-core operation, but were only initially shipped with a single core (see screen, below).



Existing AMD Opteron™ Design

AMD's existing Opteron design already caters for future dual-core capability.



This photograph, courtesy of AMD Zone, shows that a dual-core Opteron processor could use exactly the same package as a single-core model, providing a possible upgrade path for owners of some existing Opteron motherboards after a BIOS update.

At the time, some industry analysts felt that this dual-core approach was an idea in search of a market, and that Intel's approach of ever-higher clock speeds was more likely to succeed. However, now that Intel have shifted attention towards dual cores, AMD find themselves ahead of the game, although Intel have already demonstrated a prototype dual-core Prescott chip running on a standard 915 chipset, and have a dual-core Pentium-M CPU on their road map. They also aim to release their first dual-core models to the public sometime in 2005.

One thing's for sure: the year ahead will be an interesting one for PC users, although perhaps a perplexing one for those thinking of buying a new machine. Let's just hope that audio software developers get to grips with dual-core processors quickly. A few of them still haven't solved their Hyperthreading problems yet!

Emu Power FX

I was impressed when I reviewed Emu's 1820M and 1212M PC-only soundcards in *SOS* June 2004, and the 0404 in *SOS* September 2004. This range has proved popular with musicians, and there's now a major free software upgrade available for download from www.emu.com. Since the upgrade contains not only new features but also driver options, it's well worth reporting in some detail.

The Power FX software upgrade (version 1.6) is compatible with the 1820M, 1820, 1212M and 0404 audio interfaces, and lets users access any of Emu's DSP effects as VST plug-ins from within almost any VST-compatible application. Just as with other DSP-powered cards, such as the Powercore or UAD1, the effects therefore impose no processor overhead, and can be used as inserts or send-return treatments as and when you please. Furthermore, the software includes some new effect algorithms, namely a new 'lite' reverb and seven new delays.

Confusingly, you need to

download two update files (one for the drivers and the other for the *Patchmix DSP* utility), but after you install these, a single new *Emu Power FX* plug-in will appear in any VST-compatible host application, into which you can load any chained combination of the Emu DSP effects. Although this routing wizardry imposes a 512-sample delay, most applications can automatically compensate for that during playback, and the new approach is far easier to set up and use than the previous *E-Wire* plug-in, which allowed you to route audio to and from the *Patchmix DSP* mixer.

After installing version 1.6 on my 1820M I was pleased to find that the new reverb finally lets you create short room and ambience options not available previously from the Stereo Reverb algorithm, as well as using far less DSP power (you can run up to five of the 'lite' reverbs at once). In addition, the various echo algorithms allow you to choose the most appropriate delay time for your song (the longer the chosen delay algorithm, the more of Emu's DSP resources are used, leaving less to launch further effects). All the new effects are supplied with a set of factory presets to get you started.

Other improvements include support for dual monitors and mouse-wheel support in the *Patchmix DSP* mixer, plus a new 'bypass all inserts' function, as well as various bug-fixes that cure ASIO problems with *Wavelab* 5.0, audio stuttering with *Sonar* 2.2 and 3.0, and 24-bit recording freezes with *Sound Forge*. However, for many people the highlight will be that the WDM drivers finally support 96kHz and 192kHz sample rates (the fact that they previously didn't was one of the 'cons' in my original 1820M review), although these still offer only stereo capability. You still have to use the ASIO drivers for multitrack purposes.

Emu had thoughtfully provided new RMAA (Rightmark *Audio Analyser*) presets for both 96kHz and 192kHz, in line with the new WDM driver support at these sample rates, so I could finally get some test results. The background noise levels proved to be an excellent 118dBA at both 96kHz and 192kHz, exactly the same as at 44.1kHz. In fact, this similarity tipped me off about the next result, for frequency response, which — as I half expected — wasn't significantly extended beyond the figure achieved at the 44.1kHz sample rate.

A few users have complained that the 44.1kHz response for both the 1820M and 1212M interfaces (but not the cheaper 0404 model) droops slightly above about 5kHz to about -0.5dB at 20kHz, before dropping like a stone as the anti-aliasing filters kick in, although personally I doubt that there are more than a handful of golden-eared folk who would hear this slight droop. I found exactly the same droop at both the 96kHz and 192kHz sample rates, but this time the response for both extended only slightly to -1dB at 32kHz. This is certainly an improvement over that for the 44.1kHz sample rate (-1dB at 21kHz), but it isn't ideal for capturing transients and high-end detail — which is, after all, one of the main reasons why some musicians choose higher sample rates. As a comparison, M Audio's FireWire 1814 is only -1dB down at 60kHz with a 192kHz sample rate, while ESI Pro's Julia extends even further, to nearly 90kHz at the same sample rate. Nevertheless, along with many other people, I still rate the audio quality of the 1820M and 1212M very highly overall.

Analyse That!

Rightmark's famous *Audio Analyser* utility is now up to version 5.4. A new intermodulation distortion test option has been added to help spot problems specific to those soundcards that use internal sample-rate conversion. In addition, an auto-normalise function has been added, to prevent unscrupulous people running the dynamic range measurements at the bottom of the acceptable input-level range, to artificially boost the results. In acoustic mode (for testing loudspeakers, room responses, and the like) you can now separately measure second- and third-harmonic distortion, and there's a new THD-versus-frequency test. I regularly use this utility in my *SOS* audio interface reviews, and anyone who wants to examine the performance of their audio interface should download it immediately, from http://audio.rightmark.org.

Driver Issues

I've never experienced any operational problems with my 1820M, and had no problems with the new version 1.6 drivers or when using the new *Emu Power FX* in *Cubase* and *Wavelab*, apart from a couple of initial rogue error messages on first opening the *Power FX* window inside *Wavelab*. Other users have reported that the new effects drop in and out on some systems. Emu do provide a new 'Extra Buffers' preference for the new window, in case the aforementioned occurs (this option should be used with *Fruity Loops*, for instance). Since DSP effects are always processed in real time, a Render mode preference lets you force real-time calculations when rendering these effects permanently into an audio file in applications such as *Wavelab* and *Sound Forge*, that would otherwise process them as fast as your CPU can manage. Emu also include a new Power FX compatibility chart in the updated user's manual that details a few other problems with applications including *Sound Forge* 7, Adobe *Audition* 1.5, and Ableton *Live* 3.5.

Although the majority of Emu soundcard users running another DSP audio card alongside their Emu one experience no problems, a few UAD1 users have reported glitching that occasionally gets so bad that it sounds like continuous distortion. Some seem to have cured this problem by tweaking the PCI Latency timings, using a utility such as Mark Knutson's *Double Dawg* (which was covered in PC Notes October 2004). A BIOS setting of 64 or higher is recommended by Emu. A couple of users have even resorted to using the ASIO Multimedia drivers instead of the proper ASIO ones, to cure the problem. Emu are actively trying to track down the (obviously obscure) cause of it.

