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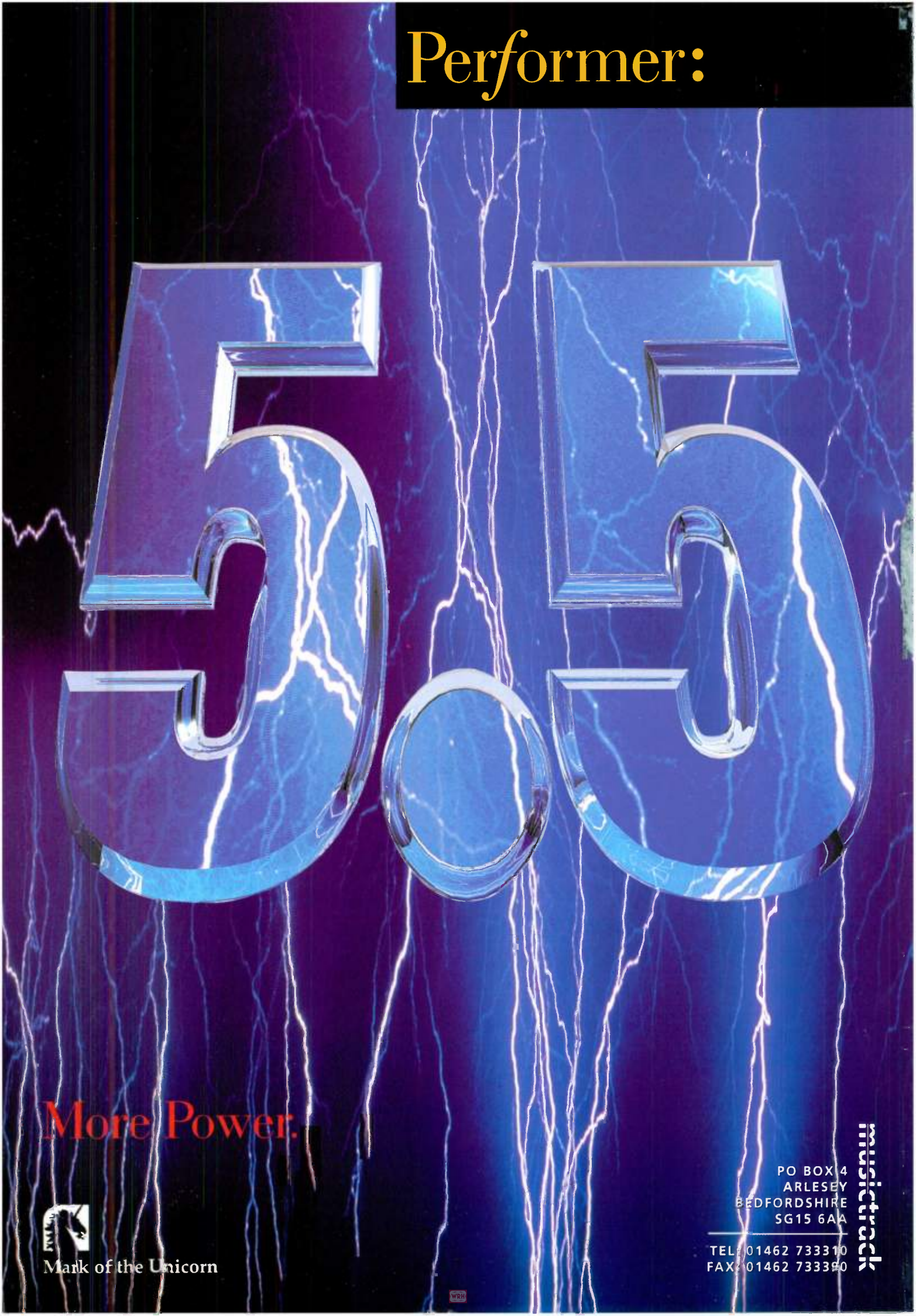
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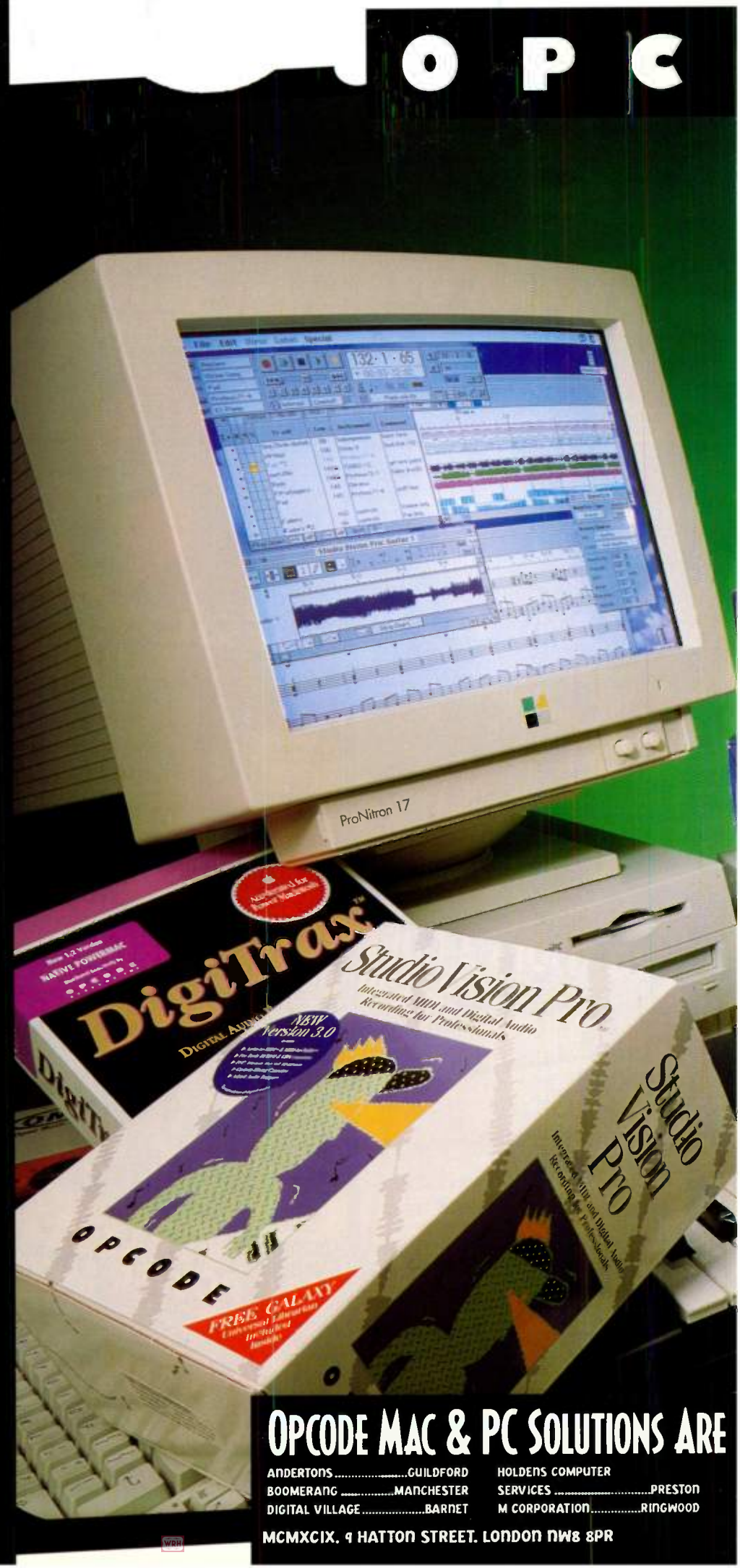

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leader

Okay, I know this is the April issue and tradition has it that we're supposed to think up some outrageous spoof for your general delectation, but it's getting more difficult every year. Every time we think we've come up with something truly improbable, a press release drops into the tray telling us that one is on its way for review! Take the electronic hymnal mentioned in the NAMM report last month: who'd have believed in a plastic pulpit accessory capable of playing backing tracks for over 5000 popular hymns, while prompting the vicar on which hymn book and page number is required? But it's seeing anonymous-looking plug-in cards taking over jobs once done by nice-looking external boxes. Lexicon have a serious reverb-on-a-card, there are numerous soundcards capable of both synthesis and hard disk recording, and even sound engines from some pretty heavyweight synths are starting to turn up on cards. If this continues, it can't be that long before we'll be hanging entire racks of very serious MIDI instruments off the backs of computers.

On the audio side, direct-to-disk recording, editing and mixing is already well established, so it doesn't take a great mental leap to visualise the audio and MIDI sides being combined in a single, card-based system with not a patchbay or synth module in sight. When that day comes, MIDI itself may become redundant. In fact, the only remaining obstacle is a suitable user interface, and judging by the progress Yamaha have made with their 02R, that's not too far off either. Come to think of it, who'd have believed in the 02R, if it had been announced in 1993?

In the stars or on the cards?

If we try to look into the future to see not the April Fools of years to come, but rather the April realities, it isn't unreasonable to expect that even the most sophisticated pro studios will fit onto a desktop, and that the only wiring you're likely to see (other than a mains lead), is that between the microphones and the input XLRs. Audio and video will be recorded onto disks that are so cheap, you'll be able to archive them just like tape, all studio and consumer audio formats will be in surround sound, and even the simplest audio systems will have full video editing just in case you need it. The computer monitor will give way to virtual reality goggles, and the internet will be fast enough for real-time collaboration between musicians. Your workstation may be able to rent in speciality software (downloaded automatically via the swipe of a credit card), and DAT could be replaced by a holographic plastic cube the size of a sugar lump... but the chances are that your drummer will still be playing the same kit as he is now!

disturbingly real, and who knows, maybe the next version will have an ISDN connection directly to heaven. But then who'd have believed, even this time last year, that you'd be able to go out and buy an all-digital, disk-based multitracker for under £1500 and still have change for a special edition Mars bar?

Many years ago, I participated in a hoax article concerning a thought-controlled sampler (instead of aftertouch, it had afterthought!). One of its features was a built-in modem, so that upon detecting an imminent failure, it could automatically dial up and order spares, which would arrive before the breakdown occurred. To my knowledge, this is still fiction, but in the world of computers, there is talk of an anti-theft system which will connect a stolen computer to the next available modem, wait until nobody is looking, and then phone a special service number to report its whereabouts. Of course, what we *really* need is computer RAM that can phone in and report its own theft — RAM-raiding is becoming highly serious.

If this kind of gear is available now, what on earth can we look forward to over the next few years? Hard disk recording has finally become affordable, and we're

Paul White *Editor*

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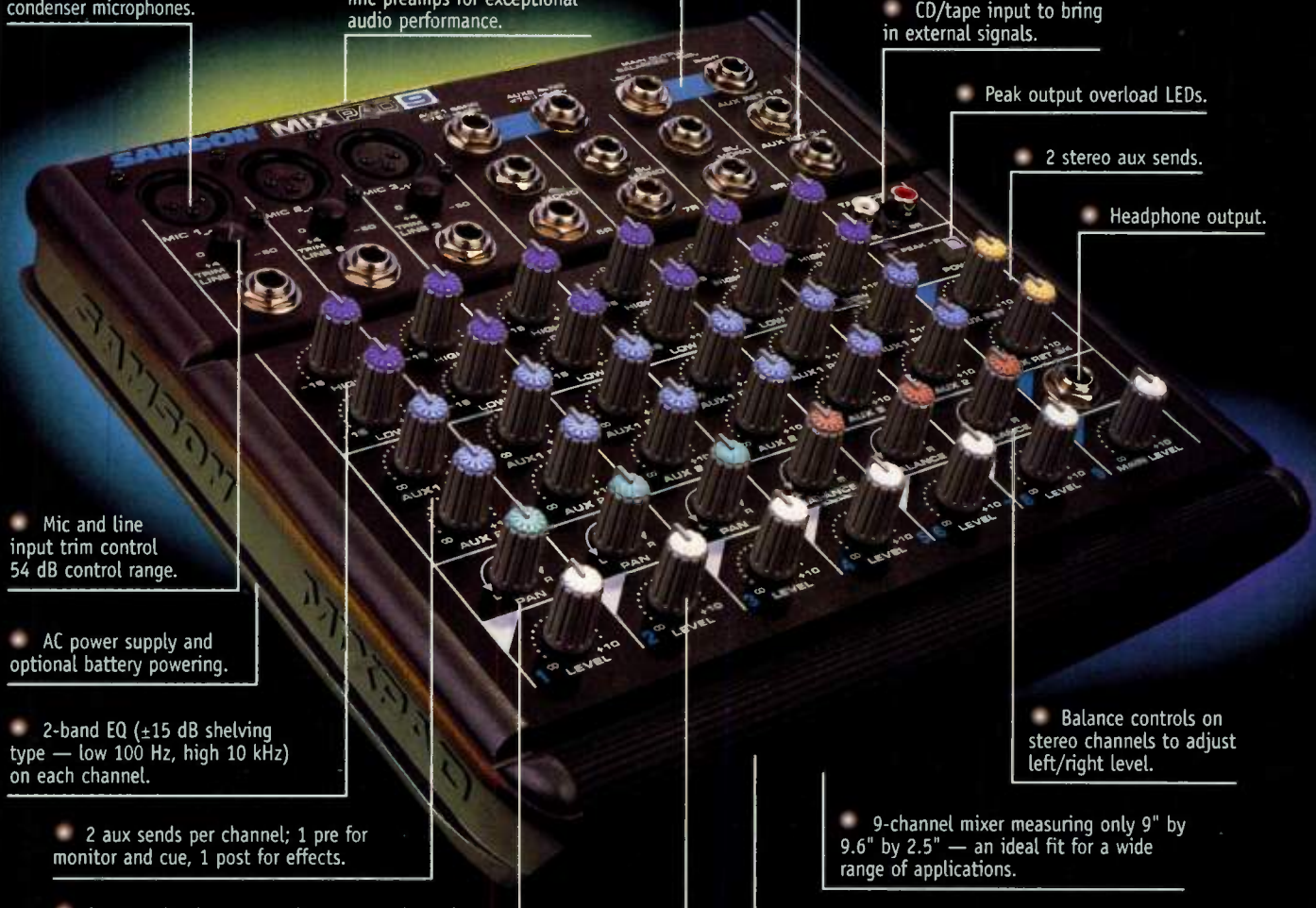

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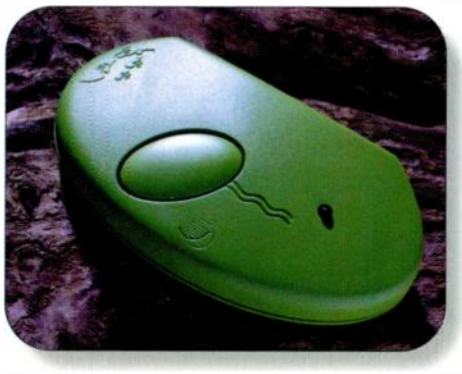

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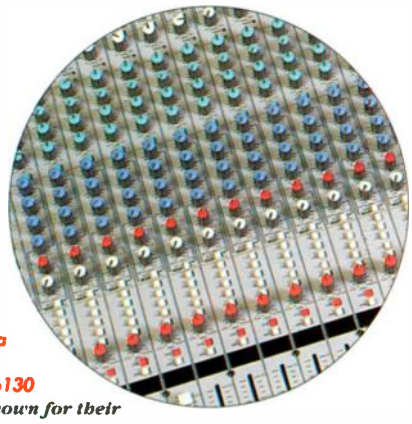

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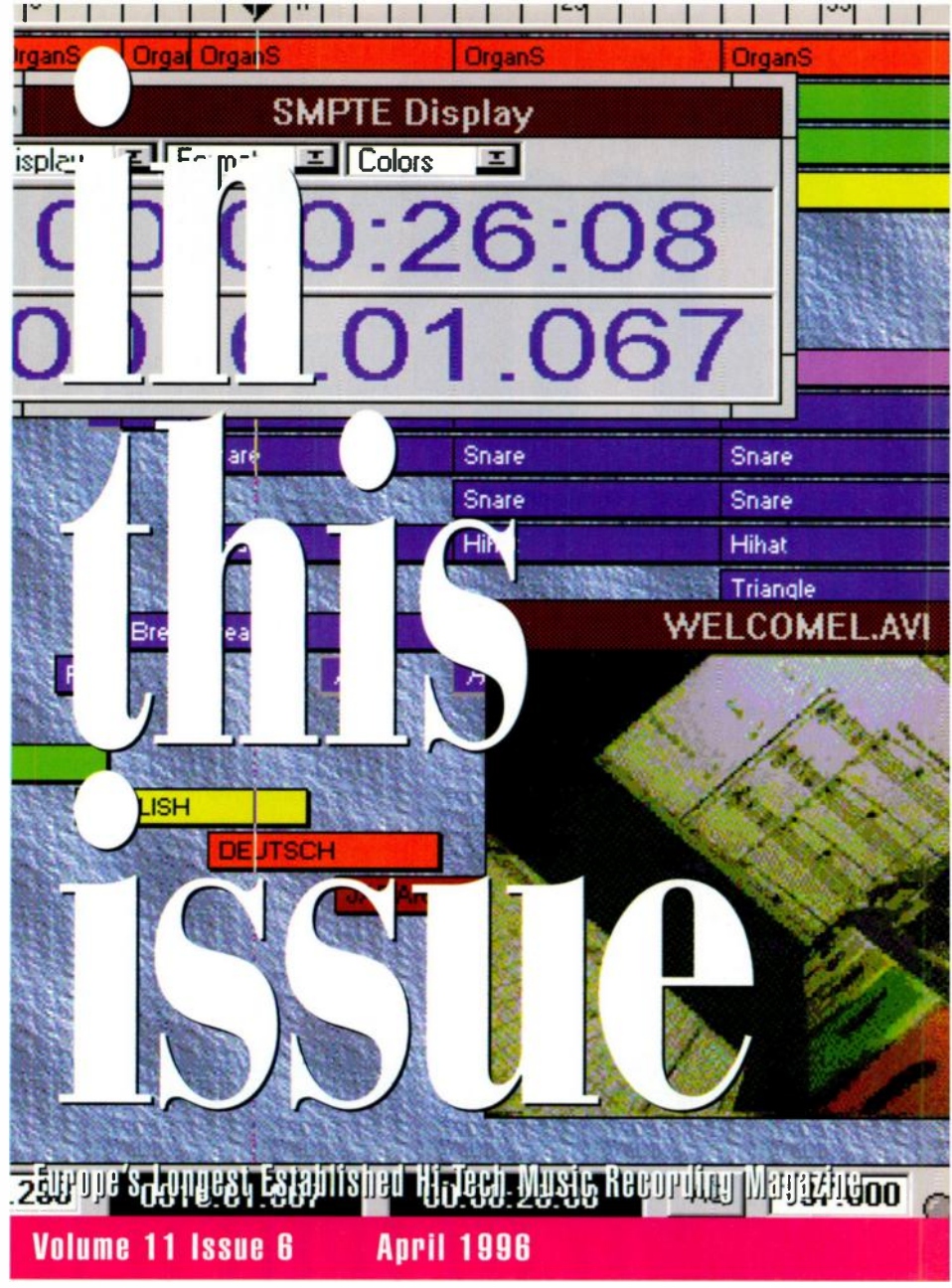

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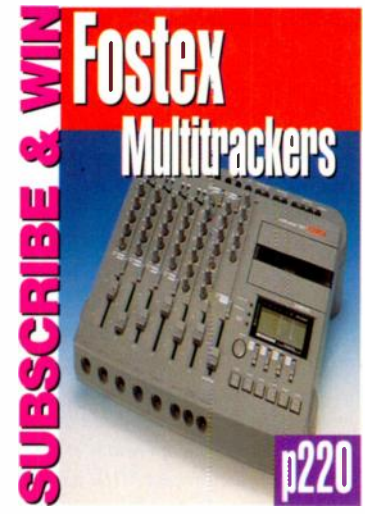

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THE RAVEN: QUASI-CORRECT

Assistant Editor Matt Bell writes: *Paul Ward's review of the Quasimidi Raven in last month's* SOS *has had some interesting follow-up; almost immediately after publication, Quasimidi contacted us to ask why certain aspects of the Raven keyboard had not been covered in the review, and sent a list of all the features that, they claimed, Paul had missed out (details of which follow below). Knowing that Paul had carried out exhaustive tests on the Raven, everyone at* SOS *was puzzled at the apparent oversights.*

When the review model was checked over for the missing features, we discovered that the unit Paul had reviewed simply wasn't capable of the features Quasimidi had mentioned. Several phone calls to Europe later, it emerged that the Raven we had received for review still had the final pre-release version of the operating software installed! Obviously, we were pleased that Paul hadn't *overlooked anything after all, but of course anyone interested in the Raven should be aware that the review does not quite give the full picture, thanks to circumstances beyond our control.*

Here, then, is a quick summary of the features the Raven is now additionally capable of. All relate to the operation of the Raven's internal sequencer and MIDI capabilities.

Though Paul mentioned the process of building up Songs in the Raven's internal sequencer using preset ROM patterns, he did not find a way of creating his own patterns. Nevertheless, the completed Raven does *offer this option. User patterns (consisting of drum tracks and accompaniment, like the preset ROM patterns) can either be recorded in real-time mode, or in a step-time recording mode similar to that on older Roland drum machines like the TR909 and R8. There is also a third option, the like of which I haven't seen since the days when I owned a Casio VL-Tone! With this third method, you first enter the notes of your sequence, with no regard for their ultimate timing. You then make a second pass through your sequence, tapping out its correct rhythm on the Raven's keyboard. At each tap, the Raven steps through the notes you entered the first time round, giving you the correct notes with the right rhythm. This strikes me as a great aid for those who know how they want their sequences to sound, but who can't play them in real time and don't want to bother with the chore of step-time input.*

Quantisation is of course possible on user sequences, with available resolutions ranging from eighth to thirty-second notes. There is also an adjustable Groove function to add swing to user patterns if required.

Paul carried out extensive tests on the Raven's MIDI Out, and was puzzled to find that the sequencer was not capable of outputting its patterns over MIDI, finally concluding in his review, "There doesn't seem to be any way to send song data to an external device for storing, and the sequencer doesn't generate any MIDI data other than clock data for synchronisation." He found this anomalous, as Quasimidi's previous synths, which he reviewed for SOS, *were both capable of dumping Song data via SysEx. Naturally, the Raven, in its finished version, possesses this feature too, which clears up the mystery! All the user and preset patterns, effects settings, and Motivator patterns can be sent over MIDI in the way Paul expected — via SysEx. In addition, the information stored on each track of the internal sequencer, whether from a preset or user pattern, can be sent out over MIDI.*

One of the principal reasons Paul did not immediately discover he had an early software version of the Raven was the poorly translated and incomplete first manual, which he mentioned in his review (page 98, in the 'More Questions Than Answers' box). Had the manual stated anywhere, for example, that recording of User Motives was possible, Paul would have noticed the absence of this feature on his review unit, and realised that something was wrong. Sadly, as Quasimidi themselves have admitted, there is much about the Raven that is not mentioned in the first manual! Fortunately, the updated, fully-anglicised version of the handbook is now ready, and is being shipped with the Ravens on sale at present. Likewise, the Ravens currently in UK shops all have the final version of the operating software installed, as tests carried out by Key Audio (Quasimidi's UK distributor) on imported stock have proved.

Finally, Quasimidi have asked us, while we are on the subject, to mention their new plans for the Raven; an expansion board is set for summer release, with new sounds and preset patterns. The company are also preparing software which will convert Standard MIDI Files into Raven-format patterns, so they can be piped into the Raven's internal sequencer. This will allow you to prepare material on your favourite sequencer, and then manipulate it from within the Raven, should you wish to. ❑

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Crosstalk

LOOK MA, NO HUM!

I do not re-use analogue cassette tapes for my most important jobs. Can I re-use DAT tapes without any possibility at all of the slightest contamination from previously recorded material?

Secondly, I hope you can explain some non-existent hum problems for me. I have nine items of equipment connected together in an unbalanced system. Although I have experienced no problems, I decided to see what signal screen earths I had, using a continuity tester between the earth pin of the supplying mains power plug and various points in the system, with much disconnection and re-connection. There was no change in the low hum level, whether there was one earth or many (the much-feared earth loop situation), or none at all on the signal returns. How can this be?

John Bennet
Wellingborough

Editor Paul White replies: *Regarding your lack of mains hum — I could send you some, if it would help! But seriously, this is probably down to the design of your individual pieces of equipment — properly-designed gear should have internal ground-lifting, to help avoid hum problems. The internal wiring of the mixer is also important. In my own studio, I can get away with not taking any special precautions, because my mixer has been designed correctly. However, a previous system I had, based on an old Seck mixer, was a nightmare to sort out.*

As for your other query: DAT tapes can be used with no fear of hearing unerased material, because the data is all recorded as 1s and 0s. Even if the erase process was only 90% effective, what would a digital 'tenth' sound like? Seriously, though, this is one problem you won't get, and like video tapes, the tape may actually improve after its first playing or recording, as the rotating head polishes the oxide surface — which should reduce the error rate. However, like any tape, if you overuse it, there will come a point where it becomes more susceptible to dropouts, so try to use a new, or at least newish, DAT tape for important jobs. Tape life can be increased by always winding the tape to the end and then back again after use, and returning the cassette to its case for storage. ❑

SMART MOVES

I recently purchased a second hand Pocket Sync by Anatek, as advertised in *SOS* Feb '95. Unfortunately, I can't seem to get my Fostex R8 tape machine to sync properly with my PC, which is running *Cubasis* with a Roland MPU401 MIDI interface. The Pocket Sync receives and transmits time code okay, but the sequencer goes out of rhythm very easily. I read a Paul White article on using tape sync in the July '94 *SOS*, but there was no troubleshooting guide for those who are running a computer sequencer. I have tried many different ways, including improving the configuration of the computer's memory, but nothing has changed. Please can you help?

Ramelli Luca
London

Paul White replies: *There are a couple of possible problems with Smart FSK sync units, and one has to do with the level at which the code is recorded. When I use Smart FSK sync, I record the code at around -10dB on the VU meters, to avoid crosstalk. It's also possible that the code level coming off tape is not ideal, but experimenting with the record level should fix this. If the code is not being read back properly, the sequencer will fall further and further behind the tape machine every time a pulse is misread, and if the errors are too numerous, the sequencer will stop altogether.*

Another possibility is that the MIDI data feeding the sync box may have become corrupted by going through too many modules. I tend to worry about any MIDI chain longer than two or three units, and a multiple output Thru box at the output of your sequencer would be far safer on this score. Your tape machine's Dolby C noise reduction isn't likely to cause problems, but make sure it is switched off on channel eight of your multitrack anyway, just to be on the safe side. I hope this helps! ❑

MASTERING THE SITUATION

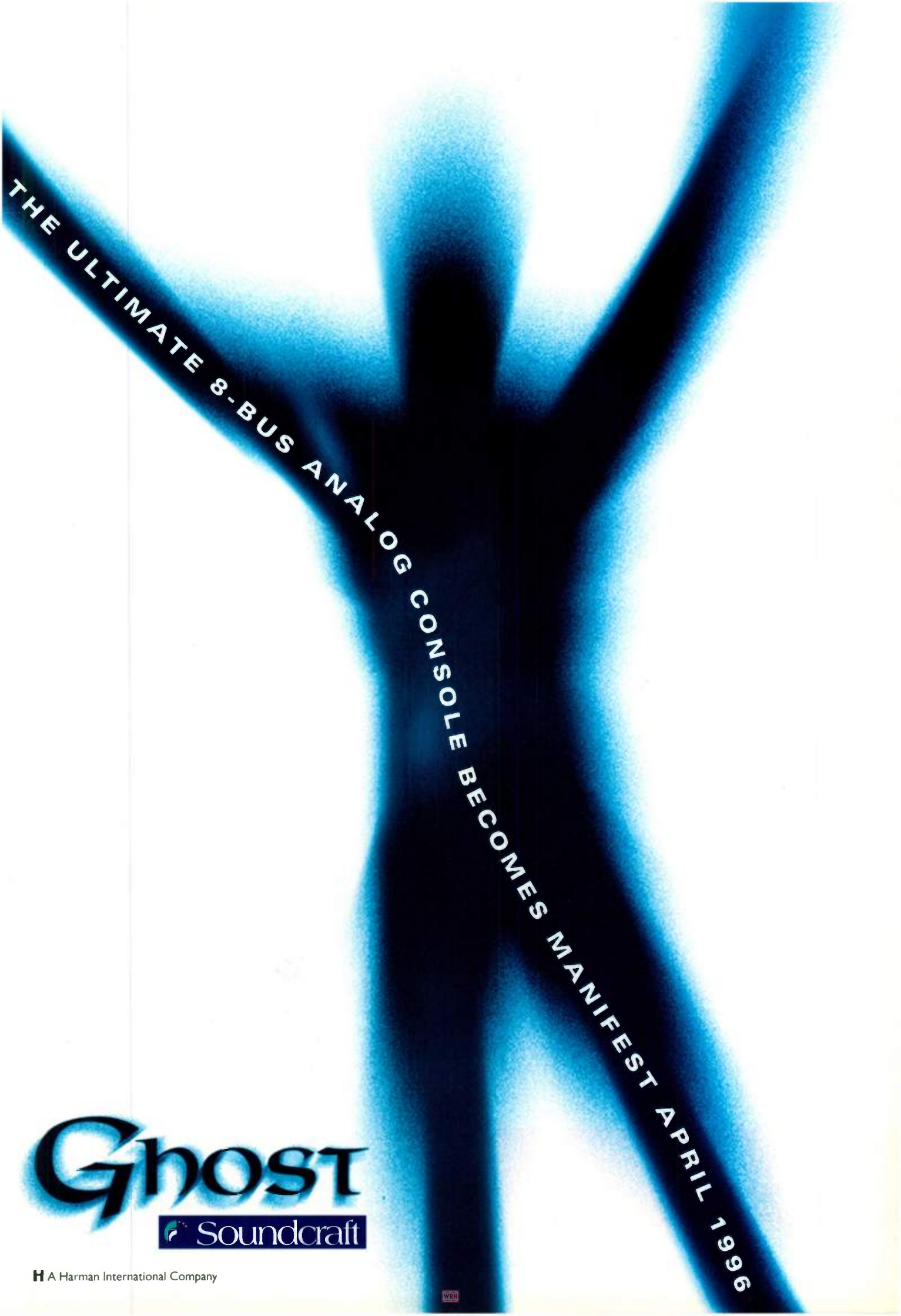
I need a mastering deck. Would I be best off spending £250-300 on a DCC recorder, or a good 3-head normal cassette deck? My masters will be created from recordings made on a trusty Fostex 260 4-track via two PZM mikes; a setup I am quite happy with, being of the 'less is more' school of recording. The master tapes will then be archived onto one-off CDs for each of the members of my band. I have a suspicion that the standard cassette machine will give as good results as the DCC, and its running costs will be lower. I cannot afford to stretch to a DAT, and I have heard that DAT walkmans (like all walkmans) break down easily. What are your views?

James Huggett
London.

Philips DCC730.

Paul White replies: *To my ears, DCC sounds better than most analogue cassette machines, and the noise level is even lower than that of DAT. You also get the benefit of no wow and flutter — one of the major problems with analogue cassette tapes. DCC machines are built to withstand the rigours of the general public, so mastering the odd album shouldn't be asking too much of them. It's too early to say exactly how reliable they will be, but the simpler mechanism and lack of rotating heads may well be in DCC's favour. Considering you can pick up a DCC portable or free-standing recorder for under £250 (for example, the free-standing Philips DCC730 reviewed in SOS July '95, or the portable DCC170 reviewed in September of the same year), and with DCC tapes cheaper than DAT tapes, I don't think it's an unduly risky investment. You can also copy from the digital out to a DAT machine, if you need to get your finished mixes edited into album form. A good DAT machine is obviously better, as no data compression is used, but as you suggest in your letter, cheap DAT machines are a false economy, due to reliability problems and high repair costs.* ❑

Philips DCC170.


THE ULTIMATE 8-BUS ANALOG CONSOLE BECOMES MANIFEST APRIL 1996
Ghost
Soundcraft
H A Harman International Company

Shape of THINGS TO COME

By Derek Johnson & Debbie Poyser

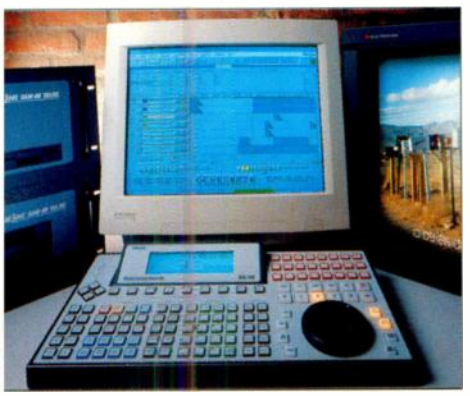
Midiman's winning hand

On its release early last year, Midiman's Winman 1x1 was the cheapest ISA PC MIDI interface card available. Now Midiman have upgraded Winman for '96, with the 1x1/16 model, which is 16-bit and boasts nine available interrupts against the original Winman's five. Midiman felt that with the increasing importance of extra available interrupts (required by interrupt-using I/O devices such as CD-ROM drives and sound cards), adding more to the Winman interface was a must, and the result is to make it even better value for its £49 price tag. Winman is fully Windows MME (Multimedia Extensions)- and Windows '95-compatible, comes with a universal Windows driver and DOS *Cakewalk* driver, and is guaranteed for life.

If you're a Mac user, Midiman have news for you too — the release of the Macman PT, a self-powered Mac MIDI interface which has been designed to work with the newer Mac models while still remaining compatible with the older, 8-pin serial port Macs. It's fully GEO port-compatible, functions as a Thru box when your Mac is switched off, and is also guaranteed for life. It costs just £39 including VAT.

A **Midiman UK, Hubberts Bridge House, Hubberts Bridge, Boston, Lincs PE20 3QU.**
T **01205 290680.**
F **01205 290671.**
E **midiman@midifarm.com**
W **http://www.midifarm.com/midiman**

HHB Lynx up with TimeLine



HHB Communcations are to distribute the TimeLine Studioframe Digital Audio Workstation in the UK. The system is well established in the USA, and is widely used in film sound and video post-production facilities there. It's available in 8-, 16-, and 24-track configurations, based around a Pentium PC. The system's software provides an icon-driven digital recording, editing and mixing environment, user-configurable for film or video-style editing, or for multitrack disk recording. A dedicated hardware controller is also available.

HHB also announce that they will be undertaking UK distribution for the well-known TimeLine Lynx range of synchronisers.

A **HHB Communications Ltd, 73-75 Scrubs Lane, London NW10 6QU.**
T **0181 962 5000.**
F **0181 962 5050.**
E **sales@hhb.co.uk**

Tascam do it with discs!

Tascam's long-anticipated MiniDisc-based digital portastudio, launched at the recent NAMM show in the States, got a European airing at the Frankfurt music fair. The 564 Digital Portastudio is a self-contained unit offering 4-track recording with instant random access, and a mixer section with four mono and four stereo inputs, two auxiliary sends, 3-band EQ with swept mid, four XLR balanced inputs and four tape outs. The unit also features a jog/data rotary control, MIDI and an auto in/out with rehearse.

A **Teac UK Ltd, 5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA.**
T **01923 819630.**
F **01923 236290.**

Another win is won!

Bad news for all *SOS* readers eagerly awaiting announcements that they've won either a C-Lab Falcon and Steinberg *Cubase Audio 16*-based digital recording system, or a Yamaha P150 digital piano in last September and October's competitions; the winners for both these competitions have now been selected and contacted, and we're just awaiting pictures of the lucky people concerned so we can make the formal announcement — more on this next month.

To add further to the doom and gloom, anyone who isn't Simon Markham of Bedfordshire hasn't won the astounding Technics SX-WSA1 synthesizer from our December competition either — as you can see from the picture on the left. This shows Simon (centre) at the *SOS* offices receiving his new physical modelling synth from Technics representative Mike Hollis (left), while *SOS* Assistant Editor Matt Bell (right) supports the other end of the WSA1.

Congratulations to Simon, and many thanks to Panasonic UK Ltd (01344) 853174 for donating the prize. Remember, if you're not Simon and haven't won a prize yet, don't give up! More results next month...

***SOS* can be reached on CompuServe; our e-mail address is 100517,1113.**
Our full Internet address is 100517.1113@compuserve.com.

Roland's village voice

Music Village's new division, Dance Village, will host a Roland day on March 23rd. The event is part of a series of Dance Production Workshops to be held throughout 1996, covering subjects such as sampling, synthesis and sequencing.

On show at the Roland day will be the new VS880 digital studio (see March *SOS* for a full review), the S760 sampler, the VT1 voice transformer and Roland's sound modules and cards. Programming on the XP50 and XP80 workstations will be highlighted, and Roland demonstrators Nick Cooper and Peter Stone will be on hand all day. For more info, contact Roland at the address below.

A **Roland UK Ltd, Atlantic Close, Swansea Enterprise Park, Swansea, West Glamorgan SA7 9FJ.**
T **01792 702701.**
F **01792 799644.**

Mics break free with AKG

AKG's new WMS300 UHF wireless mic system is launched with claims of breaking the £1000-per-channel price barrier; the company claim that competing, high-end UHF systems tend to hover around the £3000-per-channel mark. The new system offers 10 options: three interchangeable mic heads available from the battery-powered WMS300 transmitter.

Seven years after its launch in 1989, AKG's Micro-Mic range of compact clip-on condensers is now entering its second generation.

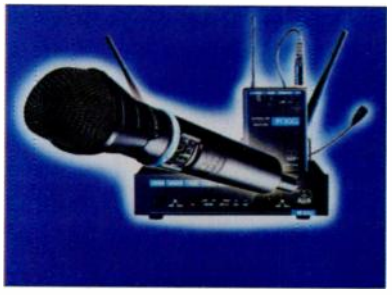
for the HT300 handheld mic transmitter, and six different mics and one guitar cable for the PT300 bodypack transmitter. The SR300 true diversity receiver comes in a half-rack package, allowing two be stacked side by side in a 19-inch rack. Additional accessories include antennas, splitters and cables. Up to 12 hours of operating time is

The new, improved and expanded Micro-Mic MkII series offers revised clamping and shock-mount designs, new angle joint configurations for more efficient connection to instruments, and upgraded transducers. Seven modules can be found in the range, all optimised for different purposes:

- C411 acoustic pick-up for violin, guitar, mandolin, etc.
- C416 instrument/speaker mic for guitar cabs, autoharp, piano, etc.
- C417 lapel mic for presentation, theatre and vocal applications.
- C418 drum and percussion mic.
- C419 for brass instruments.
- C420 headset mic.
- DB1 acoustic double bass pick-up system.

Power comes from batteries or phantom power, and all Micro-Mics will interface with AKG's radio systems, as well as those from other manufacturers.

A **Harman Audio, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts WD6 5PZ.**
T **01344 858614.**
F **0181 207 4572.**



Sounds supernatural

Soundcraft launched a serious new mixing desk at this year's Frankfurt Musikmesse. The Ghost (the reason for those strange, *X-Files*-like ads you've been seeing in *SOS*) has an impressive spec, featuring a built-in, snapshot-based MIDI muting system and

MIDI Machine control capability. Highlights include:

- 4-band EQ with two fully parametric mids.
- Control of tape machines from integral transport buttons, and Record Enable of tape tracks from console.
- Phantom power and phase reverse on every channel, individually switchable.
- New low-noise mic amp.
- 10 auxiliary sends, two configured for stereo.
- Four stereo returns (making a maximum of 56 inputs at mixdown from a 24-channel desk).
- Data faders for MIDI-continuous controller information.
- Time code reader/generator, triggering mute snapshots.
- 24-channel expander option.

A moving-fader version of the Ghost, utilising Soundcraft's own C3 automation system, will be available later in the year. Standard Ghost prices start at £3000.