Despite the above, this update does contain welcome improvements and I suspect most users should install it for its driver improvements and bug fixes. However, some should probably avoid accessing the Power FX after the update, until various teething troubles are sorted out. SOS

Here you can see the new *Emu Power FX* window superimposed on the *Patchmix DSP* utility, both kitted out in an optional third-party tXz 'skin'.

for sale

classifieds

Classified Dept., Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ

Patrick Shelley

Telephone: +44 (0)1954 789888

Fax: +44 (0)1954 789895

ISDN: +44 (0)1954 781023

email: patrick@soundonsound.com

display box

£35.00 + VAT

per single column centimetre

Discounts offered for series.

situations vacant

£40.00 + VAT

per single column centimetre.

lineage

£1.20 per word including VAT

(minimum of 15 words).

(3 column page). Rates include full colour + typesetting. Box Numbers available at an additional £50.00 per insert.

The attention of advertisers is drawn to the Business Advertisements (Disclosure) Order of 1977, which requires by law that from the 1st January 1978 all advertisements by persons who seek to sell goods in the course of business must make that fact clear. From the above date, consumers, therefore, should know whether an advertisement relates to a sale by a trader or a private individual.

A SINGLE PIECE OF EQUIPMENT CAN MAKE A WORLD OF DIFFERENCE

020 8746 2121

Whether it's Orange amplification, a Lexicon processor, an RCA vintage ribbon mic or DW drums, FX has the largest selection of equipment to hire to you 24 hours a day, 7 days a week. And it all comes with full technical support.

FX

HIRE - SALES - COPY - REPAIR - INSTALLATION

www.fxgroup.net

insurance

for hire

RIGHT TRACK STUDIOS

Engineering midi and arranging courses in Malvern
Beginners welcome. All courses one to one.
Teaching since 1990 to students from around the UK and Europe
Also F1 to CD copying service.
Contact David Etheridge on
01684 576896 for details

THE SCHOOL OF SOUND

London 30 March – 2 April 2005

A unique event exploring the creative use of sound with the moving image

Tel +44 (0)20 7724 6616 www.schoolofsound.co.uk

THE RECORDING WORKSHOP

Provides one of the most affordable comprehensive range of exclusive 2-12 months part time day/evening **practical** courses on all aspects of Sound Recording including Multi-tracking, Cubase, Sampling and Productions.
Beginners welcome, concessionary rates available.
Established since 1989, West London
32 TRACK STUDIO AVAILABLE FOR HIRE
FOR PROSPECTUS : 0800-980-7452
e-mail: info@therecordingworkshop.co.uk

LAE Live Audio Courses.

LAE offers the only hands-on Live Sound Operator course in the music industry, with a 10 year history, and our graduates engineering for Coldplay, Franz Ferdinand, and many sound companies and venues.
www.lae-london.co.uk Tel: +44 (0)20 7837 6422
E-mail: info@lae-london.co.uk

LIBERTY HALL

ONE-TO-ONE INTENSIVE TRAINING COURSES
Production, SoundEngineering & Music Technology

Unlike our so called competitors we are TOTALLY DEDICATED to teaching you on a ONE2ONE basis. We do not teach group classes. We concentrate ALL our efforts into delivering flexible hands on courses/modules for beginners to advanced (days/eves/weekends) tailored to suit learning pace and individual requirements.

COURSES IN - COMPUTER MUSIC * SOUND ENGINEERING * CUBASE * LOGIC * REASON * SAMPLING * SEQUENCING * LIVE RECORDING * MIXERS * MIDI * FX * SYNTHESIS * MIXING * MASTERING * PRODUCTION TECHNIQUES + MANY MANY MORE
From ONLY £59 (£69.33 incl vat) *per module*
Take a complete course or pick out modules of interest
You'll also get a certificate & FREE practice modules.

Call the *ONE2ONE Specialists* for a Prospectus
020 8440 0011 www.libertyhallmusic.com

there's a riot goin'on

LCCM is an independent music centre five minutes walk from London's Southbank.

Full-time degree level courses - unique programmes that combine piano, voice, bass, guitar or piano with modern music production

Full-time summer production courses - recent guests include Toby Baker, Richie Stevens and Dennis Bovell

Part-time evening courses - Logic 6 Pro, Reason and Recycle.

Contact us to reserve your place.

Gigs
Courses
Master classes
be different

Tel: +44 (0)20 7378 7458
Email: contact@lccm.org.uk
Web: www.lccm.org.uk

london centre of contemporary music

studio furniture

tuition/programming

courses

tuition/programming

courses

flight cases

session services

recording studios (see p299)

flight cases

computer troubleshooting

PC/MAC AUDIO TROUBLESHOOTERS

- emergency call out for London area
- soundcard/softsynth/sequencer/midi
- virus removal
- maintenance
- upgrades
- networks
- tuition

pc@arthure.com
Dan 07904 067170
competitive rates

services

SSC STOCKHOLDING & MUTEC ... a SMART move

MUTEC specialise in neat solutions to those ever expanding digital connectivity problems. They also produce quality peripherals such as optical cables, interface boards and brand-optimised memory and storage media for Akai, EMU and Yamaha samplers, keyboards and recorders. Here are just a few of the products that MUTEC make...

SMART CLOCK av: Highly accurate digital audio & video master clock generator
SMART MERGE: 8 channel digital audio line mixer with integrated sampling rate conversion
DISTRIBUTOR ws+ae: Word Clock and AES/EBU distribution amplifier and clock converters
FORMAT CHANGER series: ADAT- T/DIF -AES/EBU - S/PDIF digital audio format and sampling rate converters

For more info please check out www.mutec-net.de then contact SSC Stockholding for your local dealer.

Tel: 0845 330 1890
www.synthservice.com
stock@synthservice.com

PANIC Panic Music Services

AUTHORISED HI-TECH SERVICE CENTRE
FOR: Repairs to all makes of Keyboards - Synths Modules - Samplers and Amplification.
Computers - PC'S
All work to BS5750 Quality Inspected

TEAC - TASCAM
DA88 Service Centre
AKAI AUTHORISED SERVICE CENTRE
YAMAHA
ART
novation in music, anything is possible.
Roland

Telephone 01223 873073
www.panicmusic.co.uk

services

ADVANCED SOUNDS LTD

(Service & Repairs)

★ Keyboards ★ Backline ★ FX ★ Analogue & Digital Recorders inc DATs/Adats

Also Hire Sales Division 01305 757088

FX simple solutions FX

38-40 Telford Way
London, W3 7XS
www.simplesolutions.com

www.simplespares.com
Akai, AKG, JBL &
TC spares

EQUIPMENT REPAIRS, UPGRADES & REPAIRS

Approved Warranty Repair Agents for

Akai, TC Electronic, EMU, Lexicon, Tascam, Roland, Alesis, JBL, Digitech, dbxPro, AKG, DOD, Behringer & Mackie

On Line Web Facilities

Booking, Workshop Tracking, Payment plus Text Notifications

Collection & Delivery Service Available

Recorders, Samplers, Processors, Synths...

08707 60 7171

Music Control's service Team brings you -
SYNTH REPAIR SERVICES

Over 10 years Experience of Exclusively Vintage, Analogue, Classic Synthesisers, Vintage Effects and Digital Hybrids, Renovation available.

01782-262611

www.synthrepairservices.com

Synth Repair Services

Digital Audio Service Centre

Professional Servicing and Repair

(collection and delivery service)

aspenmedia

YAMAHA DIGITAL AUDIO MIXERS • ADAT and TASCAM DTRS RECORDERS

01442 399949
aspen-media.com
email:service@aspen-media.com

- Synthesisers
- Samplers
- FX Units
- Direct to Disk
- DATs

synthesiser service centre
When only the best will do

Collection and delivery
Priority service available

020 8961 7890

Web: www.synth-service.co.uk
E-mail: info@synth-service.co.uk

Vintage Keyboard Company

Repairs & Restoration
Classic Keyboards & Amplifiers
Valve technology · Analogue circuitry

Ampeg • ARP • Crumar • Elka • Farfisa
Fender-Rhodes • Gem • Hammond
Marshall • Mesa Boogie • Moog
Oberheim • Selmar • Sequential
Vox • WEM • Wurlitzer
(and many others-Please call)

020 8453 0312

Making classic gear sound

CD Manufacture

500 CD Singles Complete only £650.00 £763.75 Incl VAT
500 CD Albums Complete only £740.00 £869.50 incl VAT
1000 CD Singles Complete only £925.00 £1086.88 incl VAT
1000 CD Albums Complete only £1000.00 £1179.00 Incl VAT

Digital/Post Mastering
Sadie - Focusrite - GML - Neve
Lexicon - TC Electronics -MD2
20 Bit A to D - 32 Bit DSP

Artwork Design & Layout
Drum Scanning - Typesetting
Fine Art - Imagesetting to
Film - Photo Retouching

Tel C.R.S. 01424 444 141

49p each

- Duplicated Album or Single
- Single Colour CD Print
- Cases / Wallets / Slimline

69p each

- Duplicated Album or Single
- Full colour CD Print
- Cases / Wallets / Slimline

99p each

- Duplicated Album or Single
- Full colour CD Print
- Cases / Wallets / Slimline
- Full Colour Inlay Cards
- Clear Over-wrapping

"We will beat any genuine quote to save you money"

We also print full Colour A3 Posters Business Cards & Flyers. Great deals on Audio Cassettes

Audio & Data CDs. Minimum Qty 50. Prices exclude Artwork & Delivery

Direct Duplication Services
Call 0800 056 4956
www.AudioCopying.com

Unit A3
2 Bowyer St
Birmingham
B10 0SA

---

www.10thplanet.net
10 PLANET
CD • DVD • Authoring • Duplication

t 020 7637 9500

CDR Promos (disc & wallet)
50= £80 + vat
100 = £125 + vat
200 = £225 + vat

Pressed CD promos (disc & wallet)
500 = £395 + vat
1000 = £525 + vat

Pressed CD Albums (disc, box & booklets)
500 = £495 + vat 1000 = £650 + vat

Artwork Films @ £10 each + vat

When ordering please quote 'SOS Mag Offer'.

---

duplication

CHEAPEST UK PRICING PREMIUM PRODUCT
Live Online Quotes 24/7 CD, DVD, VINYL & MC Replication, Design & Print
cdsourcing.com
Please see our main advert on page 297

APRS member
The Digital Audio Co
AUDIO A

Professional Mastering
CD & Cassette Manufacture
5 Day Turnaround
Stringent Quality Control
Expert Service
CDR Duplication & On-Body Print

01756 797100
www.the-digital-audio.co.uk

Duplication

Blanks & Accessories

CD's, Dat's, & Labels etc.
FREE ! Catalogue & Sample
Downsoft Ltd 01372 272422
Web: www.downsoft.co.uk

HILTONGROVE
MULTIMEDIA

Where sound advice counts

Hiltongrove Business Centre, Hatherley Mews, London E17 4QP
(3 mins Walthamstow Central tube, 11 mins M25, Junc. 27)
Tel: 020 8521 2424 Fax: 020 8521 4343
www.hiltongrove.com

CD & DVD Manufacturing
Complete manufacturing, print, packaging and delivery solutions.

Mastering
Five high-end studios operated by highly experienced engineers. Incorporating System 6000 48-BIT processing, B&W 801 Nautilus monitoring, Cedar sound restoration, 5:1 Digital surround sound mastering. Stereo to 5:1 sound conversion.

Vinyl
7, 10, 12" pressings and dubplates. Special packages available.

Design & Print
Full design and print service from our in-house team.

DVD Authoring
Cutting edge Sonic Scenarist software, 5:1 surround sound and SD1000 Encoding card technology.

Request a quote, book and track online at our website.
Alternatively call us for your individual quotation or email: sales@hiltongrove.com Est. 1994

duplication

Make it with us

Market Leaders • 30 Years of Excellence

One Stop Manufacturing

Compact Disc Audio
DVD
CD-ROM
Print & Packaging

Creative Services

High End Audio Mastering

Six Studio Complex
High Resolution Technology
Sonic Solutions Restoration
All Analogue & Digital Formats

Recording

Studio and Location Facilities
Steinway Concert Grand Piano
Classical Music Production & Editing

Post Production

DVD Encoding, Authoring & Design
Enhanced CD Authoring
Mixing (Dolby Digital 5.1 in all Studios)
Broadcast Video Editing

APRS DOLBY DIGITAL

Sound Recording TECHNOLOGY

VISA

London	Cambridge	Manchester	Glasgow
020 8446 3218	01480 461880	0161 876 7633	0141 550 4640

Freephone 0800 000441 • email srt@btinternet.com • www.soundrecordingtechnology.com

recording studios (see p289)

Eight Barr Productions

- North London studio.
- Logic, pro tools, g5, Mackie, K2 etc...
- Vocal booth, chill out area, control room.
- Friendly working environment.
- Experienced Producer/ engineer.
- Perfect studio for putting together your demo cd.