A **Soundcraft Electronics, Cranborne House, Cranborne Industrial Estate, Cranborne Road, Potters Bar, Herts EN6 3JN.**
T **01707 665000.**
F **01707 660482.**

Sound City 96: let it be Leeds

The venue for this year's Sound City event, running for a week from April 8th, is Leeds. BBC Radio 1 will broadcast over 50 hours of live music from seven venues in the city, and over 35 labels and publishers will be sending A&R people to check out the scene. The Musicians' Union, the British Phonographic Institute and Leeds City Council are co-sponsors. Leeds Leisure Services are preparing a full-colour brochure featuring a full line-up, details of bands, and seminar information, while the *Yorkshire Evening Post* will also be featuring an 8-page pull-out for the week, giving up-to-the-minute details of the event.

A **Sound City, Leeds City Council Leisure & Tourism Department, The Town Hall, The Headrow, Leeds LS1 3AA.**
T **0113 247 8308.**
F **0113 247 8397.**

Shape of THINGS TO COME

Some news from regular *SOS* contributor Gordon Reid, who wishes to update a fact that appeared in part 1 of his Korg Trinity review, back in SOS December '95. Gordon stated that the Trinity's onboard sequencer could record a maximum of 60,000 events, which was indeed the capacity of the sequencer on the Trinity he reviewed. However, between his review and the commercial release of the Trinity, Korg expanded the sequencer capacity to 80,000 events. Of course, the reason Gordon spotted this update in production models is that he is now the proud owner of a Trinity Pro, purchased a couple of months after his review for *SOS*!

Our review of the Rogers LS1 nearfield monitors back in January 1996 commented that they aren't magnetically screened; in fact, the monitors are available in a shielded version, for a price of £179. That's a mere £30 premium on the basic model.
T 0181 640 2172.

Last month's news mentioned the new Labyrinth video aimed at Windows '95 users *Windows 95: What will you learn today?*, stating that *SOS* were offering the tape as part of a 2-video set. Unfortunately, the second tape, the *PC Starter Video*, is *not* part of this offer. *Windows 95: What will you learn today?* is on sale on its own, however, at the price of £19.99 (plus £1.75 UK p&p or £4.95 overseas).
T 01480 461244.

K-Rok were showing their new Power Blok power amplifier module at Frankfurt this year. The new module has been designed for use with all KRK close-field monitors, which are also now available with the module ready-fitted. Frankfurt also saw the European debut of the Rok Bottom subwoofer, and visitors checking out both new products at the K-Rok stand can enter a free prize draw for a pair of K-Rok close-field monitors.
T The European Office 01442 870103.

Rack 'em up

Behringer's new Eurorack 2802 mixer combines eight mono input channels (each featuring insert points and direct outputs), six stereo input channels, and four stereo returns which double as line inputs, to achieve a total of 28 inputs. Retailing at £649 including VAT, the Eurorack also features:

- High-quality balanced mic inputs.
- 3-band EQ on all channels.
- Four aux sends (1 and 2 switchable pre/post fader).
- Solo-In-Place and Pre-Fader Listen.
- Panasonic 60mm faders and sealed rotary controls.
- Rugged construction.

Another Behringer mixer, the 4-buss 2642, is reviewed in this very issue, starting on page 28.

A Behringer UK Ltd, St Vincent House, 59 Woodbridge Road, Guildford, Surrey GU1 4RF.
T 01483 458877.
F 01483 458822.

You can't knock a new Neumann

The Neumann name is synonymous with valve mics, yet the company haven't released a new valve mic design for 30 years — until now. The M149 offers a wide dynamic range, self-noise equivalent to most modern studio condensers, and exceptional sound level handling: Neumann claim that the M149's electronics will not overload in the presence of musical SPLs. Although a new design, the mic does have links with Neumann's past: the capsule is a hand-selected, high-tolerance K47, first introduced on the U47 in 1960. The remaining electronics — including the all-important valve — are all new. Transformer-less output design — a rarity for a valve mic — means that many of the negative aspects of valve mic design are avoided.

A Sennheiser UK Ltd, 3 Century Point, Halifax Road, High Wycombe, Bucks HP12 3SL.
T 01494 551551.
F 01494 551550.

Oakwood: new tree on the block

Oakwood Audio is a new company which aims to provide a "totally reliable and professional computer service directed towards technology-intensive studios". Andrew Burton and John Catto, both with lots of experience in the music and computer businesses, head the company and maintain that it will be unique in catering exclusively for the computer needs of the audio industry.

Oakwood Audio is backed by Oakwood Data Management, one of the UK's leading computer equipment brokers, with an annual turnover of more than £7m; the new audio division will provide a complete installation and support service for Apple Mac and PC systems, including any required software or dedicated audio hardware, from a single machine to a multi-user network. Where maintenance and repair work is concerned, the new division will benefit from the large engineering facility of the parent company.

The Oakwood Studio Support Service can provide complete custom-installation of systems, including software, connections and cabling; maintenance of existing equipment; setup and expansion of computer networks to link up with dedicated audio hardware; provision of memory and storage upgrades for Mac, PC and dedicated music hardware; supply of appropriate hardware with the exact specification for the customer's requirements; advice on data backup and connection to the internet.

Oakwood Audio supply:

- Apple Quadra and PowerMac computers.
- The new Power Computing Powerwave and Nubus systems (see March *SOS* for review of Power Computing Mac clones).
- IBM PS/2 PSVP Thinkpad laptops and new PC range.
- Compaq PCs and laptops.
- Tape backup and mass storage systems from Hewlett Packard, Exabyte, Conner, Syquest and Micropolis, plus printers from Hewlett Packard.
- Digidesign hard disk recording and editing systems, plus third-party plug-ins.
- Steinberg, Emagic, Opcode, and Mark of the Unicorn software and interfaces.

Oakwood are keen to provide a high level of customer satisfaction, and whether you're planning to purchase a new system or upgrade existing equipment, they promise to customise their service to your needs.

A Oakwood Audio, Oakwood House, Reddicap Trading Estate, Sutton Coldfield B75 7BU.
T 0121 311 1333.
F 0121 311 2955.

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1 HURTS YARD, NOTTINGHAM NG1 6JD
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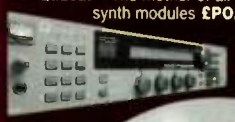

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Shape of THINGS TO COME

Stirling Audio have supplied an equipment package for two new production rooms at Metropolis Studios, housed in a refurbished tram power station. The rooms are identically equipped, with complete digital routing, and include a Mac, eight channels of ProTools, *SampleCell*, *Logic Audio*, Akai sampling, 56-channel Mackie 8-buss desk, Lexicon effects, Ultra Proteus, and a Roland JV1080 with full library.

T 0171 624 6000.

Digidesign's *DINR* — the Intelligent Noise Reduction plug-in — is now available in both TDM and Sound Designer II versions, in one package. *DINR 2.0* enables users to reduce the full spectrum of unwanted noise: the software offers two modes, one tailored for broadband noise, such as tape hiss, and the other for pitched noise, such as hum. Once the noise is analysed, processing can be applied in real time during playback. Since it works in the digital domain, *DINR* is claimed to be virtually free of side-effects normally associated with conventional noise reduction. *DINR 2.0* retails for £868.33 including VAT.

T Avid Technology Europe Ltd 01753 653322.

Now available in the UK are Studiomaster's two newest power amps, the 700D and 1200D, which offer 350W per channel and 600wpc respectively. Both amps are mounted in sturdy 2U chassis, and are equipped with Studiomaster's Amplifier Management Control System amp and speaker protection system.

T 01582 570370.

Sounds of the 60s from Drawmer

Engineers working with digital technology and looking for the warmth of valve technology could find the new Drawmer 1962 worth a look. This new processor allies a pair of valve-based low-noise preamps with two full 24-bit analogue-to-digital converters, allowing warm, fuzzy analogue sound to be recorded direct to digital, whether hard disk or tape, with no intervening electronics. A 'zero overshoot' transparent limiter gives access to the full dynamic range of a signal without fear of digital overload. The 1962 also offers variable tube drive, fine tune EQ, dynamic enhancement, variable high/low pass filters and more. Drawmer see the 1962 — which has a dynamic range of over 130dB — as being particularly suitable for direct to digital classical recording, stereo mastering, and as a 'front end' for digital multitracks. Drawmer have also provided the option of switching the valves and processing out, and the 1962 can be supplied analogue-only (for £995 excluding VAT, £1169.13 inc VAT), with the ADC circuitry available as a retrofit slot-in module. The fully-digital version is expected to cost around £1900 excluding VAT, but pricing has yet to be confirmed.

A Drawmer Distribution Ltd, Charlotte Street Business Centre, Charlotte Street, Wakefield, W Yorks WF1 1UH.
T 01924 378669.
F 01924 290460.
E sales@drawmer.co.uk

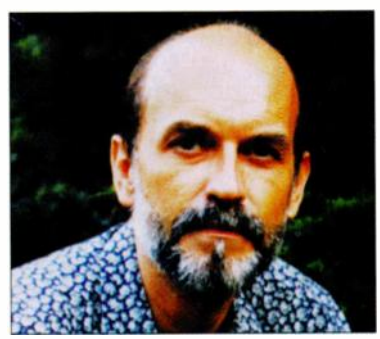
They want you, they want you, they want you as a new recruit...

The Association of Professional Composers — APC for short — is on the lookout for new members. It represents the writers of today's music, whether in the media or the concert hall, and its views are often sought by organisations as diverse as the Arts Council, The BBC, the PRS, the MCPS, publishers and the print media.

Any professional composer who has reached associate status with the PRS can join, taking advantage of the APC's value as an information exchange on current topics such as TV publishing, the internet, and commissioning rates. There's also a quarterly forum, held at the Performing Rights Society, where composers can meet and exchange views, plus a permanent office in Hanway Street (just off Oxford Street), where members can meet by arrangement.

Some 250 members currently enjoy the benefits of the APC quarterly magazine, lively debate, and the organisation's ability to put forward the composer's view at any level, up to direct lobbying of MPs in Parliament and representation on music bodies lobbying the European commission. The APC also produces informative material on the business aspects of writing music, and advise that if you haven't yet bought or read a copy of the *Composer's Guide to Music Publishing*, you should consider doing so — they warn that it may save you a great deal of money in the future. If you join APC, however, the book comes free with membership.

A Rosemary Dixson, The Association of Professional Composers, 34 Hanway Street, London W1P 9DE.
T 0171 436 0919.
F 0171 436 1913.



The gourmet's choice from Michel Huygen

Barcelona-based Michel Huygen, otherwise known as Neuronium (see *SOS* June 1993 and May 1994) has released his first album of 1996, which is also his 20th of so-called "psychotronic music". *Astralia [no, not 'Australia' — Ed]* is a 70-minute epic recorded using Roland's new DM800 hard-disk recording system. Michel notes: "The brand new album features a voiceover by Professor Fernando Jiménez Del Oslo, the most famous Spanish specialist in paranormal phenomena. Even if you don't speak Spanish and cannot understand his suggestions for a journey through 5,000 years of history, his voice is very special."

Other new material from Huygen/Neuronium includes *Música Pala Buena Mesa* (*Music For Gourmets*); previously only available in Spain, this album is a collection of background music specially chosen to be enjoyed at mealtimes. Coming soon is a live recording of Michel's performance at Barcelona's Sonar 95 electronic music festival (see *SOS* October 1995), plus *At First*, a remastered double CD reissue of the first two Neuronium albums, *Quasar 2C361* and *Vuelo Químico* (*Chemical Flight*). Lastly, the compilation album *Alma*, also totally remastered, will include a high-definition collection of 40 paintings by Tomás C Gilsanz, creator of the Neuronium Cosmic Show, with Apple Macintosh, PC and CD Photodrive compatibility, to celebrate Neuronium's 20th anniversary.

All these recordings should be obtainable in the UK from C&D Compact Disc Services of Dundee. *Jonathan Miller*

A C&D Compact Disc Services, 140 Seagate, Dundee, DD1 2HF.
T 01382 76595.
F 01382 736702.

FOLIO SX SPIRIT

THEY'D SAY...

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King-size Infinity Faders. Every SX comes with 72" (1800mm) of low friction carbon track sliders. [18 x 4"/100mm faders donates 72"]

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Archimedian Auxiliary Architecture – we've got it! 90 golden combinations of FX and monitor sends. [Archimedes quotient = (15 x 3 Aux pots) x 2 combinations]

Homogenous Track Potentiometers permit undeviating rotational incrementation.

Micro-Monocoque Construction enables super-abundant component insertion. Geometric ergonomics facilitate a minimal rackmount footprint.

EN50081-1-1992 Emissions and EN50082-1-1992 Immunity Naturally, SX comfortably surpasses these standards.

* including all inserts, direct outs, groups, mono bus and anything else we could think of.

WE SAY...

IT'S SAD that some mixer manufacturers resort to hype and long, technical sounding names to describe features that every self-respecting company has used for ages but doesn't shout about. This junk-food mentality only makes it harder for you to decide what's good and what isn't.

Judge Folio SX with your ears, not by words: visit your nearest Spirit dealer or send for the straight-talking brochure.

SX is a powerful, multipurpose mixer with DAT quality sound, housed in a freestanding frame with carry handle. It has 20 inputs (including 4 stereo channels) as standard – enough for most live and recording situations.

FACT: SX's 12 mono inputs have UltraMic™ preamps. 60dB of gain range and +22dBu of headroom, allows *any* mic or line device to be plugged in.

FACT: SX is a 4-bus mixer. In addition to the mix outs, two sub-buses allow you to record groups of instruments to multitrack, send them to additional speakers, or sub-group to mix. SX also has a dedicated Mono Out.

FACT: SX's 8 Direct Outs are switchable pre/post fader so they are equally useful when recording in the studio or at a gig.

FACT: 100mm faders throughout give you more resolution and finer control over your mix than the 60mm faders found on many more expensive mixers.

FACT: SX's 3-band EQ with swept mid is a real "British EQ". Custom-designed controls at carefully chosen frequencies produce a warm, natural sound. A steep 18dB/Octave High Pass Filter effectively reduces low end muddiness.

FACT: Of the 3 Auxiliary Sends, 2 can be pre- or post-fader. This makes SX equally suited to "monitor heavy" live performances or "effects heavy" mixes.

FACT: Unlike many small-mixer rotary controls, SX's have been custom-designed to give an even spread and consistent control around their sweeps.

FACT: By using the latest surface-mount technology, SX fits all these features into a rugged, compact frame which can be optionally rack-mounted into a 10U space in a matter of minutes.

FACT: SX meets stringent EC RFI requirements so that RF emissions are minimal. CE

IGNORE THE HYPE - JUST LISTEN

Wow!

Rush me a 4-color process lithographic impression packed with enhanced data and superfluous technical rantings on the Folio SX mega live/studio gizmo.

Name: .....

Address: .....

.....

.....

.....

.....

Planet: .....

Spirit by Soundcraft
Harman International Industries Ltd.
Cranborne House,
Cranborne Industrial Estate
Cranborne Road, Potters Bar,
Herts EN6 3JN England
Tel: +44 (0)1707 665000
Fax: +44 (0)1707 660642

SPIRIT
By Soundcraft

H A Harman International Company

http://www.spirit-by-soundcraft.co.uk

Please send me further information and a free application book written by respected pro-audio journalist Paul White on how to get the best from a mixer. I am interested in Folio SX for:

Application: .....

Instrument played: .....

I read the following magazines regularly:

.....

Name: .....

Address: .....

.....

.....

.....SOS

Shape of THINGS TO COME

In last month's report on the recent NAMM show in the States [*and this month's Leader — Ed*], we made passing reference to a little oddity from Gulbranson, called the DH100 Digital Hymnal. This device is now available in the UK, priced £999. The DH100 is aimed squarely at the religious community and, should you need it, offers instant access to thousands of hymns and incidental church music, 128 high-quality sounds (including a range of traditional pipe organ registrations), a highly compact size and fool-proof operation. You don't need to be able to play anything or program a computer to set up a service's worth of liturgical music.

T Digital Hymnals UK Ltd 0181 680 9747.

Canadian independent record label Tempora Music is on the lookout for 'progressive and original' artists for possible record deals. The first release on the new label will be from Active Loop Zone, a Hertfordshire band, and it will be distributed in the US, Canada, the UK and Europe. While Tempora are mainly interested in electronic dance, they will release anything original. Cassette or vinyl demos should be sent to the address below, and Tempora promise fax or phone feedback. I wonder if they realise the implications of that...

A Adam Zettler, Tempora Music, 251 Lambton Street, Kincardine, Ontario, Canada N2Z 2Y1.

T 00 1 519 396 2804.

The AMS Neve family of companies has been acquired by Mr Mark Crabtree (its current Managing Director) from Siemens AG Oesterreich. Mr Crabtree founded AMS in 1976. The company will maintain a close working relationship with Siemens, who will continue to supply Turnkey systems incorporating AMS Neve equipment.

T AMS Neve 01282 457011.

Tannoy speak volumes

Tannoy took the opportunity of the recent US NAMM show to launch two new nearfield reference monitors, the System 600 and System 800 (pictured). Both models have an octagonal profile, which, according to Tannoy, reduces unwanted vibrations from large panels, and an internal shape which helps reduce internal standing waves and the sound coloration these can cause.

The System 600 features Tannoy's latest 6-inch dual-concentric driver, a sensitivity of 90dB, and power handling of 150W. Overall frequency response is 52Hz-20kHz, +/-3dB. The monitors retail for £446.50 per pair, including VAT. The System 800 uses an 8-inch dual-concentric driver, has sensitivity of 92dB, power handling of 180W, and a frequency response of 47Hz-20kHz, +/-3dB. Retail price for the System 800 is £646.25 per pair including VAT.

A Tannoy Ltd, Rosehall Industrial Estate, Coatbridge, Strathclyde ML5 4TF.

T 01236 420199.

F 01236 428230.

Fostex D80 stands alone

As if the world of affordable digital multitrack wasn't moving fast enough already, Fostex are quickly following up the launch of their DMT8 (see review in *SOS* December 1995) with the rackmounting D80 8-track hard disk recorder. Although it initially appears to be a mixer-less version of the DMT8, the 3U rackmount D80 does have a few tricks of its own, including a removable front panel which doubles as a full-function remote; under the panel, you'll find supplied as standard a Quantum 850Mb hard drive. If the 18 minutes of 8-track recording time offered by this drive isn't sufficient, whip it out and stick a larger drive in — it's that easy.

Simultaneous record is available on all eight tracks, and D80s can also be linked to the DMT8 to increase the number of tracks recordable. Of course, like the DTM8, all recording is at 44.1kHz, with no data compression, and full cut and paste editing is available. The D80 retails for £1499, and remember, that includes an 850Mb drive.

A SCV London, 6-24 Southgate Road, London N1 3JJ.

T 0171 923 1892.

F 0171 241 3644.

Indigo beats digital blues

TL Audio have launched a new range of valve-based products, at a more affordable price point than their established Classic series. The processors were launched at the recent NAMM show, and were on display at the Frankfurt music fair. Called the Indigo series, the new units all come in 1U 19-inch rack-mounting packages, and retail for £703.83 each. The first units to be released include the 2001 4-channel valve mic preamp; 2011 2-channel valve EQ; 2012 2-channel parametric valve EQ; 2021 2-channel valve compressor; and 2031 2-channel valve overdrive unit. This initial collection will be joined by further processors later in the year.

TL Audio have also unveiled the EQ2 stereo 4-band fully parametric valve EQ with mic preamps, and the M2 8:2 valve mixer. The M2 is based on the established M1, but with extra features including a 100mm fader, two auxiliary send/returns, and a balanced direct channel output.

A TL Audio, Letchworth, Herts SG6 1AN.

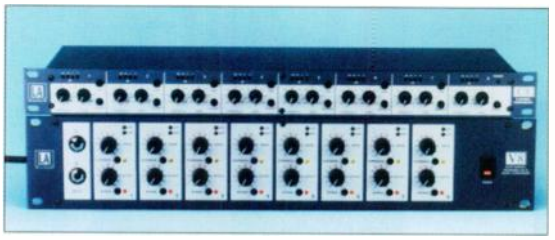
T 01462 490600.

F 01462 490700.

You can't beat a better Beta

Shure's Beta range of mics has now grown into a family of five, with the addition of two new models and design improvements on older mics. In addition to the Beta 57A and Beta 58A, which feature improved stand and handling noise over the original Beta 57 and Beta 58, the family now includes the Beta 52 bass drum mic and Beta 56 drum mic. The Beta 87 supercardioid mic remains unchanged, but still offers good gain before feedback, and studio quality in a rugged package.

A HW International, 167-171 Willoughby Lane, London N17 0SB.
T 0181 808 2222.
F 0181 808 5599.



LA Audio make digital delectable

As digital 8-track recorders become more popular, there seems to be an ironic trend developing for processors designed to make them sound more 'analogue'. Last month, *SOS* reviewed the TL Audio VI-1 Valve interface, and this month we've received news of a similar addition to the LA Audio range.

The new LA Audio V8 Thermionic Valve Signal Conditioner is an 8-channel processor designed to be used as a 'front end' for digital multitrack recorders. It's packaged in a 2U rack unit with balanced and unbalanced inputs, and active gain stages allowing full control over signal level at -10dB or +4dB. Two instrument inputs on the front panel add to the V8's flexibility. Recommended retail price is £816 including VAT.

Also new to the LA range is the C8 8-channel compressor. This unit was also developed especially for use with digital 8-tracks, and offers eight channels of 'super-clean' compression, with balanced inputs and outputs, individual channel bypass switches, wide dynamic range, low-noise circuitry, and versatile operation — it can be used as eight mono or four stereo compressors. Retail price for the C8 is £699 including VAT.

A SCV London, 6-24 Southgate Road, London N1 3JJ.
T 0171 923 1892.
F 0171 241 3644.

EDUCATION CORNER

SSR SEAL OF APPROVAL

The School of Sound Recording has been granted the status of a National Vocational Qualification assessment centre for audio engineering. Graduates from the school will now complete their studies with a qualification approved by the Open University Validation Service, as well as more than 300 hours of studio experience.

The school is also taking a step forward in terms of equipment levels: a Digidesign Pro Tools III hard disk system, four Apple Mac computers, four Alesis ADAT XT digital recorders, and a digital mixer and multitrack are being added. SSR have seven in-house studios, which have hosted some of Manchester's biggest names, including N Trance, The Stone Roses, the Happy Mondays and The Smiths. Several SSR students have gone on to greater things in the music industry: members of Simply Red, 808 State, Oceanic, K-Klass, Candy Flip, and the Lightning Seeds are all SSR graduates. One student even landed a place as in-house engineer at Madonna's own studio.

A Enquiries Department, School of Sound Recording, 10 Tariff Street, Manchester M1 2FF.
T 0161 228 1830.
F 0161 228 1830.

COURSES THAT ROC

Following the success of their recent Roland JV1080 training day, the Roland Owners' Club are announcing a new series of one-day courses, on the following subjects:

- Intermediate Level MIDI, presented by Robert Treen, author of the 'MIDI for Humans' project.
- The ins and outs of the XP50, presented by Roland Product Demonstrator Peter Stone.
- The S760 sampler, presented by Peter Stone.
- A second JV1080 course, hosted by Peter Stone.

ROC are also providing one-to-one tuition, with costs from just £45 a day. Bookings are now being taken for all the above courses.

A Roland Owners Club, 130 Wingfield, Orton Goldhay, Peterborough PE2 5TJ.
T 01733 233135.
F 01733 233135.

TRAIN THE DJ, TRAIN THE DJ, TRAIN THE DJ...

Never one to miss a trend, the School of Audio Engineering is adding to its curriculum a three-month part-time course for budding DJs. DJC, as the course is called, aims to teach everything from the basics of sound to advanced DJ mixing techniques. Practical training in pitching, cueing, stutter effects, BPM matching, CD mixing, remixing, EQ, equipment maintenance, and so on, will be covered. Regular visits to major club venues and lectures from notable DJs and radio presenters will also be included as part of the course.

A SAE, Unite House, North Road, Islington, London N7 9DP.
T 0171 609 2653.

Shape of THINGS TO COME

Spirit gear is proving to be quite a hit with Pulp's front-of-house engineer John Burton. He's using a Spirit GM01 Guitar/Instrument wireless system to amplify Russell Senior's violin: the band are so pleased with the system that they're having a GM01 system built into Russell's new violin. Burton has also taken a Folio Rac Pac on the band's European tour.

T Spirit by Soundcraft 01707 665000.

Zeus Records Ltd, a new record and production label in London, has become the first company in the world to install a four-Yamaha 02R mixing system, utilising multiple cascade kits. The system, currently configured as 128 inputs, was supplied by Music Lab, and installed in Zeus's in-house studio facility. Director DE King comments: "We were planning on a major upgrade to our existing system, and needed something which could handle all the instrumentation without constant repatching. We had a serious look at some other very impressive consoles, but the price-performance ratio of the 02R eclipses every other desk out there."

T Yamaha Product Info Line 01908 249194.

Brain Dead Studios is an 8-track live and MIDI studio in South-east London which seems to get rave reviews from customers; apart from offering the opportunity to record live drums, and access to a comprehensive collection of outboard gear, Brain Dead have an amazing introductory offer. Although regular rates aren't exactly high — £12 an hour — your first session or day's recording can be had for a wallet-pleasing £6 an hour (or £80 a full day), plus tape costs. Brain Dead also offer tape duplication and other services.

T 0181 316 4690.

Yamaha go for 3 in 1

Yamaha's R&D Centre has moved to new, larger premises in West London. Redesign and refurbishment of the new building was undertaken by Neil Grant of Harris Grant Associates, the company responsible for Peter Gabriel's Real World Studios. The building now houses three separate Yamaha operations: in addition to the R&D Centre — one of three such centres around the world — Yamaha Musicsoft Europe and Yamaha Systems Technology Europe are also on the same site. YME is the European coordination centre for Yamaha's new XG tone generator and music file standard, and is a key part of Yamaha's global network for the development of music-related software; YSTE is responsible for the new CD Recorder business, and provides tech support for Yamaha's European subsidiaries. Yamaha R&D itself joins similar facilities in Tokyo and Los Angeles in providing market research, evaluation, development and support for Yamaha products; the London division has provided major input to the VL range of physical modelling instruments, the ProMix 01, the 02R Digital mixer and the QY and RY sequencers.

A Yamaha-Kemble, Sherbourne Drive, Tilbrook, Milton Keynes MK7 8BL.
T 01908 366700.
F 01908 368872.

A prince among microphones?

Crown have launched a new compact cardioid condenser mic which they say is ideal for high-quality recording and sound reinforcement applications — but costs less than half the price of comparable competitors, at £305.50 including VAT. The CM700 has a wide frequency response, and can handle very loud sounds without distortion; it's consequently recommended for drum overhead miking, as well as acoustic instrument miking and studio recording. It has built-in static and RFI (Radio Frequency Interference) protection, balanced output, low impedance and low self-noise, and a bass-tilt switch with three positions: flat, low-cut, and roll-off. As you'd expect, it's powered by 12-48V phantom power.

Also new from the Crown camp is 'the ultimate studio amplifier'. This grandiose claim is made for the company's new Studio Reference 1 and 2 amplifiers, which, according to Crown, are designed to be 'the most sonically accurate amplifiers available', with 'a distinct lack of coloration of any type' and 'excessive headroom to cope with even the most dynamic transients'.

The signal-to-noise ratio for the Studio Reference 1 is greater than 120dB (116dB for the Studio Reference 2), with Total Harmonic Distortion of less than 0.05% and intermodulation distortion of no more than 0.025%. Crown point out that these figures are significantly better than even high-end digital mastering studio consoles achieve. Both models can be used in stereo, bridged mono and parallel mono modes; power delivery figures are as follows:

- Studio Reference 1: Stereo Mode — 1160W at 4Ω/780W at 8Ω; Bridged Mono Mode — 2220W at 8Ω/1580W at 16Ω; Parallel Mono Mode — 2315W at 2Ω/1565W at 4Ω.
- Studio Reference 2: Stereo Mode — 55W at 4Ω/355W at 8Ω; Bridged Mono Mode — 1110W at 8Ω/715W at 16Ω; Parallel Mono Mode — 1115W at 2Ω/710W at 4Ω.

This kind of quality doesn't come cheap: the Studio Reference 1 costs £3460, while the Reference 2 costs £2420. Both prices include VAT.

A Fuzion plc, 2 Lyon Road, Walton-on-Thames, Surrey KT12 3PU.
T 01932 882222.
F 01932 882244.
E Compuserve 100517,254

TRUE MULTITRACK DIGITAL RECORDING

FOSTEX

It records 8 tracks simultaneously, at CD-quality, it does this without compression, ...and there's not a tape in sight!

SLAVE D-80s for 16, 24 & 32 TRACK RECORDING
The D-80 can be slave or master to other D-80's / DMT-8's and the outside world via its standard in-built MTC, and is sample accurate with Word Clock (optical S/P-DIF).

Finally, someone has developed an expandable IDE-based digital removable hard disk system which offers up to 30 minutes* of true *multitrack* recording, non-destructive 'cut, copy, move & paste' editing, instant locate & search, five 'virtual reels', digital and analogue inputs/outputs along with a full function auto locating remote control. And all in a package which is as easy to use as your tape machine and costs no more than £1,499 inc VAT. Naturally, that someone is Fostex.

* Using optional 13GB Hard Disk. 850Mb supplied as standard. All trademarks acknowledged E&OE

D-80 Digital Multitrack

SCV LONDON

Exclusively distributed by SCV London

For further information contact SCV London. 6-24 Southgate Road London N1 3JJ. Tel: 0171 923 1892. Fax: 0171 241 3644

WRH

Shape of THINGS TO COME

Mackie On Video

Mackie has just released a highly informative video for its Ultramix mix automation system demonstrating how to set up and use Ultramix's many time-saving features to get the best from your system. The video costs £9.99 and may be redeemed against the purchase price of an Ultramix system, making the video a good way to try before you buy!

£ £9.99 plus postage (UK £1.75, Europe £4.95, ROW £6.95). Order code V066.
A SOS Mail Order, Media House, Burrel Road, St.Ives, Cambs PE17 4LE.
T 01480 461244.
F 01480 492422.

Westlake's Music Connection

The 'legendary' range of hand-built Westlake Audio monitors is now available in the UK exclusively through Music Connections. Over the past 20 years, Westlake has designed over 150 of the world's top recording studios. Westlake's own LA recording facility is one of the world's leading studios with past clients like Michael Jackson, Bruce Springsteen, Stevie Wonder and Phil Collins. Westlake strives to design and build loudspeakers that are as accurate to the sound recording source as possible given the existing level of technology. Each monitor is hand-built and each pair is painstakingly matched to ensure entirely balanced results. Monitor prices range from £995 to over £100,000. The two new products currently available are the Lc6.75 monitors (£995 inc VAT) and the BBSM-4 (£1495 inc VAT). Both models are now on demonstration in all branches of Music Connections.

T 01245 354777.
F 01245 355007.

Beat the CE blues

From January 1996, all electronic equipment has to have CE certification to comply with EC rules on radiation emission, susceptibility to RF and static discharges. Furthermore, any electronic devices sold for use together are deemed to be a system which requires separate CE certification. The amount of radiation permitted to leak into or out of a piece of equipment is very low, and to pass the CE test it must be able to demonstrate a reasonable degree of immunity when high-voltage static discharges are presented at the external connection points.

A further complication has been raised by an EC directive that states: "...person or persons essential to the operation of an electrical/electronic system shall be deemed to be an integral part of that system for CE testing purposes." Tests on a statistically significant number of people indicate that around 60% exceed the permitted CE radiation emissions when asleep due to Alpha wave activity. In theory, this means that any engineer dozing off during a session risks violating the CE compliance code, and an inopportune spot check could result in a heavy fine. All equipment, including the operator, would then be subjected to retesting.

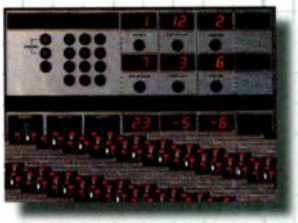
Fortunately, a company led by respected fashion and electronics guru Hugh Phelph-Ritt is cashing in on this by marketing a screened, chain-mail baseball cap for sleepy mix engineers. The No-Zs cranial screening cap is available by post for the bargain price of £75 — a small price to pay for keeping your thoughts to yourself.

A Hugh Phelph-Ritt Designs, 6 The Retreat, Wigsby Magna, Leics LE19 4ZH. Contact Ms Lola Fropi.

dynaudio MACKIE dbx

turnkey

If you want to look at equipment we'll send you some brochures...



If you'd prefer to listen and evaluate a wide range of products by strict A/B comparison there is currently only one option.

Turnkey's revamped and enlarged demo facilities feature what we believe to be the world's largest digital comparator systems for pro audio* and the only one of its type in the U.K.

Over 70 effects processors are available for instantaneous A/B via relay switching, eliminating the repatching time which makes good comparisons so difficult. 16 pairs of studio monitors, 10 power amps, 16 mixing consoles and around 30 sources and recorders from DATs, CDs, HDRs and Multitracks are on the same matrix so you can instantly configure complete systems.

One side of the twitcher-equipped recording room.

Compare 6 mics. by recording simultaneously to ADAT.

Take 8 bus consoles - hundreds are bought each year on recommendation. Bearing in mind the sums involved it's hard to believe that the opportunity to properly compare the various brands for EQ and noise has not previously been offered.

Pro-Tools III and Soundcraft DC2020 in Studio 1.

We've taken the same innovative approach to demonstrating all our products from CD Rom samples to analog synthesizers.

Most dealers will tell you which products best suit your needs. Only one can show you.

Huge range across Mac, PC and Acorn platforms.

* The leading manufacturer of this equipment tells us that the Turnkey systems are the largest ever supplied worldwide.

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WRH Fax : 0171 379 0093. Web : http://www.demon.co.uk/turnkey

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Soundcraft project console?

The project studio has changed how professional musicians make and record music. Record advances used to pay for studio time, but now its for an artist's home studio utilising digital 8 track and a compact high quality console.

The Ghost, though, is more than a project console; you only have to look at the features to see this. Soundcraft continues to break new ground in analogue console manufacture bringing fully professional facilities: Ultra low noise inputs, 4 band eq with 2 fully parametric mids, up to 12 auxiliary sends, MIDI mute automation and MTR transport control are a few of the features that put other project consoles to shame. In fact the only comparison with a project console you could make is the price, which starts from £3,500. Call now to reserve yours, or to arrange a demonstration.

- *Pristine audio quality throughout*
- *4 band EQ + fully parametric mids*
- *Up to 12 auxiliaries*
- *Comprehensive MIDI muting*
- *MMC, jog/shuttle, track arming and synchronization built-in*
- *16, 24, 32 channel versions*
- *Up to 120 inputs at mixdown*

Ghost

RRP FROM £3500 INCLUDING FREE SONY DTC790 DAT RECORDER

BUNDLES including new high-speed **adat**

16ch £5,865
24ch £6,375
32ch £6,999

digidesign

New ProTools III software options

PowerMix™ allows you to use the ProTools software on your PowerPC with no additional hardware or with an AudioMedia II and Session 8 system. Supports the full range of DSP plug-ins.

ProTools III Package
- *7100/80 8/350 c/w keyboard*
- *17" MultiSync Display*
- *ProTools Core & 882 Interface*
- *2Gbyte Barracuda Hard Disk*

BUNDLE PRICE £9275 INCLUDING INSTALLATION

Audio Media III

A new PCI card giving you 2 channels simultaneous record and 8 tracks of simultaneous playback. Comes with industry standard Sound Designer II software which supports DSP plug-ins.

Audio Media Package
- *7100/80 8/350 c/w Kbd.*
- *14" Performa + Display*
- *Audio Media II + Sound Designer*
- *1 Gbyte AV Hard Disk*

BUNDLE PRICE £3400 INCLUDING INSTALLATION

ProTools Project

Designed to provide ProTools functionality at an affordable price the Pro Tools software and Project Audio Card gives 8 tracks of simultaneous record/playback and either analogue or digital i/o.

Session 8 Package
- *7100/80 16/350 c/w Kbd.*
- *15" Multisync Display*
- *Session 8 Core & 882 Interface*
- *1Gbyte Hard Disk*

BUNDLE PRICE £5050 INCLUDING INSTALLATION

Macintosh

MIDI Bundles

While stocks last we are offering Apple's Powerful Performa CPU with a MIDI sequencer of your choice - Steinberg Cubase, E-Magic Logic or Opcode Vision. Comes with 1-in, 3-out MIDI interface.

BUNDLE PRICE £1399 INCLUDING SOFTWARE

Performa 630 MIDI Package:
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- *14" Colour Display*
- *MIDI Sequencer + Interface*
- *ClarisWorks Software*

SyQuest & IOMEGA

ZIP

Removable disk drives

JAZ

There was a time when hard disks were a luxury for sampler owners, but with the advent of the ultra cheap Iomega Zip and Jaz drives, and the soon to be released Syquest EZ 135 drive, this has become a thing of the past. For under £200 the Zip drive stores 100Mb (94Mb formatted) on each cartridge and the EZ drive 135Mb (124Mb formatted). If you want greater capacity the Jaz's 1Gbyte will suit any large fx library and is ideal for many dedicated hard disk audio systems like the Emu Darwin or Akai DR series.

EZ-135

IOMEGA ZIP £199 INCLUDING INSTALLATION

IOMEGA JAZ £219 INCLUDING INSTALLATION

SYQUEST EZ-135 £599 INCLUDING INSTALLATION

pro 0171 240 4036 **turnkey pro 0171 240 4036**
E-mail: sales@turnkey.demon.co.uk Turnkey/Soundhouse 114-116 Charing X Road, London WC2H 0DT. Fax : 0171 379 0093.

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EMU

the ultimate performance sampler

Sampling comes of age! Samplers have always been far more flexible than their synthesizer cousins with fixed banks of sample ROM, but that has come at the price of speed of operation. Even with today 's fast SCSI devices, loading and saving samples can be slow, particularly if you're searching for the right sound.

With Emu's new SoundSprint™ technology on the E4k, any sample can be loaded and ready to play in under one second! Naturally the full spec is breathtaking, based, as it is, on the incredible E4 and with a 7 octave pressure sensitive keyboard this makes an unbeatable musical instrument. Call for details of a Turnkey E4k clinic in April.

- *SoundSprint™ instant access*
- *7 octave quality keyboard*
- *64 or 128 not polyphony*
- *8 outputs*
- *4 Control Sliders & Thummy Button*
- *Unmatched sound quality*
- *1 Gig of pre-loaded Free Emu Library*

E-K

ANY 5 EMU CD ROMS FOR ONLY £399 WHEN YOU BUY E4K

BUNDLE £3499 INCLUDING FREE INTERNAL 1 GB HARD DISK

RRP FROM £3799 INCLUDING FREE IOMEGA JAZ HARD DISK

CALL FOR CASH PRICE AND DETAILS OF 0% INTEREST FREE CREDIT

YAMAHA

Yamaha 02R Digital Console

The fully digital 40 input 8 bus console with total automation and moving faders. 4 band parametric eq and dynamics for every input and 2 comprehensive on-board fx processors with a range of reverbs, delays and other standard fx. Optional interface cards allow full digital connection of ADAT, T-DIF and AES/EBU formats for integration of MTR and h

BUNDLE AT £7999 INCLUDING FREE HIGH SPEED ADAT & BOARD

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Roland

BUNDLE PRICE £1799 INC 1 GIG FIXED DRIVE

BUNDLE PRICE £1999 INC 1 GIG JAZ DRIVE

BUNDLE PRICE £2149 INC 1 GIG & FX BOARD

Roland VS880 Digital Workstation

It's an 8 track recorder (each with an additional 8 virtual tracks) and a 14ch digital mixer complete with automation. An additional 2 stereo fx boards can be added for under £350 each and the VS880 supports either an internal IDE or external SCSI drive.