All this and more at the very cheap rate of: £15 per hour
Call for more info and special deals
Contact paul: Tel 07951466005
Email: eight_barr_productions@hotmail.com

RMS Studios

25 years making music sound better!

Studio 1:- 2 live rooms, sumptuous drum sound,
RADAR II 24 track digital, Studer 2" 16 track analogue, Soundcraft 1600 desk, AMS, Lexicon and Yamaha reverbs, 2 Amek/Neve Channels, Drawmer 1960, ADR Vocal Stresser and Trident compressors, Drawmer gates, lots of expensive mics and a lovely grand piano.
£25.85 inc VAT per hour with engineer.

Studio 2:- A great MIDI Studio -
Logic Audio, G4 Mac, Cubase, Atari, S5000, M1, Matrix 1000, PCM 80, REV 5, Quadraverb, Soundtracs MIDI desk, 16 track ADAT XT, G16, DA30, Tannoys, NS10s, Vocal Stresser and Compex compressors, and a choice of great mics.
£25.85 inc VAT per hour with engineer/programmer
SADiE Digital Editing, TC Finalizer mastering, low cost short run CDRs with full colour inlays and cassette copying too!

There's daylight in every room, real tea, coffee and meat free biscuits in the kitchen and beautiful flowers in the garden!

Please call for a full info pack.
020 8653 4965

SOUND PROOF MUSIC STUDIOS FOR HIRE E1 LONDON

£70 - £180 PER WEEK
PERFECT FOR PRODUCER/WRITER/DJ
AIR CON. VOCAL BOOTH.
RESTAURANT/CHILLOUT AREA
020 7790 3578
07977 590577
Jamestown
www.jamestown.co.uk

Wolf Studios

Quality Protools Mixing, Recording, Mastering.
24tr Studer. 48tr ADAT. Amek desk. Top FXs & mikes.
Sync to picture. Tape Transfers. Logic/Cubase.
Very experienced Engineers/Protools operators.
Prices from £29 p/h + Vat (£34.08)
For a full equipment list and information pack
call: 020 7733 8088 or Fax: 020 7326 4016
or check the website
http://www.wolfstudio.co.uk

Empty Studios

NORTH LONDON
0208 - 341 - 5592
07904 - 101 320
from £450 per month, paid yearly + deposit

SERIOUS ENQUIRIES ONLY

Semi-Precious Studios

Professional Digital Recording and Production

Manchester based studio with large live room and extensive Midi and Hard disk recording. Voice Overs, Bespoke Compositions, Backing Tracks, Vocal Demos and Demo Production.
Competitive rates from £25 ph includes Engineer and Programmer
Call or visit our web site for extensive equipment list

e: info@semiprecious.co.uk
w: www.semiprecious.co.uk
t: 0161 374 1258

TUBA

RECORDING, MIXING, PRODUCTION & MASTERING

- Successful Producer with SONY and EMI on C.V
- Digital recording, Live Room, Pro Tools, Neumann, Genelec
- 5.1 Digital surround mixing & mastering DTS, Dolby Digital for DVD encoding
- 24hr London Studio at the criminally low rate of **£15 per hour**
- Contact Steve on 0208 347 0550 or visit

www.tubastudios.co.uk

SCALDIA STARS RECORDING STUDIO

FULL PROFESSIONAL DIGITAL RECORDING STUDIO

SUPPORT FOR ALL MAJOR FORMATS
pro tools - cubase sx - logic
digital performer

PC & MAC

recordings up to 96 khz - 24 bit

ANTWERP CITY CENTER
IN HOUSE ACCOMODATION

check it out
WWW.SCALDIASTARS.COM

tel. +32 3 227 30 43
info@scaldiastars.com

studio acoustics

www.studiowizard.com

Recording Studio Design & Build,
Acoustic Consultancy, Training,
Equipment Supply & Installation,
Bespoke Technical Furniture,
Self-build Consultancy Service,
Full Equipment Dealership Facilities.

THE STUDIO WIZARD
For a little advice - or a complete studio - call us on:
07092 123666
(International clients please dial +44 7803 666789)

24/7 The Studio People

From a 2-sqm voice booth to multi-studio commercial facilities...we design AND build!

www.studiopeople.com
01743-885244 or 07977-043763

studio acoustics

Edwin De Graham Ltd.

Studio Design and Build • Studio Refurbishment
Acoustic Treatment • Finance Available

www.e-d-g.com
Phone **01263 733075** Fax **01263 733759**

situations vacant

Sunrise UK

Require new producers/engineers to work on various projects. Must have experience with rock bands. Send CV with examples of work to:

Producer Recruitment,
Sunrise UK, Silverdene, Scaleby Hill,
Carlisle, CA6 4LU

Due to expansion, TSC is offering positions for Audio Professionals to join our Sales and Support team.

An ideal candidate should be knowledgeable in various Audio Hardware and Software, and conversant with Apple Macintosh Platform.

Please submit CV to:
Alistair Grant
info@gotsc.com
TSC
1 Amalgamated Drive, West Cross Centre, Brentford, TW8 9EZ
Fax: 020 8 400 1240

CAREERS

- SALES ADVISERS: PC, MIDI, RECORDING
- ELECTRONICS ENGINEERS (B-tech or equivalent)

turnkey

Are you *fanatical* about Music Technology?

Whether you're just out of college, a seasoned professional or an experienced sales person, if you're heavily into the products we handle we would like to hear from you.

Turnkey is the UK's largest and still its fastest growing outlet for MIDI and recording because we love what we do. Visitors from the world's leading manufacturers tell us that our store is the most technologically advanced anywhere – and it's continually developed with input from all our staff. Our huge product comparator systems and the Loopstation digital sample jukeboxes were a direct response to our own frustrations trying to properly demonstrate and compare products.

Training
Today, the total product spectrum is vast. An extensive program of training by the manufacturers and our own technical directors combines basic principles with detailed product tutorials to develop your product knowledge.

Prospects
The company's continual development and growth provides a rapid career path for the most fanatical and people with us for as little as 6 months can assume a high degree of responsibility and autonomy. We also encourage individuality and maximise our team's mix of skills and strengths and in this respect we benefit from a wide range of departments from 'DJ / dance' to post-production.

Salary
We are the busiest company in our industry. It follows that our salaries paid (rather than promised) are unrivalled.

Benefits
We are an equal opportunities employer and strive to provide an informal and friendly environment but beyond that we also give you the lowest cost prices in the UK on equipment plus the facility to borrow gear for training purposes.

Most importantly you'll have a say. A say in the way the company is run via suggestion schemes and regular meetings, a say in your own future, even a say in the products we sell. We are at the epicentre of music trends in the most influential store, in the most influential city, in the most influential country in the world. For that reason major manufacturers come to sound out our demonstrators when they are planning new products and we frequently see our suggestions taken up. We also develop our own products (the Portastudio was invented by our founders) and staff right through the company are actively involved in the process.

If you're a music technology addict, come and see the specialist.

Send your application in writing to:
Personnel Manager
turnkey
114 Charing Cross Road London WC2N 0JR
Fax: 020 7692 7814
Include phone no & 2 references
or apply online at ww.turnkey.co.uk/tkweb/employmentform.jsp

SOUND ON SOUND
The UK's Biggest Selling Music Recording Magazine

OUT NOW!

2004 CD-ROM

£29.95 + postage

Dual Format CD-ROM: Mac/PC compatible. Includes Adobe Acrobat PDF Reader software.

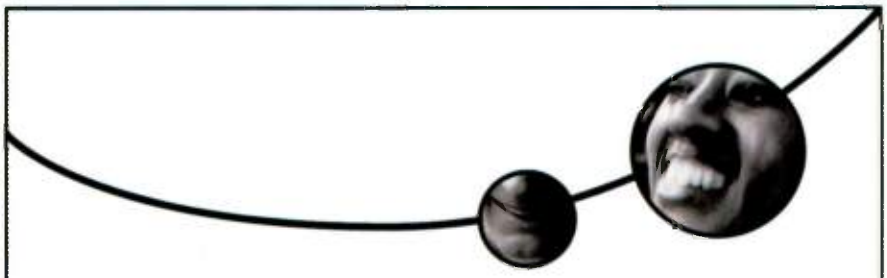
All seven CD-ROMs contain Adobe Acrobat PDF versions of all editorial pages that appeared in the January to December editions of that year, including all photos diagrams and images, plus live web links for all email and web site contacts. Pages look just like the magazine. Fast built-in search across all 12 months.

Special Offer

Subscribers pay only £9.95 + postage

SAVE £20 PER CD

www.soundonsound.com/subs



The College of North East London has a clear goal: improvement. We want to see more smiles from learners through raised attainment levels. We want to see staff happy because they are making a difference. We even want to see a knock on effect in the local Haringey community.

Lecturer in Music Technology

Salary range: £22,221 - £27,144

The School of Creative Studies is a developing and dynamic area of the College. We are expanding our music technology offer, which is being housed in an industry standard purpose built environment. In addition, we have excellent links with local creative industries.

You will teach on our suite of BTEC courses at level 1, 2 and 3 at our Tottenham Centre and new media and sound house, which is based in Tottenham Hale. Dedicated to achieving excellence in teaching and learning, you will need to have a teaching qualification or be willing to study towards one. Experience of teaching midi and studio production, excellent communication and organisational skills and the ability to work effectively as part of a team are essential. You should also enjoy working with learners with differing abilities and from a variety of backgrounds.

In return we offer an excellent family friendly benefits package, with 37 days' leave, pension scheme, excellent opportunities for CPD, good on-site facilities and the opportunity to work for a college that values its staff.

This post may also be considered for our Advanced Practitioner roles. If you are an exemplar teacher, and you have Qualified Teacher status, please indicate that you wish to be considered also as an Advanced Practitioner, at interview. There is an enhanced salary for these post holders.

Application packs and further details are available from our website www.conel.ac.uk alternatively, please e-mail recruitment@staff.conel.ac.uk or telephone 020 8442 3045 answerphone quoting ref. 04/41.

Closing date: 17 January 2005.

The College is closed from 24 December 2004, reopens on 4 January 2005.

The College of North East London
is an Equal Opportunities Employer

CONEL
The College of North East London

INVESTOR IN PEOPLE

THE PLACE TO IMPROVE

instruments

Hammer Dulcimers

Supplier to many industry professionals including Peter Gabriel

01373 465596

www.timmanning.net

studio for rent/sale

Studios for Rent/Sale

Five studio complex (main studio has a 1,300 sq ft naturally lit live room), with ten offices and residential accommodation. Close to Nottingham City Centre. Possible to rent whole building or individual studios.

For further info, plans or to arrange a visit Email studio@ovo.net or phone 07092-070504

recording services

Tracksbyemail.com

:: online recording studio ::

Drums, Vocals, Guitar and Keys

Fed up of drum loops and drum machines?
Want some professional vocals?
Need some guitar for your keyboard based track?

WWW.TRACKSBYEMAIL.COM
01205 481206

wireless

artists wanted

Find Yourself a RECORD DEAL
in the
Bandit

A & R NEWSLETTER
TRY IT - FREE

This valuable Newsletter Profiles 24 Labels, Publishers, Managements etc in all genres, in the UK, USA and Worldwide, which are looking for new acts/material every month.
Send an SAE to Bandit for a FREE SAMPLE EDITION

BANDIT (SOS), PO BOX 22, Newport PO30 1LZ
or e-mail bandit.sos@aweber.com

Sample the information supplied by Bandit by calling:
09066 566 567
Operated in conjunction with the I.S.A. Calls 60p/min at all times
Sample Feature & info also on
www.banditnewsletter.com

The Advertisers Index

Visit the Sound On Sound Website, over 2.2 million views last month!

www.soundonsound.com

readers' ads

www.soundonsound.com/adverts/

keyboards

ACCESS VIRUS INDIGO 2, excellent condition, boxed with manual and software. Latest OS 6.5 loaded, £850. ☎ Dave 07818 258694 (Cardiff, South Glamorgan).

FATAR SL880, great weighted keyboard, in good condition, forced to sell due to space, buyer collects, £160. ☎ 07904 226834 (Wigan, Lancashire).

FENDER RHODES MARK 2 stage piano 88, in great condition, £1300. Leslie 710, sounds amazing, £350. My wife insists on having the space! Sob! ☎ Giles <01455 888214 (Thurlaston, Leicestershire).

HAMMOND C3 with Leslie speaker L122rv and tone cabinet PR40. Rare chance to get this classic combination. Buyer would have to collect, £3,000 ovn. ☎ Dave 01302 360767 (Doncaster, South Yorkshire).

KAWAI 100F, neat, rare monosynth, original manual and soundcharts, fully working, £295. ☎ 07940 529243 (Scunthorpe, North Lincolnshire).

KORG MS20 semi-modular analogue synth, ultimate monosynth sound tool, complete with Kenton Pro2000 dual CV/MIDI converter, £650. ☎ Simon 0961 555813 (Harlow, Essex).

KORG TRINITY PLUS, in good condition with fully functional keyboard, £499. ☎ 0116 253 0048 (Leicester).

KORG TRITON with 64K RAM, Vintage Archives, Dance Extreme, Moss board and full flightcase, £1200. ☎ Christian 07753 318998 (Blackheath, London).