Red

Although Waldorf are not associated with Focusrite in any way, we cannot deny that this Wave is red.

waldorf

Waldorf Wave

We now offer a new custom range of Wave synthesizers with 76-note keyboards in four colour options

TURNKEY EXCLUSIVE £6300 CALL FOR DETAILS

adat

New high speed ADAT

New A/D & D/As - a transport that's 4x faster 'it's virtually a new machine'

adat £2195 NEW BOXED

Red

Focusrite

Focusrite Red 7

Developed by Rupert Neve the Red 7 mono mic-preamp /dynamics processor is one of a range in the superb Focusrite Red Series. Beautifully made with unequalled sound quality, it's permanently wired in our mic booth.

FULL RED RANGE £POA CALL FOR DETAILS

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KORG | ensoniq | ALESIS | Steinberg | gemini | Technics | Vestax | KURZWEIL | FATAR

EUROPE'S LOWEST PRICES GUARANTEED*

Sound Modules

OBERHEIM
MATRIX 1000 EXCLUSIVE

Now almost 10 years old, and still sounding as fresh as the day it was released. The Matrix 1000 is essentially a Matrix-6 in a rack - 6 note polyphonic, 2 oscillators per voice, true analog VCF filters with 8 modes, "Matrix™" modulation with 20 sources and 32 destinations, raw gutsy analog sounds. Why 1000? The 1000 presets were generated by Matrix6 owners worldwide in reponse to a competition to find the best analog sounds on the planet. You're sure to find the perfect patch for virtually any application. Group mode allows chaining of up to 6 units to create a true monster! Fully editable via MIDI, Mac, PC or Atari editor (available for only £49)

FACTORY DIRECT
RRP £599
£369
NEW BOXED

YAMAHA VL1m & VL7
EXCLUSIVE DEAL OF THE YEAR !!!!

Whilst we've always been well known for bringing you exclusive deals at knock-down prices, this is definitely the deal of the year!

Without doubt the most powerful commercially available synthesizers ever made, the Yamaha VL series have brought the first major break-through in synthesis technology since the advent of FM. Not only that,but Yamaha's implementation of Physical Modelling gives the most breathtakingly realistic acoustic simulations available as well as fantastically powerful lead and bass synth sounds

Physical modelling takes a completely different approach to sound reproduction than any previous method. Rather than begin with inflexible samples or a simple oscillator, extremely powerful DSP chips simulate in real time characteristics of real instruments such as tube/string length, damping, absorbtion, lip/bow pressure, throat characteristics, tonguing and many others.
Once the basic (or not so basic !) sound has been created, it can then be passed through a powerful multi-mode filter section with resonance, harmonic enhancer, impulse expander, resonator and five-band fully parametric EQ with key-scaling abilities

Finally, a 32 bit effects section based on Yamaha's top of the line SPX1000 unit provides up to 3 simultaneous effects processors,capable of flanging, pitch-shifting, reverb, delay, distortion etc...

If acoustic simulations aren't your thing, then imagine the virtually limitless palette of synthesic sounds the VL series can produce, in fact we have commissioned top programmers at Yamaha's R&D department to produce a "Dance and Techno" sound set which we're giving away with the units (these load via the built-in 3 5" disk drive).

The VL-1m is a 3U 19" rackmount unit and is duophonic. The VL7 is a monophonic, 4 octave keyboard with velocity and aftertouch sensitivity, and comes bundled with the breath controller and expression pedal.

These prices represent 58% and 67% discounts from the RRP and offer a once in a lifetime opportunity to own a classic synth with real character. We have strictly limited quantities of the last ever units and orders will be fulfilled on a first-come, first-served basis. Buy now to avoid disappointment !

VL-1m
RRP £2399
£999
NEW BOXED

KURZWEIL
MicroPiano
SPECIAL PURCHASE

The MicroPiano is the most highly regarded piano module on the market, featuring Kurzweil's breathtakingly realistic true stereo samples - 32 note polyphony means you won't suffer from note-stealing and the wide range of other keyboard sounds and strings make it useful in many other situations. Built in effects including very high quality reverb mean there's no need to tie up another effects unit. Strictly limited quantities at this price mean that stocks won't last long. Order today - you won't be disappointed !

RRP £599
£369
NEW BOXED

E-mu VINTAGE KEYS +
THE WEST END'S EXCLUSIVE EMU CENTRE

8 Meg of Vintage Keys samples, 2 independant stereo effects units, 32 note poly, what more can be said. Ideal for anyone needing great vintage sounds without the hassle of an analog synth. Satisfaction guaranteed, unbeatable price

RRP £1099
£799
NEW BOXED

NOVATION BASS STATION
BUDGET MONO SYNTHS

If you need to get into analog synths on a budget, then the Bass Station rack or keyboard is for you. But this is no mere toy! Two oscillators, pulse width modulation, two LFO's and knobs that send out MIDI information make this a versatile sound creation tool, capable of a wide range of bass sounds and effects. The ideal addition to any MIDI setup!

FROM ONLY
£329
NEW BOXED

ACCESS
PROGRAMMER
FOR MATRIX 1000 OR MICROWAVE

There's no doubt that the Oberheim Matrix 1000 and Waldorf MicroWave deliver powerful analog sounds. However, when it comes to programming your own sounds, top producers have tended to go for older synths like the Minimoog and Super Jupiter, because their knobs and sliders make for easy creation of new sounds. The Access programmer gives you the best of both worlds - now you can freely experiment with your modern analog synth using the same intuitive front panel, and better still, record every tweak of a parameter into your sequencer.

SCOOP EXCLUSIVE
£369
NEW BOXED

VL-7
RRP £2449
£799
WITH FREE BREATH CTRL + EXPR PEDAL

NEW, USED & EX DEMO

Access MicroW Prog	£ 369	Peavey SpectrumBASS(	299
Access MATRIX Prog	£ 369	Peavey Spectrum Org(	359
Akai SG01K	£ 299	Peavey Spectrum Syn	£ 359
Akai SG01P	£ 299	Roland MKS70	£ 649
Akai SG01V	£ 299	Roland JV1080	£ 949
Alesis DM5	£ 499	Roland MDC1	£ 479
Alesis SR16	£ 169	Roland MG864	£ 469
Boss DR5	£ 259	Roland MOC1	£ 499
Boss DR660	£ 459	Roland MS1	£ 279
Dream GMX 1	£ 69	Roland MSE1	£ 499
Emu CLASSIC KEYS	£ 559	Roland MV51	£ 399
Emu MORPHEUS	£ 899	Roland PRS	£ 299
Emu Procussion	£ 645	Roland SC55ST	£ 365
Emu Proformance	£ 359	Roland SC88VL	£ 529
Emu Proteus 2	£ 810	Studio Elec SE1	£ 1,499
Emu Proteus FX	£ 469	Technics SXWSAIR	£ 1899
Emu UltraProteus	£ 999	Waldorf MicWave	£ 1,199
Emu Vintage Keys+	£ 799	Waldorf PULSE	£ 599
Kawai GMega LX	£ 129	Yamaha MU5	£ 189
Korg 05RW	£ 399	Yamaha MU50	£ 329
Korg X5DR	£ 499	Yamaha MU80	£ 589
Kurzweil K2VP1	£ 899	Yamaha QY22	£ 399
Kurzweil K2000R	£ 1,599	Yamaha QY300	£ 549
Marion PRO SYNTH	£ 699	Yamaha RY30	£ 299
Novation Bass Stn R	£ 300	Yamaha RY8	£ 239
Novation Drumstatn	£ 449	Yamaha VL1M	£ 999
Oberheim Matrix1000	£ 369	Yamaha VL7	£ 799
Oberheim OBMX2	£ 1,800	Yamaha WT11	£ 329

ROLAND JV-1080
EXPANDABLE SYNTHESIZER MODULE

If there was ever an industry standard sound source the Roland JV1080 is it. Features such as 64 note polyphony, 6 outputs, and reasonable price have something to do with it, but surely the main reasons for its huge success have been the quality of its eminently usable sounds, and its unrivalled expandability. There are now 12 different expansion boards (4 can be fitted at once), and we have them all as well as the lowest price at Turnkey!

RRP £1199
£999
NEW BOXED

WALDORF
MICROWAVE
TURNKEY FACTORY DIRECT EXCLUSIVE

The Waldorf Microwave has genuine analog synthesis including resonant filters. It has 16 oscillators, 8 part multi-timbrality and 6 individual outputs. Sweep through up to 64 different waves, controlled by LFOs, envelopes etc. Devastating bass, totally unique sound ! Also available on a trial basis, please enquire - once you've tried this, you won't want to go back !

SPECIAL
£1199
NEW BOXED

WALDORF
PULSE
TURNKEY FACTORY DIRECT EXCLUSIVE

Waldorf quality at a previously unheard of price! Their first venture into the burgeoning monosynth market has been universally acclaimed, and rightfully so. The Pulse's three oscillators provide some of the fattest sounds around, and it's modulation matrix allows a far higher degree of programming complexity than anything else in its range. Add to that the fact that editing any parameter sends out a MIDI controller and you have a fantastic all round performer. On demo and in stock now.

NEW PRODUCT
£599
NEW BOXED

NOVATION DRUM STATION
BUILT AT LAST !

Someone had to build this eventually! Despite being discontinued for at least 10 years, Roland's TR-808 and TR-909 drum machines have remained indispensable popular classics ever since. Now, Novation bring you those classic sounds with the original editing parameters, and in the convenience of a 1U rack, with MIDI, and 8 outputs. Initial supplies will be limited and demand, high. We have been guaranteed a significant quantity of the first stock available. Call for further details

NEW PRODUCT
£449
NEW BOXED

BOSS DR-660
THE BEST EVER DR. RHYTHM !

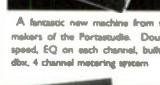
BOSS have been making Dr. Rhythm drum machines since the early eighties, combining value for money and ease-of-use with the latest drum and percussion sounds. The DR-660 builds on the success of the DR-550 Mk2, but offers 16 full velocity and aftertouch sensitive pads, 4 separate outs (unheard-of at this price), and 255 drum sounds including the best of TR808 / 909. The 660 also boasts the "human feel" control first introduced on the R8 which allows velocity to control a real-time crossfade between several waveforms (for example, whereabouts the cymbals are hit). Process your sounds with on-board digital reverb and chorus - fully editable, with individual effect-send control for each drum sound.

RRP £459
£299
NEW BOXED

TASCAM
Porta07 PortaStudio
INC 4 TRACK PACK

A fantastic new machine from the makers of the Portastudio. Double speed, EQ on each channel, built-in dbx, 4 channel metering system

RRP £399
£339
NEW BOXED



YAMAHA
MT8X PortaStudio
INC 4 TRACK PACK

Best-selling 8 track portastudio now brought to you at even better value by Turnkey features 3band EQ, separate cue mix, full LED metering insert-points, dbx noise reduction, individual tape/track outputs, 2 aux sends, double speed, logic controlled transport, auto punch-in/out, memory locators and cycle facilities.

RRP £1275
£899
NEW BOXED

NEW, USED & EX DEMO

Fostex 380S	£ 599	Tascam 424MKII	£ 499
Fostex DMT8	£ 1,499	Tascam 464	£ 699
Fostex X0U	£ 249	Tascam 488MKII	£ 999
Fostex X0RS	£ 335	Tascam Porta03 MK2	£ 199
Fostex X0R7	£ 429	Tascam PORTA07	£ 339
Roland VS880	£ 1,499	Yamaha MT4X	£ 399
Roland VS8F1	£ 340	Yamaha MT50	£ 299
Tascam 424	£ 379	Yamaha MT8X	£ 859

The UK 4 track Centre

Our famous 4 track pack includes everything you need to start making music - Maxell headphones, microphone with cable, chrome tapes, cables, head-cleaning kit and the best book we've yet seen on multitrack recording, taking you through basic track laying, mixdown etc... with sections of everything from mic placement to synchronisation and MIDI. We've obtained some great 4 track pricing AND for a limited period we will give you, the 4 track pack (normal price £59.95) absolutely free with the units featured herein

PORTA 03 Mk2
only £199
INC 4 TRACK PACK

New version of a classic portastudio. Improved styling and metering (!)

YAMAHA
MT50 Multi-tracker
INC 4 TRACK PACK

High Speed, record on all 4 tracks simultaneously.. dbx noise reduction, 2 band EQ on each track, as well as auxiliary send/return.

RRP £389
£349
NEW BOXED

FOSTEX
DMT-8 digital multitracker
INC 4 TRACK PACK

The personal digital multi-track is here at last, and at a price you won't believe! 8 separate tracks of CD quality audio recorded to half-gig hard-disk (up to 12 minutes). Record up to 4 tracks simultaneously, jog-shuttle, sync to MIDI without losing a track. The 8 channel mixer accepts up to 4 mics, 2 band EQ and 2 aux sends. Separate outputs and S/PDIF optical output.

RRP £1499
£1399
NEW BOXED

FOSTEX
XR5 Personal Studio
INC 4 TRACK PACK

Stunning new double speed Fostex machine with individual EQ, up to 3 aux sends and 2 stereo returns, 2 inserts & 4 sep. tape outs allowing use with an external mixer

RRP £495
£335
NEW BOXED

FOSTEX
XR-3Multi-tracker
INC 4 TRACK PACK

High speed machine at £249 !, New auto-bounce facility and built in mic - ideal for 4 track recording on the move

NEW PRODUCT
£249
NEW BOXED

Keyboards

YAMAHA SY35
UNBELIEVABLE CLEARANCE DEAL

The SY35 has been in Yamaha's catalog for some time, and with good reason - its unique combination of sample playback, FM synthesis and vector control make it a great buy even at the RRP. Yamaha have now decided that it is the end of the line for the SY35, but have no replacement in this range, indeed, no other manufacturer has a professional synth for less than £599.

The SY35 features 128 presets, but editing is a breeze with the unique vector control joystick, designed by Dave Smith, creator of the legendary Prophet VS. Movements in sound can be recorded and played back exactly - a huge variety of synth sounds balance the stock piano, string, drum etc presets. If that's no easy enough, the vector randomisation feature will automatically generate unlimited quantities of new and surprising sounds in a second ! 8 part multi-timbrality and 32 element polyphony mean you can create whole arrangements from just one keyboard.

The keyboard itself has 5 octaves of full-size keys and is velocity and aftertouch sensitive making it an ideal mother keyboard (the synth is virtually free !). Built in effects including reverb, delay, and distortion round off a great all-in-one package. This exclusive end of the line clearance deal represents unbelievable value for money. Order now to avoid disappointment.

RRP £599
£349
NEW BOXED

Package with Trax 64 track sequencing software + MIDI interface for either Mac or PC (please specify) only £399!

ROLAND
SPD-11
TOTAL PERCUSSION PAD

Tired of boring quantised drum parts? The SPD11 could be the answer to your prayers! Play live sounding and original drum / percussion parts directly into your sequencer. 255 excellent and up-to-date built-in sounds with reverb, delay, chorus and flanging etc. Each of the 8 pads can velocity cross-fade between up to 4 sounds (two internal, 2 external MIDI notes), 4 additional trigger inputs makes adding extra pads a cinch. Velocity curves, sensitivity, sounds etc... all editable and optional stand-mounting clamp available. Buy now while stocks last.

EXCLUSIVE MEGADEAL
£499
NEW BOXED

HAMMOND
XB-2
83 LIVES AGAIN !

If you need an authentic Hammond sound, there is currently only one place to turn: Hammond's XB2 has been specifically made to recreate the sound of the legendary B3, with 128 presets, 9 drawbars for easy programming, built in Leslie simulator, overdrive and reverb, nothing else comes close.
You can even connect a genuine Leslie via the 11 pin connector (reconditioned Leslies also available), and best of all, it weighs only 30 pounds! Exclusively available through Turnkey.

EXCLUSIVE
£1399
NEW BOXED

Sampling

TIME & SPACE
THE BEST EVER DR. RHYTHM !

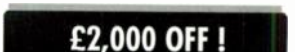
We have two Time & Space Jukeboxes in store, each fully loaded with the current top 100 CDs. There are choices to cover everything from straight instrumental sounds through sound effects, to loops and breaks. We carry virtually the full range in stock and can also supply most disks in CD-ROM format for direct loading into your sampler. Come and check out the latest sounds today.

FROM ONLY
£19
NEW BOXED

NEW, USED & EX DEMO

Akai CD3000	£ 1,199	Emu E4	£ 4,800
Akai S1100	£ 1,199	Emu E4 KEYBRD	£ 3,499
Akai EXM1003	£ 189	Emu E64	£ 2,199
Akai EXM1006	£ 129	Emu ES32	£ 999
Akai EXM1008	£ 499	Emu ES32 SCSI	£ 1,199
Akai EXM01	£ 99	Kurzweil K2500	£ 2,799
Akai EXM3002	£ 179	Kurzweil SMP R	£ 894
Akai EXM3008	£ 499	Kurzweil SMPK	£ 894
Akai IB101A	£ 19	Roland DA400	£ 420
Akai IB308P	£ 399	Roland JS30	£ 749
Akai IB301S	£ 99	Roland OP760 1P	£ 330
Akai IB302D	£ 349	Roland S760	£ 1,149
Akai IB303T	£ 149	SIMM 1 MEG 30 PIN	£ 29
Akai IB304P	£ 349	SIMM 16 MEG 30 PIN	£ 499
Akai MPC3000	£ 2,599	SIMM 16 MEG 72 PINS	449
Akai S2000	£ 949	SIMM 4 MEG 30 PIN	£ 129
Akai S3000XL	£ 1,799	SIMM 4 MEG 72 PIN	£ 129
Akai S3200XL	£ 2,977	SIMM 8 MEG 72 PIN	£ 299

£2,000 OFF !



YAMAHA P300
MASTER KEYBOARD / 32 note polyphonic PIANO

The P300 combines an 88 note, master keyboard based on the industry standard KX88, with the best piano samples we've ever heard - identical to, and developed for the ground-breaking P500, (rrp £5,500, used by Chick Corea etc.)

32 note polyphonic stereo multi-sampled sounds through SPX990 equivalent editable multi-effects. Compre-hensive sound edit parameters including Microtuning, ADR envelopes etc. As many as four separate MIDI paths can be used to independently control external MIDI instruments. It also boasts four fully assignable MIDI controllers - 2 data sliders and 2 control wheels. You can connect any mix of 4 foot controllers, either momentary, toggle switch or continously variable pedals, and assign to almost any function including sostenuto .

Store up to 32 voice and MIDI settings in any desired order, using the performance / chain feature, MIDI merge, Local On/Off for individual pach 40 character backlit LCD and dedicated Help button make editing a breeze. 40w stereo amplifier and built-in monitor speakers with 2 x line-in 5 band graphic and loads more - call for a brochure

SAVE £2,000 !
RRP £3199
£1199
NEW BOXED

Unbelievable amount of hardware for the money. If you're contemplating a master keyboard or digital piano this year, get one of these before they all go.

ROLAND
PC 200-II keyboard
IDEAL ENTRY-LEVEL MIDI CONTROLLER KEYBOARD

Compact touch sensitive master keyboard offering full control over pitch bend and mod, data slider assignable to reverb, pan or any controller, sustain pedal input, transpose over 2 octave range, send patch & bank change messages. Check out our unique package prices with these modules :

PC200
£149
NEW BOXED

PC200 PLUS PROTEUS FX	PC200 PLUS DEEP BASS!	PC200 PLUS OSRW	PC200 PLUS TG300
£649 NEW BOXED	**£379** NEW BOXED	**£539** NEW BOXED	**£459** NEW BOXED

NEW, USED & EX DEMO

Alesis QS6	£ 749	Roland EP3	£ 149
Ensoniq SQ1PLUS32	£ 899	Roland JV 50 EX	£ 569
Evolution MK10	£ 60	Roland A30	£ 275
Fatar CM561	£ 169	Roland A33	£ 399
Fatar Studio 2001	£ 1,099	Roland AX1	£ 399
Fatar Studio 2001PC	£ 1,299	Roland EP 5	£ 239
Fatar Studio 49	£ 89	Roland PC200GS	£ 165
Fatar Studio 61	£ 139	Roland SPD11	£ 649
Fatar Studio 610	£ 199	Roland XP10	£ 599
Fatar Studio 1100	£ 799	Roland XP50	£ 1,099
Fatar Studio 1100PC	£ 1,100	Roland XP80	£ 1,799
Fatar Studio 610+	£ 299	Sequent. Prophet VS	£ 1,199
Fatar Studio 900	£ 599	Technics SXWSA1	£ 1,999
Fatar Studio 900PC	£ 830	Ultimate keybd stand	£ 119
Goldstar GMK 49	£ 129	Vicon FK1000	£ 899
Hammond XB2	£ 1,399	Waldorf Wave	£ 6,845
Hammond XB3	£ 8,630	Yamaha CBX K3	£ 139
Kawai K11	£ 499	Yamaha KX5	£ 199
Korg PROPHECY	£ 675	Yamaha CBXK1	£ 129
Korg Trinity	£ 2,395	Yamaha P300	£ 1,199
Korg Trinity PLUS	£ 2,795	Yamaha PRS	£ 899
Korg Trinity PRO	£ 2,999	Yamaha QS300	£ 999
Korg Trinity PROX	£ 3,195	Yamaha SY35	£ 349
Korg X3	£ 879	Yamaha SY85	£ 765
Korg X5	£ 599	Yamaha VL7	£ 799
Kurzweil PC88	£ 1,295	Yamaha W7	£ 899
Novation BassStation	£ 299	Yamaha WX11	£ 299

EMU
E64
COME FRO A DEMO AND HEAR THE DIFFERENCE!

64 note polyphonic. Uses the same operating system as the E-IV (new version includes around 15 different filter types). 16 part multi-timbral, 8 balanced outputs. SIMM memory, 2 SCSI ports. AES/EBU and SP/DIF digi I/Os.

WEST END EXCLUSIVE
EMU CENTRE
£2399
NEW BOXED

EMU
ESI-32
VERSION 2.0 SOFTWARE

Featuring 32 note polyphony, 4xpolyphonic, G-chip resonant filters, huge quality library. (Akai and Emax!! compatible) Time-stretch, doppler FX, parametric EQ, exciter etc... All E-mu samplers come with free access to our enormous sample library (we have all the EMI library on CD-ROM) and excellent tech support (many staff are owners)

WEST END EXCLUSIVE
RRP £1199
£999
NEW BOXED

ROLAND
S760
WITH FREE CD-ROM DRIVE & DISK

MEGADEAL! - Incredible new low price from Turnkey including free SCSI CD-ROM drive and disk. Everything you need to get started with plenty of usable library. Also available packaged with OP1 video/digital board at £1699, or with OP1 plus DA400 8-output convertor for £1999.

RRP £1899
£1499
NEW BOXED

PRICES INCLUDE 17.5% VAT
Uk mainland carriage £9.99

We will beat any genuine quote from a UK or European dealer. We must be able to substantiate the quote and the goods must be available and in stock

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E-mail : sales@turnkey.demon.co.uk

BOSS | Oberheim | audio-technica | SHURE | Beyer Dynamic | SENNHEISER | JBL | BBE | PASSPORT

EUROPE'S LOWEST PRICES GUARANTEED*

Outboard

VISCOUNT
EFX10 Studio Multi-effects

HALF RACKMOUNT EFFECTS

We've just received stocks of Viscount's entry into the fully professional effects market, and it sounds great ! The unit features audiophile sound quality delivered by 24 bit processors with 128x over-sampling Delta / Sigma convertors. True stereo -20/+4 dB connections. Realtime MIDI control, large backlit display, huge range of effects including reverbs, delays, chorus, flanging, pitch-shift, wah, phasing, leslie simulations, etc... The price of £299 makes the EFX10 probably the best value for money effects unit on the market - 7 day money back guarantee if not satisfied!

FACTORY DIRECT
NEW PRODUCT
£249
NEW BOXED

STEREO VITALIZER
SPL

BULK PURCHASE

The Vitalizer is the Rolls Royce of enhancer / exciter processors. Using a significantly different process to other such products the effect deals with the full frequency range and is substantially smoother and richer. Also included is a "surround" effect which varies the width of the stereo field. Massive bulk purchase allows this unbelievable price - check one out now - we guarantee you'll be impressed.

RRP £569
£349
NEW

PHONIC
PCL3200 Compressor

PHONIC PCL3200 COMPRESSOR RRP £229

The Phonic PCL3200 features a separate compressor and gate with hard or soft knee compression, peak or RMS detection, side-chain, frequency conscious gating, LED displays for every function and level. From the makers of a leading American compressor !

MEGADEAL
£199
NEW BOXED

ROLAND
SRV330 and SDE330

DIMENSIONAL SPACE EFFECTS PROCESSORS

These incredible units from Roland use the technology from their £24,000 RSS system. As well as being ultra high quality, regular effects units (30 bit processing is employed!) The 3D technology allows early reflections (SRV330) to be realistically placed and delays and choruses (SDE330) to surround you in a 360° circle, and synchronised to MIDI. True stereo processing +4 / -20 dB ins/outs, a wealth of editing facilities and exceptionally quiet performance makes these an unmissable buy. Very limited quantities at this price

RRP £849
£599
NEW BOXED

DIGITECH
STUDIO QUAD

4 CHANNEL STUDIO EFFECTS PROCESSOR

At last - Multi effects as they should be! The new Digitech Studio Quad features not only their custom designed and ultra-powerful "S-DISC" chip, but also 4 independent inputs and outputs, which using the built-in sub-mixer, can be configured as 4 mono ins feeding 4 effects processors, feeding 4 stereo outputs. Huge screen, and new intuitive operating system make editing a breeze. 20 bit convertors give greater than 90 dB signal to noise ratio. Effects include reverbs, delays, detuning, chorus, flanging etc... Hundreds of other features too numerous to mention. Very limited initial stocks, order now to avoid disappointment !

NEW PRODUCT
SHORT SUPPLIES
£499
NEW BOXED

Monitoring

ABSOLUTE 2
Studio Monitors by SPIRIT

PHONE FOR BEST PRICE

Here at last ! Stunning sounding and looking monitors from the UK's leading mixer manufacturer. Incredible bass extension and power handling at a killer price. In stock now, come in and audition them ASAP !

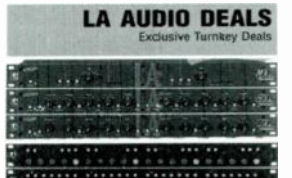
POA
NEW BOXED

PRICES INCLUDE 17.5% VAT
Uk mainland carriage £9.99

We will beat any genuine quote from a UK or European dealer. We must be able to substantiate the quote and the goods must be available and in stock

SEE PAGE 207 FOR REST OF AD

LA AUDIO DEALS
Exclusive Turnkey Deals



CX2 : Dual Compressor Limiter De-esser with half-band compression.

GX2 : Dual Frequency Conscious Noise Gate

4x4 : 2 gates, 2 compressors, 2 filters, single-ended noise reduction, half-band compression, 4 ins and outs

4C : 4 channel multi band compressor / limiter de-esser

4G : 4 channel gate filter and single-ended noise reduction

CX2	GX2	4x4	4C / 4G
£199	£199	£299	£349

ZOOM 1202
SPECIAL OFFER

Our tremendous buying power makes this the only sub £200 effects unit to look at ! True stereo and the quality of the reverb alone make it worth the price, but there's lots more : if one of the 512 presets doesn't suit exactly then using the two parameter knobs will allow you to tweak the program until it does.

The addition of 2 band EQ will further tailor the sound to your mix. Other effects include delay, chorus, phasing, flanging etc... and all this in a full 19" 1U rack. No need to look elsewhere !

RRP £199
£159
NEW BOXED

LEXICON Vortex
SPECIAL OFFER EXCLUSIVE

Due to the first digital effects units being developed almost 20 years ago, they have all followed a familiar path ever since, offering a conventional series of effects. The Lexicon Vortex breaks the mould in allowing effects to be morphed between in real time and in the process, creating new and previously unheard-of effects. (This actually changes the effect algorithm continuously - it is not a simple cross-fade between effects) This unit is ideal for dance music, and anybody requiring out of the ordinary effects, and its real time nature make it an excellent choice for live performers such as guitarists. Effects are also affected by the input signal, so that dynamics can control various different parameters within an effect algorithm. Tempo can be tapped in to control delay times etc. Typical Lexicon quality can of course be taken for granted. Exclusive bulk purchase makes this huge reduction possible in the end of the line. First come first served!

RRP £499
£249
NEW BOXED

APHEX TYPE C2
SPECIAL OFFER

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Web : http://www.demon.co.uk/turnkey

Pioneer D9601

High Sampling Rate DAT Recorder

PAUL WHITE ponders the benefits of a DAT recorder with a 40kHz audio bandwidth.

You could be forgiven for thinking that one DAT machine is very much like another, but Pioneer's D9601 is not only a fully professional machine with balanced XLR analogue connections, both XLR AES/EBU and coaxial IEC958 digital I/Os and RS422 9-pin serial interface; it also has the ability to record at twice the standard sample rate, by running the tape and the internal electronics at double speed. DIP switches are provided on the rear panel to allow the user to customise various interfacing parameters and, like some others in the latest generation of DAT machines, the facility is provided to record up to 50 characters of text along with the start ID subcode data so that track titles, for example, can be displayed during playback.

Another benefit of this particular machine is that if you have access to two of them, there's a double speed copy mode that lets you clone standard sample rate DATs from one machine to the other in half the usual time, and in a busy studio environment where you regularly need to backup DAT tapes, this could be a very valuable feature. The digital outputs can either pass on the high sample rate signal or down-convert to the standard rate, and a user-selectable copy ID system allows the user to specify whether the tape can be cloned freely, once only or not at all.

PIONEER D9601 £1695

PROS

- Professional balanced audio interfacing plus AES/EBU and co-axial digital interfacing.
- Good external controllability.
- TOC and alpha-numeric facilities.
- High sample rate option.

CONS

- Using the high sample rates obviously halves the available recording time from a tape.

SUMMARY

Pioneer build some really nice DAT machines and this one is no exception. This model has an excellent range of facilities, including the ability to record at both standard sample rates and double rate.

USING THE D9601

Because the operational and subcode editing aspects of this machine are similar to those of other professional DAT recorders, I'll skip over the obvious stuff and get straight on with the listening tests. When working with a new tape, this should first be initialised to create a lead-in section around eight seconds long, which allows the machine to build a table of contents, much as you might find on a CD.

In operation, the D9601 behaves much as a conventional DAT recorder, and as with the Tascam DA20, alpha-numeric data is entered using the infra-red remote control included. Even at the standard sampling rate of 44.1kHz, the sound quality of this machine is impressive, no doubt due in part to the pulse-flow single bit D/A converter and the stable clock circuitry. If there's a subjective difference when you switch to the 96kHz sample rate, it's very subtle, especially on routine material. I thought I could detect a tiny difference in the openness of the stereo image, and the overall listening material seemed indefinably more comfortable, but this could simply be a case of the emperor's new clothes: perhaps I heard a difference because I expected one.

IN SHORT...

You've really got to make up your mind why you need a high sample rate DAT recorder before going out of your way to buy one, and one of the best reasons for me is still the practical advantage of being able to make digital clones at twice normal play speed. For routine CD manufacture, I can't see any advantage in recording at the higher rate, though I'll be quite happy to listen to any reasons, either technological or philosophical, that anyone would care to raise.

The bottom line is that the D9601 is a reassuringly solid, friendly DAT machine with professional audio and digital interfacing as well as facilities for hardwire remote control and RS422 interfacing. As to the high sample rate capability, I feel that whatever benefits that might convey will not be fully realised until a high sample rate consumer format is released. SOS

FURTHER INFORMATION

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THAT INCREASED BANDWIDTH IN FULL...

The most interesting feature is obviously the ability to record at twice the usual sample rate, which equates to 88.2kHz or 96kHz as opposed to 44.1/48kHz. This pushes the audio bandwidth up to around 40kHz instead of the usual 20kHz, and though 20kHz is already above the upper hearing limit for most humans, it is generally accepted that if you cut out everything above 20kHz, there is a subjective difference in the way the sound is perceived.

This could simply be due to the way very high frequencies interact with each other to produce signals in the audible band, but other researchers claim that we perceive very high frequency signals in a way that can't can't be explained via conventional wisdom. In the case of digital systems, increasing the audio bandwidth helps avoid the side effects (often related to phase) of the very steep filtering, both analogue and digital, needed to produce a flat frequency response which approaches half the sampling frequency. Whatever the real reason, many of the people who use their ears for a living claim to be able to hear the difference.

At this point, you might reasonably ask why you need double sample rate recording, because ultimately, the results are likely to end up on CD with a standard 44.1kHz sampling rate anyway. If a standard CD is to be the ultimate destination for the recorded material, then I think it's difficult to find a counter-argument to this. For high-quality vinyl recordings, however, and for material that may still be needed when the next generation of high sample rate CDs comes along, high sample rate recording is a good idea — though arguably only when working with analogue mixers and multitrack tape machines.

Behringer Eurorack

MX2642 4-Buss Mixer

Following the success of their first mixer, the 8-buss Eurodesk, Behringer have scaled down the concept to take on the crowded 4-buss market. PAUL WHITE checks it out.

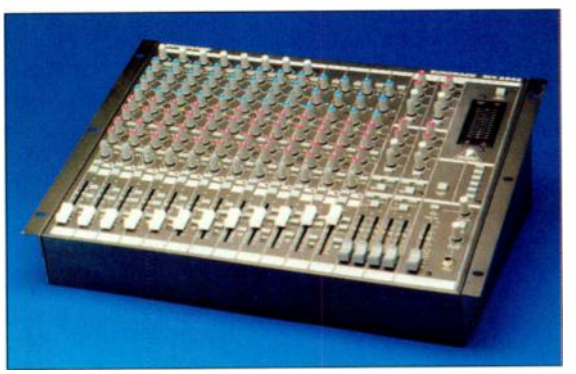
BEHRINGER EURORACK £749

PROS
- Good range of facilities.
- Desktop or rackmount operation (the rack ears can be removed if required).
- Good sound quality and flexible EQ.

CONS
- Master section's functions restricted to monitoring tape return or stereo mix only.
- External PSU irritating for live use.
- No EQ bypass.

SUMMARY
A neat and functional mixer that performs well, at a very attractive price. Useful for basic multitrack, live sound, installations and general purpose mic/line mixing.

The term 'Eurorack' sounds as though it might have been dreamed up by the Spanish Inquisition — either that, or a very bored man in Brussels, wandering around with a clipboard and tape measure, checking that all the measurements conform to some nebulous Euro-standard. Behringer actually acted more like Euro-rebels with their first mixer, the Eurodesk (reviewed *SOS* September '95), which many felt looked rather too much like a Mackie 8-buss console to be strictly cricket. The Eurorack retains the same cosmetic styling, right down to Mackie-style knobs, buttons and screening style, and is designed to compete in the rack-size 4-buss arena, but for what it's worth, I think Behringer might have earned more respect if they had come up with their own styling.



QUICK TOUR

Powered by an external power supply, the Eurorack gives the impression of being soundly engineered, and well thought-out. All the connections, other than the headphone outlet, are located on the rear panel. This can be unscrewed and relocated on the bottom of the case, which is more convenient when using the mixer in an upright rack.

The concept of the mixer is simple: there are eight mono mic/line channels fitted with both direct outs and insert points, plus four more line-only stereo channels. All these channels have short fader level control, separate routing buttons for the stereo buss, group 1,2 and group 3,4 and further buttons for mute and Solo/PFL. The Solo/PFL LED also doubles as peak level warning. Each of these channels is fitted with three-band EQ and four aux sends; auxes 1,2 are switchable pre/post (as a pair) while auxes 3,4 are fixed post-fade, but can be switched to a further two aux send busses (5,6), again as a pair. There are no aux send masters, so effects units with input level controls are an advantage.

The mono channels have the benefit of a sweep mid control, while the stereo channels have a fixed mid operating at 1kHz, though neither has an EQ bypass. The cut and boost range is 15dB for all equaliser stages, and the high and low frequency sections shelve at 12kHz and 80Hz respectively. All eight mono channels have a switchable low-cut filter (100Hz), while the main stereo channels have switchable -10V/+4dBu operating levels.

A further four general-purpose stereo channels are provided for use as returns, and these too have full routing, albeit in pairs. They have no EQ, and only two send controls; aux 1 and aux 3. They are, however, furnished with PFL (pre-fade listen) buttons, as are the four groups. Each pair of groups also has a To Mix button, for subgrouping during mixdown.

The master section of this little mixer is very straightforward, with a single pair of bargraph meters below the global 48V phantom power button. The channel solo system can be switched between Solo (post fade) and PFL, and each of the six aux send outs has its own PFL button. There's a two-track tape feed for recording, and the two track return may be monitored for playback or fed into the main stereo mix. A single level control sets the control room and headphone output level.

On the rear panel, all the audio connections are made by quarter-inch jacks except the mic inputs, which are XLRs. The line inputs are all electronically balanced, as are the main stereo outs. The PSU connects to the mixer via a locking four-pin plug.

SUMMARY

Rather than being a direct rival to the original Mackie 4-buss mixer, the Eurorack seems to have anticipated some of the improvements which Mackie have recently introduced into their VLZ range, making this a very practical and well specified little mixer. The frequency response is flat within +/- 1dB from 20Hz to 40kHz, and only drops off by 3dB in the 10Hz to 120kHz range, while the noise figures compare well with other soundly-designed budget desks. Overall, the EQ is musical and positive, with a mid frequency sweep range of 250Hz to 6kHz, enough for most tasks.

There's little to criticise about this mixer given its price and target market, and it could be put to work in a small recording setup just as well as it could be used live, or as part of a fixed sound installation. The external PSU is a little inconvenient for live work, and some way of metering the four group outputs would have been useful; even just a couple of LEDs. On balance, however, the designers have put the effort in where it counts. SOS

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Waldorf Gekko

Chord Memoriser & MIDI Trigger

When your dilatory digits can't hit those chords on cue, MIDI sequencing can seem the only solution. As PAUL WARD discovers, however, now you have a flexible new friend...

Sometimes we all need a little help. Cheques bounce, household jobs pile up over the winter months, and fingers seem to be in short supply when you're trying to play that major 13th chord pattern at 170 beats per minute. While Waldorf are unlikely to alleviate the strains of fiscal ineptitude, in the latter case they can now send a little reptile to our rescue, in the form of a Gekko.

So what is a Gekko? On the one hand, a 'gecko' is a small lizard that has a predilection for sticking to walls and moving at warp speed. In Waldorf's book, however, a 'Gekko' is a small kidney-shaped box that sticks to your master keyboard and gives the listener the impression that you *hands* are moving at warp speed.

PLUG IN A LIZARD

There are, in fact, two Gekkos. On the face of it they look identical, except that one is a pleasant lizardy green, and the other is, er... blue. Around its hind quarters is a pair of MIDI in/out sockets, while on the top surface is a large button and an attendant red LED to indicate when the Gekko is active. Power is taken from the MIDI line, which means no annoying power supply to hang off the back.

Only one Gekko can be connected at a time, due to the limited amount of power available on a MIDI network, and Waldorf warn that some high-speed system-exclusive transfers may be corrupted due to the extra power drain. The answer? Disconnect the Gekko. The unit is attached to its designated home by sticky-backed Velcro pads.

The simplest way of introducing a Gekko into your musical life is to connect it between the MIDI out and MIDI in of a synth/keyboard. The synth must be in 'Local Off' mode, and its send and receive channels set to the same number. Once in place, the Gekko will process the notes arriving from the MIDI out, and send processed data back to the synth's MIDI in. When the Gekko is deactivated, the MIDI messages are passed unchanged. The instruction sheet gives examples of connection in a sequencing environment to process previously recorded MIDI data and, potentially, to record the results. As ever in these cases, a MIDI patchbay makes life much easier.