KORG WAVESTATION in reasonable condition, £150. ☎ 07788 973999 (Nottingham).

KORG Z1 virtual analogue & acoustic synth in excellent condition. Part of home studio clearout, £450. ☎ Nigel 07968 417602 (Birmingham).

ROLAND D50 FLIGHTCASE, full flight spec! Hardly used, has been in my shed for 6 months, few tiny scuffs here and there, purely cosmetic, collection only or you pay courier to collect, £80. ☎ Wayne 07739 744586 (Oxfordshire).

ROLAND JUNO 106 synth, mega basses, very warm sound, mint condition, £320. ☎ 07904 180163 (London).

ROLAND JP8000, very clean, manual, no box, £450. ☎ 07007 664518 (London).

ROLAND RS50, brand new with manual and editor CD-ROM, MIDI, D-Beam controller, unused, £350 ono. ☎ Steve 07961 818424 or email steveboyhunt@yahoo.com (Horley, Surrey).

ROLAND RS70, excellent condition, home use only, 15 months old, complete with owner manual, CD-ROM and box, £450. ☎ Lawrence 01803 862555 (Totnes, Devon).

ROLAND SH101 classic analogue monosynth, excellent condition, with box and manual. Grey model, £200. ☎ 01214 496547 (Birmingham).

ROLAND SH1000, analogue rarity. Roland's first ever Synth in original flight case. As featured in SOS Dec 2004. Buyer collects, £300. ☎ 07941 288529 (Nottingham).

ROLAND XP10, £155, Yamaha CS1X, £155, Yamaha DJX, £75. Colection only. ☎ 07040 400582 (Northampton).

ROLAND XP30, immaculate condition, boxed, dust cover, only used in studio, two extra soundboards (Techno & Orchestral), three spare slots, £385. ☎ 07834 606883 (Manchester).

SEQUENTIAL CIRCUITS SIX TRAK multitimbral analogue synth with MIDI. Excellent condition, part of home studio clearout, £300. ☎ Nigel 07968 417602 (Birmingham).

TECHNICS KN3000 keyboard, 1000s of sounds and styles, General MIDI, disk drive & disks, in good working order, £350 ono. Yamaha QY22 sequencer, sounds, rhythms, General MIDI, boxed with all leads, £125 ono. ☎ Robert 0121 6246349 (Birmingham).

WALDORF MICROWAVE XT Orange, boxed, £350. Oberheim OB12, boxed, £330. Korg MS2000R, boxed, £300. Quasimidi Sirius, £250. Roland MC505, £350. Roland JX3P, £150. Quasimidi 309, £200. ☎ Paul 07967 658132 (Hounslow).

YAMAHA CS80, classic polysynth, original fully working condition (unrestored) in mint condition with all original knobs and sliders, £4000. ☎ Gordon 01670 523363 (Newbiggin, Northumberland).

YAMAHA MOTIF RACK tone generator, awesome sounds, boxed as new with all manuals and disks, studio use only, £400. ☎ 07792 024022 (Milton Keynes).

recording

BEYERDYNAMIC MC834 studio condenser large diaphragm cardioid mic, 20-20Khz, 10/20db pad, low cut switch. Mic holder and EA834 h/d suspension included. New and unused, with case, only, £300. ☎ 01727 827464 (St Albans, Hertfordshire).

BLUE SKY PRO DESK 2.1 monitors, 40 hours home studio use only, still under guarantee, £550. ☎ Francis 020 8749 0070 (London).

DRAWMER DS201 gate, industry standard top quality two channel studio gate, £150. ☎ James 020 83547702 (London).

EMU PROTEUS 2000 sound module, never used, mint condition, quick sale required, near offers welcome, £400. ☎ Jack 020 8244 6540 (London).

FOCUSRITE MIXMASTER PLATINUM, unit is in excellent condition. Priced to sell! £350. ☎ Lawrence 07980 859890 (Ashford, Middlesex).

FOSTEX D80 eight track recorder, remote extension lead, three hard drives, in very good condition, £320. ☎ 01792 790498 (Swansea).

HHB CIRCLE 5 speakers with new Samson Servo 270 power amp, £350. ☎ 07788 973999 (Nottingham).

KORG D16 16 track hard disk recorder, never used, boxed with manuals, in perfect condition. Babies, etc forcing studio clear out, £600. Jean 01483 898808 (Guildford, Surrey).

LEXICON MPX1 multi effects, £375. TLA Ivory 5051 voice channel, £350. Focusrite Platinum ToneFactory, £125. SPL9629 de-esser, £250 ono. Akai S3000XL, 2MB RAM, £250. All boxed with manuals. ☎ Darren 01727 874772 or email dhughes@moose.co.uk (St Albans, Hertfordshire).

LEXICON MPX200 effects unit in superb condition, with manual, £130. ☎ 07754 439139 (Herne Bay, Kent).

LEXICON PCM81 multi-effects unit with dual FX card, boxed as new with all manuals, home use only. ☎ Mark 07952 054842 or email mark@xenomea.co.uk (Leatherhead, Surrey).

MACKIE 1604 VLZ, in very good condition, complete with flightcase, BNC gooseneck lamp, manual and mains lead, £400. ☎ 01363 83681 (Crediton, Devon).

HOW TO BOOK YOUR ADVERT

Fill in the form below, up to 28 words (one per box) and post to:

Readers' Ads, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ

Your advertisement will appear in the next available printed issue after receipt.

Alternatively, readers may submit advertisements free on our popular web site, but these adverts will not be printed here. Go to **www.soundonsound.com/adverts/**

GUARANTEED BOOKING OPTION

If you wish to guarantee that your advertisement appears in the next available issue, may we suggest that you call our Classified Dept on 01954 789888 and use your credit card to book yourself a Classified Lineage advertisement — your advertisement will then appear in the **Classified Advertisement pages**, and *not* in these Free Ads. This costs only **£1.20 per word** (inc. VAT), and the minimum number of words is 15.

☎ **01954 789888** (9am-5pm GMT)

DISCLAIMER: Always check when buying secondhand music software that you are not buying a pirate copy, ensure that all disks and manuals are included. We reserve the right to refuse or amend advertisements, especially if we believe they offer pirated software, pirated MIDI files or pirated sounds. We accept no responsibility for typographical errors or losses arising from the use of this free service. TRADE ADVERTISEMENTS WILL NOT BE ACCEPTED.

SOUND ON SOUND

Please tick which one Heading you would like your advert to appear under.

☐ KEYBOARDS ☐ SAMPLERS ☐ DRUM MACHINES ☐ WANTED ☐ MISCELLANEOUS

☐ SEQUENCERS ☐ RECORDING ☐ PERSONNEL ☐ COMPUTERS/SOFTWARE

		☎	

Name _____ Address _____

Postcode _____ Email _____

SOS Readers' Ads will only be accepted if your name and address details are completed.

WRH

£1 Million of SOS Readers' Gear now for sale online

www.soundonsound.com/adverts/

These days, most readers sell their gear quickly through the very popular Readers Ads area of our award-winning web site.

It's FREE to submit and read these ads, which are updated daily and auto-expire 30 days after publication online.

Once registered, you are free to submit ads and administer them yourself. So, if you sell the gear quickly (and plenty of people do!), you can delete that ad, or submit a new one if you find someone else selling the same gear cheaper than you!

www.soundonsound.com/adverts/

MACKIE 32:8 mixing console, new and in box, £1495. ☎ 07930 234694 (London).

MACKIE 1604 VLZ PRO, only eight months old, used once, absolutely mint, cost £850, will accept £450. ☎ 07961 037980 (Ipswich, Suffolk).

MARANTZ CDR630 19" rack CD recorder. Optical, SPDIF, Analogue connections, £110. ☎ 07919 554663 (London).

Neumann TLM103 including shock-mount! Pro quality cardioid condenser mic, excellent condition, only light home use in smoke-free environment, £500. ☎ 07792 074170 (Chislehurst, Kent).

SOUNDCRAFT STUDIOMASTER P7 fully functioning mixing desk, £349. ☎ 0116 253 0048 (Leicester).

YAMAHA RM800 analogue mixing desk, 24 channels, full EQ, four stereo aux sends, eight buss, free looms worth £150, perfect working order, cost £1700, yours for £300. ☎ Paul 07976 758132 (Hounslow).

drum machines

ALESIS DM5, stacks of great sounds and all those drum triggers! Very useful live or in the studio. A steal at £140. ☎ 020 8354 7702 (London).

ALESIS DM PRO, mint condition, real drum sounds with effects, several triggers, manual included. No offers, £325. ☎ 07966 546983 (Manchester).

CLAVIA NORD D DRUM drum brain and drum module with three MIDI drum heads, like the Roland V Drums, £270. ☎ 01214 496547 (Birmingham).

JHS PRO RHYTHM analogue drum synth, multi-mode filter, full synth control, awsome, unique soundsk, comes with stand, £200. Behringer Ultrapatch Pro patchbay, boxed with manual, £25. ☎ Kevin 01865 791791 (Oxford).

ROLAND CR78 Compurhythm. Remember Numan, Ultravox, Blondie, etc? Perfect condition. All Buttons and Sliders working and present. Looking for Offers. ☎ 07956 425812 (Greenock, Renfrewshire).

SIMMONS SDS5 classic electronic drum module, famous Simmons sound, good condition, £190. ☎ 07904 180163 (London).

samplers

AKAI S3000XL sampler with 250MB zip drive and PCI SCSI host adaptor card, £180. ☎ 07792 024022 (Milton Keynes).

AKAI S3000XL with 32MB RAM and zip drive with loads of disks, £150 ovno. ☎ 07939 541366 (London).

EMU E6400 ULTRA, 16 analogue outs, RFX card, 128MB RAM, 20GB HD, mint condition, home use only, £450. ☎ 07796 477643 (Upminster, Essex).

EMU EMAX II, works fine, manual, boot OS. No sounds but will throw in CD reader and zip drive, £100. ☎ Stephen 07958 709252 (Norwich, Norfolk).

ROLAND S550 sampler, classic warm sound, best auto filters, eight outs, floppy drive, hook up to tv/monitor, easy to use, in good conbdition, £150. ☎ Paul 07788 990334 (Birmingham).

YAMAHA A5000, 68MB RAM, 6Gb internal. HD, external SCSI CD-R, original CD-ROMs plus various sample CD's, boxed, manuals, £340. ☎ 07958 352966 (Leeds, West Yorkshire).

sequencers

EMU XL7 COMMAND STATION Expanded, basically a Proteus 2500 with keypads. Techno sounds but with extra Sound Composer ROM fitted. 128 poly V2.0. Two for one! £369 ovno. ☎ Grahame 01257 462609 (Wigan, Lancashire).

KORG EMX1 Electribe groovebox with valve stage. Fantastic warm analogue sounds, arpeggiator with ribbon control, effects etc, £420. ☎ 07919 554663 (London).

YAMAHA QY70 in perfect condition with manuals and disks, small and neat sequencer with great sounds, £100. ☎ 01274 876088 (Cleckheaton, West Yorkshire).

computers/software

APPLE DUAL PROCESSOR G4 1GHz. Comes with 1.5 GB of RAM and OS 10.3 Panther, excellent condition, £950. ☎ 07939 544548 (London).

APPLE MAC G4 466Mhz and Digi 001, OSX 10.3, partitioned 80GB hard drive, 1GB RAM.Digidesign Digi 001 soundcard and drivers, external Firewire DVD drive, Reason2.5, Recycle 2.1, £800. ☎ 07779 638624 (Bristol).

APPLE MAC SE Classic 4/40, ideal for sequencing, a fun cute machine and museum piece, £35. ☎ 07815 898722 (Blackpool, Lancashire).

COMPLETE PC RECORDING solution, Tascam TDM1000 mixer and Tascam PCI822 soundcard. Excellent condition, boxed with manuals, £250. ☎ Robert (after 6 p.m.) 01484 847914 (Huddersfield).

PACKARD BELL 17 INCH TFT LCD monitor, perfect brand new condition, can be seen working, selling due to upgrade, £175. ☎ Ryan 07903 950120 (London).

TOSHIBA SATELLITE Pentium 4 2 4Ghz, 256RAM, 30GB Hard Disk, DVD/CDWR Combo and Backpack style bag. One broken USB Port, otherwise in good condition, one year old, £550. ☎ 01373 463193 (Frome, Somerset).

personnel

ELECTRONIC PERCUSSIONIST or drummer and samples and loops person wanted for Cambridge band gigging in London. Into Marilyn Manson, Rammstein, NIN, KMFDM. ☎ Graham 01223 564577 (Milton, Cambridgeshire).

PROGRAMMER/ENGINEER. Dance producer, two albums to date seeks person with extensive knowledge of Logic and Reason and a love of house & techno. ☎ 07966 056126. (London).

miscellaneous

FREE MUSIC available from Glideascope — classic cinematic trip-hop, visit www.glideascope.com for more information.

ROLAND COLLECTABLES, as featured in November Sound On Sound, RS202 String Machine, TR77 Rhythm box, offers. ☎ John 07881 830640 (Brighton).

wanted

ROLAND JUPITER 6, must be in A1 working condition, not so fussed about cosmetics. ☎ Mal 01482 868786 (Hull, East Yorkshire).