ONE-CHORD WONDER

The green device is the so-called Gekko Chords, and is essentially a chord memoriser, like those found on giant modular systems of years gone by. To activate the Gekko, you simply press and hold the button, and then play a chord. To assist in this, a sustain pedal may be used to enter the notes in succession, up to a maximum of 16 notes. Once the button is released, the Gekko is active and the LED remains lit. To deactivate, simply press and release the button again. The memorised chord will remain in the Gekko until the button is held and a new chord entered.

Once active, any key press will generate the memorised chord shape, with the lowest voice corresponding to the trigger note. It's a doddle to produce those 7th/9th triggered chord riffs, much loved of techno/acid artists, which are more usually created by using a sampled chord. Here, the chord can be defined by the player. Bass and lead sounds may be stacked in fifths or octaves for a fatter sound — over several octaves if required. The velocity of the played note is applied to each note of the resultant chord.

One application I found for the Gekko Chords helped me to use a separate output from my Alesis D4 drum module as an effects send. I set the Gekko to generate two notes, three octaves apart, from a single key press. The same drum sounds are duplicated at the higher octave, but the higher ones appear from a separate output of my sound module, and feed a reverb device. By balancing the relative volumes of the two triggered sounds I was able to

WALDORF GEKKO £79

PROS
- No power supply.
- Simplicity.

CONS
- Uncertain button action.
- Some SysEx data may be corrupted when a Gekko is patched in to your MIDI setup.

SUMMARY

Neat, self-contained and unpretentious. If you need such a device then you already know it, and the Gekko will prove a loving and faithful pet. If this review has made you curious, then try one out next time you're in your local music store. It's only when you realise how ridiculously simple the Gekko is to use that you begin to appreciate the possibilities it offers.

generate a dedicated effects mix. This is much easier than my usual method of copying and transposing tracks in my sequencer.

TRIGGER HAPPY?

The blue Gekko Trigger differs in that it does not store a chord, but instead stores a range of keys that will act as triggers for a chord pattern held down elsewhere on the keyboard. Put simply, you hold down a chord of A minor (you won't hear anything yet), then hit a key in the assigned trigger key range (an A minor plays). This enables the user to re-trigger chord patterns with a single key press, making rhythmic playing much faster and easier to perform. The trigger notes can also be played by a sequencer or perhaps from MIDI drum pads whilst the chords are shaped by the keyboard player, making for easy jamming. The velocity of the trigger note is applied to the chord produced by the Gekko.

The Gekko Trigger is quite an inspirational tool. I enjoyed setting the trigger range to the hi-hat notes and letting the Gekko pulse my chord patterns over the rhythm. By widening the trigger range to cover kick, snare or percussion notes I stumbled upon some sizzling grooves that I would never have found by design! It also doubles as a handy 'panic button' — a double-click of which sends out an 'All Notes Off' message, to cure hanging notes.

CONCLUSION

If I was pushed to criticise (and our editor assures me that I am!), then I would suggest that the control button should give more 'tactile feedback'. As it is, the LED keeps you informed of the current state of play, but a decent 'clunk' or 'snap' would at least make you *feel* you'd achieved something! Other than that, it's a hearty thumbs-up. Now how about a purple Gekko Arpeggiator, Waldorf? I wish... SOS

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Giant Steps

MAKING THE MOST OF ARPEGGIATORS

If, like Erasure, you're all fingers and thumbs, an arpeggiator can make inspirational note sequences a cinch. For this versatile synth function, however, that's only the beginning. PAUL WARD blisses out on glissandos...

SYNTHS WITH ARPEGGIATORS

- Akai AX60
- Clavia Nord Lead
- Korg DW8000
- Korg Mono/Poly
- Korg Poly6/Poly61
- Korg Prophecy
- Moog Source
- Oberheim OB8
- OSC OSCar
- Quasimidi Quasar
- Quasmidi Raven
- Quasmidi Technox
- Roland Junos 6 and 60
- Roland Jupiters 4, 6, and 8
- Roland SH101
- Sequential Multi-Trak
- Sequential Pro One
- Sequential Prophet 600
- Sequential Prophet VS
- Sequential Six-Trak

Arpeggiators have experienced something of a revival over the last couple of years. I was pleasantly surprised to find one on Quasimidi's Quasar, Technox and now Raven synths when I've reviewed them for *SOS*, and some physical modelling synths have taken the arpeggiator on board too, such as the Korg Prophecy and Clavia Nord Lead. With this in mind, the time would seem right to have a look at the features and possible uses of a typical arpeggiator.

'Arpeggiation' is basically the playing of chord patterns by sounding each note in a sequence, rather than simultaneously. Although this can obviously be achieved by recording the notes in step-time into a sequencer, or by dextrous real-time playing, the term 'arpeggiator' is usually applied to a device which does it automatically.

The arpeggiator as we know it had its roots in the early step-time sequencers found on giant modular synth systems of yesteryear. These sequencers managed eight or 16 notes at most, and were programmed by tuning a row of control knobs — one for each note of the sequence. Once programmed, the voltages set by each control knob would be played back in sequence (hence the origin of the term 'sequencer') and sent to the control voltage input of an oscillator to provide pitch information. Note lengths were identical for each step of a sequence, although some models allowed steps to be set as 'rests', to provide some variation in rhythm.

Since a step-time sequencer was difficult to re-program during a performance, they were usually confined to providing simple backing patterns. Sequences could often be transposed by pressing a keyboard note, so a limited amount of harmonic progression was possible. With the advent of the arpeggiator, however, the problems of real-time control were largely solved — albeit with a modicum of compromise over the actual pattern of notes produced.

GETTING STARTED

Using an arpeggiator is usually very easy: hit the arpeggiator's 'on' button, hold down a few notes and adjust speed to taste. When confronted with a synth with an on-board arpeggiator, this would ▶

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Arppegiators

be considered the bare minimum of controls. Most machines take things a little further, however, with any or all of the following features:

A 'Direction' control allows the note order of playback to be defined — usually a choice of up (in the case of a C triad, this would play C, E, G, C, E, G repeatedly), down (G, E, C, G, E, C, G...), up/down (C, E, G, E, C, E, G, E...) or random. A 'Hold' button allows note patterns to be triggered which keep playing when the keys are released — pressing a new group of keys often cancels the first and begins a new arpeggiation pattern. A 'Range' control sets the group of notes to be replayed over one, two or three octaves (the equivalent of holding down the corresponding keys over one, two or three octaves — if you have enough hands free!). Rather more rare is the ability to change the gate time of the triggered notes, to enable staccato or legato effects.

One feature which I have only ever come across on Sequential's excellent Pro One monosynth is in its 'latched' mode. 'Latch' can simply be thought of as 'hold', but the Pro One has one extra trick up its sleeve. Whilst latched, pressing keys on the keyboard will cause those notes to be added to the arpeggio for as long as the extra notes are held down. This feature has never found much musical use in my studio, but I'm always keen to learn, if someone out there cares to enlighten me!

The number of notes held and their playback direction will define the time signature of the arpeggio. In our C triad example above, notice that we have three repeating notes with the up or down direction, but four when using the up/down option. That's not to say that you should slavishly follow the rules: I've often used 7/4 arpeggios over 4/4 rhythms to add some degree of movement and 'creative entropy' to the proceedings!

Generally speaking, short percussive patches (fast attack, short to medium decay, no sustain, short to medium release) make for good arpeggio sounds that will help carry the pulse of a song. On the other hand, turning up the attack time will help to 'soften' the notes and make them blur into the mix — without the need to turn the instrument down and lose the effect entirely. If your arpeggiator provides an adjustable gate time parameter, this will define the period during which the sound will pass though its attack, decay and sustain phases. Very short gate times allow the creation of faster, harp-like glissandos, whilst longer gate times will eventually lead to notes overlapping each other.

EXAMPLES

If, even after this erudite explanation, you're puzzled as to what an arpeggiator sounds like or what it could do for your music, then just take a listen to any of the following records. While I make no guarantee that they were actually recorded using arpeggiators (unfortunately, I wasn't at the recording sessions), the sound is most certainly typical of the results that can be coaxed from these handy devices:

- 'Rio' by Duran Duran (opening riff)
- 'Fingers and Thumbs' by Erasure (opening riff)
- 'Not Over Yet' by Paul Oakenfold (the swirling riff that emerges in the third verse)
- 'Tell Me When' by The Human League (opening riff).

THE SOFT OPTION

Some modern software sequencer packages include an arpeggiator function, for example, Emagic *Logic* and Steinberg *Cubase*. With these, you can choose the step size of the arpeggio, the number of octaves it covers, and whether the scale plays, up, down or both. A typical software arpeggiator will also allow you to set the note velocities to decay as the arpeggio progresses.

One of the advantages of a soft arpeggiator is that you can record the result into a spare sequencer track and then edit the data further, just as you can with any MIDI sequence. You can also knock out one or more notes from the recorded sequence to add rhythm to what is otherwise a very regular note progression. I've also had occasional success playing an arpeggio via a drum module. Each note gives a different drum sound and you can, just sometimes, end up with a really interesting rhythm. *Paul White*

NEW DIMENSIONS

One of the most satisfying uses I have made of an arpeggiator is in conjunction with a reverb. Start with a fairly simple sound on the arpeggiating synth: something akin to a piano would be fine, although the details are not critical. Set the reverb for a long decay time (somewhere around 10 seconds works nicely as a starting point) and feed the arpeggiated notes in. Make sure you are only hearing the reverberated sound (either by turning the reverb mix to reverb only, or switching the original sound out of the main mix on your desk). Gradually increase the attack time on the synth. At some point, the reverb signal will begin to 'smooth' out, as it is fed by the sound with gentle attack and release characteristics. The reverb will now appear to be 'playing' a chord! Now, change the arpeggiated chord. As the reverb of the old notes dies away, it should progressively be replaced by the reverb from the new notes. You will hear an ethereal, fluid crossfade from one chord to the next. Beware — this way lies new age! At the first sign of nausea, set off an acidic Roland TB303 sequence and have a cup of hot, sweet tea...

Delays also work well with arpeggiated material. Try to go for long-ish delay times that fall between the original notes. Slight changes in chord shape/inversion, arpeggiation direction and numbers of notes make a vast difference to the results. The best way is to keep experimenting until you hit a 'sweet spot' — once achieved, there's very little that you can do to actually make it sound bad!

Arpeggiators can also be put to use for other than playing notes. I use the following method with a Sequential Pro One, though I'm sure other synths will be capable of similar results — provided they have an audio input, of course. What I do is turn down the output from the oscillators, and feed in an external sound source; maybe a rhythm guitar track. The control voltage from the arpeggiator I send to the filter cut-off. With the guitar track playing and the arpeggiator in action, the subtle changes in tone can add interest to an otherwise ordinary backing part. Apply a little resonance if you want things to get less subtle, and make wider spacings between the arpeggiated notes. If you can synchronise the arpeggiator to the tape tracks, so much the better.

YOUR FLEXIBLE FRIEND

The real beauty of arpeggiators is that they give a form of 'sequencing' without requiring you to decide what the sequence will be beforehand. Jamming along to an arpeggiator can be an exhilarating experience, since you have the freedom to change chords or time signature at will. When all else fails, just hit a pair of bass notes one octave apart, for an instant late-70s disco pulse — until everyone manages to catch back up!

So, next time you find yourself stuck for inspiration, just hit that button marked 'arpeggiator', jab a few chords and see what happens. After all, some '80s bands made a career out of it!

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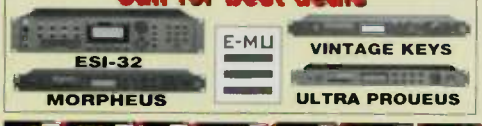

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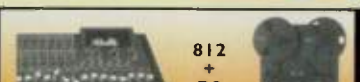

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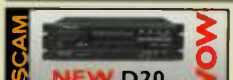

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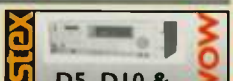

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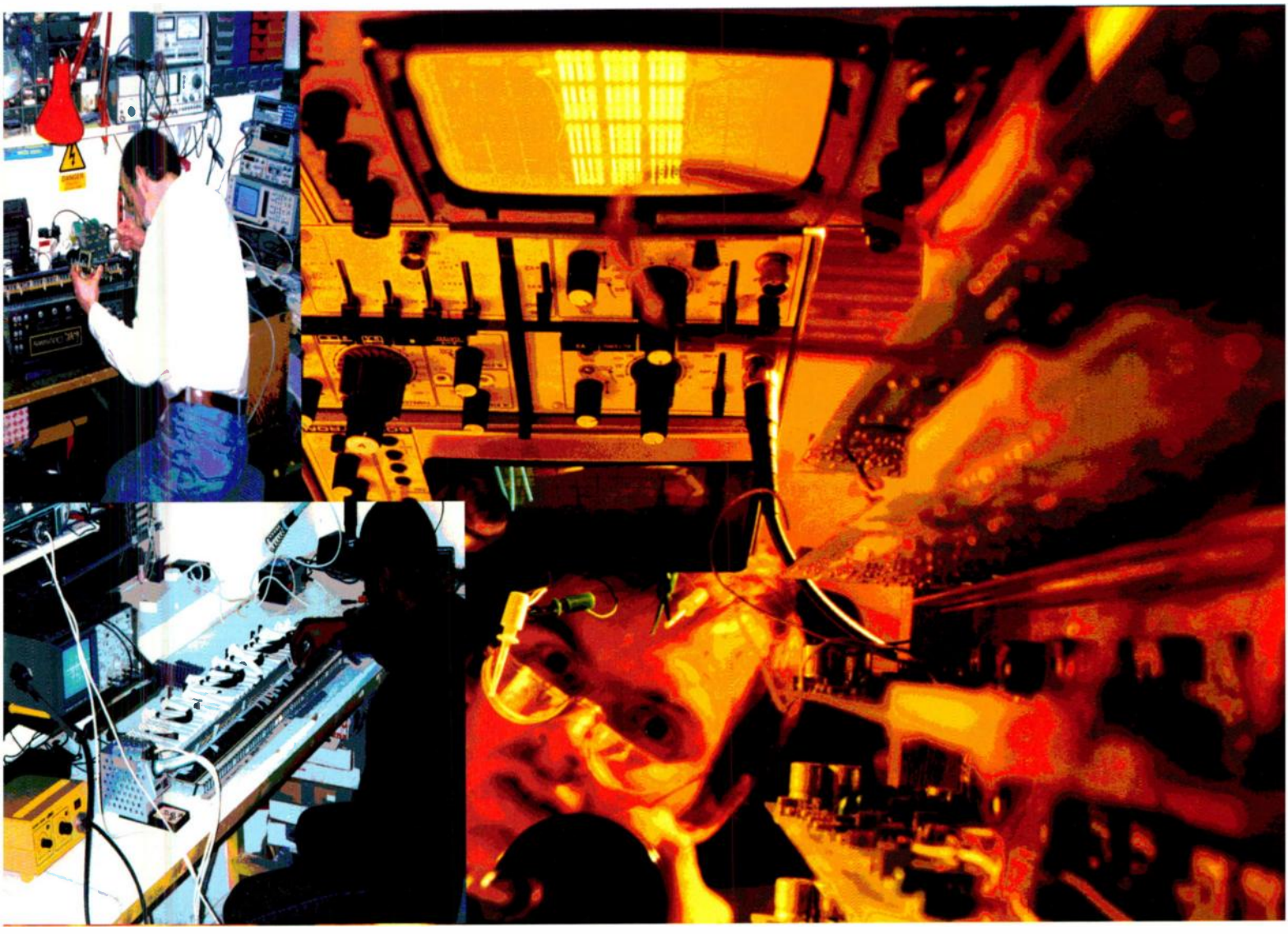

The Professionals

HI-TECH SERVICING: THE SPECIALISTS SPEAK

DEBBIE POYSER & DEREK JOHNSON conclude their conversations with the engineers who service with a smile.

If you caught Part 1 of this two-part feature in last month's *Sound On Sound*, you'll remember that we introduced you to four professional hi-tech service engineers who each run their own manufacturer-approved service centre — Mike Swain (Panic Music), Bill Wheeler (Central Sounds), David Croft (the Synthesiser Service Centre), and Cliff Whitehead (CIMPLE Solutions). This month, they pass on more fascinating facts and amusing anecdotes...

VINTAGE VALUES

You'd have to have been living in a hole in the ground for the past few years not to have noticed the revival of interest in analogue synths. Our specialists have certainly noticed it — they're faced with the often frustrating task of attempting to repair 20-year old instruments, from defunct manufacturers, with spares as scarce as hens' teeth.

Vintage instruments are the source of some of the most difficult problems hi-tech service centres are presented with. Mike Swain: "Some of the vintage synths can have absolutely terrible problems to fix. The worst ones are when you've got buss shorts on something like an old Prophet or Oberheim. They can really be dreadful — and all for the sake of maybe one capacitor, or one logic chip. The most difficult faults of all to diagnose are memory problems — the Akai S900s, that sort of thing. The earlier samplers can be absolute murder to diagnose."

Does any particular instrument turn up more than others? ▶

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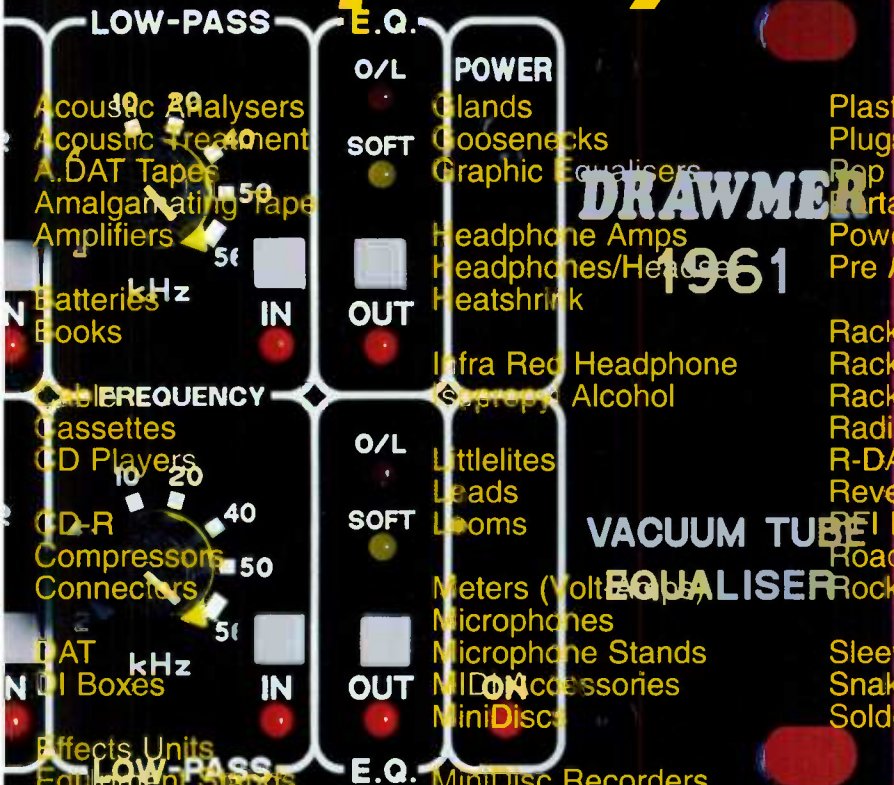

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Hi-tech Servicing

"I suppose the most common ones are Prophets with power supply problems. Dead OSCars are quite common too. It's just bad design — old design. They just age, really. There's a lot of interest in OSCars, but they can be difficult. You get lots of failures, and you have to ask whether it's economic to repair them.

Errol Shepherd of Cimple Solutions using the company's System 8 computer diagnostics tool.

"At least the OSCar used a lot of standard parts, which is more than you can say for something like an old Sequential. Because of the rarity of the chips, it can be $300 for a chip — because there are none; none of the Curtis chips, at least. A pair of sample & hold chips costs $360 from the US, before we import them! Then there's shipping and import duty on top. If the owner loves the machine to death, then to them it's worth having it repaired, but from a purely financial point of view..."

Mike's clearly hinting that the owner of such a machine might be better off selling it for parts and buying a fully working one...

"That's right. And I think that's what this particular customer is going to do. What's sad is that he bought it not working. I think he got it at a fairly reasonable price, but it's a gamble. He's still got his sounds, because we were able to get it working monophonically, but it was two sample & hold devices, one in one area of the machine and one in another — and he needed both."

The spares situation for some synths is unlikely to improve, with some parts almost worth their weight in gold. Mike: "Machines like the ARP 2600 — $200 for a pot!"

"And $50 for a knob," adds Adam.

Mike: "With the improved sounds on the new generation of instruments, people are going to realise that they've got the sounds of the vintage synths, and all the extras as well. I suppose the end of '94, beginning of '95 was the peak time for vintage synths. Over the last six months, the number of older synths coming in has declined. So I think the new generation will eventually oust the vintage synths. They won't be worth repairing unless you really want to keep them going.

"If someone buys one of the older machines, they've got to be prepared for it to cost them a lot of money to keep it going. The people who have the spares know the value of them. A lot of the source of Wine Country's [US company specialising in Sequential parts] spares is machines that are not economical to repair. It all runs out. And where a lot of the spares were custom-made for the machines, there's no chance at all."

The sad fact is that eventually these parts will run out. Mike agrees: "They will run out, yes. With the Curtis chips, On-Chip Systems have run out of a lot of them. They'll make them — if you place an order for 10,000 pieces! But who's going to do that now? Nobody — because the market's not there for them."

Though manufacturers like Sequential and OSC are long gone, the makers of many of the vintage synths are still major players in the modern synth market. Surely parts are available from them for their own older machines? Not necessarily, as Mike reveals: "It depends on age. A lot of manufacturers now are not stocking spares after their statutory time. They're only obliged to keep parts for, I think, seven years. As time goes by, that will become more of a problem, where you have application-specific devices; once the spares have run out, that's it."

Service specialists can try to accumulate their own stocks of spares which look like becoming ▶

FAMOUS NAMES

Equipment faults can happen to anyone — including the household names of the music business. And when pop stars need their gear fixed, it often ends up in the hands of our four specialists or their staff. Central Sounds have repaired equipment from the George Michael organisation and Simply Red, amongst others, and The Royal Shakespeare Company is a regular client. Cliff Whitehead mentions Wet Wet Wet, D:Ream, EMF, The Orb, The Cure, and the Stereo MCs, but is far from star-struck:

"A repair's a repair, but with the more famous people, it tends to be a matter of urgency. With Wet Wet Wet's last tour, we had their roadies coming in with their Emu gear, and it was a mad panic: they had rehearsals at the Docklands arena on Saturday, and this was 5.15 on Friday! That was the old Emulator IIIs; a nightmare to fix. The EIII uses about five or six different boards which slot onto a motherboard. After being out on the road for a few years, the boards work loose. You've got to take the whole thing apart, spray it all up, reflow all the solder joints, put it back together and it works!"

Mike Swain can remember work he's done for Michael Bolton, UB40, Marillion, the Stranglers, and Katrina and the Waves, though "It's very difficult to know whose gear is whose. We used to use a very distinctive bright red service label, and on *Top of the Pops* you used to see it on the back of a synth and think 'That's one of ours!' But you don't know whose it is while you're doing it, especially if it comes in from a music shop."

David Croft's famous customers include Erasure, Abbey Road Studios, Adamski, Depeche Mode, and the Pet Shop Boys: the latter "came in yesterday, and we did a job for them, a MIDI retrofit on a P5, which is the Studio Electronics rackmount mod for the Prophet 5. The MIDI isn't that fast, so we installed a second, faster MIDI. We've done quite a few things for Erasure — a couple of MC4s, an MTR100, Minimoog, Prophet 5, Xpander, Moog Source, Rev 5 — there's about 30 jobs on record.

"People come in, and we do jobs for them, then at the end of every TV program I see their names in the credits, and I thought they were just playing in their bedrooms or something! We've been up to Wembley a few times too — for Stevie Wonder, the Beach Boys, Mike Oldfield, Luther Vandross... Interestingly, I was offered a tour with Stevie Wonder several years ago, but I'd just been on the world tour with the Human League. I couldn't run the business and be out touring as well, so I had to turn down the Stevie Wonder job.

"I'm very pleased I went on the world tour with the Human League. I went as a favour to someone, but I look back and I'm very glad I went. I saw the world — Japan, America, Australia, Canada, Iceland, all of Europe. Phil (Oakey) is a very nice, genuine and considerate person. When we were in Japan, and the record company was taking the band out for the evening, he insisted he wouldn't go if the crew couldn't go with them. I haven't seen him for ages. I must get in touch."

Maybe Phil will give David a call — we understand he's an *SOS* reader...

"Well, tell him to be a bit more careless with his keyboards; we've had hardly any work off him in recent years!"

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Hi-tech Servicing

> *"With the improved sounds on the new generation of instruments, people are going to realise that they've got the sounds of the vintage synths, and all the extras as well."*

endangered, but as Mike says: "It becomes a question of how much money you can afford to invest. I think at the last count we had something like 7500 individual spares items. You can't stock everything for every machine: it would be impossible. But you get a feel for what components fail on a regular basis in any one product, so what we tend to do, if we have to order a part in, is instead of ordering just one, we order two or three. You try and anticipate, so that you have the parts in stock."

David Croft knows the same problem from the inside, and upholds the 'never say die' motto of the service engineer: "We have quite a good stock of parts, and we've derived second sources or alternative parts we can use in many cases. Things are becoming old and extinct, but we do try to keep alternatives going, or adapt other parts. Design Labs also developed RAM cartridges for the DX7 and the Roland equipment, where the cartridges were no longer made. Our business is to maintain synths, and to supply whatever is needed to keep them going. We do keep an eye on alternatives for parts that can't be supplied by the original makers."

Cliff Whitehead also does his best to find ways around spares shortages: "We keep a fair few stocks ourselves. The regular items, obviously we keep all that in stock, but older gear... Roland, for example, don't stock anything older than five years. They'll still keep stocks until they run out, but they don't make them any more. For example, you can't get SH101 benders or sliders any more, but we can actually get all the chips... Even the VCO, a CEM chip, is still available in the States — it costs £30, but it's available. Although you can't buy a processor chip programmed up from Roland, it's actually a Zilog 8031 microprocessor with a masked programmable ROM on the chip itself, which Roland had made up. With our programmer at the office, you can take a good, working 8031 with the right program on it, read it into the programmer and blow an 8051, which is more or less the same chip."

Central Engineers Richard Wheelan and David Pink hard at work.

Two sick OSCars awaiting repair at Panic Music.

PANHANDLERS AND POTBOILERS

Even when they're not causing spares headaches, vintage synths still cause other kinds of problems. David Croft: "I've got one on the bench at the moment. It's a Yamaha CS80 and someone has twiddled all the pots inside. It's not like having a failure that you can trace. The CS80 is a great big old thing, with about 500 pots inside which can be adjusted, and someone has adjusted just some of them. I'm having to go through and re-align the whole thing, because there's no way of knowing what they've adjusted. It's going to take me a couple of days at this rate, maybe three days. It's a marathon task."

Given this current nightmare job, it would be understandable if David would like to give the CS80 a decent burial, then dance on its grave. But he's happy to see people turning again to what was deeply unfashionable just a few years ago: "It's good that people should have thought to go back to something different. I'm a bit sceptical about how it seems to be a fashion. Analogue has certainly got some good and different sounds to offer, but I think it's good to have several ways of making sound, whether it's sampling, FM synthesis, or whatever. It's good that people will now make sounds with whatever they happen to have at the time. I remember doing a track with someone, and we didn't have a bass drum, so we made one by thumping a speaker and connecting it to a microphone input. You shouldn't need to pay a fortune to get 32-bit sampling or whatever — why not make a virtue of your limitations?"

Cliff Whitehead also admits to a certain affection for older equipment: "I like old gear, due to the fact that it is basic electronics, which is what I cut my teeth on. I've retrained in programming and servicing the newer, digital machines, but I do prefer the analogue stuff. It's more of a challenge than anything."

SECOND TIME AROUND

Knowing what they do about older equipment, our service specialists are in a good position to advise

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Hi-tech Servicing

This Oberheim OBXa at Panic Music was picked up by its owner for £40 from a car boot sale!

potential buyers on the second-hand market. We couldn't resist picking their brains for some inside information. Bill Wheeler's advice is pragmatic, like the man himself: "Get it as cheap as you can. If it goes wrong and you've paid £5000 for it, tough luck. Where do you stand in a court of law?"

Good advice. But what if you think the machine you've got your eye on has a trivial fault, a synth with a misfiring key, for instance, and you're tempted to run the risk and buy it anyway? Surely something that small couldn't cost too much to fix? Bill continues: "Speaking from the user's point of view, that's a major fault, and a major fault is money. Speaking as a service person, that problem is generally easy to repair and should cause no undue grief. It's when notes start missing in patterns of eight, for example, or specific patterns up the keyboard, that's when there may be serious faults, keyboard scanning faults in the actual electronics." And depending on the synth, even a single misfiring key might be more of a problem than it seems. David Croft: "I've just been sent a PolyMoog, which has odd and apparently misfiring keys. Now that's not just due to dirty contacts: each key has a separate electronics card, and if it's a problem with the cards, that certainly won't be trivial. Misfiring keys on some keyboards are relatively straightforward to fix, but not on all. Even with the modern ones, it's simple, but not necessarily cheap."

David sounds a further note of caution: "Try out everything thoroughly. Maybe even see if they'll agree, say, to let you have your money back in seven days, if you find a problem, or for them to get it fixed. You can't just try things out on the spot and expect to find a fault. Even we can work on instruments and not necessarily find a fault that might have been obvious to someone. If a vendor has nothing to hide and it is a sound piece of equipment, they shouldn't have too much to lose from such an agreement. If you do find a fault, you could arrange that you'll take it for repair and work out the difference on the purchase price. People often do that — they bring them here and then work out the final cost with the vendor."

Cliff Whitehead is happy to pass on a few tips: "If you're buying a sampler with a big display, and you see that the screen's not very bright, you might want to consider replacing the backlight at some stage. The backlights are about £40 plus VAT, plus labour, so you might want to knock off a bit of money for that. Watch software versions as well, especially in samplers — updates can cost money. Check that the key action is OK on keyboards. A good one for Roland keyboards is to just put your eye along the end of the keyboard, look straight across the actual keyboard, and see if any of the keys is lower than the rest. That'll tell you whether the springs have had a good hammering or not. Replacing the springs is simple, but you've got to strip down the whole keyboard. It's labour-intensive."

It's Mike Swain that offers the real collection of second-hand horror stories, along with one or two things to watch out for; first: "Removed serial numbers! And if it's been visibly modified in any way, if it's well-worn, if it's been hammered and there are signs of tremendous wear on keys, that sort of thing. Missing screws will tell you if someone has taken the thing apart. I remember one instance where a guy bought a DAT machine, on spec through the mail, from an ad in a paper. He ▶

COMMON PROBLEMS

We've already heard that keying faults are probably commonest in synths (see Part 1, last month). But what tends to go wrong with the other gear in our studios?

• MIXERS

Bill Wheeler: "Potentiometers become noisy, op amps go faulty... but faders are designed far better than they used to be." Do problems tend to occur more with the low-cost mixers designed for home studios? "Yes — the budget-priced equipment that's used in a professional capacity, and ends up here because it's worn out. If you paid four times as much in the first place you'd get something which would last much longer — but it's horses for courses, isn't it?"

Cliff Whitehead: "Scratchy faders and pots. On the old Seck desks, the most common problem is the PSU going. There was a particular under-rated component which takes out the +/-15V supply, so whenever a Seck desk comes in we always stick a higher-rated component in, so that it won't go again. Some Seck desks also have a problem with the grounding on the Solo buttons: when you press Solo, the Solo relay just buzzes, and doesn't click in properly. That problem is easily fixed."

• DAT MACHINES

Mike Swain: "People tend to think a DAT recorder is the same as an an ordinary cassette recorder, and they don't have to have them maintained. Then they wonder why things go horrendously wrong. A DAT machine should be maintained every 300 hours. The normal DAT head life is 1500 hours, and if you don't have them regularly maintained, that drops to around 500 hours. A DAT head is expensive to replace — around £200."

So how much will it cost to have your DAT machine serviced? "If it's just a clean and alignment, around the £100 mark. You'll save yourself terrible problems in the long term. With all the manufacturers going over to digital, people have got to realise that they must have their equipment properly maintained. If it is, it'll give as good service as anything else."

• ANALOGUE MULTITRACKS

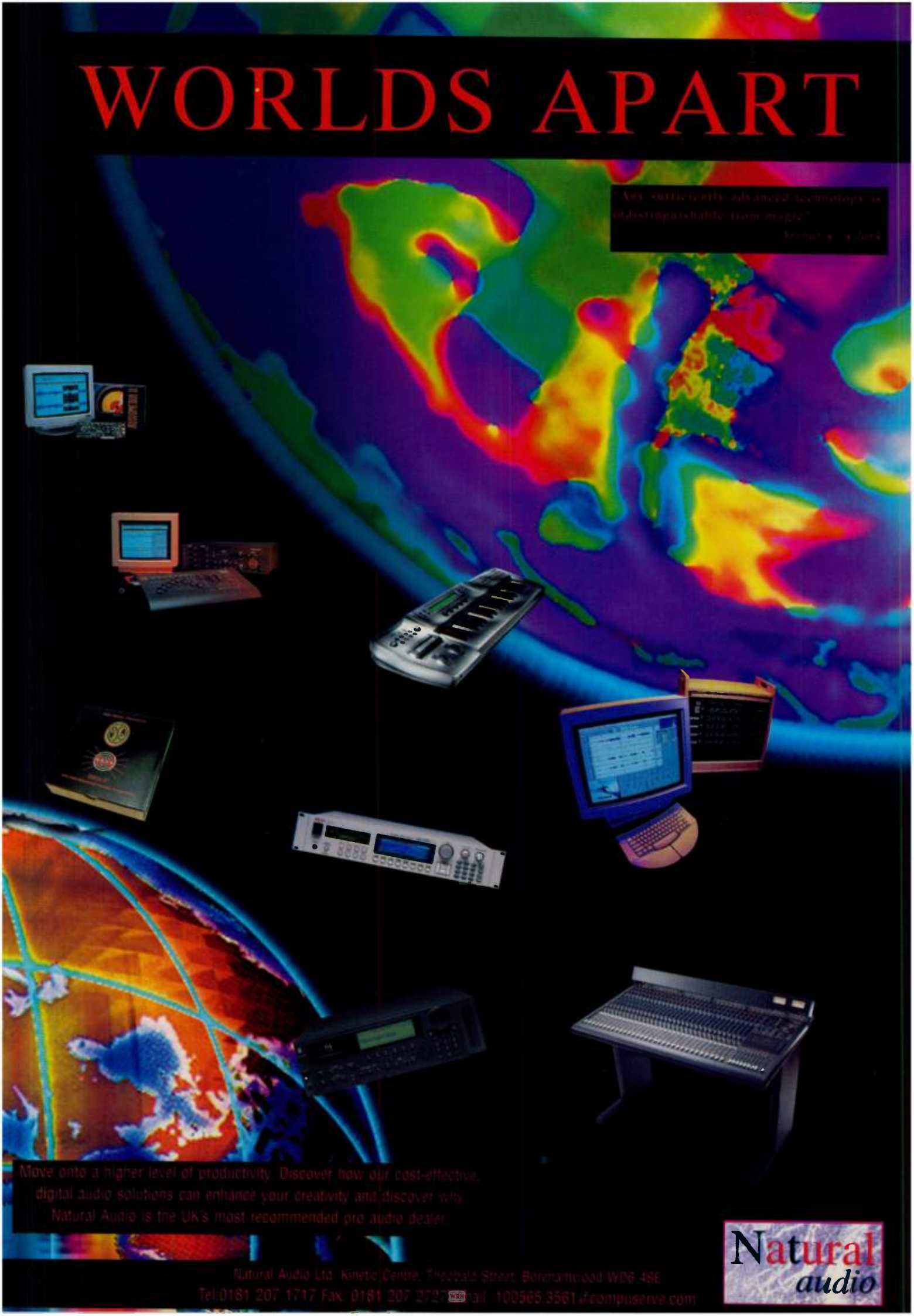
Mike Swain: "The main problem with analogue machines is head wear, and again it comes down to maintenance. When people don't keep the machines clean, loose magnetic particles float about, which are abrasive — the loose particles are actually more abrasive than when they're on the tape. So if the machines are not kept clean, the result will be more head wear. Head and mechanical wear are the worst problems."

Bill Wheeler: "The biggest problem with tape machines is probably mechanics. Belts and braces, pulleys, the rubber bits. They get left in all sorts of different locations and circumstances, and humidity tends to alter the structure of rubbers, so a pulley that was once a certain shape can end up unrecognisable."

• SAMPLERS

Cliff Whitehead: "Anything from faulty disk drives to backlights, on the old S1000, for example. On the newer samplers, we tend to see more electronic problems. On one recent machine, the main problem is with a PLD (Programmable Logic Device)... I think there must have been a dodgy batch at one stage, because 80% of those samplers that we see have got that problem. A PLD is essentially lots of little logic devices programmed into one chip, so when the designers developed the sampler, they chose one logic chip for, say disk drive control or the analogue-to-digital chip. So samplers may apparently have different faults, but actually for the same reason — a faulty PLD. All we have to do is change the chip."

WORLDS APART



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Cliff Whitehead really appreciates the analogue revival: "It's great! More work for me — everyone's digging out all their old synths, finding they don't work and bringing them to me to fix. One of my first keyboards was an SH101. The old Moogs are quite nice, and Roland TR909s..."

The recent popularity of 909s has meant that Cliff has seen quite a few in for repair, and the same problem seems to be cropping up:

"There is a particular fault — the last three have had it. The circuit boards are mounted on little metal stand-offs. We've found that the circuit boards have actually cracked around the pillars, so where it's been dropped, or knocked in transit or something, particular instruments won't be sounding — a cymbal or bass drum will be gone, for example. Everything else functions fine. The problem is that around one of the screw holes on the circuit board, where it's screwed next to a metal pillar, it's actually cracked a little bit of track."

"It's amazing how inept some people are with a soldering iron. Sometimes you think they've been soldering with a poker!"

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▶ got it open at home, and it didn't work at all. He tried to contact the person who sold it to him — no reply. So he sent it to us to look at, we opened it up, and there were chips missing, boards burnt, tracks missing — unbelievable inside. It had been absolutely butchered. Somebody had tried to repair it, and tried to remove surface-mount components — with a hot poker, I think!"

Adam remembers another example: "There was another one, a big 2-inch 24-track..."

Mike: "Yes, the buyer didn't really check it out. He bought a whole studio package, paid quite a lot of money, and the machine was in diabolical condition. They're nice machines when they're working, but it actually took us three weeks to get the thing done — there was that amount of work involved. The modules plug into a back plane, and all the back plane was broken. Somebody had rammed a screwdriver into the head, so that one track had a great big screwdriver gouge... the machine was mechanically and electronically falling apart, and we restored it. It was time-consuming and fairly expensive. He didn't have a new head, so he's using it as a 23-track, basically. You've got to be very careful what you buy."

If you're still game, though, here are a few words of advice from Mike: "You need to be sure that the thing is in working order. If you do buy something that's not working, you need to take advice on what that problem is likely to cost to fix, and make your offer in relation to that. We do inspect second-hand items for customers. If you're buying a big multitrack open-reel tape machine, it's very difficult, if you're a first time buyer, to know what you're buying. We'll have the machine in and check it out, and if the seller is legitimate, they don't mind. We'll give it the once-over and produce a report on what we find wrong."

THE GOOD, THE BAD, AND THE UGLY

When you're in this kind of work, you soon come to realise that all gear is not created equal, and it's inevitable that some instruments will be easier and more pleasant to work with than others. We asked our service experts if they have any favourite designs — or any pet hates. David Croft: "I like the Prophet 5 and the way it was laid out. That's a favourite. Sequential were one of the main instigators of MIDI, and it's unfortunate that a company that had so much influence, perhaps as a consequence of their openness should have almost sacrificed themselves for MIDI. The company had the innovation to induce the other companies to follow a standard. Without them, it's quite possible that we wouldn't have MIDI as a standard."

On the other hand... "The synthesizers that people make as kits are awful to work on. They might have been a good idea, but you've got to contend with all the poor assembly problems. It's amazing how inept some people are with a soldering iron: boards come in with tracks pulled up and great big blobs of solder. Sometimes you think they've been soldering with a poker!"

For Mike Swain, a personal favourite is "the new series of Akai samplers, the 3000 series, and the DR8s — they're particularly nice." Adam also has a soft spot for Tascam tape machines, especially the TSR series. Mike agrees: "They are beautifully made; the engineering is wonderful. Something like that is a pleasure to work on. Tascam engineering, particularly on the big open-reel machines, is beautiful. Compare that to some of the vintage synths, which are diabolical, particularly things like Memorymoogs, which are horrible to work on, because they're all just ribbon cables everywhere. You open it up and it's just a rat's nest of cables and boards. That was made when Bob Moog wasn't in control. It's a machine which shouldn't have been manufactured, in my opinion — it's unreliable, appalling construction..." Say what you mean, Mike!

Bill Wheeler confesses a weakness for "anything Roland", but isn't quite so taken with "some of the smaller, cheaper cassette 4-tracks — because you have to take them to bits, then put them back together again completely, before you can try them. They're not service-friendly."

For Cliff Whitehead, it's some of the ultra-budget Cheetah instruments which cause headaches: "I don't see a lot of their instruments, but what we do get is difficult to fix. I've had a Cheetah 7P master keyboard in for a few months; I think the problem with that is the circuit board. The build quality of the circuit boards is such that if you're not very delicate with your soldering, you could damage a track. The tracks are very thin, and a slight flex of the board could put a hairline crack in some of them."

LONG MAY THEY SERVICE

Now that you've read these behind-the-scenes stories from the service industry, perhaps you'll think twice before rubbing your axe-wielding girlfriend up the wrong way, giving your infant guinea pig the run of your studio, or taking your prize instrument on holiday with you in a Kwik-Save carrier bag. But if something dreadful does happen to your gear, don't panic: these noble chaps (and the others like them who we weren't able to speak to) really can save your bacon, as well as keeping your studio in top condition.

Mike Swain speaks for all our interviewees: "Everybody is trying to do their job, they're trying to make sure that the customer gets a good deal. You're trying, actually, to keep people working, because a lot of the people that we repair for are professional musicians, so you've got to keep their equipment going — it's as simple as that. You've got to be there when the people need you." SOS

Our thanks to David Croft, Mike and Adam Swain, Bill Wheeler, Cliff Whitehead and their staff, for their help and co-operation in the preparation of this feature.

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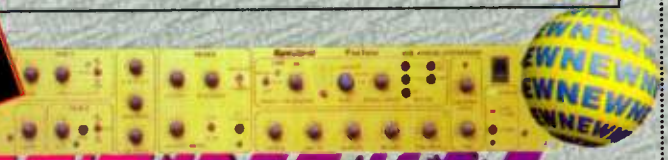

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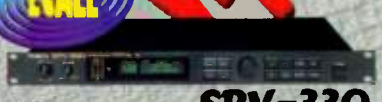

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Styling and profiling

YAMAHA PRO R3 DIGITAL REVERBERATOR

It looks like a flagship reverb, yet it checks in at the price of a jet ski. PAUL WHITE cuts a dash with Yamaha's versatile new digital reverb.

Yamaha seem to be striking out on all fronts at the moment, with a mid-price 16-buss mixer which encroaches on Mackie and Soundcraft/Spirit's patch (see Derek Johnson's review of the RM800 on page 130 this month), and now a reverb which looks to be taking on the Lexicon heavyweights. Chock-full of new algorithms, the Pro R3 boasts third-generation 32-bit DSP and 20-bit/44.1kHz convertors. At just over £1000, it may not seem exactly cheap, but when you consider that it boasts a 110dB dynamic range and costs less than the original Rev7 did almost a decade ago, it will be a bargain if it delivers the sound quality promised.

The 2U Pro R3 is predominantly a true stereo reverb processor, but like most modern reverb units, it also generates additional effects. While it doesn't purport to be a multi-effects unit, it's still possible in many cases to combine reverb with further effects processing, as well as additional dynamic processing.

Featuring 90 user memories and 90 factory presets, the Pro R3 is really three stages of signal processing in one. Before entering the reverb processor, the input signal passes through a 3-band sweep equaliser, which the manual sloppily refers to as parametric (unlike the post-reverb EQ, which really *is* parametric). This comes after the input metering, so you have to take care not to overload the next stage by applying too much boost. Next in the signal path is the primary effects processor, which is responsible for generating the reverb/effects algorithms. There are 10 effect options available, including early reflections, room simulation, and various combinations of 'reverb plus one' modulation effects. Following on from the primary effects block is a further processing section capable of providing dynamic filtering, EQ, compression, gating, panning and balancing, and these may be used in any patch, regardless of the primary effect chosen.

Usefully, the inputs and outputs to the Pro R3 are available on both balanced XLRs and quarter-inch jacks, with an option to switch the operating levels from -10dBV to +4dBu. Various input modes are provided, including true stereo and dual mono-in, stereo-out effects processing. There's also full MIDI support, ranging from basic MIDI patch changing to the SysEx dumping and reloading of patch data.

QUICK TOUR

The front panel of the Pro R3 is divided into several distinct areas, with the EQ knobs and EQ Bypass button directly beneath the metering section. In common with earlier Yamaha reverb units, the display comprises an LCD window plus a 2-digit, 7-segment LED display which shows the currently-selected program number. The LCD shows the patch name, but also shows parameter data and messages during editing. A dual bargraph meter completes the metering section, while the input gain is set using a dual-concentric knob.

Parameter navigation is accomplished via the usual combination of Inc/Dec keys and left-right cursor buttons, while eight discrete parameter buttons select the areas to be edited. A set of numeric keys provide direct access to programs if you don't fancy stepping through them one at a time, and these may also be used for the direct input of both positive and negative parameter values. Also included in this section are the Program, Store, Cancel and Recall/Enter buttons, but on the whole, anyone who has used a Yamaha SPX processor before should feel quite at home with the operating system.

That leaves just a handful of buttons for Compare (where you see if your edits have made the patch better or worse); Utility, which gets you into the system parameters and MIDI setup, Bypass and Infinite. Switching Bypass replaces the effect/dry mix at the output with the original input sound. Infinite can be used to virtually freeze a reverb sound, by setting the reverb time parameter to maximum for as long as the button is held down. The decay time isn't actually infinite (I timed it!), but it is very long. The rear panel is, by comparison, very simple, with just the XLR and jack audio connectors, separate -10dB/+4dB level switches for the inputs and outputs, and a full set of MIDI In, Out and Thru sockets.

OPERATION

Everything about a patch can be programmed apart from the pre-EQ, which is strictly manual. Once the input level has been set, the easiest way to explore the unit is by cruising the presets to see what kind of variety it can offer. The presets are neatly compartmentalised into room, plate halls, effects and so on. There's a good balance between straight reverbs and reverbs, with a little trickery thrown in, such as extra flanging, chorus, delay or even pitch shift. The old Yamaha favourites are all there, including two versions of the richly swirling Symphonic reverb/chorus combination, and the

▶

YAMAHA PRO R3 £1056

PROS

- Upfront, flattering sound.
- Wonderfully quiet.
- Easy to use.
- Rich modulation effects.
- Wide range of quality reverb sounds.

CONS

- The larger-than-life impression created by this reverb may make it more difficult to position sounds at the back of a mix.

SUMMARY

This is a very serious reverb unit with an exciting, in-your-face sound. It goes some way to capturing the American sound, but still maintains its own identity.

THAT OLE DEVIL CALLED MIDI

The MIDI setup is accessed via the Utility key, and here it's possible to set up a MIDI program change table, for the benefit of those performers who need a specific patch on their master keyboard to call up a reverb program with a different program number. There are four MIDI change table banks, each of which can have its own settings.

SysEx dumps can be used to transmit and receive all data, user program data from specific programs, program change table banks and system data. It's also possible to assign two MIDI controllers for real-time parameter control, and as well as selecting the destinations, you can specify a control range for each one. Finally, but still very importantly, if you get the machine into a total mess, you can reinitialise it by holding down Store and then powering up. After power up, press Recall to initialise, or any other key to abort.

Yamaha PRO R3

inevitable 'special FX'. Indeed, most of the programs are conservative in nature, because of the limitations imposed by combining reverb with only one other time-domain effect at once. This only goes to underline the brief of this processor as a serious reverb engine.

As you'd expect from a serious reverberator, you can edit the reverb parameters in great depth, but to make life easy for the operator, the editing parameters are divided into Main and Fine groups. The Main parameters are those that make the most difference to a patch — things like reverb decay time, pre-delay, high and low frequency damping ratio and so on. These vary depending on which of the 10 effect combinations is chosen as a starting point, but the idea is to provide instant access to the handful of parameters that make the most difference.

The Pro R3's back panel, helpfully offering XLR Ins and Outs alongside the jack sockets.

> *"All the reverb patches have a very upfront quality, which is wonderful in some situations, and counterproductive in others."*

The Fine parameter section is where all the subtle stuff is kept, and in the case of Reverb, you have a choice of 13 more variables, including density, liveness, early reflection balance and reverb modulation — which I guess is designed to be similar to Lexicon's Spin parameter. The Room simulation program has the most Main parameters, some 17 at the last count, and these include the room dimensions, a measure of the wall roughness, and of course the high and low frequency decay characteristics of the room. You can set the listener's position within the room, and the way in which the horizontal and vertical room reflections decay. In the Fine parameters section, you can even modulate the room size — which roughly equates to the 'what I was drinking last night' variable.

Within the 'reverb with echo' option, the delay time can be varied up to 400ms for both the left and right channels independently, while the early reflections capacity of the system may be used on its own or in conjunction with reverb. However, gated effects are normally created by picking a suitable natural reverb, and then gating it using the post-processing gate facility. Effects, including pitch change, can accommodate up to plus or minus one octave of shift, and like most Yamaha pitch-shifters, this one includes both delay and feedback parameters.

POST-EFFECTS PROCESSING

In the post-processing section we find the dynamic filter, which varies according to the level of the input signal, making it possible to create anything from subtle timbral changes to strong autowah effects. A nice touch when using the compressor option is that the gain reduction amount is shown in the LCD window as a bargraph display. The compressor is a switchable soft/medium/hard-knee type, with access to all the main variables including attack, release, threshold, ratio and output level. This may be used to even out the reverb decay when creating gated effects, or simply to reduce the dynamic range of the reverb. The 3-band post-effects EQ is fully parametric, but is controlled via the buttons rather than by knobs, which slows down the setting-up process somewhat. The EQ range is from 32Hz to 20kHz, with a fair degree of overlap between the three bands, while the cut/boost range is 15dB and the Q range is from 0.1 to 5.

Finally, there's the gate, which is very conventional except in its ability to be triggered via MIDI if required. It is also possible to select the gate trigger source as being its own input or pre-reverb, which should make for cleaner triggering when setting up gated drums. Given that one of the main selling points of the Pro R3 is its huge dynamic range, I would imagine that this gate would be used only for effects, and not for routine cleaning up!

PERFORMANCE

Evaluating a reverb unit is difficult at the best of times, but expressing the results in words is even harder. To test the Pro R3, I used a small mixer connected to an AVI integrated amplifier, feeding a couple of Dynaudio monitors that I was also in the process of reviewing. The source material came from my selection of test CDs, including Alan Parsons' *Soundcheck* and Lexicon's own demo CD, and for comparison, I patched in an Alesis Q2. I also have a Lexicon Alex, which is fine for getting broad-brushstroke impressions, but obviously doesn't rival the top-end Lexicons in dynamic range or reverb density.

I've checked out more Yamaha reverbs than I can remember over the past 12 years (as well as owning several), and during that time I've learned a lot about what Yamaha get right and what they get wrong — so I was particularly interested in how they'd fared with the new Pro R3. Traditionally, Yamaha reverbs have gained a reputation for being bright and slightly clinical; shorter rooms in particular tend to be rather splashy and even metallic, although the modulation effects, particularly the symphonic variants, have always been excellent.

The Pro R3 is best evaluated, at least in the first instance, with the pre-EQ switched out of circuit and the minimum of post-processing. The 20-bit circuitry not only results in very low noise operation, it also means you can allow yourself the luxury of leaving a few dBs of input headroom without worrying about noise or lack of resolution. Straight away, it hits you that the sound is very clean, with a beautifully smooth decay to the reverb. What Yamaha have managed to achieve this time around is a reverb that you can add to the original in very

EFFECTS

PRIMARY EFFECTS
- Reverb
- Early Reflections
- Room Simulation
- Reverb + Echo
- Reverb + Early Reflections
- Reverb + Chorus
- Reverb + Symphonic
- Reverb + Flanger
- Reverb + Pitch Change
- Reverb + Auto Pan

POST-REVERB EFFECTS & SETTINGS
- Dynamic Filter
- Compressor
- EQ (3-band parametric)
- Gate
- Level/Balance

generous amounts without seeming to colour it excessively. The overall impression of the reverbs is that they are glossy and slick, almost as though they've been processed with some kind of exciter. The level of inappropriate coloration is much reduced, and a certain amount of warmth has crept into the sound — and all without sacrificing the brightness of earlier Yamaha systems.

It was particularly interesting to compare the Pro R3 with the Alesis Q2, which also set its sights on the Lexicon market. The Yamaha has a more open sound, but the tradeoff is that the sense of room depth and character seems to be far less pronounced. On most of the high-end reverbs I've heard, you can hear the sound trailing off into the distance to create a definite 3D illusion, but the impression I get when I hear the Pro R3 is of a very wide curtain of reverb hanging right in front of my face. Whether this is a good or a bad thing depends entirely what you want to use the reverb for. For lead vocals and lead instruments, the Pro R3 is obviously at an advantage, because the reverb doesn't have the effect of pushing sounds into the background: everything remains prominent, even when you've added lots of reverb. Sibilance sometimes causes problem on the brighter plate settings, but that can be reduced by careful use of the pre-EQ.

By exactly the same token, the Pro R3 is less effective when it comes to trying to position sounds at the rear of the mix, and the different room types don't seem nearly as well defined as I felt they were on the Q2. Of the combination effects, I found several to be superb, and not surprisingly, the Symphonic patches were near the top of my list, along with other modulated reverbs which really shimmer and move. It's also important to note that in the combination programs, you can have the two effects in parallel, or you can put them in series either way around, which provides a lot of choice from relatively few variables. Another practical point is that the patches can be changed fairly quickly, and although some muting takes place at changeover, the procedure is reasonably fast and very smooth.

SUMMARY

Yamaha have definitely moved on a generation in reverb technology, and the introduction of a 20-bit system at this price is also welcome. It may seem strange that a reverberation unit with such a high technical specification doesn't have digital I/O, but I guess Yamaha must have decided that allowing its connection to a 16-bit system would be sacrilege.

The subjective reverb quality is the all-important factor, and though far better than anything I've previously heard from Yamaha, all the reverb patches have a very upfront quality, which is wonderful in some situations, and counter-productive in others. You can modify the basic reverb character by using the pre and post-EQ facilities, but the real character of any reverb is in the algorithm, not what you do to it afterwards.

I think it's reasonable to say that the Pro R3 will appeal mainly to pop music producers, due to its ability to put sounds right in your face, without fogging up the mix. What it lacks in depth it makes up with sheer sparkle and polish, and in the context of a pop music production environment, I have no hesitation in recommending it as a powerful processing tool. It's also straightforward to use, which counts for a lot these days. SOS

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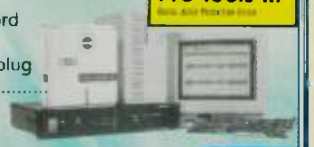

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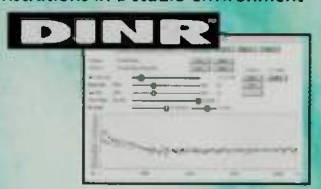

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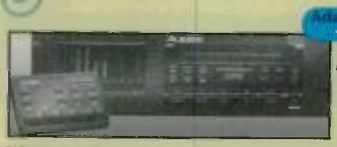

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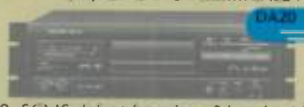

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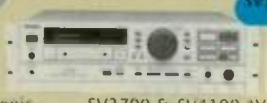

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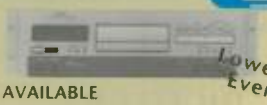

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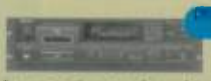

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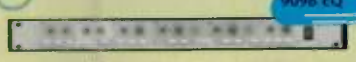

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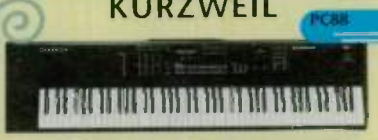

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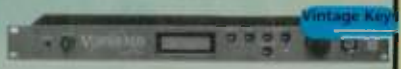

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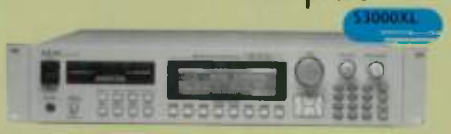

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Living With...

Continuing our occasional series of reports from long-term users of studio equipment, this month BRIAN HEYWOOD talks to two producers about their Soundscape digital recording system, and how they used it to put together a hit track.

SOUNDSCAPE SSHDR1 HARD DISK RECORDING SYSTEM

One of *SOS*'s main roles has always been to look at and test new technology as it appears, and to bring readers up-to-the-minute information about the latest new equipment. Whilst this is very useful, it is also interesting to see how technology is used out in the real world. The *real* test of any piece of equipment is how it performs over a period of time in the hands of a user.

This article looks at the work done by two producers using a Soundscape SSHDR1 hard disk recording system — Kirk Zavieh and Charles Hodgkinson of London-based Adelphoi Records. Kirk and Charles started Adelphoi about three years ago, when they began working from the basement of Kirk's flat. If you are an avid watcher of *Top of the Pops*, you may have seen and heard some of the pair's material during a few of the playouts last year.

WHY SOUNDSCAPE?

As producers who do a lot of work with acoustic, non-MIDI instruments and live vocals, Kirk and Charles felt they needed a hard disk recording system so that they could have the same degree of flexibility in their editing and arrangement of acoustic material as they were used to with MIDI sequencers and instrumentation. When they were kitting out Adelphoi at its current location near Covent Garden in late 1993, the pair were given demos of various PC-based systems in London (though impressed by Digidesign's Pro Tools, it was out of their budget at the time). Soundscape had recently been released, and Kirk and Charles were impressed by its "capabilities, speed, and ease of use", as well as the level of product support — their demo was conducted by actual members of the Soundscape team.

Since their purchase, the SSHDR1 has become the heart of their recording system, synchronised to their Power Mac-based sequencer (Emagic's *Logic v2*) and/or their Alesis ADAT. At the time of my visit, they were looking forward to the introduction of the Soundscape timestretch module (which is now available — see the 'All About Soundscape' box for more details); much more so than the reverb module.

The fact that the Soundscape system did not

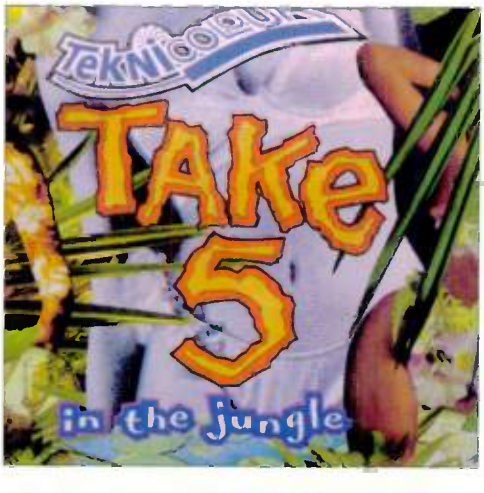
Charles Hodgkinson (right) and Kirk Zavieh (left) with their Soundscape SSHDR1 system.

Adelphoi Studios.

depend on the host PC's processor also contributed to the pair's purchase decision, as they felt this was likely to lead to less system crashes. Since they bought the SSHDR1, these hopes have been borne out — as Charles enthusiastically puts it: "There has never been a problem; it has crashed *twice* in two years! We've never lost *anything*!". This comment is a fairly telling recommendation in an area where both hardware and software are pretty renowned for their crashes. In fact, Kirk and Charles were keen to point out that they felt their ADAT had proved less reliable than their Soundscape system, and that as a result they relied on the Soundscape more for critical work.

TAKING FIVE

Kirk and Charles agreed to explain how they had put together a track from scratch, and how the SSHDR1 fitted into their recording process. The track they told me about was a jungle version of Dave Brubeck's jazz classic 'Take 5', but in this case assembled by Kirk, Charles and a long-time close collaborator known only as DAL. They had the idea one afternoon whilst working on another project, and felt "it sounded like a great idea, which would capture people's imagination, and be good fun! The fact that it was in 5/4 time made it even more interesting and challenging."



The first thing the pair did was set up the backing track using *Logic* — the non-audio, MIDI-only version (see the 'Unerring *Logic*' box). The rhythm track was constructed by taking some drum loop samples and putting them into 5/4, which was not a trivial task, considering they were originally 4/4 jungle-type samples. The breakbeat for the track was assembled by editing these samples and playing them back in sync on their Roland S750 and S760 samplers. Bass and piano parts were then played over the top on synths. To get a 'sample' feel for the piano part, Kirk and Charles sampled some track noise from an old record, and combined it with the nastiest piano sound they could find — a detuned 'school piano' patch on their Yamaha TX81Z FM sound module. The end result is that the piano sounds as though it has been sampled from an old record — thus lending it an 'authentic' sound that is in fact totally inauthentic! The bass sound was created by layering a number of synth basses — a 'Sine bass' patch to give the depth required for jungle tracks, combined with a higher, more refined bass to cut through on a small radio speaker.

Once the rhythm track was complete, two sax players (Mark Waterman & Danny Langsmen) were bought into the studio to play the lead lines. Adelphoi have a pool of session musicians that they use to play on tracks as required. The final performer was one Llewgo-Ranks, who was brought in to

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Living With SOUNDSCAPE

UNERRING LOGIC

Kirk and Charles tried a number of sequencers to run alongside their Soundscape system before they found one that suited their purposes. Originally, they used Twelve Tone Systems' *Cakewalk* on a 386 PC, but experienced a lot of timing problems, probably due to asking too much of their PC's rather modest processing capabilities.

The pair then tried Steinberg's *Cubase* on an Atari, but still had the timing problems. They tried to solve them by investing in the most powerful computer they could afford — a Power Mac — but after trying *Cubase* again, this time on their new computer, they remained unhappy with the timing performance.

Since adopting the Power Mac/*Logic*/Soundscape combination, Kirk and Charles feel they have "never looked back". They find *Logic* "totally excellent", despite slow screen updates; they were running the software in 680x0 emulation mode at the time of my visit, which meant that they couldn't take advantage of their Power Mac's advanced RISC processor. But their timing problems are a thing of the past, even when *Logic* is locked to timecode. They go on, "the main point about a sequencer is that it needs to be very user-friendly. You don't want to spend hours mucking around trying to bash your ideas out — it has to be quick".

▶ record a ska-type rap in typical jungle fashion over the top of the music. The saxes and vocal were recorded straight onto the SSHDR1 hard disk system, using an AKG C414 mic, and were then compressed using an Alesis 3630 and a Urei 1178 — the last of which they describe as a "superb piece of equipment".

EDITING, ARRANGEMENT AND MIXING

Considerable time was taken in recording and editing the acoustic recordings so that they hung together well with the MIDI backing. Fortunately, as Kirk and Charles explained, they find Soundscape editing fast enough to allow them to edit *during* the recording session — there are no long delays while audio data is shunted around.

All the 'Take 5' audio was recorded on the Soundscape, although in the end Kirk and Charles only needed to use six of the eight tracks. As the hardware only has four individual outputs, a certain amount of the audio was mixed in the digital domain. The pair usually work by looking at the tracks individually and then doing stereo merges. This has the advantage of reducing the number of outputs required, while still maintaining control over the level and pan position of each instrument. Once you've got the sound onto the hard disk, not only is the sound quality better, but you can do whatever you want with it in terms of its arrangement.

When it came to the final mix, the acoustic tracks had been reduced to four: lead sax, another sax and alto sax for the chorus, and a track for the vocal. Kirk and Charles automate their mixes using MIDI volume commands, either from within Soundscape or using *Logic*. This gives them a fine control over the audio without the need for a fully

The SSHDR1-R removable drive hardware.

Soundscape's front-end PC software.

ALL ABOUT SOUNDSCAPE

Soundscape is a digital recording system which comprises a hardware and software element, and requires an IBM-compatible PC to run the front end. The hardware unit is a 2U rackmount device containing all the processing power necessary to drive an 8-track Soundscape system. Connections to the basic unit are made via S/PDIF or phonos to two ins and four outs in either format, but a Pro version of the Soundscape hardware is also available, offering an additional two analogue ins and four analogue outs on XLRs, and a digital in and two outs in the AES/EBU format. A further version of the hardware is also available, the SSHDR1-R, which is fitted with removable IDE drives.

Up to 16 Soundscape units can be chained together, to give up to 128 tracks if required. The software front end for the system is included in the price for the hardware, but the PC needed to run the system is not, and neither is the hard drive in the hardware unit, though Soundscape will ship the unit containing any IDE hard drive of your choice (as a guide, they will put in a 1Gb drive for around £250 at present). The system requires 10Mb of storage for one stereo minute of recording time. This doesn't amount to much when divided down over eight tracks — which explains why Kirk and Charles have 1Gb drives in their system! The system can be backed up to consumer DAT via the digital outputs on either version of the hardware unit, or to any SCSI or Zip drive connected to the front-end PC.

As the processing power needed to run the system is contained within the hardware, and *not* the PC which runs the system's front end, a super-fast PC is not a necessity; Soundscape will run with a 386 PC, though the manufacturers do recommend a 486. As you can see from Kirk and Charles' trouble-free working with their 486, this would seem to be a reasonable recommendation.

The software part of Soundscape comes with some DSP processing tools, but these are inaccessible if you pay only the basic system price. If you pay extra, Soundscape give you passwords which allow you to access timestretch and reverb modules, and should you require it, EDL file support for video work. The timestretch module is available in the software shipping now; the others will be included from the end of March '96. Users requiring any module missing from their software can obtain it on disk from Soundscape for the standard cost of the upgrade.

£ Soundscape 8-track system £2500 (includes software front end, but no internal hard drive); Soundscape Pro £2750; SSHDR1-R (removable drive version) £2850; Timestretch module password £150; Reverb module password £275; EDL file support password £499. All prices include VAT.

A Soundscape Digital Technology Ltd, Crichton House, Mount Stuart Square, Cardiff Bay, Cardiff CF1 6DR.

T 01222 450120.

F 01222 450130.

Two Soundscape hardware units (each capable of recording eight tracks of digital audio).

The back panel on the Pro version of the Soundscape hardware. Note the XLR analogue and AES/EBU digital ins and outs along the top.

ADELPHOI RECORDS EQUIPMENT LIST

SYNTHS & KEYBOARDS
- Fatar Studio 900 master keyboard
- Korg M1
- Kurzweil MicroPiano
- Roland Juno 6 synth
- Studio Electronics SE1
- Yamaha TX81Z synth module
- Yamaha TG55

COMPUTERS & SOFTWARE
- Emagic *Logic v2* running on an Apple Power Mac 7100
- Soundscape SSHDR1 hard disk recorder on a 486 DX2 PC (with 1Gb drive) [*since the interview, Adelphoi have purchased another Soundscape unit for a second studio setup — Ed*]

SAMPLERS
- Roland S750
- 2 x Roland S760

RECORDING
- AKG C414 microphone
- Alesis ADAT (not used in 'Take 5')
- AIWA DAT
- Drawmer DS401 gate
- Dynaudio BM10 monitors
- Lexicon PCM80 effects
- Mackie 32:8 mixing desk
- Shure SM57
- Shure SM58
- Sony PCM2600 DAT (not used in 'Take 5')
- Urei 1178 compressor/limiter
- Yamaha NS10M monitors
- Yamaha SPX90 effects (Mk I and Mk II)

automated desk.

The 'Take 5' tracks were equalised using the EQ on the Adelphoi Mackie 32:8 desk, rather than using Soundscape's internal digital EQ section, since Kirk and Charles both feel the latter is more "unwieldy" and less immediate than twiddling a knob on the mixing desk. Nevertheless, they do sometimes make use of Soundscape's EQ to correct audio data on disk *before* getting to the mixing stage. In this case, however, the Soundscape was used very much like a traditional multitrack recorder, and most of the mix was performed on the Mackie desk, giving a much more 'hands on' feel. As Kirk observes of Soundscape's built-in EQ, "it's too fiddly, you want to be able to listen, close your eyes and find a nice EQ manually". Charles concurs. "It's not advanced enough yet, so that as you twist a knob you can hear the difference".

At the time of my visit, Adelphoi mixes were usually 'performed' straight down to an Aiwa DAT machine and then copied back onto the Soundscape in the digital domain via the S/PDIF inputs. This had the advantage of generating an instant backup of the mix, but both Kirk and Charles were finding that their consumer-quality machine was giving them reliability problems and was not always compatible with other DAT recorders. I was not surprised to learn recently that they have since changed the Aiwa DAT for a Sony.

Once complete mixes are back on the Soundscape, they can be edited together, shortened or lengthened, and then passed back out through the Mackie desk and/or any further external processing as required. The 'Take 5' CD had no less than six separate mixes, which shows the flexibility of this approach.

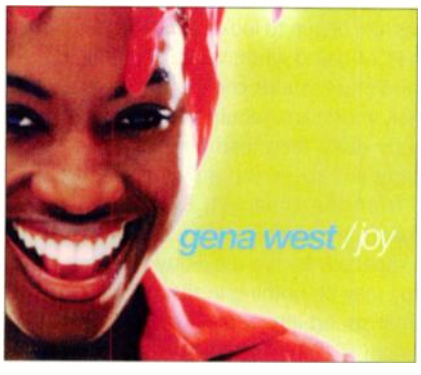
IT'S A HIT!

Once the 'Take 5' tracks were complete, Kirk and Charles presented the material to various record companies and broadcasters. The response, as Kirk explained, was "amazing. The producer of *Top Of The Pops* contacted us, and we agreed to them showing the video behind the closing *TOTP* credits. This was before it was even released." In the end, the track was signed to and released on Arista Records, under the group name Teknicolour. The greatest compliment came from Dave Brubeck himself, who declared it his favourite tribute to 'Take 5', saying it represented everything he looked for in modern music: "enthusiasm, energy and innovation". It goes to show — you can still get results with good material if you present it to the right people! SOS

FURTHER INFORMATION

A Adelphoi Records Ltd, Unit 6, Mercer Street, Covent Garden, London WC2H 9QB.
T 0171 240 7250.
F 0171 240 7260.
E adelphoi@styx.cerbernet.co.uk

Adelphoi's success is not limited to 'Take 5'; they are also the producers of Gena West's new single 'Joy', which is enjoying the view from no.7 on the *Record Mirror* dance chart as this feature goes to press!



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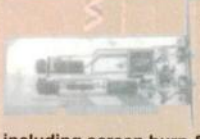

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In recent years, samplers have become almost exclusively rackmount devices, widely used as production workhorses, but less so by the gigging musician. With the release of their first keyboard sampler in several years, Emu are hoping to change all that. PAUL WIFFEN heralds the return of the performer's sampler...

Key Facts

EMU E4K PERFORMANCE SAMPLING KEYBOARD

It is a combination of factors that has led to the sampler becoming a largely rackmount format. Firstly, it is increasingly used for tasks which do not require triggering from a conventional keyboard (drum loops, flying in vocals or sound effects). Secondly, a sampler is rarely the first MIDI device musicians purchase, so the chances are that they already have a keyboard to play it from.

In pre-MIDI days, an integral keyboard was the only way for a sampler to trigger different pitches polyphonically. Indeed, the Emulator I, the first pure sampler, would probably not have enjoyed the success it did, had it been a rack module. The rackmounted AMS devices of the early '80s had a marked effect on the industry, but only as studio tools. The keyboard put sampling at the disposal of the musician rather than the engineer.

Now, in the second half of the '90s, the majority of samplers are being sold as production devices. With the advent of PCM-based synthesis, most keyboard players are going for the pre-fabricated, pre-shrunk, sample playback keyboard. The trend started with the Roland D50 and Korg M1, and has since been refined into the Roland XP50s and Korg Trinitys of today. The sounds can be changed instantly, there are hundreds of them, and they are all ready, set up for best response. The sampler has found it hard to compete with these huge, instantly-available sound palettes.

Samplers, although still a major segment of the market, are mainly used in music production, for playing back drum loops, lifting vocal segments and flying in anything, from sound effects and hits to entire choruses. Why is this? One of the reasons, of course, must be the advent of dance music production, whose *raison d'etre* is the quick 'steal' of a loop, lick or vocal snippet. But that's not all. The sampler has also begun to look a bit inefficient compared to a PCM-based synth. When authentic piano strings and brass sounds could only be had from a sampler, musicians would put up with vulnerable floppy disks, long load times, obtuse operating systems and so on. But now that these sounds issue from the cheapest, PCM-based portable keyboards, the sampler seems like a very clumsy device, especially for live use. Forty seconds to load a floppy may be nothing in the studio to get a really great sound into a machine, but on stage, it can seem like an eternity (and that's if you don't drop the floppy onto the darkened floor, or in your beer as you grope for the drive). Even if you have a hard drive in your sampler, finding the sound you want and selecting it to load can be a nightmare — and all the time, on most samplers, your keyboard is probably 'dead'.

It is these problems which Emu have decided to address with the E4K. As their starting point, they have taken the EIV, probably the most powerful sampler ever made. Those of you who read my review of it just over a year ago will remember my waxing lyrical over its incredible sound replay and modification capabilities. With 128-note polyphony and up to 128Mb of sample RAM, it can certainly handle more sample playback than any other sampler, and also boasts more DSP algorithms and filtering capability than any of its rivals.

In the space available here, it isn't possible to cover those features of the E4K which it shares with its rack counterpart. At six pages long, the EIV piece was the longest review I have ever written, and yet I still had the impression of not having covered everything properly. We will have to confine ourselves here to those aspects where the E4K differs from the module from which it is derived. Those who wish to read about the DSP algorithms in depth, or assess the almost infinite modulation capabilities, will have to dig out *SOS* April 1995.

WHAT'S GONE

Let us briefly cover the areas where the spec of the E4K is reduced from that of the EIV module. The first of these is that the base model (which is the

one I had for the review) has 64 voices instead of 128. This is fair enough, as the E4K is a fair bit cheaper, but it's also more appropriate for a 'live' keyboard, where even the most dextrous of players would have trouble triggering 64 notes at once, even if using three or four layers of sound. Those planning to make maximum use of the on-board sequencer need not fret however, as an additional 64 voices can be added on an optional card, taking it back up to the EIV's polyphony count. Talking of expansion, there is only one plate on the back panel for future expansion options. Emu apparently have some on the drawing board, but nothing is certain (let alone released) yet.

Instead of the XLR-based AES/EBU digital interface, the E4K goes for the much more sensible co-axial connectors of S/PDIF, the interface on the more sensibly-priced DAT machines and most other mid-price digital equipment. I have long opposed the neurotic over-engineering of connectors, which leads to costly monstrosities like the XLR connector and the AES/EBU digital protocol. Apart from some obscure sub-codes that nobody can even remember, let alone ever use, AES/EBU is so similar to S/PDIF that a co-axial to XLR cable with a bit of resistance in it allows one to be plugged into the other — I've been doing it for years with no problems. While we are on the subject, the XLR connectors for the main analogue stereo ins and outs have also gone, leaving the perfectly adequate quarter-inch jacks. I, for one, will not miss the XLRs. It is worth noting that the stereo jack connectors for the inputs and outputs are still electrically balanced if you use stereo jack plugs, so that should shut up any whingeing engineers. Ordinary mortals can use mono jacks for perfectly acceptable sound quality.

I would also like to point out (as I do in every Emu review I write) the excellent arrangement on the stereo sub-mix sockets, as most Emu owners still seem blithely unaware of the unique possibilities they offer. Inserting a mono jack all the way into any of the six sub outputs (arranged as three stereo pairs) gives you the normal sub output. But push a jack halfway into these sockets (or use a stereo jack with the ring wired separately, if you're that fussy) and you have an effect return input which is summed passively to the main outputs (ie. it works even when the E4K is switched off). The number of times this unique Emu feature has saved my bacon when I am running out of mixer channels is beyond number!

WHAT'S NEW

Having covered the rather short list of EIV features missing from the E4K spec, we can now get onto the far more interesting side: the improvements it offers over the module. The most obvious addition, of course, is the appearance of a 76-note weighted keyboard. This is of the synth-weighted type rather than the full wooden-weighted, and feels very nice across a broad range of sounds. Unless you are a real purist, I think the halfway house of a weighted plastic keyboard is going to be best for the wide range of timbres you might well be playing from this machine. The red ▶

EMU E4K
£3499/£4250

PROS

- Best-ever live sample loading facilities.
- Good keyboard action and live performance controls.
- Based on the market's most powerful sampler.
- MIDI File-compatible sequencer.
- Expandable to 128 voices and 128Mb RAM.

CONS

- Less expansion slots than EIV module.
- Less voices as standard than EIV.

SUMMARY

If you want a top-end sampler for live use, the E4K is it. For a player, it's also better value than the EIV rack, especially if you don't need all 128 voices.

EMU E4K

One for the Steinway fans?

"For the first time in a long while, the term 'musical instrument' is more appropriate to a sampler than 'production device'."

velvet strip along the back of the keys, and the gold Emulator legend above them (see picture elsewhere in this article) are an amusing touch, and might even bring some of the Steinway brigade back on board.

The other major addition is a dual real-time effects processor. The algorithms are clearly descendants of those in the Proteus MPS, but Emu assure me that they have been redesigned to take advantage of the new 18-bit signal path. I always felt the MPS to be an underrated machine, and the effects processor was one of the main reasons. The only effects I have ever heard which sound better to me are those from Lexicon. The number and range in the E4K has been increased to no fewer than 72 different algorithms across the two processors, but the quality has not been compromised at all. They sound clean and sparkling, with enough character to add a bit of class to the whole sound, but not so coloured as to render the source samples unrecognisable.

Another nice touch for the live performer is the curiously named 'Thumby' button. Adjacent to the Pitch and Mod wheels, it is described in the manual as 'a footswitch for your hand'. I can't find a better way of putting it myself: completely programmable (like all the E4K's controllers), it allows you to switch rotary speakers on and off, activate momentary effects and other useful things, without having to re-route the Mod Wheel, and thereby losing its main function.

The other main feature which would probably be used live is the sequencer. It's the sort of cut-down device that gets called 'a useful sketchpad', its main virtue being that it loads and plays MIDI files from PC-format disks. Now that you can save files to PC-formatted floppy disks on Macs as well as Ataris, everyone can take their sequences out on a gig without having to hump their computer around.

THE OPERATING SYSTEM

More than anything, a sampler aimed at live use needs a fast way to locate and load the sounds you want, and not leave you standing there like a lemon, with a dead keyboard, and the display flashing something helpful like 'This may take a while'. Until now, Ensoniq were really the only company to have tackled this problem, with their 'Play While Load' feature, separate sound location buttons and well-edited sounds, which loaded quickly and didn't take up too much room in RAM.

Well, now Emu have gone one better — or should that be three better? Firstly, the 150Mb of sounds that come on the internal hard drive (thoughtfully duplicated on a CD-ROM, in case of accidents) all seem to load incredibly fast. This is due to a combination of a very fast hard drive and judiciously-edited sounds. The 2.6Mb 'Grand Piano 88' preset, for example, took just five seconds to load, and sounded very impressive (perhaps a little CP80-ish in the lower middle register, but the slightly larger Steinway and Bösendorfer presets fared much better). Even the 3.6Mb Orchestra only took eight seconds, complete with its demo sequence — the first time I've heard a four-to-the-floor bass drum in an orchestra piece, but it seemed to work!