ROLAND SPACE ECHO, Digital Echo RE3 rack mount unit, good price paid. ☎ Ken 01923 269720 (Langley, Hertfordshire).

Is 'dumbing down' creating a crisis in the pro-audio manufacturing industry?

Ben Duncan

The business of manufacturing all kinds of electronic products, including those for the audio market, has been declining for some years now in the world's main economies, and this has resulted in widespread takeovers and mergers within the UK's formerly rich electronic engineering infrastructure. Like the destruction of natural ecosystems, this change may prove to be irreversible, meaning that it may soon be impossible for even 'cottage industries' to design (let alone make) anything in the UK or in the world's other primary engineering countries like the USA, Germany or Sweden. Meanwhile, cheaply made goods and components that look superficially similar — but with variable and uncontrollable quality — are taking over. You couldn't even afford to *package* the goods at UK or EU rates, let alone cover the cost of assembly, amortising design or running a factory.

To make a bad situation worse, the audio industry is failing to recognise, safeguard and educate the public about the importance of audio quality. Without this information, purchasers and users of musical technology may get the impression that audio equipment was formerly a complete rip-off.

I am amazed that marketeers can't see the logical result of this reductionism — for as goods get cheaper, their purchasers respect them less, and meanwhile, everyone has to sell far more just to stand still.

As a designer, I make it my business to study detailed histories of the engineering struggles that have led to the creation of the equipment we all use every day. In such sagas, I've noticed several common phases. Firstly, new ideas or principles are discovered, frequently as the result of a separate lengthy process of hard toil and creative thought.

Secondly, although the first wave of products resulting from any new idea or endeavour are so costly, cumbersome and/or unreliable that only the very wealthy or very dedicated use them, others then spot the potential in the idea. Big money is then invested (it's always much easier to attract investors when the initial risk has been taken by somebody else, of course), 'healthy competition' occurs, and the designs are worked over. With the new generation of refinements, the product evolves. Ideally, it becomes more widely available with varying levels of competence and quality — it should be a given that 'quality costs', and that different quality levels are always required to accommodate differing human tastes and/or budgets.

Then comes the next stage — 'dumbing down'. The people who did all of the original work, namely the designers and engineers, are disposed of or go out of business. As soon as the original manufacturers are shut down or merged with other companies, the original hard-won know-how is readily lost, and frequently taken completely for granted. Marketing personnel and accountants take over — people without deep understanding of or resonance with what they're selling. Design becomes limited to attractive packaging, and manufacturing is 'farmed-out' to the cheapest sub-contractor.

In any creative facility (be it a studio or a lab), we all depend on the good design and smooth operation of many thousands of objects and components. Buying the cheapest or most readily available versions of these objects is not always the most sensible approach. Yes, you *can* buy door handles at £1.99 each from 'Krapmart' that look fine — but do you really want to replace them every few months because they're actually made from substandard, fake 'brass' with a negligible working lifespan? The same's true of more studio-specific gear — once the manufacturers of decent connectors have been put out of business we'll all be driven mad by distortion and crackles from riveted jacks, to say nothing of the down-time we'll spend on servicing and replacing bad connectors instead of actually making music.

Readers may do well to sharpen their awareness of the fact that audio products for music creation are amongst the most demanding and rewarding things that humans beings can make. Competitive functionality and good ergonomics are high arts in themselves, as is ensuring high sound quality. As purchasers, we all need to get tough with suppliers over quality and not just prices. It's a fact that with mass production, where outset costs can be spread out over many units, good design — the kind that involves spending proper money — need cost hardly any more than bad. So, when you next see anything generic being sold for a fantastically low price, please ask yourself what you are buying, and consider: 'does this really make sense?' and 'should I encourage this?' SOS

About The Author

Ben Duncan is a designer of all kinds of audio equipment, and is best known for his many articles and his books on audio and electronics.

terratec firewire interfaces.

Serious about your audio? You need a Terratec firewire audio interface.

For portable, mobile recording go for the cool looking Phase 24 FW: 2 balanced analog I/Os,1 analog stereo output, 1 coaxial digital I/O, 1 MIDI I/O 24 Bit/192 kHz signal processing.

If you need the ultimate interface then check out the Phase 88 Rack: 10 analog (2 channels with mic XLR inputs) and digital channels, 2 MIDI interfaces and 24 bit /96 kHz audio resolution.

Nothing can beat the audio quality, the flexibility and the speed of firewire. Nothing can beat Terratec.

Phase 24 FW - Mac & PC

- External FireWire audio interface with aluminum casing
- 2 balanced analog inputs & outputs
- Additional analog stereo output (switchable headphones / line)
- 1 MIDI I/O & Coaxial digital I/O
- Includes full verisons of Traktor DJ & Wavelab lite 2.5 (PC)

Phase 88 Rack FW - Mac & PC

- 10 balanced channels in/out - analog and digital
- 2 XLR mic inputs with phantom power
- 2 separate MIDI interfaces
- 24 bit /96 kHz audio resolution for each channel
- A two-channel digital I/O (S/PDIF) with optical connectors

SCV LONDON

Exclusively distributed in the UK by SCV London.

PHASE interfaces and audio systems

TERRATEC PRODUCER

40 Chigwell Lane, Oakwood Hill Industrial Estate, Loughton, Essex, IG10 3NY
Tel: 020 8418 0778 Fax: 020 8418 0624 Email: info@scvlondon.co.uk

bias LA IA SONY A|A|S muse RESEARCH Dig gram FOSTEX GENELEC hear voxx Superlux TERRATEC PRODUCER

Control.

Controlled.

Ableton Live Lite 4 Korg Edition

MDE-X effects from the KORG Legacy Collection

SampleTank 2 Korg Edition

The microKONTROL is the ultimate portable MIDI keyboard controller, providing every function and type of control you need for computer-based music production. And now it's even better as it comes bundled with the Creative Kontrol Pack free of charge!

Ideally suited for dance music creation and performance, the Creative Kontrol pack consists of **Live 4 Lite Korg Edition** to easily make your own beats, patterns and songs. **SampleTank 2 Korg Edition**, incredible sounds and digital processing from the 150MB SampleTank library, and finally, we've included the luscious **MDE-X effects** from the Korg Legacy Collection!

Great music software under the spell of the seriously powerful microKONTROL with knobs, sliders, switches, drumpads and a joystick.

Easy to use and with all the control you will ever need. And for such a low price? **Amazing!**

For more information log onto our website or call 01908 857150

live 4 KORG Edition

SAMPLETANK 2 KORG Edition

MDE-X

www.korg.co.uk

listen to your **imagination**

KORG