Secondly, you can now choose to load just a preset and its associated samples. If you know the preset that you want (and let's hope that by the time you get on stage you do), this saves loading samples that you're not going to need. Best of all, when you press load, you are offered the choice of replacing the sounds in memory, or merging the new sounds with the old. If you select the second option, you discover that you can continue to play whichever sound you had selected, while the new one loads. However, it's still fairly tricky getting from one sound to the next in this fashion. You still have to move the cursor to the preset number, and then scroll to switch sounds. Doing this between numbers, or live, would be tricky. But fear not, help is at hand...

SPRINTING THROUGH THE SOUNDS

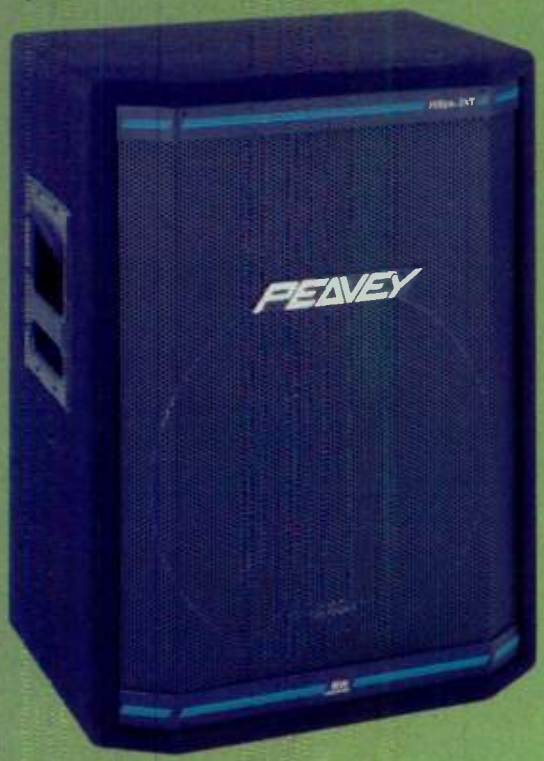
In response to the above problem, Emu have come up with the SoundSprint concept. It removes the need for the Replace/Merge decision each time you want to load a new preset. Instead, it automatically keeps the current preset, and keeps it active while the new one loads (so the keyboard does not go dead during loading). In this way,

E4K REAL-TIME EFFECTS

EFFECTS A
- Room 1
- Hall 1 & 2
- Plate
- Delay
- Panning Delay
- Multitap 1
- Multitap Pan
- 3 Tap
- 3 Tap Pan
- Soft Room
- Warm Room
- Perfect Room
- Tiled Room
- Hard Plate
- Warm Hall
- Spacious Hall
- Bright Hall
- Bright Hall Pan
- Bright Plate
- B-Ball Court
- Gymnasium
- Cavern
- Concert
- Concert 9
- Concert 10 Pan
- Reverse Gate
- Gate 2
- Gate Pan
- Concert 11
- Medium Concert
- Large Concert
- Large Concert Pan
- Canyon
- DelayVerb1-3
- DelayVerb 4-5 Pan
- DelayVerb 6-9

EFFECTS B
- Chorus 1-5
- Doubling
- Slapback
- FB
- Flange 2-7
- Big Chorus
- Symphonic
- Ensemble
- Ensemble 2
- Delay
- Delay Stereo
- Panning
- Delay
- Delay/Chorus
- Pan Delay
- Chorus
- Dual Tap 1/3
- Dual Tap 1/4
- Vibrato
- Symphonic

Look at Our Sound Quality



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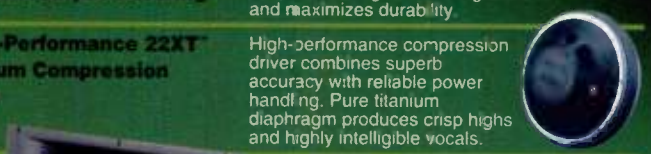

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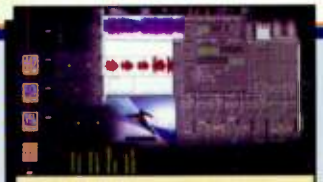

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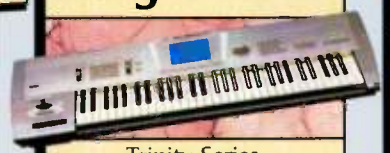

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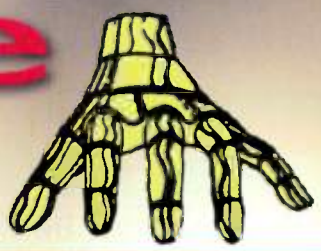

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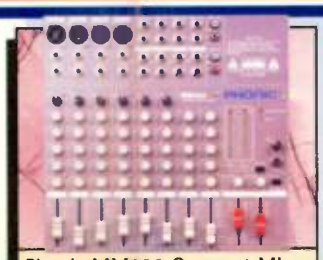

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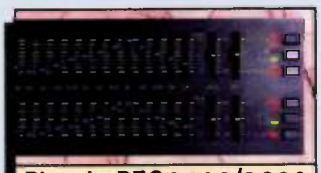

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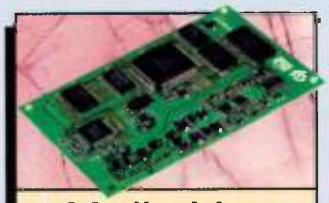

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you can initiate sample loading with a single button push, as opposed to the numerous pushes most samplers require. SoundSprint will continue to load any new presets selected until it runs out of memory, when it erases the older presets first, to make room for the new ones (on the grounds that you are more likely to need recent presets than old ones). Of course, if you keep loading large presets, you will not be able to keep playing an old preset while loading a new one, because there won't be enough room. Still, that's better than the infuriating feeling resulting from being told there is not enough room, and having to go through the whole preset selection process again, and hitting 'replace' this time!

Another nice feature of SoundSprint is that it will not overwrite any sounds which were loaded in the conventional manner. Also, it uses only presets 990 to 999. This means you can load the banks or presets you need all the time into the lower preset numbers, and then go into 'Sprint' mode to get around the less-regularly needed sounds. This removes the chore of having to decide, every time you load a new sound, whether to replace everything in memory, or nothing. Of course, if you load too much normally before you go into Sprint mode, then you will have little or no room left, and run into 'memory full' messages. You don't get something for nothing. There is still no escaping the adage, 'however much you spend on a sampler, be prepared to spend that much again on memory, to make the most of it'. Whilst you may not need to spend another three grand on memory for the E4K (although you easily could, if you plan to go up to 128Mb), SoundSprint works much better with larger amounts of memory than the 4Mb which comes as standard. If you never want to see a memory full message, plan to put at least another 16Mb in, and only half-fill that with 'permanent' presets before going into Sprint mode.

SoundSprint has one final feature, which is the best of the lot for musicians playing fixed sets, or working with a largish palette of sounds they need regularly. It allows you to mark 10 sets of 10 presets for quick loading. Referred to as Bookmarks, the 10 sounds can be loaded with a single button press, and the set of 10 sounds changed with two button presses. If you have to prepare a whole set of fixed songs, this facility would be worth its weight in gold, as you can simply bookmark the presets in the order that you need them, and then call them up sequentially. Alternatively, bookmark your favourite presets in groups of sound types (keys, strings, winds, etc) for quick recall in impromptu situations where you need fast access to staple sounds.

The E4K also has computer-style Search functions, with search strings and so on, as part of its Disk Utilities, but these will be more use in a studio setup where you are using CD-ROM libraries than on stage. I can't see keyboard players entering the name of the sound they need live, even if they *have* got the optional PC-AT keyboard attached. However, for a busy session player, faced with a producer shouting "How long is this going to take?", this facility would be invaluable. Let's face it, performance does not exclusively mean 'on stage'.

CONCLUSION

This review deliberately ignores hundreds of wonderful things about the E4K, simply because I have already covered them at great length in the original EIV review. If you haven't read that,

The four real-time controller sliders and sequencer transport controls.

then take it from me that the E4K is the most versatile sampler on the market today and one of the two best-sounding. The Roland S760 is the other, although it is much more limited in its DSP functionality. If you have enough in your sampling budget, you shouldn't think about buying anything other than an E4K.

Keyboard-based samplers have a chequered history: the Akai S1000K disappeared almost without trace, despite being the keyboard version of perhaps the most successful sampler of all time. Unlike the S1000K, however, the EIV builds intelligently on the strengths of its predecessor, and may therefore escape the same fate. Emu have actually given a lot of thought to what an ergonomic nightmare a sampler can be in a live situation, and addressed those problems logically and with imagination. They have taken the EIV, the most powerful sampler on the market, and adapted it fairly radically for the keyboard performer. As a result, for the first time in a long while, the term 'musical instrument' is more appropriate to a sampler than 'production device'. I just hope there are still some real keyboard players left out there to appreciate what Emu have done for them! SOS

"Take it from me that the E4K is the most versatile sampler on the market today, and one of the two best-sounding."

FURTHER INFORMATION

£ Emu E4K 64-voice £3499; 128-voice £4250; 64-voice upgrade £830. Prices include VAT.
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Cubase, in its many guises, has established itself as an industry standard on Apple and Atari platforms, and now looks set to be the benchmark by which other PC sequencers will be judged. KEVIN PAWSEY investigates what Steinberg has to offer the score-producing musician.

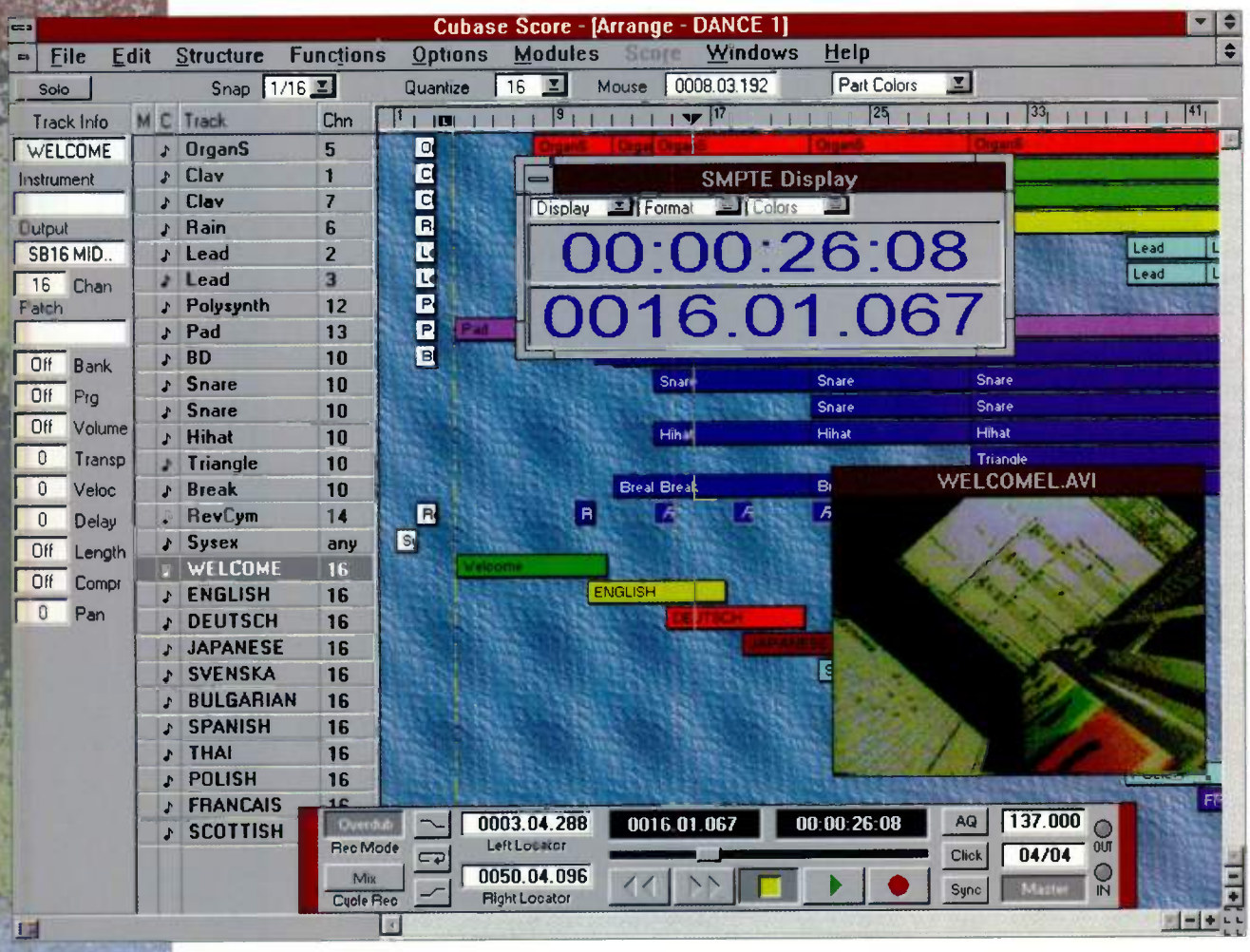
Settling the Score

STEINBERG *CUBASE SCORE FOR WINDOWS v2.0*

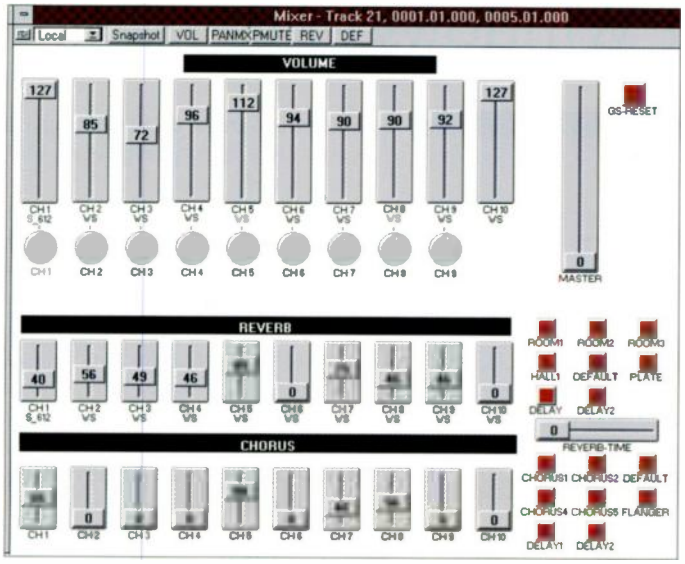
Being a staunch user of *Cubase* on the Mac and ST, I have always had the impression that music software on Windows PCs has been playing 'catchup'; but now I am glad to inform PC owners that their long wait has, at last, been worthwhile. *Cubase Score v2.0* has many refinements over previous versions which really warrant further investigation. This review concentrates on the key new features and improvements in the program.

INSTALLATION

The package comes in two boxes; one box contains the Steinberg Copy Protection Key and three program disks containing all the relevant program and management files. The key locates in the parallel port and must be installed in order for the program to run. Also included is a disk containing the Studio Module. A CD-ROM is supplied for those



Cubase Score v2.0 Arrange Window. Note the AVI movie player and SMPTE modules are active.



The MIDI Mixer. If your synth is not catered for, it's quite easy to write your own profile, using SysEx commands.

PC owners with the relevant hardware, containing the Studio Module and associated files, StyleTrax and *WavePlayer* (for playing back samples).

Software developers would appear to be listening to their users' requests; the second box contains four clearly-written and illustrated A5 manuals: *Getting Started*, *Getting into the Details*, *Modules and Score Layout*, and *Printing*. These instruct you how to apply functions in a musical environment, using structured tutorials, and the program itself also comes complete with excellent, on-line help files which are both comprehensive and easy to follow.

Installation is a painless process; the software readily identifies installed soundcards and drivers, and a complete set of icons will appear in a window once the installation is complete.

You can send MIDI data to a variety of destinations: your internal soundcard; your MIDI Out (or Outs, if you have a multiple port interface); or to MROS (Steinberg's MIDI Real-time Operating System, which allows you to patch directly into like-minded MIDI software). You can also use it to play internal samples via *WavePlayer* (see the boxout on sample playback). Once your outputs are organised, you should save the entire setup as a DEF file, so that this configuration is installed every time the software is loaded.

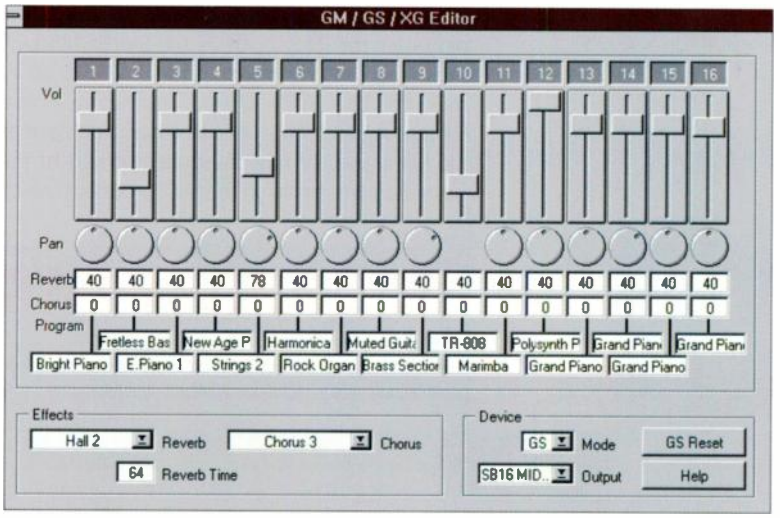
OVERVIEW

Cubase's graphics-based Arrange window has been one of the program's strongest selling points; a basic knowledge of a word processor means you can use it! For this version, the Arrange window has been redesigned to make full use of SVGA windows drivers, so colour is now available, to help distinguish between sections of an arrangement or families of instruments. This is invaluable when working with many tracks and parts.

To record a section of music, you must first select a MIDI track, of which there are a virtually unlimited number, depending on available free memory (compared to 64 on previous versions). There are seven different track classes in *Cubase Score* that determine the type of MIDI data to be recorded; MIDI tracks (the most common type), Drum tracks (for use with the Drum Editor), Mix tracks (for use with the MIDI Mixer, which allows you to control volume, settings and parameters of any connected MIDI devices), Group tracks (containing information from parts that have been grouped together), Tape tracks (used to control multitrack tape recorders from within *Cubase*), and Style and Chord Tracks, which are used by the StyleTrax module.

To record a part, select an appropriate track and associated MIDI channel, left and right locator points and hit Record. You have a choice of Replace or Overdub mode, and whether you want the pattern to cycle, making it easy to create rhythm parts, for example. Once recorded, you can then cut, paste, copy or delete sections using the *Cubase* tools; each edit page has its own set of tools specific to a given task.

All of the features that made *Cubase* such a powerful program have been retained; the MIDI Mixer, the numerous quantise functions, Logical Edit (see Simon Millward's feature on this function in *SOS* March, April and May 1995), the Interactive Phase Synthesiser, and of course all the Options and Edit pages. Most of these have been covered in depth in previous *Cubase* reviews and features, for example Simon Millward's detailed examination of *Cubase*'s structure, which ran from *SOS* September '95 to December '95.



The General MIDI Editor.

Steinberg have kept the edit pages pretty much the same as in previous versions of *Cubase*, although one aspect that has been changed is selecting controllers — it's still done in the Key Edit page from a scrolling list, but now you have to laboriously click through a menu in a pop-up box, although you can directly enter the relevant controller numerically.

A new feature (see above) is the GM, Roland GS ▶

STEINBERG CUBASE SCORE v2.0 PC £499

PROS

- Score Edit's ease of use and wealth of features now rival most dedicated scorewriters.
- Ability to import a score into an art or DTP program as a bitmapped or postscript file.
- That interface just keeps getting better and better!
- New modules give access to some innovative features.

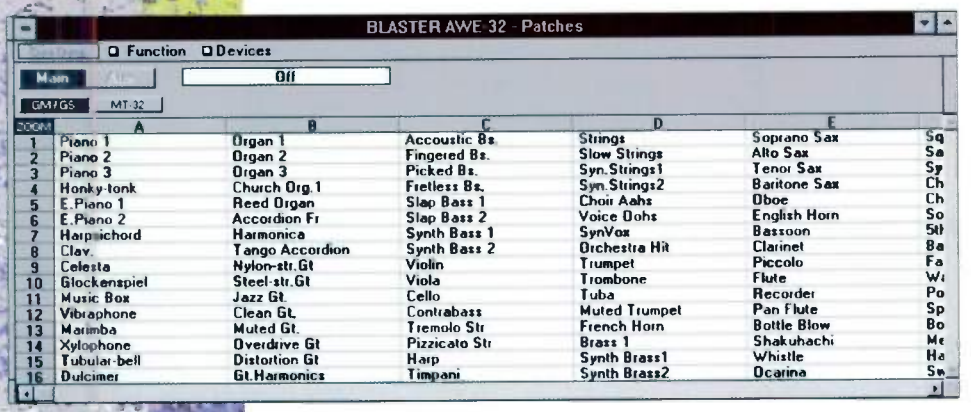
CONS

- Does a professional musician using a professional sequencer really need auto-accompaniment?
- A more comprehensive list of drivers for the studio module and MIDI mixer would be appreciated!

SUMMARY

An excellent piece of software that demonstrates the true ability of the PC and Windows as platforms for a MIDI musician. Although it takes a while to fully explore all of the features, one can initially use it just as a very user-friendly MIDI sequencer, and investigate the advanced features later.

Cubase Score For Windows v2.0



The new Studio module allows for the complete control of any connected MIDI devices from the screen.

▶ and Yamaha XG editor. The GM editor allows you to select one of the standards, and any settings made are then stored as part of a Song. The editor itself consists of 16 channels, structured in a similar way to a conventional mixing desk. Each channel allows for the control of volume, pan position, reverb and chorus depth, and also a pop-up program menu that must rate as one of the easiest methods I have encountered for selecting sounds. Select a sound group, and up pops a sub-menu, where a sound can be selected from a group.

I am happy to report that as much as I tried, I could not get this new version of *Cubase* to crash, even during extensive real-time editing (older versions used to lock up on me occasionally when I was editing during playback).

MODULES

While some modules remain from previous versions of *Cubase*, Steinberg have developed some rather nifty new modules, such as the Studio Module, StyleTrax, AVI Monitor and a SMPTE Display module. The MIDI Mixer, Interactive Phase Synthesiser, and Score Edit are no longer classed as modules, and are now integrated as part of the main program, although the MIDI processor (which allows you to create delay, flanging and arpeggio effects by manipulating MIDI data) remains a module.

The Studio Module (see picture, left) will be of most interest to those with an assortment of MIDI devices; it is able to address (via SysEx) many different manufacturers' devices, using files known as drivers. Some 150 drivers are included with the software, but it is a shame that many popular synths and samplers are not covered (the latest Akai sampler provided for is the S612!).

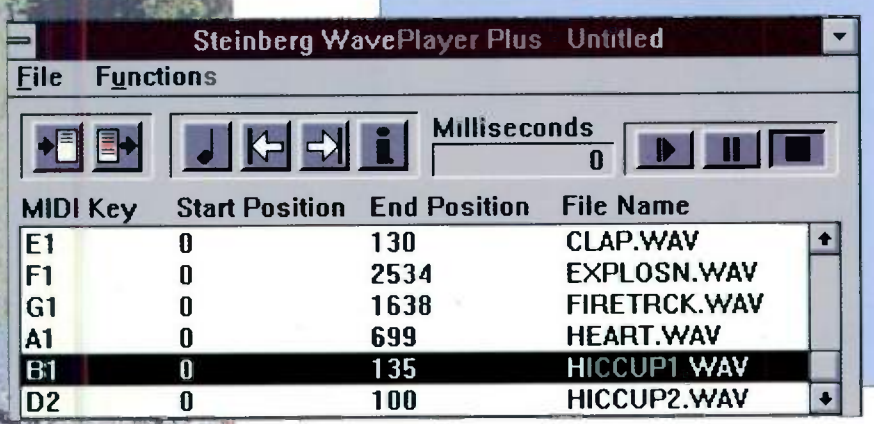
Once you have taken the trouble to set up the Studio Module (which could take a while, depending on the complexity of your MIDI system), the whole process of MIDI device management becomes integrated into *Cubase Score*. For each device, the MIDI channels on which MIDI data can be sent and received can be set, along with a complete list of banks and programs that exist in

The MIDI Processor enables you to create Delay, Flanging and Arpeggio effects.

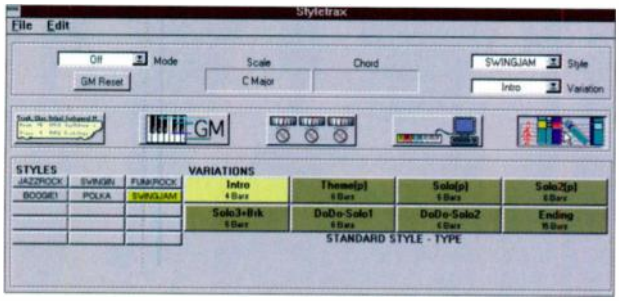
SAMPLE PLAYBACK

Steinberg have included the ability to use WAV samples from the Arrange page. Please note that this is *not* hard disk recording; you need *Cubase Audio* for that! One of the programs that comes with *Cubase Score* is *WavePlayer*. *WavePlayer* allows you to load in WAV files and assign them a MIDI number, so that they can be recorded and played back within the Arrange page. Obviously, the quality of a sample is going to depend on the resolution/frequency at which it was recorded, and the quality of the A/D and D/A converters in your chosen soundcard. Something along the lines of a Turtle Beach Tahiti or Tropez soundcard is needed for anything more than experimenting with the possibilities.

The architecture of *Cubase* is designed to give priority to Tracks in numerical order. For example, if samples play an important role in an arrangement, it is good practice to place them in Track 1 (this also applies to MIDI data; any SysEx or rhythmic tracks should be Track 1 or 2).



Use samples direct from the Arrange page with the Wave Player utility.



You can select an auto-accompaniment style from the StyleTrax module.

each device. To select a patch, just click on the name of the voice desired. Some drivers also contain a macro editor, which consists of faders with a predetermined function assigned to them, which enable small changes to a patch to be made. It is also possible to send and receive bulk dumps from different devices. The Total Recall function enables you to retrieve all of the settings in all of your MIDI devices in one go.

The StyleTrax module is a programmable, real-time auto-accompaniment generator. Although auto-accompaniment has progressed a great deal in recent years, I am still not convinced that it is a module that many semi-pro and pro musicians will make great use of. StyleTrax basically operates on the same principles as the auto-accompaniment on keyboards, and even includes the fingering patterns adopted by Casio, Roland and Yamaha. You can load in a preset style, assign GM sounds to elements of the chosen style (drums, lead, brass, etc), try the variations on the style, and even scale preferences. Creating your own styles and variations is quite time-consuming; I suspect that sooner or later, a third party will emerge for those interested in this module. If you are really interested in auto-accompaniment, *Band in a Box* is a much better proposition. You'll achieve comparable results with considerably less effort, although it will mean switching between two programs.

Of more interest is the AVI Player. This enables Video for Windows AVI files (no support for QuickTime movies though...) to be loaded within the Arrange window, and played back using the transport control. Putting together a complete soundtrack for an audio/visual project is a possibility, as long as the correct SMPTE frame setting is used. I don't think it's going to give Digidesign any sleepless nights, but it is a certainly a worthwhile addition, and a new direction for *Cubase*. The final new module is the SMPTE Display. This is a resizable window that duplicates the timing and bar settings in the control bar. You can elect to show SMPTE time or position in bars and MIDI ticks; great if you need to work to video.

IT SHOOTS... IT SCORES!

The first impression of *Cubase Score v2* is that Score Edit is a greatly refined and integral aspect of the program, rather than just a means of knocking up a few lead sheets. I always felt, in previous versions of *Cubase*, that Score Edit could not compare with dedicated Score writers such as *Encore*, so I would often transfer tracks to that program as it had greater flexibility over the final score layout. The refinements Steinberg have made to *Cubase Score*'s Score Edit page could well put an end to this.

There are two ways to enter notes into a score; in real time and step time. Entering notes in step time can be very laborious, although it is invaluable if you are working on an arrangement of an existing score. For step-time note entry, the quantise values select the appropriate note value, which then appears in the Score Edit toolbox. You then use the mouse to locate notes on the score. Rests are entered using exactly the same method, but you select the rest symbol instead of the note symbol in the toolbox. ▶

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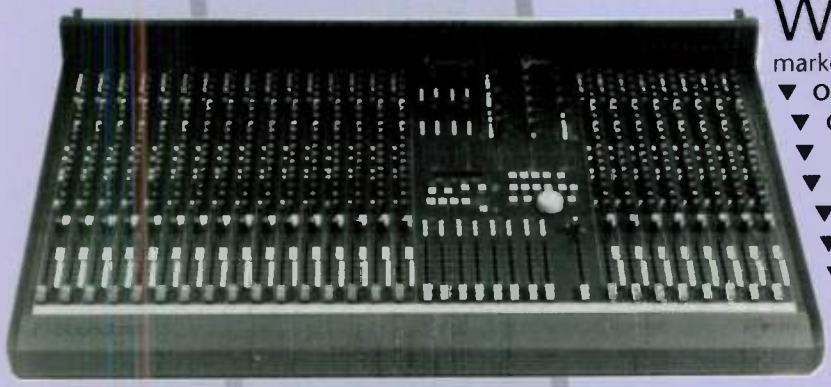

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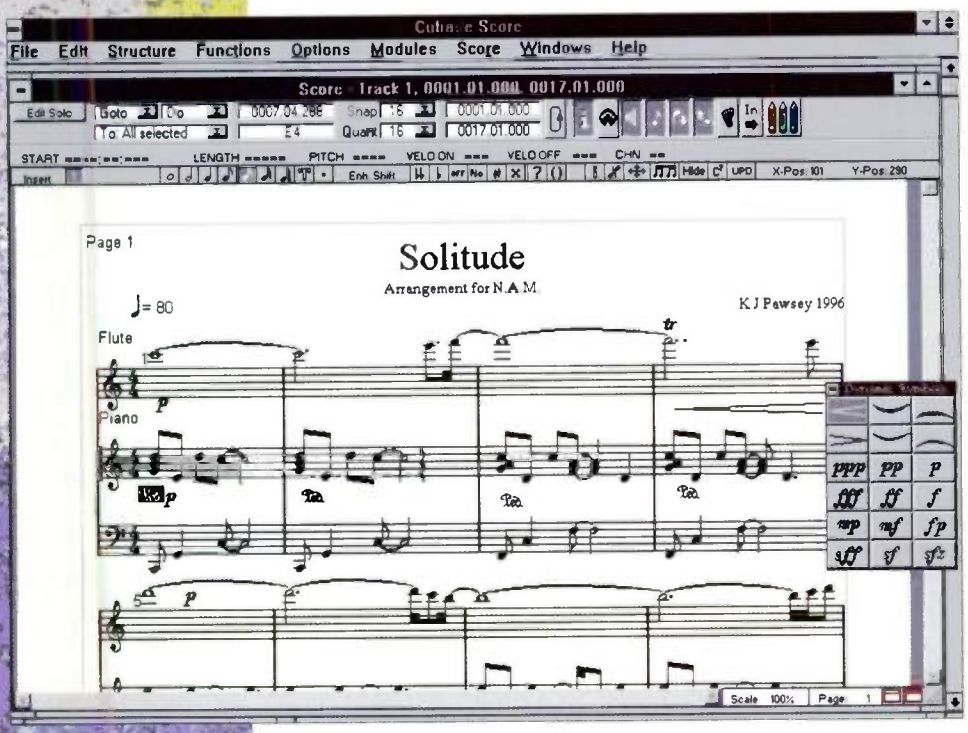
Cubase Score For Windows v2.0



The Score Editor. What you see is what you get!

▶ Real-time note entry is a faster mode of working, but the score will require greater editing. Score Edit uses the time signatures specified in the Master Track to make any alterations to the time signature, although you can edit these by double-clicking on the time signature symbol on the staff.

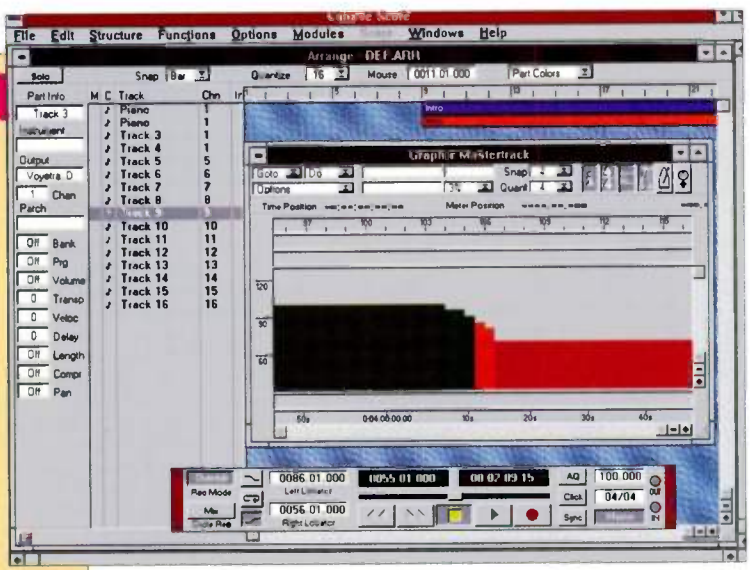
The staff settings dialogue box is the key to producing a legible score with the minimum of fuss. Here, you can set the staff mode to specify a single staff (for solo instruments), a split staff (for piano) or a polyphonic staff (for choir or quartet). It is possible to have up to eight voices displayed simultaneously on a split staff. Setting the key and the clef for each staff is also initiated from the staff settings.

I found the Display Transpose function invaluable when producing scores for performance by ensembles; if you are writing for instruments that need to be transposed, such as a B Flat clarinet or trumpet, select a transposition value and it will transpose the score without affecting the MIDI data.

The symbol palette on previous versions of *Cubase* could not match dedicated scorewriters for flexibility and a full set of symbols. Now, *Cubase* incorporates Layout and Note symbol layers, either of which can be hidden while working on one or the other. The symbol palette has been greatly expanded, and now consists of several separate groups; Clefs, Note Symbols, Dynamics, Lines (for arpeggios and the like), Graphic (accidentals), Other (tempo symbols, and so on) and Layout (for example, brackets, coda, and segno). Each symbol can also be assigned a MIDI meaning (such as dynamics, using velocity data) that affects how the score is played back. The symbol palettes are the most comprehensive and easy to use I have come across. You can also change note head shapes, stem length and direction, and insert grace notes (at last!). It is also possible to give a note or a group of notes a different colour, for easy identification.

Cubase Score v2 now also allows the creation of drum and percussion scores, guitar tablature and chord sheets. The guitar tabulation can be entered manually or fully automatically, and you can even send each string out on a different MIDI channel; useful if you have a guitar synth. Preset guitar chord symbols would have been a welcome inclusion; entering these is incredibly laborious. I'm sure it would be possible to have a list of the basic guitar chords to select from.

Creating chord/lead sheets is incredibly easy, and is one of the score features of *Cubase* that I tend to use frequently. You can insert chords manually, but a much better way is to let *Cubase* do the work for you. Just play in a chord/bass sequence, select all the notes, choose the Make Chords function, and you have an instant chord/lead sheet. Lyrics and text are also easily included. You can also work with different layouts; so you can have a different layout for a full score and a single instrument. It is then possible to select layouts from the layout list, ready to use in the Score or Arrange window. Finally, all the scores



The new Master Track graphic page easily allows you to see tempo changes and hit point locations.

MASTER TRACK

Steinberg have included a graphical tempo editor to make changes to song tempo or time signatures as easy as possible. There are two ways to alter the tempo of the Master Track; graphically and using a list editor. The graphical approach displays the tempo curve against time. Tempo changes can be recorded in real time, or 'drawn' in using the pencil tool. The Master Track list editor works the same way as in previous versions — you can insert tempo changes, time signatures and now hit points. Hit points are used to match time positions to meter positions, by altering the tempo of an arrangement — especially useful when matching music to visual cues.

SYSTEM REQUIREMENTS

- Minimum Processor: 386 DX 33
- Minimum Display: 16 colours, 640x600
- Recommended Processor: 486 DX2 66 or better
- Recommended Display: 256 colours, 800x600
- Windows 3.1 or Windows 95
- 8Mb RAM
- MIDI Interface/Windows Multimedia Driver

NOTE: Although the manual states that *Cubase Score* can be used on a 386DX, the software will not run particularly effectively. I tried a 486 DX2 66Mhz, and while for sequencing requirements this was more than adequate, things got a great deal slower when I tried to use internal samples and any of the modules (forget using the AVI movie player for a start!). *Cubase* requires a powerful processor to help get past any bottlenecks within the PC architecture. For this review, my P60 Pentium with 8Mb of RAM was utilised with a SoundBlaster AWE32 soundcard installed. I just about managed get everything running together...

Cubase Score v2 will run under Windows 95, although no improvements are made to any functions within the program; the only real benefits appear in the form of an improved desktop and more coherent file management. Please note, however, that in order to run *Cubase Score* under Windows 95, you will need, at the very minimum, a fast 486 machine with 8Mb of RAM. Running Windows 95 does not offer any improvements in terms of performance over a similarly-specified machine running Windows 3.x.

Steinberg have made it clear that a Windows 95 (32 bit)-specific program is under development, which should make full use of all the new technologies within Windows 95.

you produce can now be exported as a BMP file. The print quality is excellent (although of course this does depend on the printer you use), and the size of staves and notes can be adjusted to suit your needs.

Although some functions are a little fiddly and time-consuming, I would not now hesitate to use *Cubase Score* for many of my scoring needs. I don't think it will persuade dedicated users of *Encore* or *Finale* to change their working habits, but it is certainly not a poor substitute.

CONCLUSION

My old Atari has just been made redundant from its last and only job. I have been using *Cubase* on an Atari since it first appeared, and *Cubase Score v2* for Windows simply demonstrates how outdated the Atari technology is, and how PC technology is progressing at a rate of knots. *Cubase Score* is without doubt the best PC music software that I have ever used, so much so that I have opted to use the new version to complete a large-scale project that needs full scores and live sequencing; I don't believe I will need to resort to old favourites such as *Encore* or my Mac. If you already own a PC version of *Cubase* and are not particularly interested in notation, then it may not be particularly worthwhile upgrading, unless any of the new modules appeal to you. However, if you want one of the top, fully integrated sequencers and scorewriters currently available on the PC, give *Score v2* some serious consideration; I for one am beginning to look at my PC and Windows in a totally different light! SOS

FURTHER INFORMATION

£ Steinberg *Cubase Score v2.0* for Windows £499 inc VAT.
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MUSIC & MOBILITY

THE DRAKE MUSIC PROJECT

The remarkable success of the Drake Music Project is proving that where music technology is concerned, disability is no handicap. MARK PRENDERGAST joins the levellers...

As music technology has developed, so musicians' skills have had to change. Physical stamina and manual dexterity are increasingly giving way to computer literacy and conceptual agility. What few able-bodied musicians or designers anticipated were the opportunities this would open up for the disabled. Yet since the technological revolution of the 1980s, music made by and for disabled musicians has been pushing hardware and software research forward in different and often unforeseen ways.

Steve Knight performs in the foyer of the Queen Elizabeth Hall with a Korg M1, Cubase, Sound Canvas and Vintage Keys.

The Drake Music Project was established in March 1988 by Adele Drake, with the aim of "giving the opportunity to anyone, regardless of physical ability, to take an active part in making music." London, Harrogate, Edinburgh, Newry and Dublin now boast 'centres of excellence', where Drake facilitate the use of technology by disabled people. In addition to immediate practical help, the project operates a music technology skills network, a comprehensive resources database, and is linked to an important software and hardware research project at York University.

Drake have built up a reputation over seven years that now sees them gaining an important foothold in the United States — where they toured last summer with a number of musicians. Last year, I spoke to musicians Judith Robinson and Debbie Hearn about their involvement in Drake, and what the project has achieved.

MIDI POTENTIAL

Judith is a professional cello player who has attended City University and the Guildhall, while Debbie plays the viola and attended Goldsmiths' College. Each came to Drake because of an unusual interest in MIDI. Judith had started using MIDI to transcribe improvised jazz pieces.

"I got into the Mac and MIDI, in order to print out all these fistfuls of notes. I realised its potential, started attending Drake as a research project, and joined in 1989". Debbie became involved due to her disillusionment with music therapy: "I was a volunteer at Drake workshops, and saw that people with disabilities didn't need therapy; they need access. I then felt I had to learn about MIDI and music technology, because of the access it gave disabled people to music. I now do one or two afternoons per week, teach the viola, piano and keyboards, play concerts, do sessions, help out on project co-ordination and such. I joined Drake officially in 1990."

Of course, there would be no Drake Music Project without Adele Drake, whose head office is in Ripon, Yorkshire. An amateur pianist, she began in 1985 after seeing how environmental controllers (those that open and close windows and doors for disabled people) could be applied to music. In the early days, she struggled with a BBC Micro computer, and a program titled *Compose*. But as MIDI control spread inexorably through all stages of the music production process, things became easier for Adele, as Judith explains: "Basically, as ▶

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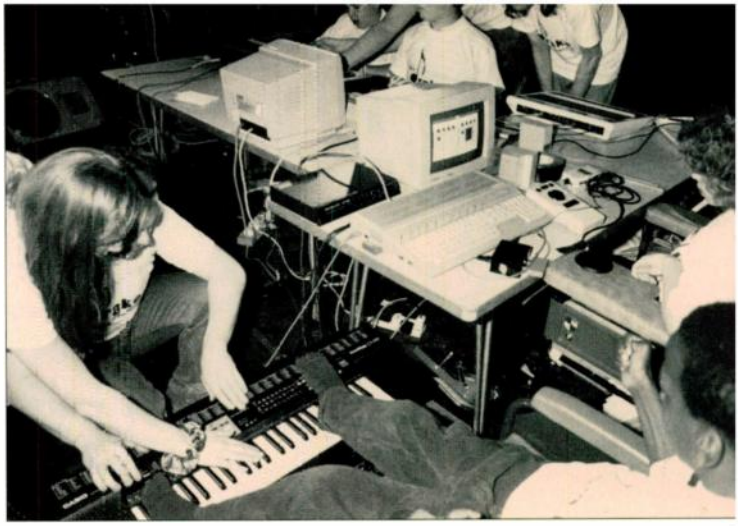


A Drake Open Project with children from Charlton Park school.

soon as more things became computer-controllable, instruments became accessible to anyone, via any interface you chose to use. As long as people could control the computer through *some* type of environmental control, they had musical control. This was the key to Adele's development of Drake."

USEFUL TECHNOLOGY

"We tend to focus on currently available technology," continues Judith. "Firstly, it's cheaper for us to buy. Secondly, there's not a lot that exists that's specially made for disability. We use *Cubase* a lot for sequencing, but there's also *MIDI Grid*, which is probably not familiar to readers of *SOS*. Since our workshops are most people's only contact with music technology, only a minority of committed adults will go further and ask our advice about equipment purchases. We go round MIDI shows to keep up."

The *MIDI Grid* is at the core of Drake's work. Debbie Hearn continues: "*MIDI Grid* turns the computer into a musical instrument, so music can be played by moving the mouse or moving the tracker ball. You can set up any size grid you like, from one box to 20 by 20. In each box, you can put a note, or a chord, or a sequence, and then activate it, either by passing through the box or hitting a mouse button. You can actually play a scale by moving the mouse. And you can put whatever notes, whatever chords or whatever sequences you want in each box. You can set all that up, and define what timbre you're going to use by stating what channel it's going to go out on. This is very useful, because the mouse and the tracker ball become quite sophisticated tools of adaptation for people with disabilities."

Debbie is relieved that Drake are moving to Macintosh from Atari. At the time of writing, they have introduced Apple 520C Powerbooks as standard at all their centres.

"The main reason is that we can use Ke:nx, which is a single switch overload, so you can connect cursor movement into a single switch. People who can't use a mouse or a tracker ball can actually control programs by using any movement they have — even a blowing movement, if that is all they can do. Again, we're always looking for more malleable things; more flexibility."

Debbie finds it interesting how people adapt to what is available.

"When the Yamaha QY20 came out, we looked at that and felt we had to try it, because it would be useful for people with restricted but very finely-controlled movement. I actually read about it in *SOS*, and when I saw the size of the keypad I thought, 'That's the business'. For somebody with muscular dystrophy or weak muscular movement, it was ideal.

"Analogue-to-MIDI drum triggers have also been very useful, when used in conjunction with a sampler. The first time I saw them being used was by a guy called Mark Rowland, who actually plays keyboards with his feet — but this time he was playing music with his wheelchair! He had a bug on the spokes, one on the footplate and one on a table in front of him. In this way, he was able to get multiple triggers with a rapid succession of notes coming out."

BREAKING THE RULES

Drake believes in breaking the rules. Judith feels that throughout history, this is what makes for interesting music.

"People tend to develop a musical style ▶

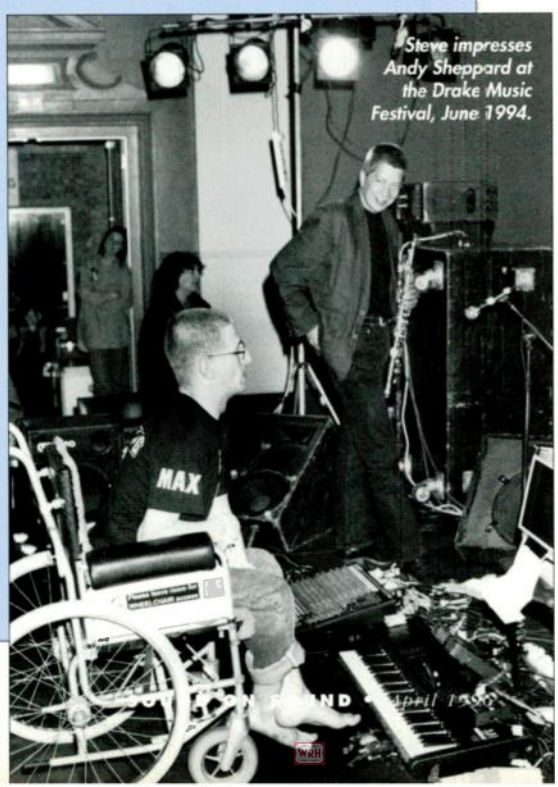
STEVE KNIGHT

Steve Knight plays music with his feet, and has performed with the likes of jazz saxophonist Andy Sheppard. In his complex home studio in Greenwich, he creates music which he describes as "being influenced by Queen, Yes, Marillion, Simply Red and Pink Floyd."

"I got into music at school and joined Drake in 1989. Most of the stuff I have I just buy. Not a lot has been customised, except my tracker ball. I use *Cubase Score* on the Mac, but I don't use digital mixers; I've got an analogue mixing desk and control volumes using *Cubase*. I edit all my own sounds using mixer maps on *Cubase*, and then master to DAT."

Knight contends that all his music begins with a chord structure to which bass is added, then a melody line and then drums. A lot of time is spent editing once the parts are laid down. His studio consists of an Apple Mac LC630 (with CD-ROM and extra disk drive), two Roland Sound Canvas modules, a Philip Rees 5S MIDI Selector, Boss SE70 effects processor, a Korg X5, Alesis RA700 reference amp, Phonic PEQ3600 graphic equaliser, Studiomaster Session Mix 16/2 Gold and Alesis 16-track mixing desks, and various DATs and studio monitors. His Korg M1 is used as a controller keyboard, as he doesn't like its actual sounds. What he likes most is creating his own sounds on his Sound Canvas modules.

"It can take me up to four weeks to get something right. I used *MIDI Grid* at first, but it's not really a sequencer, just a live instrument you can play with. I prefer *Cubase Score v2.0* on my Mac. I used to hate editing on my old Atari, because of the screen size. Plus you have to set up your own mixer map, and customise it for the module you are using. I had to write my own for the Sound Canvas. At Drake, I supervise *Cubase* setups, make sure everything is set up on the right channels, and ready to record when somebody needs it. At present, I've got quite a lot of recorded material. About three albums' worth!"



Steve impresses Andy Sheppard at the Drake Music Festival, June 1994.

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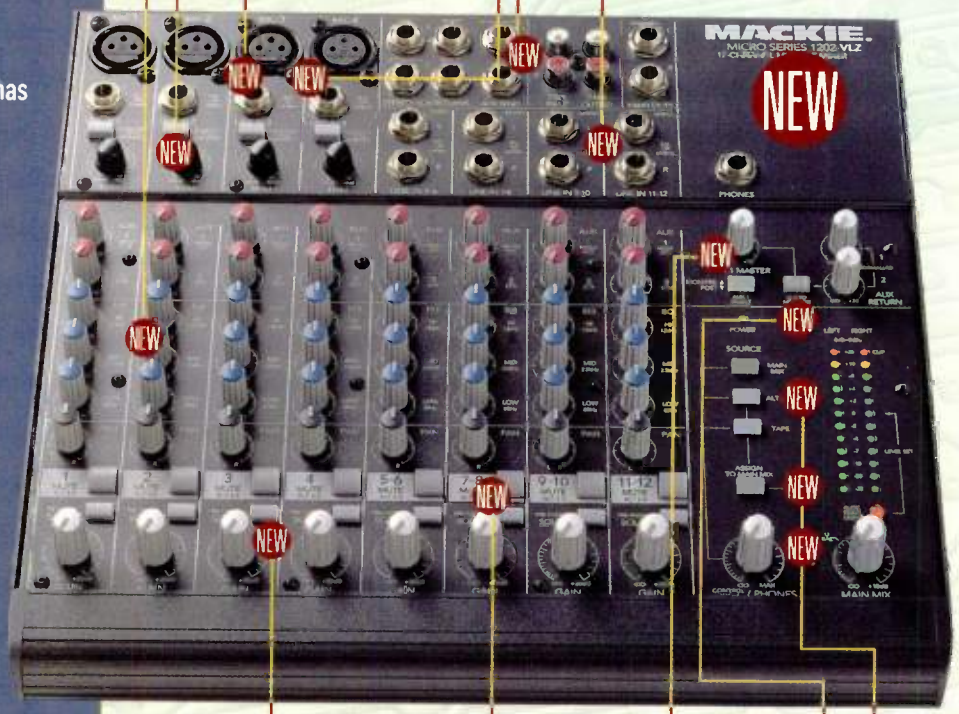

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8 VLZ *(Very Low Impedance) circuitry for pristine sound.*

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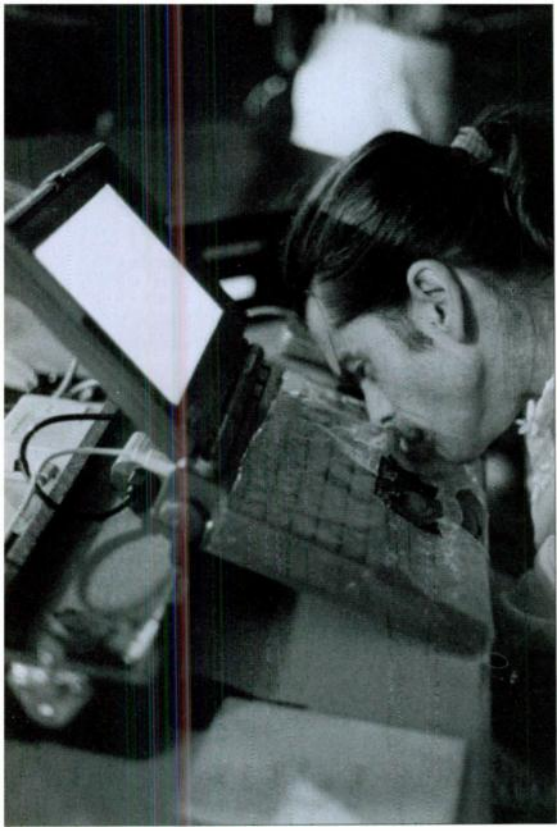

Dave Levett using Cubase on a Mac PowerBook.

because of the way they are physically. Django Reinhardt played a guitar with only two fingers, and that didn't hinder him. Mark Rowland plays with his feet, and if he hits two notes at once, that's his kind of harmony. His work's so good, he's been collaborating recently with Jools Holland. Steve Knight is another musician who plays keyboards with his feet, and the width of his feet are about the size of a perfect fourth. When he plays these chords he comes out with all these parallel fourths. It breaks every rule in the book, but it's just the Steve Knight sound."

Evelyn Glennie is a very famous musician whose hearing difficulty has not detracted from her music. Of course, Beethoven was deaf, and Stockhausen has always had a hearing deficiency in one ear. Some might say this is the reason for all three producing powerful music. Drake has plenty of experience of working with deaf musicians. Judith explains:

"It's usually an area of hearing loss — either high pitch or low frequency. A lot depends on the amplification. With one woman, we have to wear a radio mic around our necks so she can hear us, or prop it up against the amp when she's making music."

RESEARCH & DEVELOPMENT

Research and development are vital if Drake are to make intelligent use of new technology. According to Judith, a link with York University has been important in the development of *MIDI Grid* and other technologies.

"*MIDI Grid* is now commercially available, but it came out of York University. Adele wanted something written, and met Andy Hunt who was writing MIDI grids for the Music Technology Research group there. Through this link, she met an MSc student named Tim Anderson, who developed the *E-Scape* program for Drake, as his PhD project (see the '*E-Scape*' box).

Drake feel it is workshops that are the most productive environment for their musicians. For Judith, they can even help with composition.

"It's an education question. If somebody wants to compose, it may not be that easy, and that's where the workshops come in. Here, they can learn about the different elements of music like rhythm and harmony. It can be formalised or come through practical work, and that's where sequencing comes in. Obviously, sequencing is a very powerful tool for somebody who wants to create music, but doesn't have physical access to conventional instrumentation, and needs to be able to change what they record later."

Since Drake is a charity, each workshop has to be specifically funded. Workshops are necessary, so that people can develop as musicians over longer periods of time. Becoming familiar with the technology is vital. Debbie sees her role as "mixing in information and skills with people discovering for themselves the sounds of the instruments. Sometimes you're a tutor, sometimes you are offering technical support."

My left foot: Mark Rowland plays at the Drake Music Festival in Blackheath.

POSITIVE INTERFACE

Steve Knight and Mark Rowland are two musicians who used to come to workshops, but have now graduated to a tutoring and technical support role. For Drake, it's important to have disabled people sitting on the committee and deciding things, and actually involved in running the organisation. Mark Rowland has achieved quite a high profile from working with ex-Squeeze keyboardist and TV personality Jools Holland, and Debbie sees him as something of an ambassador for the Drake Project: ▶

TIM ANDERSON AND *E-SCAPE*

Tim Anderson, Drake Research Fellow at York University, started working for Drake in 1992. As 'technical backstop' for the Drake Music Project, he has developed a computer software system called *E-Scape*, which has been adapted for disabled use.

"*E-Scape* allows you to define hierarchies, where a single score event, as seen by the composer, is assigned to synthesis algorithms on any number of devices, and any number of channels. It also defines complex communication protocols. It's future-proof in that if ZIPI comes in as a standard, you don't have to wait for the manufacturer to update your sequencer — you can define ZIPI yourself [*see SOS April '95 for more on ZIPI — Ed*]. MIDI is not assumed; it can be any interface, and you can mix these in a single instrument.

"*E-Scape* may be a graphic-based score, but it doesn't require a complex understanding of musical notation, and that's led to the Drake side of it. Two features are important for disabled people. One is the physical connection to the computer. Menus can be driven by switch-presses, and those switches can be any key on the computer, or any MIDI note coming in. Using MIDI as a control, I can use the MIDI Creator box with 14 input sensors, to give MIDI notes of various scale. Hence, various proximity switches or an ultrasonic beam can be used to control the computer. So someone waving their hand in the air can be used as a switch-press, or to conduct one's way through a piece of music. The second thing is software presentation. *Cubase* is complex, with hundreds of buttons and options. *E-Scape* takes the task approach. It guides you through a process where you start with some notes and build up slowly. It understands the process of composition, and doesn't just assume a blank page."

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THE DRAKE MUSIC PROJECT

"It's a very good way for Mark to get recognition. Jools really likes Mark's music, and they rehearse here in Blackheath. They've done a couple of gigs together, one at Drake, and one at a Drake music showcase at the Queen Elizabeth Hall. They've also got together to write a couple of times. Mark comes up with the original material, and Jools will jam with it."

INTO THE MAINSTREAM

Though Drake have had interest from the media, Judith still sees a lot of prejudice in the mainstream.

"To an outsider, it looks like people who work with disabled people — and it's perceived as music therapy. Then when they come to a concert, they like the music and find it powerful. People still have an image of people with disability as not having anything to say."

"To an outsider, we look like people who work with disabled people — and it's perceived as music therapy."

Drake see themselves in the long-term as hitching up with a record and distribution label like Stream Records, and pushing their own recordings into the wider market. Stream is a unique record label established by musician Genie Cosmas, with the express purpose of getting music by disabled people to as wide an audience as possible. It has funded the recording of three albums, and according to its founder, "will consider all music by disabled artists or integrated groups." It distributes the work of Drake electronicist Dave Levett, while Cosmas's integrated group Fish Out Of Water have performed at Drake events. Judith encourages people to listen without prejudice.

"When you listen to a CD, you can't tell what condition the person is in. Clare Graydon-James, who's on Stream, is a singer who plays the piano. She may be blind, but she's no different to Ray Charles or Stevie Wonder, and should be considered as such."

As a parting shot, Judith spells out her vision of the future of the Drake Project:

"We want to have our own studio down here, where stuff is hard-wired in. Our studio now is in flightcases and cardboard boxes, and it goes into cars because you can't expect every disabled person in the South East to come to Blackheath to use it. We're always going to be mobile, but we also need to have a decent studio — a permanent facility which can be linked up to Stream's distribution source. That's our dream: to have a fully accessible recording facility which is completely digital, so it's computer-controlled, and anybody, whatever their physical ability, can come and use it." SOS

Genie Cosmas of Stream Records.

FURTHER INFORMATION

A The Drake Music Project (Head Office), 3 Ure Lodge, Urebank Terrace, Ripon, North Yorkshire HG4 1JG.
T 01765 604993.
F 01765 604960.

A London Office: 19 Lee Road, London SE3 9RQ.
T 0181 297 2686.
F 0181 852 3568.

A Stream Records, 77A Hindman's Road, East Dulwich, London SE22 9NQ. Contact: Genie Cosmas.
T 0181 299 2998.
F 0181 693 0349.

MARK ROWLAND

Mark Rowland suffers from severe cerebral palsy, and only has the use of one foot. Yet his music has attracted interest from musicians like Jools Holland, and hardware companies like Korg. Last year, he spent five weeks touring the US.

"As a composer and musician, about 80 percent of what I do is programming, and 20 percent is performance. My music is a blend of trance, techno and ambient styles. I began by triggering MIDI pads on my wheelchair, and then got into loop recording, which took two years. Then I dislocated my hip, and had to learn to play from scratch with my left foot! I started, say, on a four- or six-bar loop, in step mode with auto-quantise set to 8ths or 16ths. After a long time learning to control my left leg, I could start recording in real time with a similar kind of setting.

"Korg are really cool. I started with a Korg drum machine, and then a O1W/FD for which they designed a foot-pedal with eight large toe buttons. It's like my own industrial control panel, with eight major functions so I can sequence as well as anyone else. The O1W has an onboard pattern-based sequencer, which I've been using for a long time. I've also recently updated to an Apple Mac Quadra, which I can operate with a Gravis Mousestick."

Rowland helps plan and run Drake workshops, as well as writing reports and doing any programming that is needed.

Mark playing a Korg 01/WFD with Soundbeam in the QEH foyer.

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EVERYTHING UNDER CONTROL

KURZWEIL K2500/K2500X KEYBOARD PRODUCTION STATION

With more zones than a one-day Travelcard and an impressive array of physical real-time control options, the keyboard version of Kurzweil's K2500 represents a new frontier in digital synthesis. PAUL WARD heads for the border...

Kurzweil's new top-of-the range keyboard comes in two flavours; the standard K2500 (pictured here), with its semi-weighted 76-note keyboard, and the K2500X (not shown), which boasts 88 fully-weighted keys. Other than this, the two machines are essentially identical (but see the 'Vive la Difference' box for some comment). The K2500 utilises the familiar VAST (Variable Architecture Synthesis Technology), offering 60 pick 'n' mix DSP functions arranged in a choice of 31 algorithms. VAST has a proven track record, offering an extremely wide range of powerful synth voices, from squeaky-clean digital textures to alarmingly realistic analogue emulations — and every combination in between.

In terms of the basic building blocks, little has changed from the K2500R (which I reviewed back in *SOS* October '95) — or, indeed, from the K2000 (reviewed *SOS* March '92) or K2000R. Where the K2500R introduced extended polyphony and eight 'drum' channels, the K2500 not only adds a keyboard, but includes a host of physical control options, *and* heralds the arrival of a new operating system to take advantage of them. Furthermore, to coincide with the arrival of the K2500, Kurzweil have made a whole host of expansion options available (see pricing details at the end of this review) to add to the basic unit if you have the inclination — and the cash. Rather than repeat much of the K2500R review here, or the features mentioned in last month's preview, I'll concentrate on the aspects that make the K2500 differ from its rackmounting sibling.

VIVE LA DIFFERENCE: THE K2500 & K2500X

During the review period, I was able to experience both models of the K2500, thanks to Kurzweil dealers The M Corporation (01425 470007), who were able to supply the K2500X, in short supply in the UK at the time of writing.

As explained in the main text, the only difference between the different models is the number of keys and the keyboard weighting. The fully-weighted action of the K2500X may be a little too 'springy' for players brought up on a piano keyboard, and although I'm not generally taken with weighted actions, I did find the 76-note, semi-weighted K2500 particularly smooth and responsive.

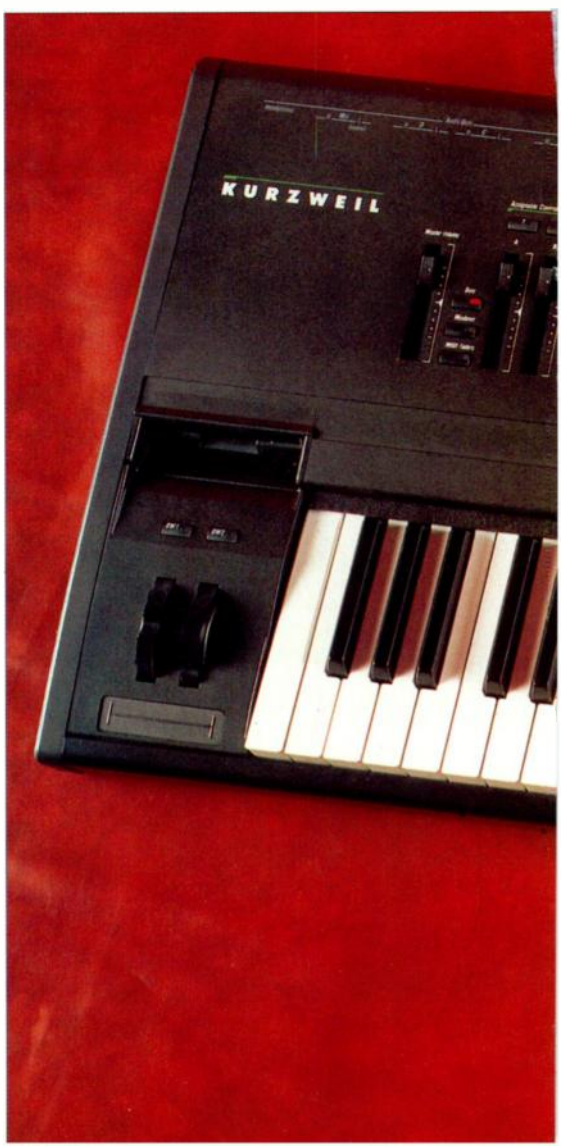
MISSION CONTROL

Anyone familiar with the K2000/K2500R will probably have first-hand experience of the bewildering array of control options within the VAST architecture. Just about anything is capable of being modulated by just about anything else (or multiple anything elses!). What the K2000 perhaps lacked was the provision of sufficient 'physical' controllers to take advantage of the extensive real-time control possibilities. The K2500 is more than generous with its physical control options, making provision for the connection of up to four switching pedals, two continuous control pedals and a breath controller. These control sources are, of course, in addition to those available on board the instrument itself, in the form of eight programmable sliders, a pair of ribbon controllers, two programmable switches and the more traditional aftertouch, pitch and modulation wheels.

Between them, the two ribbon controllers actually provide a total of five control sources. The smaller of the two (located just in front of the pitch/mod wheels) is capable of generating separate MIDI control signals from position and pressure, while the larger ribbon, running just behind the keyboard, can be split into three control source sections.

The large ribbon, in particular, is a delightfully tactile experience, and I had great fun using it to sweep sync-lead solo sounds and produce 'dive-bomb' guitar effects. Many of the factory Setups make use of the small ribbon to generate pitch bend from left-right movement, and modulation from pressure. I found this configuration to be somewhat problematic, since a degree of pressure is needed to let the ribbon know your finger is there. This makes it a near-impossible task to create pitch bends in the absence of a simultaneous modulation effect. To a lesser extent the reverse is also true, with small movements of the finger producing pitch-bend when only modulation was required. I was happier to restrict the small ribbon to producing only one control source, as it's easy to switch from one to another.

Each physical, continuous controller can be



assigned its own independent MIDI control number, scaling, offset and response curve — the depth of customisation borders on overkill! Additionally, entry and exit values may be applied to controllers on entering a Setup. Used carefully, this should ensure that control data is not left 'hanging' between successive Setups. All of the parameters determining the behaviour of the physical controllers are stored along with a Setup. A new option has been added to the MIDI mode, where a 'Control Setup' is chosen to apply controller assignments in Program mode. All Programs will then respond to the controller assignments defined in Zone 1 of the Control Setup (Zones 2-8 are not relevant in Program mode, since a Program can only occupy one MIDI channel). This is a reasonable way of working, but I feel it might have been better if Kurzweil had allowed us to save a set of controller assignments as a separate object, to avoid tying them to a Setup.

With the K2000 (and the first software release of the K2500R) three patches could be zoned or layered to produce a 'Setup'. With version 2 of the K2500/K2500R's operating system, this figure has increased to eight. If you thought the K2000 and K2500R were capable of some massive textures before, then be prepared to be gobsmacked now! Taken to its logical extreme, a K2500 Setup could now constitute eight patches, with up to 32 layers of up to four 'oscillators' per voice, using three software-generated DSP oscillators (which, incidentally, don't use up any polyphony).

In the real world, with the exception of drum and percussion Programs, it's unlikely that most Programs are going to exceed three or four layers at most. The capacity for keyboard splits and Program stacking are enormous, and Kurzweil themselves take full advantage of the possibilities, with a new collection of ROM Setups. For anyone with any doubts as to how fat this machine can sound, turn to Setup 77, unlatch the arpeggiator by turning off control switch 1, and hit a few meaty chord patterns. The closest analogy I can think of is six polyphonic Minimoogs played in unison — believe me, if this machine could sound any fatter, it would need its jaws wiring shut!

EASY SLIDERS

The eight slider controls can be used in three basic ways. Their default usage is as MIDI controllers, much the same as the ribbon controllers, with the same parameters to determine their MIDI channel, controller number and response characteristics, including entry and exit values. By selecting the 'Mixdown' button, the sliders will take on the role of MIDI volume faders, applying standard MIDI volume messages to both internal and external sound sources. While still in Mixdown mode, a click of a softkey will allow the faders to generate MIDI pan data. A further softkey toggles the bank of faders between MIDI channels 1-8 and 9-16.

The current 'virtual' position of the faders (as opposed to their current physical position, which may differ) is shown by some neat on-screen graphic representations of the slider controls. The third usage of the sliders is selected by the 'MIDI ▶

KURZWEIL K2500 £3499/ K2500X £3799

PROS

- High-quality master keyboard/ production station, with control facilities to match.
- Powerful VAST synthesis architecture.
- Expandability.
- Flash ROM software upgrades.
- Still has the operating system by which all others should be judged.

CONS

- Standard onboard effects processor is still pretty limited by today's standards.
- 48-note polyphony might be seen as restrictive, given the capabilities for layering within the instrument.

SUMMARY

Kurzweil uphold their reputation for quality with a workstation that meets the demands of musicians at all levels. The plethora of control sources and wide range of expansion options will also make the K2500 a favourite of project studios and MIDI programming suites. Start saving now!

KURZWEIL K2500

Faders' button, and presents a similar set of on-screen representations, with the ability to define a MIDI controller number and a MIDI channel. This use of the sliders for MIDI control data is separate to their assignment within a Setup. Four banks of MIDI control definitions are selected by softkeys.

If this all seems a little mind-boggling, rest assured that the system is far easier to use than it is to explain. The illuminated buttons and function-specific screen displays let you know exactly where you are, and in no time at all you'll be finding all kinds of uses for the K2500's sliders, to control both internal and external sound sources. Eight buttons, positioned just above each slider, allow Zones to be muted or solo-ed, with a tri-colour LED on each button to indicate the current status of each Zone.

When I reviewed the K2500R, I was sufficiently happy with the new features and extra polyphony to give it a hearty thumbs-up, but wondered whether this was sufficient incentive to capture new business, or encourage existing K2000 owners to upgrade. Certainly, as far as K2000 keyboard owners are concerned, there is now a very strong case for doing so, in the light of the extra control features and the 8-zone Setups. And if you are one of the many who bought a K2500R, the story certainly has a happy ending, since a software upgrade will give you the new 8-zone Setups *and* the arpeggiator features in your existing machine. I'd still like to see a higher polyphony count though: 48 voices seem a healthy amount, until you have three or four stacked Programs in action, whereupon things could get a little tight.

SUMMARY

With a machine as deeply programmable as the K2500, a review such as this can only take the reader on a whistle-stop tour of the highlights. The K2500 is a powerful and eminently configurable machine — but power comes at a price. This could by no means be thought of as a 'budget' purchase, yet when you stop to consider the price of the equivalent separate elements, such as a hardware sequencer, a MIDI fader control station, a synth with the capabilities of the VAST synthesis engine, and a weighted master keyboard, the asking price doesn't seem unreasonable. As for myself, I'd love to end on the cliché that I bought the review model, but I'll have to do a little more saving yet!

SOS

LIFE AS A LATCH-KEY KID: THE ARPEGGIATOR

Kurzweil have seen fit to endow the K2500 with an arpeggiator — and that gets them a gold star in my book. Though arguably not quite as sophisticated as those seen in other recently released devices, particularly from the likes of Quasimidi, there are enough control options to keep you busy for a while — and a few that I had not seen before, such as note-shifting. To go into detail about all of the options would take up too much space here, but it's sufficient to accept that all of the usual arpeggiator controls are here — and then some.

There did appear to me to be one fundamental flaw in the implementation, however. Although the arpeggiator allows you to 'latch' an arpeggio, any notes pressed after latching are always added to the arpeggiated pattern. This is a bit of a pain, since you can't hit a chord pattern, leave it arpeggiating, then hit a new chord pattern and have it replace the one currently playing. Having grown up with Roland's early arpeggiators, such as those on their Junos and Jupiters (and I have a feeling I'm not alone!), I'd call this a fairly typical usage. I spoke to Kurzweil about this, and they assured me that they had implemented similar arpeggiators in earlier equipment, and no-one had ever requested this feature. I suddenly felt very lonely...

Arpeggios may be latched by use of MIDI controller 119, to which any of the onboard or external control sources may be assigned. A key range is declared, in which the arpeggiator will look for its note patterns, and individual Zones within a Setup may specify whether they are willing to make use of the arpeggiator or not.

FURTHER INFORMATION

£ K2500 (76-note) £3499; K2500X (88-note) £3799. Expansion options are also available; Sampling option £675; P-RAM expansion (to take program memory up to 1.25Mb) £399; Daughter Board (including 4Mb Stereo Piano ROM) £175; Orchestral ROM1 expansion 175; Contemporary ROM2 expansion £175. The daughter board is required in order to make use of both ROM expansion options. All prices include VAT. Prices for the planned DMT1 digital multitracker interface and the KDFX digital effects option have yet to be announced.

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The Parallax View

PAUL SCHÜTZE

For most of us, computers in the studio are part and parcel of the digital revolution. Not from where avant-garde composer Paul Schütze is standing. PAUL TINGEN discovers a new perspective...

The introduction of digital sound might have been a small step for man, but it has been a giant leap for musiciankind. Perhaps its greatest impact has been in bringing both music-making *and* recording within reach of the home musician. As a result, many musicians now work in home studios, where a budget tape recorder, mixing desk, synthesizer, computer and sampler can all be had on a budget of less than £10,000. CD-quality sound has become the province of the amateur, with even mastering and pressing costs now tumbling to astonishingly low levels.

Three cheers, then, for the brave new world of modern music making — or so you might imagine. The strange thing is that the chip-centred revolution has been blamed for much bland and unimaginative music — even for the near-death of British pop in the late '80s and early '90s. Champions of analogue retro-gear are climbing out of the woodwork everywhere, making claims like, "all music recorded after 1969 sounds worse than anything that was recorded before." (Bill Bottrell, producer of Michael Jackson and Sheryl Crow). They claim that far from encouraging musical innovation, sampling and sequencing have reduced music to the lowest common denominator, and point to Brit-poppers such as Oasis to demonstrate the renaissance of good, old-fashioned, manual music-making.

Photo: Courtesy Walter Robotka

Paul Schütze DJing in Vienna last year.

In these circumstances, it is inspiring to find a musician who is not only an unashamed user and defender of digital equipment, but who also manages to boldly go where few musicians, digital or otherwise, have gone before. Paul Schütze is regarded as a leading light in the fast-spreading New Electronic music scene, which encompasses ambient, post-techno, classical avant-garde, experimental jazz and world music. A 37-year old Australian, currently living in London, he's an occasional contributor to influential jazz journal *The Wire*. Like his electronic music near-namesake, Klaus Schulze, Schütze is amazingly prolific. He may not have produced the 50 CDs that his German counterpart has over the last few years (see *SOS* Feb '96), but 12 solo albums in the last six years is still an impressive output.

NEW DIRECTIONS

Initially intending to become a painter, Schütze switched to music in the late '70s, and founded the avant-garde improvisational electronic band Laughing Hands in his native Melbourne, recording two albums with them. In 1983, he won ▶

CENTRIFUGAL SYNTHESIS

The keyboard that Schütze "spins numbers" on, and in fact uses to create almost all his music, is his much-loved Kurzweil K2000, which he's had for three years now.

"I sold my first one, because it had some pretty big problems, and then bought one again when I came to the UK. I think it's fantastic; the best thing I have ever used. It's what I always wanted every keyboard to be. I made the whole of *Rapture of Metals* on it, and 95% of my 1995 releases *Apart* and *Vertical Memory* — with a little help from an Emu Proteus module. Some critics commented on the 'lovely analogue sounds' on *Vertical Memory* and *Apart*, which makes nonsense of the idea that there is a difference between analogue and digital synths.

"What attracts me to the K2000 is the quality of the sound. I've never heard anything that comes close to it. The sounds are incredibly three-dimensional, and because I'm so interested in space, it's great. Editing is admittedly quite complicated, because there are so many parameters. It's a little like editing the DX7, but at least you have a board with plenty of knobs on the K2000. I tend to edit rather randomly, just spinning around numbers until I find a sound that I like. The onboard processing is fantastic, and the sampler option is wonderful. I haven't used many samples on my previous albums, but the new *Driftworks* album will have loads of samples on it."

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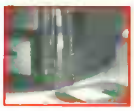

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PAUL SCHÜTZE

Paul Schütze's studio. From this angle, his beloved Kurzweil K2000 is visible, as are the Alesis HR16 drum machine (top left), a Yamaha TX7 (top right), the all-important Roland MC500 sequencer (centre left), the Mackie CR1604 Mixer (centre), and the Sony DAT machine (centre right).

an award for Best Score at the AFI (Australian Film Industry), and subsequently spent half a decade writing film music and lecturing in sound design at various film colleges. Gradually, however, he became disillusioned with the directors he was working with, coming to the conclusion that "if you have a good score with a bad movie, you might as well have a bad score." After writing around 40 hours of original music for about 20 films, he decided in 1989 that enough was enough, embarked on a solo career and released his first solo album, *Deus Ex Machina*.

Since then, there have been 11 more solo CDs (see the 'Select Discography' box for some of these). The first half of 1996 will see a deluge of releases, largely on the Big Cat label, with re-releases of Schütze's 1992 and '93 albums *New Maps Of Hell* and *The Rapture of Metals*; brand new work on a quadruple CD compilation called *Stateless*, with four contemporary composers including Schütze each filling a CD; a collaboration album with the help of bass-master Bill Laswell and the famous jazz trombonist Julian Priester; and a live CD (entitled *Watermaps*) of an improvised concert Schütze gave at the Purcell Rooms in London during October last year, with David Toop, Max Eastley and Robert Hanson.

Talking in his central London home, Schütze agrees that his productivity is in part a by-product of the digital revolution. Although he works very fast by nature (*New Maps Of Hell* took no more than five days to record), he explains that he can now produce and master his own recordings from his home studio. If small labels have proliferated over the last few years, it's because artists like Schütze are able to supply them with master tapes direct, offering previously unthinkable profit margins for low-volume sales.

"I produce more work than one label can cope with," observes Schütze, "and also produce very different types of music. Rather than being tied down by a label that wants me to write a certain type of music and having to adjust my music to that label, I can adjust the label to my work. Many people work in this way now, and I think it is the way of the future."

LESS IS MORE

If the balance of power between artist and record company is changed by this new-found autonomy, it could be another giant leap forward for musicians. The pioneering Australian is, however, not only ahead of the times in the way he releases his material, but can be described as a prototype 21st century musician from other perspectives as well. Take his unbelievably compact and tidy home studio, for example. It occupies no more than a small corner of his spacious basement living room, yet squeezes in a Kurzweil K2000, a Mackie CR1604, an Alesis HR16 drum machine, a Yamaha TX7 tone generator, one rack of outboard gear, and a Roland MC500 hardware sequencer. There are no tape recorders, other than a Sony DTC1000 DAT recorder, no microphones, no 'spaghetti junction' patchbay/wiring, no abundance of flickering lights to impress visitors (or distract musicians): just one keyboard, a small mixing desk and some processing paraphernelia. It's exactly how we imagine the stereotypical 21st century digital studio to look. Schütze smiles when confronted with these observations.

"The way my home studio is set up is certainly the way things will be going more and more in the future. The only anomaly about my setup is the MC500, and the fact that I have no computer. But otherwise, it's pretty typical. I always come back to working alone at home, because it gives me a level of concentration that I just can't get when working in the studio or with other people. When

THIS ONE WILL RUN AND RUN

So weary is Schütze of the digital/analogue debate that he almost resents having to waste breath on it: "I think there's an element of 'end of the millenium' about that. The ends of centuries notoriously produce a combination of futuristic and nostalgic thinking. But I think that the idea that analogue is good and digital is bad, and analogue keyboards are better than digital ones, is just nonsense. To say that all good sounds come out of this box and all bad sounds come out of that box is an astonishing admission of creative ineptitude, because it's saying that you're totally subservient to the boxes that you're using, and that your ability to create good sounds is in doubt.

"All these analogue/digital arguments are such nonsense, anyway. People record an acoustic guitar or something on an analogue tape for what they consider its 'warmth', yet it then gets run through a digital delay, and mixed to a DAT, which then goes into a digital editor, which goes onto a digital U-Matic and finally onto digital CD. I find this whole discussion quite bizarre, because to me it appears that the people who put it forward must have inadequate faith in the quality of their own work. To me, these are discussions that you have when you don't want to face actual discussions about music itself."

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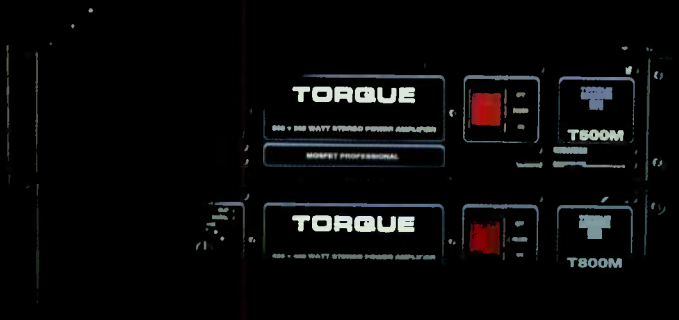

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PAUL SCHÜTZE

"Pieces of music that say: 'I'm a completely self-contained, self-referential artefact, take me or leave me' are to my mind very arrogant and moribund."

▶ I work here, every single note is the way I want it to be. Every other way of working is the beginning of a series of compromises, and beyond a certain point I find that unacceptable. It's very gratifying to work at home in my own environment, and have the time to make sure that everything is exactly right. I record almost all my music alone, and don't go out buying new equipment all the time, so unlike many other people who seem to be obsessed with acquiring the latest technology, I keep my costs down."

IN A SILENT PLACE

So, let's talk about the music. In Schütze's case, this is not easy, because his music is very varied and difficult to describe. Most of his pieces are highly abstract sound sculptures, and although there are many pitched sounds, there are usually no identifiable melodies; certainly not when Schütze plays around with the tuning of his K2000 and enters the land of microtonality.

Within these non-melodic and microtonal parameters, the styles he employs range from psychedelic, dissonant space music, via gamelan-influenced atmospherics, to collectively-improvised mayhem. An interesting aspect of Schütze's ever-changing, all-instrumental music are the striking titles, such as 'The Rapture on The Lungs of God', or 'New Maps of Hell'. Together with his background in film, it suggests that much of the inspiration for his music comes from visual images. Schütze:

"That is true. For most of *Apart*, I had the photograph that I used on the cover in my mind. The music was inhabiting the place on that photograph. The titles are clues to what I'm thinking about when I'm making the music. I have often taken titles and inspiration from books as well: the title 'New Maps of Hell', for example, comes from a book of essays on SF by Kingsley Amis."

As well as images, much of Schütze's work is inspired by locations. For example, in the ambient track 'Sleep III', he tried to "re-create the feeling of a place at the end of a pier in Melbourne. If you went there in the night, you would hear the dead-sounding clinking of the boats that were moored there, sounding as if everything was a long way away from you. Like most of my pieces, this track is an attempt to define a physical space, and the feeling that place has. You put the piece on, and you're no longer in this room.

"There isn't a dramatic narrative in most of my stuff; it opens, just hangs there and then closes. It's more static than linear. I'm very interested in depth for that reason, and in layering things. I like to feel as if I'm looking *through* something. I like

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to know that there's a horizon line. That's why I think of 3D images when I mix."

Whilst some of Schütze's work exhibits an absence of both melody and dramatic narrative, the music that he has recorded with other musicians is an exception, especially the poppy danceability and near-tunes of *Vertical Memory*, which are closer to more conventional music in their construction and in their use of time. Schütze himself calls *Vertical Memory* and *More Beautiful Human Life* his "fun, pop projects that allow me to be a bit cheesy or flippant. They're like comic relief, me indulging myself, which is why they are released under different names." (Seed and Uzect Plaush respectively).

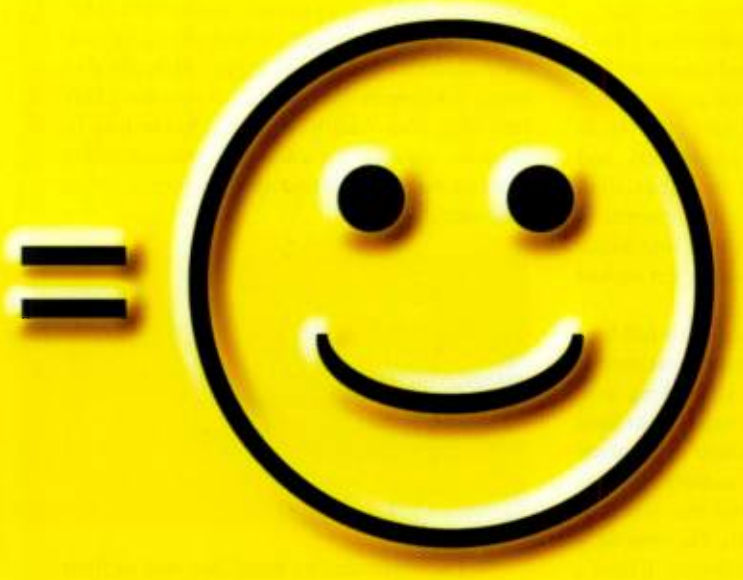
Despite the poppiness of *Vertical Memory*, however, Schütze's music will never approach the commercial — his musical frame of reference is way too left-field for that. He numbers classical composers like Ligeti, Satie, Varèse and Stockhausen among his influences, as well as Indian and gamelan music, Miles Davis, and the German bands Kraftwerk and Can: "Can is my all-time favorite band, and their bassist Holger Czukay is probably my absolute musical hero."

The other important element in Schütze's musical world is microtonality. Though unusual, it's consistent with his interest in Indian and gamelan music.

"I know that many people feel forced into tempered tuning when playing keyboards, but ever since I've had keyboards that I could tune microtonally, I've hardly used equal temperament anymore. Now, I just spin numbers around on my K2000 until it sounds right, and make up often ▶

PAUL SCHÜTZE: SELECT DISCOGRAPHY

Deus Ex Machina	1989 Extreme
The Annihilating Angel	1990 Extreme
New Maps Of Hell	1992 Extreme
The Rapture Of Metals	1993 Extreme
More Beautiful Human Life (as Uzect Plaush)	1994 RNS
Apart	1995 Virgin
Vertical Memory (as Seed)	1995 Beyond



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▶ modal-like scales, with usually less than 12 notes per octave. The interesting thing about microtonal tuning is that it changes the timbre completely, because the harmonic interferences between the notes alter."

IT'S LESS FUN TO COMPUTE?

Schütze's loyalty to just one digital keyboard may be unorthodox, but his fierce aversion to computers, which leaves him dependant on an ancient Roland MC500, is positively eccentric:

Another view of Schütze's compact studio, showing his rack of processors, including an Ensoniq DP4 and Alesis Midiverb II. Emu Proteus/1 and Roland D110 synth modules sit at the top of the rack.

"I hate computers. All the inferfaces I have seen so far between computers and people are just intolerable; I flatly refuse to look at a screen. I don't think that anyone should have to work in the way that computers expect you to work, and the idea of putting up with it, rather than demanding that it meets your requirements, is perverse. Computers are like a vortex into which enormous amounts of creative energy get sucked with very little return.

"We now have a musical culture that is hell-bent on adapting itself to a tool. It's mad. It means that you can tell whether someone is working with *Cubase* or *Notator* purely from listening to their music. The main thing that you hear is a vertical grid. You hear edits in four-bar sections, you can spot edit points, and it's very rare that you hear things existing in overlapping levels. The other thing is that people don't experience whole parts. If there's a 15-minute piece with a hi-hat part throughout, they won't play the hi-hat part for 15 minutes. They'll play two bars, and repeat it ad nauseum. It seems to me that you don't get to *experience* the parts like that. If you play them all the way through, you would understand the kind of variations they need, and why gradual changes are necessary.

"I think that computers have had a very detrimental effect on our sense of rhythm and musical development over time. It's bizarre that we're currently in a period of huge experimentation in electronic music, with all these different kinds of music being produced, and yet everyone is using exactly the same tools to produce them. That tool has a levelling effect on the possible results, because all software steers you in a particular direction. I may be able to go in 500 directions, but there are only one or two directions that are easy. There are very few composers whose musical ideas are so strong that they will be able to retain them in the face of the way the software works — so I think there's a very good case to be made for some software writers being as responsible for techno as some of the people who are composing it."

Schütze's answer is the MC500, which he uses as a tape recorder:

"I bought it in 1985, because I liked the idea that you could change and replace things, or change the speed or sounds after recording. I've written hi-hat figures that I've later changed to a piano sound, for example, so you get piano patterns that you would never dream of writing if you'd heard a piano when you were writing. It's a way of tricking yourself into writing unexpected parts. The thing about the MC500, though, is that I don't do much note-editing on it. Changing one note, or the velocity of one note, is a bit of a nightmare. I basically perform into it as if it was a tape recorder. It only has four tracks, so I have to bounce things down. It takes quite a bit of juggling, because if you combine tracks wrongly, you can't edit or un-combine. It has all kinds of restrictions, but that's part of what's good about it."

PATHS TO ENLIGHTENMENT

Schütze is clearly on a favourite hobby-horse in his diatribe against computers, which sits oddly with his distaste for the way analogue diehards also blame equipment for bad music (see the 'This One Will Run And Run' box). According to Schütze, however, it's a matter of creating forms of technology and art that open our mind, rather than restricting it:

> *"Computers are like a vortex into which enormous amounts of creative energy get sucked, with very little return."*

"We're surrounded by things that stop us from seeing clearly. By contrast, there are certain things that bring the real world back into focus. That, to me, is one of the uses of music. Music is like architecture, something to be used in co-existence, and something that we move through. It's not just *there*. Pieces of music that say: 'I'm a completely self-contained, self-referential artefact, take me or leave me' are to my mind very arrogant and moribund. If something doesn't invite interaction, then why does it need to be there at all?"

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MIDI merger

MULTI-PLATFORM EDITING & SEQUENCING

Just because you've moved over to Mac or PC for making music, it needn't put your Atari on the scrapheap. COLIN OWEN explains how, with the right MIDI interface, your Atari can become a powerful editing tool.

Though my Atari ST served me well for many years, I finally succumbed to the lure of *Logic* on the Apple Mac, which left me with a perfectly serviceable ST doing nothing. Then, one day, the need arose to edit some stuff in one of my modules, and I realised that I didn't have a Mac editor package to do the job. I still had the Atari editors, but obviously they wouldn't run on a Mac, so I set about devising a way to use my old Atari for editing, without having to rebuild my MIDI system every time I wanted to edit something. As I use a MIDI Express as a MIDI interface, the solution turned out to be surprisingly simple. For the benefit of anyone who finds themselves in a similar position, here's what I did.

The following should also work with other MIDI interfaces, providing they have at least three merged inputs, and multiple outputs — which most do. An interface you can program, like the MIDI Express or MIDI Time Piece, also makes life a lot easier. Editing via MIDI requires two-way communication, so a straight one-in, three-out type of interface won't work for this exercise. The Atari is not limited to sound editing: you can use it for any MIDI function, such as bulk dumps, patch setups, or you could even run a second sequencer in sync with your Mac.

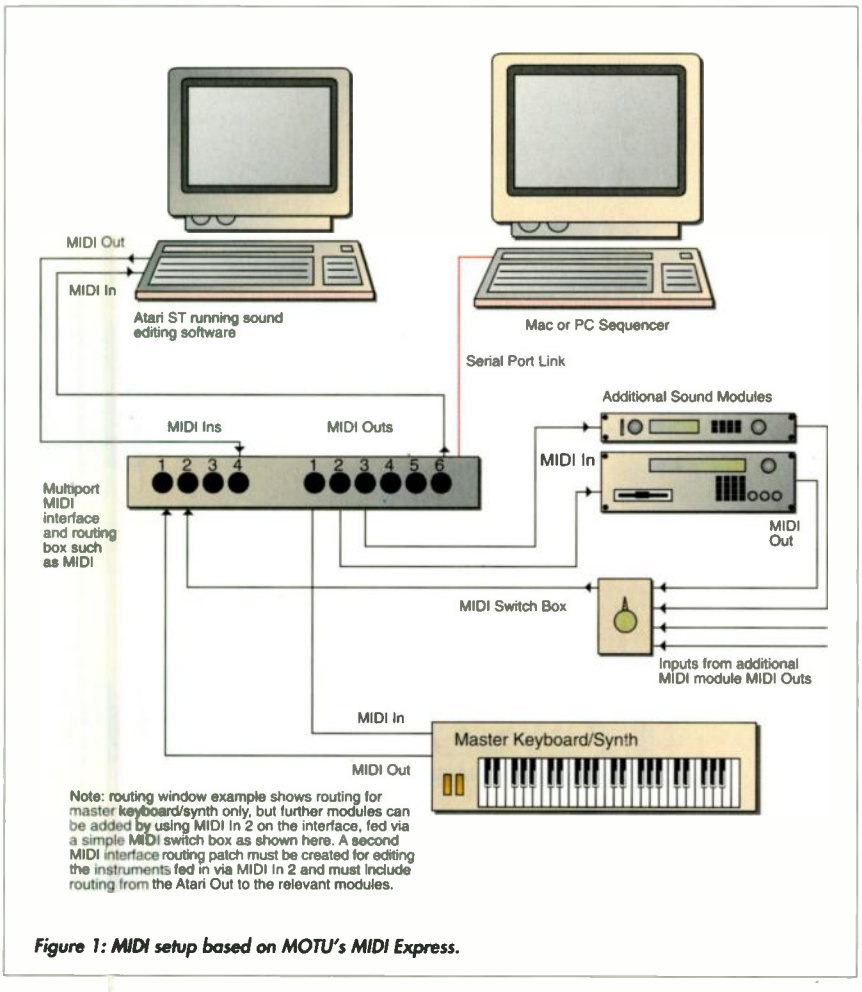

Figure 1: MIDI setup based on MOTU's MIDI Express.

SETTING UP

I used the highest-numbered MIDI Ins and Outs (input 4 and output 6 on the MIDI Express) to patch in the Atari ST. Connect a MIDI cable from the Atari MIDI Out to to MIDI In number 4, then connect another MIDI cable from the Atari MIDI In to the MIDI Express MIDI Out, number 6. Next, connect a cable from your synth MIDI Out to one of the MIDI Express MIDI Ins (you'll probably have one there already, unless you're starting from scratch). Figure 1 shows you how your MIDI system should look.

Next, load up your MIDI Express control software and select an empty preset. Most of us just use the factory preset number 1, which gives access to 96 MIDI channels, so any other will do. Name the various inputs and outputs that are connected to your system (if you haven't already), and select the cable routing window. Once there, connect (on screen) the Atari input to the synth output. This is done by dragging a cable from one icon to the other. Then, connect the synth input to the Atari output. If you have the option to set MIDI channels, make sure you enter the 'all' setting, which will avoid possible confusion later. Most editing software will give you some way to play sounds as you edit them, but this is never as good as having an actual keyboard connected, so let's do that next.

Still in the cable routing window, drag a cable

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from your master keyboard's input icon to the synth output. Again, select the All Channels option. Now you have access to the synth from both the Atari and the master keyboard. Make sure that the MIDI channel numbers are the same on the Atari and master keyboard. Then, whichever you use you will hear the same sound. It's quite possible, if you have different MIDI channel numbers, and you are editing a multitimbral synth, to have the Atari play one part, and the keyboard play another — which is potentially very confusing! All you need to do now is to save the preset that you've set up. Figure 2 shows the routing window setup I used.

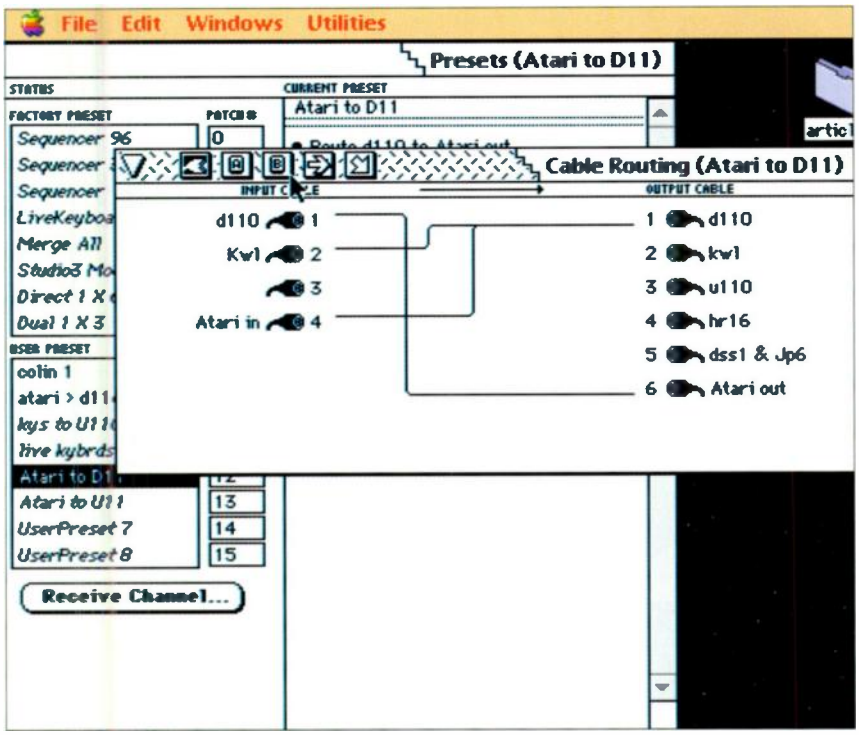

Figure 2: The MIDI Express Routing Window.

Whenever you need to edit a sound on the synth, simply select the new user preset on the MIDI Express, load up the editing software on the Atari, and off you go. If you run out of inputs on the MIDI Express, as you're likely to do if you have a lot of modules to edit, either bring all the module MIDI Outs to a MIDI patchbay, or buy a multiway MIDI switch box. This way, you can easily connect any of your synths or modules to the Atari as required for editing. You must have a MIDI cable connected from your synth MIDI Out to a MIDI Express MIDI In, so that the editor can have a two-way conversation with it. This is most important because, although some editors may work without this, you won't be able to transfer any patch data from the synth to the Atari, only from the Atari to the synth.

When it comes to physical layout, The Atari doesn't have to be close to the Mac or synth being edited, because the only connection is via MIDI, and MIDI cables can be quite long before you experience problems. Some of my MIDI cables are 20 feet long, and to date I haven't had any trouble.

HYBRID BENEFITS

Edits can also be recorded in your sequencer, if you leave it in record mode as you're editing. This makes it possible to record real-time parameter changes, though how well this works depends a lot on the synth you're using.

Both your Mac sequencer and Atari editor can run together, because of the merge capabilities of the MIDI Interface. This makes it possible to edit the synth whilst a sequence is playing. Very often, hearing the results of your edit in context is more useful than trying to edit a patch in isolation, only to discover that it doesn't quite work with the rest of the mix.

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MR Memory

ENSONIQ MR RACK SYNTH MODULE

Expandable and user-friendly, Ensoniq's new synth module favours preset sounds and effects over editing and programming options. JULIAN COLBECK asks how the MR Rack stacks up.

ENSONIQ MR RACK £1299

PROS
- First-rate sound selection process.
- Yummy effects.
- Expandable.

CONS
- No controller inputs.
- If you're the kind of sound designer that likes to get to the bottom of things, the lack of full front panel editability may bother you.

SUMMARY
A controversial instrument with its brave stance on editing, but if you like driving a car more than working on it, you'll find this the Austin Healy of synth modules — fast, sporty, and a lot of fun.

The designers at Ensoniq have obviously decided to try for a share of the the Roland JV1080 market with their MR Rack synth. The 1U MR Rack module is expandable in the same way as the Roland, ie. via plug-in cards with extra sounds, of which more elsewhere in this article (see the 'Expand Your Horizons' box). Even the basic machine, however, offers plentiful, imaginatively programmed sounds, with generous polyphony. Day-to-day operation is mostly a breeze, thanks to Ensoniq's SoundFinder, a sort of Thesaurus-cum-dictionary-cum-Yellow Pages for locating sounds, which really takes the sting out of the MR Rack's small display. Effects are another strong point of the MR Rack, and having Ensoniq's new ESP2 chip on board can only serve to enhance their growing reputation in this area.

To simplify operation, in-depth sound editing is only possible via a suitable software editor. Mark Of The Unicorn have already released a MR Rack profile for their *Unisyn* editor/librarian to this end (for more on this, see the 'Programming With *Unisyn*' box), and other major software manufacturers, such as Emagic and Opcode, are following suit. Fortunately for those who aren't keen on software twiddling, the front panel does allow access to a selection of key parameters.

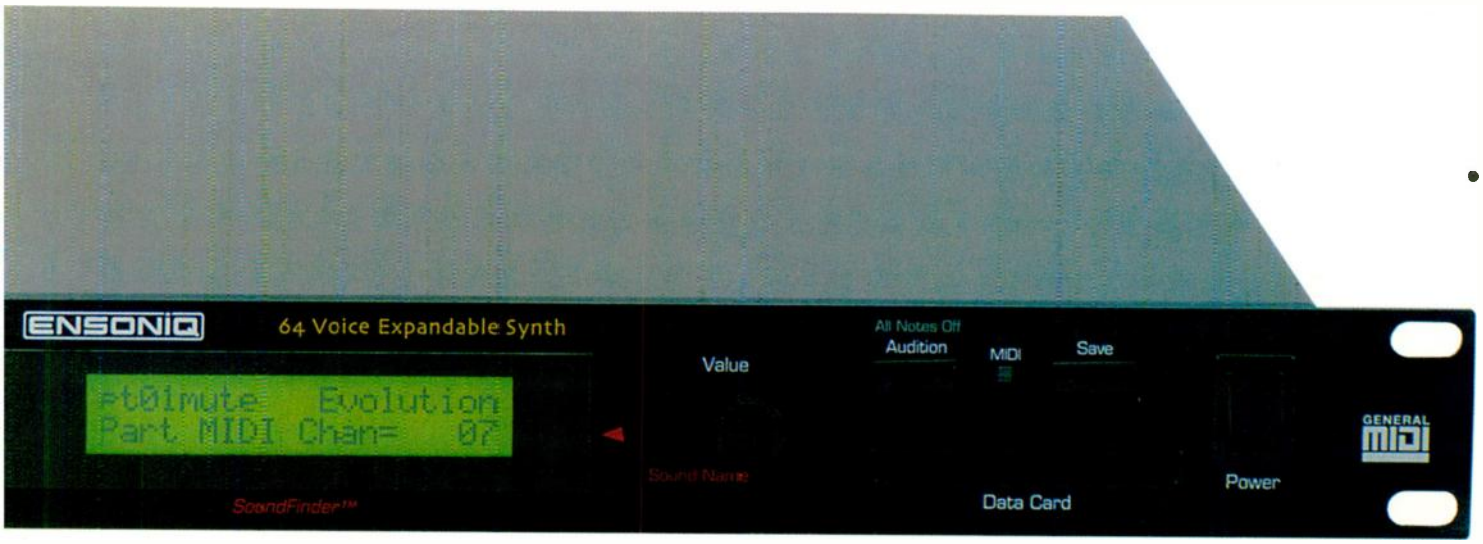
The MR Rack's GM mode does have a few unruly aspects to it, and although I always got there in the end, on more than one occasion the unit got itself in a right old tizzy and had to be re-initialised. There's also the question of price. Granted, the MR Rack comes with new Ensoniq technology which has to be accounted for somehow, but the company will have to work hard to persuade the end user that the MR Rack is more than just a slimline sample playback unit, containing another barrow-load of gassy, dreamy, fluctuating, Wavestastion-esque sounds. Without the stimulant of price, battle-hardened customers will need to see pretty dazzling performance before the old adrenalin starts pumping.

PANEL BEATING

The Wavestation SR makes a sensible comparison, audio performance-wise, but it's a pleasant surprise to discover that the MR Rack's user interface is 10 times friendlier. The panel is about as direct and complete as a module of these dimensions and this range can hope to be. After the front-mounted phones socket (use of which doesn't kill the audio flow from the back) and volume pot, comes a group of six mode LEDs which control the instrument's basic operational mode. They allow you to access an individual sound or sound combination, mute sound, control effects, and gain access to global set-up parameters. They're followed by a pair of Enter/Exit buttons that double as 'part' selectors (an MR combination patch can use up to 16 parts).

The fun really begins with the schizophrenically-named Parameter/Sound Type knob. In single sound mode, this click-stopped, continuous wheel spins you through all the various sound types in the instrument: Basses, E Guitars, Pianos etc, or you can alight on ALL-SND ('all sounds'), whereupon every sound will be listed alphabetically. The Sound Type knob selects instrument category, while the Value/Sound Name knob on the other side of the screen, selects sounds within that category. The screen doesn't only display the category and the sounds therein, but also their actual location, for instance, 'ROM Bank: 112', plus the current Part and MIDI channel.

Dubbed SoundFinder, this system functions in both single sound and combination sound modes, and the savings it affords (in time, brainpower and expletives) cannot be over-stated. Ensoniq could have left it at that, but the icing on the cake is



the Audition button. A momentary control, Audition activates a snippet of appropriate music for each sound or sound category. For example, if you're in the Bass section, simply stab the Audition button, and a couple of bars of groovy bass-playing let you assess each bass sound from a performance standpoint. You can even reset this to play octaves, a major chord, or arpeggios instead of a few bars of Nile Rodgers. Either way, retail stores will love this. Yet it's not just a demo novelty item. As a labour-saving device alone, the Audition button lets you spin through and audition sounds without having to continually swerve back and forth between your module and keyboard — in my opinion one of the most tiresome aspects of modern, patch-packed module life.

Completing the front panel inspection is a green MIDI indicator (which flickered continuously, even when I wasn't playing!), a data card slot and power switch. Meanwhile, around the back are standard MIDI In/Out/thru and two sets of stereo audio outs, Main and Aux. I suppose you can always connect pedals into your controller keyboard, but even so, this strikes me as a fairly basic suite of connections for this price of instrument. Even the Proteus has an input option.

On power-up, the screen briefly alludes to the 'mister' joke (wearing thin already): 'Just call me Rack, MR Rack' it quips, before settling into a demo sound entitled 'Evolution'. This is a factory default, but mercifully, it can be altered. One's first impression is of ultra-high audio quality. Making the most of the MR Rack's four 18-bit DACs, 'Evolution' exudes both bits and programming chops, as it flits effortlessly between muted woodwind, light mist, jangling bells and other assorted ear candy — and all in the space of ten seconds. The instrument's repertoire of demo songs is immaculately programmed, fearlessly highlighting such notoriously difficult instruments to play in MIDI as harp, fiddle, and accordion. Of the MR Rack's ability to selectively pitch-bend notes within a chord, there remains no doubt.

PLAYING THE SYSTEM

Resisting the temptation to just bliss out with a cigar and a glass of port, we come to the tricky business of assessment. With 12Mb of waveform ROM on board as standard, the MR's range of sounds is too wide to pigeonhole. A general lushness puts me in mind of the Korg Wavestation, although there are lots of ambient, ravey squeaks, and tinny major sevenths too. I'd say the MR bestrides natural and synthetic instrument camps with near perfect balance.

Its raw material is a 12Mb slab of waveform ROM containing samples, waveforms, and Ensoniq's own time-shifting 'Transwaves' that form the basis of the MR Rack's Sounds. Access to the full complement of filters, envelope generators, LFOs and so forth is via software only, but a reasonable amount of editing can be achieved using only the front panel facilities.

Sounds are stored in ROM or RAM Banks, internally or on the card. Up to 128 Sounds can be stored in a Bank, a number that is dependent upon the amount of memory the sounds take up. Theoretically, the MR Rack can store up to 128 Banks. Pause here, to contemplate the matter of Bank Select. The MIDI Bank Select message is not yet a standardised command (or, in Roland's case, set of commands), for reasons I fail to understand. Because of this, manufacturers of MIDI patchbays have shied away from implementing Bank Select. While this doesn't pose much of a problem in the studio (because you have the time and technology to access the sounds you need), in live performance it can pose huge problems. This is not meant as a criticism of the MR Rack, but it is something you will have to deal with if you plan to use this as a stage module.

MR Rack Sounds are single MIDI channel entities. Multitimbrally, the instrument employs Performances that contain 16 Sounds each, slotted into what Ensoniq calls a Part, plus a dedicated effects set-up. This is fast becoming a standard system, so you won't find it at all complex to understand. A degree of sound editing is available at this Part level. You can tweak a filter, soften an attack, alter the tuning and so forth. Useful as this is, it's important to realise that you are only altering a Sound's appearance within that Part — and only temporarily, until you re-save it within a new Performance. However, Ensoniq have been thoughtful enough to give you the option of letting the Sound's originally programmed Part parameters ▶

PROGRAMMING THE MR RACK WITH *UNISYN*

As mentioned elsewhere in this review, full MR editing is only possible via software. Although MR Rack editing modules are currently in development for Emagic's *Sound Diver* and Opcode's *Galaxy*, the only module available now runs with Mark Of The Unicorn's *Unisyn*, available for Macs and Windows PCs (see review, *SOS* Dec 95). In the States, when you return your MR Rack registration card, Ensoniq, not MOTU, will send you a cut-down version of *Unisyn*, along with a 'Profile' (layout and set of instructions) pertaining to the MR Rack. If you're sold on the program, you can (for a modest charge) upgrade to full *Unisyn* status, whereupon you'll receive Profiles for pretty well all major instruments/manufacturers. Be warned, however, that this arrangement does *not* apply in the UK!

Armed with *Unisyn*, the MR Rack becomes a fully programmable synthesizer in the S+S mould, tapping into the 12Mb of keyboard, string, percussion instruments, analogue-style waveforms, inharmonic waves and transwaves, and more. *Unisyn* is a clean-lined, logical editor, thankfully free of frills; you're simply given a series of pages with sliders and pots you can manoeuvre as if you were being presented with a hands-on synth front panel.

Unisyn's extensive librarian duties are somewhat upstaged by the excellent housekeeping of the MR Rack itself, but the randomising facilities are fun, and the whole big screen package is wonderfully clear and simple to use.

Ensoniq would like it known that the availability of the *Unisyn* package should not deter programmers from producing dedicated MR Rack editors, especially in Europe, where the Atari is still widely used. Pockets of Atari-dom do exist in the US, but the platform is regarded in the same light as, say, users of manual coffee grinders, or people who bake their own bread. You know, a bit *weird*.

come with it, or letting the current Part's parameters take precedence (because, for instance, you might have some weird tuning, pitch, or modulation you want to preserve).

Performances are categorised and called up in much the same way as Sounds. General MIDI is a special type of Performance and, fortunately, there's very little performance (with a small 'p') involved in accessing the mode: hit the System button until you see the prompt, hit 'ENTER For GM!' and you're off. Within each Performance you can also store one 'Stak', which as the name suggests, is where you can stack or layer sounds upon each other. Early Ensoniq keyboards were renowned for their instant stackability, and it's good to see such a feature spreading over into modules.

What is good about the MR system is that the system itself is fairly unobtrusive. You are, for instance, always operating within a Performance even if you have not specifically selected an actual Performance to work in. This is simply how Sounds appear — and it works well. The system is unobtrusive, and it's also flexible, to the extent that you can alter the way the instrument presents itself to you, via a selection of 'WakeUp Modes'. If you only use GM, you can set the instrument to default to GM mode on power-up. Alternatively, you can set 'Last Selected Sound', Performances, or 'As Turned Off.'

Ensoniq have made a bold decision in not offering complete front-panel sound editing, but provided you fully understand the consequences editing at the Part level is quite sufficient for most practical purposes. Emu's Proteus offers only fractionally more editing power in real terms, even if you have notionally freer access, in terms of being able to save 'edited' sounds afresh. Admittedly, nobody likes being told they can't do something, especially at this price, but at least Ensoniq programmers were instructed to pull out their Grade-A programming skills when it came to the factory sounds.

SOUND TYPES

Categories in which Sounds exist ex-factory, and under which they can be located using the SoundFinder system:

- Bass
- Bass (Synth)
- Bell
- Brass (Section)
- Brass (Solo)
- Drum Kit (Ensoniq)
- Drum Kit (GM)
- Guitar (Acoustic)
- Guitar (Electric)
- Hits
- Keys
- Layers
- Loop Grooves
- Mallets
- Orchestral
- Organ (Acoustic/Pipe)
- Organ (Electric)
- Organ (Layers)
- Percussion (Kit)
- Percussion (Solo)
- Piano (Acoustic)
- Piano (Electric)
- Piano (Layers)
- Plucked
- Sax Solo
- Sound FX
- Splits
- String (Section)
- String (Solo)
- Synths (Poly)
- Synths (Mono)
- Synths (Pads)
- Synths (Vintage)
- Synths (General)
- Vocals
- Wind/Reed

Each Sound Type holds many individual sounds, far too many to list. Here are some thoughts on key, or particularly noteworthy ones:

- STEREO GRAND

This is a beautiful sound, offering plenty of edge when you dig in, but otherwise quietly classical and expansive. It has exceptionally smooth sample cross-overs, and one of the most natural responses to progressive increases in velocity I've ever come across. The decay tapers naturally, too, over a 13 second period, with no noticeable degradation. Okay, so my Broadwood acoustic decays for over 40 seconds but... *[Stop bragging — Ed].*

- ELEC 12-STRING

A real treat for Byrd(s) lovers. Electric, but not electronic.

- JAZZ GTR

Light and jazzy, and highly playable with a delicious repeat.

- ROOM BASS

Twangs like a giant elastic band and sounds brilliant.

- STEEL PAD (a layer)

A rich and seductive amalgam of soft synth and what sounds like bazouki. Thins out beautifully as it goes up the scale.

- WARM BATH

A string section that rivals the classic Noble Strings patch on the Wavestation.

- RAVE M7Maj7

One-finger chord stabs you hear every day on the radio. Tinny, nasty; perfect.

PARTY DOWN!

The MR Rack is no Oberheim Xpander in the programming department, but this does not mean you're lumbered with a collection of immovable, immutable sounds. The Part level houses a vast collection of parameters, pertaining not only to control items like MIDI channel, pan, pitch bend response, glide, delay, keyboard range and such, but also quasi-editing parameters such as LFO rate, depth and delay, amplifier and filter envelope, volume, and tuning. In each camp, you'll find some highly imaginative offers.

Unusually, if not uniquely, there are two pitch bend parameters, one for up and one for down, each operating in up to 12 semitone ranges. A Part can also elect to use Global pitch bend mode, where you then have an additional choice of 'Held' mode. This mode will only pitch-bend notes that are held down. Notes simply sustaining, or in release, will remain static. It's a trick you need to get used to, but it will let you produce some authentic-sounding double stopping or internal pitch-bend effects in guitar, fiddle, or pedal steel style — a nice feature. Alternative tunings are an acquired taste. But if you have such leanings, or are interested in finding out about alternatives to equal temperament, the MR Rack makes the search about as easy as it can be.

Within the PitchTbl= page in Part Parameter, you'll find 30 or so wild and wacky tuning scales, from Java-Pelog 1-3 (no, not a trendy blend of coffee but versions of the seven-tone Pelog scale used in gamelan), a 22-pure interval Raga tuning, several Chinese and Tibetan scales, Arabic, and some truly awful Greek tunings that make the instrument and you feel drunk. Okay, so this can be fun, and I really appreciated the fact that you have the choice of retaining a new tuning in a Part location (so you can try out different Sounds on a new scale), or simply ▶

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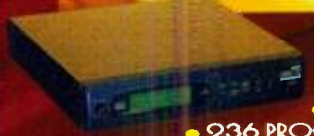

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can the whole idea of alternative tunings as soon as a fresh Sound is brought in. Full marks for this.

Front-panel parameters that can be accessed include LFO — speed, depth and delay, plus the option of synchronising the LFO to MIDI, and simple envelope stages of attack, decay, and release for amplifier and filter. Filter cutoff can also be adjusted, working as a simple tone control. While it would be wrong to suggest this offers sufficient editing power for everyone, experience and practicality does suggest that these are the types of edit parameters most of us stick to. If you're running an Atari, say, and cannot run an MR-compatible editor, you can take some comfort in the fact that the sound edit parameters can also be adjusted using Non-Registered Parameter Numbers (NRPNs). In other words, you can control changes in tone, envelope, and LFO directly from your computer, storing changes within your sequencer. NRPNs can also be used for volume, chorus, pan changes and so on.

"Early Ensoniq keyboards were renowned for their instant stackability, and it's good to see such a feature spreading over into modules."

DRUM DE DUM DUM DRUM

Somewhat of a similar myth (as in something we like to think we do, though we don't) surrounds drum mapping. You like the way a kit sounds — you use it. You don't — in my experience, you find another one. However, the MR Rack offers detailed selection and processing of drum kits, direct from the module itself. Starting off with a choice of basic mapping — Ensoniq or GM — you can alter the sound that each key will trigger, using not just pre-selected drum sounds but any which are available. You can alter a sound's pan position, whether or not it will respond to effects, and its tuning.

The MR Rack's complement of drum kits and drum/percussion patches is both wide and excellent. Ensoniq has only relatively recently included GM mapping within its instruments, in addition to its own format. This makes them rather more playable, because sounds are often mapped to two keys and so can be triggered faster. In Ensoniq format, you have seven kits to choose from, and in GM format no fewer than 11. A drum kit can hold up to 64 individual sounds.

IN EFFECT

Built-in effects are both a blessing and a curse on modern synths, enhancing individual sounds on the one hand, while on the other creating problems when you want to combine effects-laden sounds multitimbrally. The MR Rack's solution is becoming quite standard: although Sounds arrive complete with their own effects settings, when you take these into a Performance, you'll have to make a decision. You can plump for what Ensoniq call an Insert effect, which is the effects setting from one individual Sound applied to all Sounds within the Performance. Alternatively, the Sounds can remain dry, or they can tap into a global chorus and a global reverb setting.

The effects themselves span parametric EQ to non-linear reverbs, phaser, DDLs, chorus, flanger. There are also some most unusual offerings, like Chatter Box (a vocalising formant filter that almost gives the effect of a voice box — remember those?), and Formant Morph (similar, but with distortion and less movement). "Yes," I hear you say, "But who wants stuff like this?" Me, for one. You, for another. Dramatic effects like these are simply money in the bank when it comes to producing unusual, stand-out sounds. Tailor-made for the charts — for a month or two, at least.

Not only are there plenty of unusual algorithms, but the level of control offered is staggering. On Chatter Box, for instance, you have control over a the articulated 'shape,' the formant warp, auto pan depth, two LFO rates and depths, delay time and level, feedback and damping, plus the amount of signal being fed into the filter. This is great stuff. Use of the MR Rack's effects merits a specific article in itself, but I had to ask the Ensoniq marketing team how they justified offering such detailed programming in areas such as the effects and drum mapping, while restricting the onboard sound programming. Apparently, their market research has revealed that of those Ensoniq users who are interested in detailed sound design, the majority will have access to a computer for software editing. Items such as effects and bespoke drum kit building are valued more as onboard, post-production facilities.

The nature of the effects, and the way that the MR Rack is set up does produce one initially disconcerting feature; namely the short gap between a new Sound being selected and that sound appearing. This only occurs, says Ensoniq, if you continually select a new Sound within the same Part. True, but isn't that what most people will want to do? Still, this blip shouldn't detract *too* much from your enjoyment of this instrument.

SUMMARY

The MR Rack is a very tasty unit. It's well-thought out, generally easy to use, sounds terrific, and has enough innovative features to make it exciting both to play and listen to. I did encounter some oddities in GM mode: parts disappeared on some sequences, and the pitch bend ranges went squiffy on others. GM is not an exact science, and I also fired in some GM SMFs that were real killers.

Roland's JV1080 is probably the closest the MR rack has to head-to-head competition, and has the obvious GM advantage of being made by Roland. Nevertheless, the MR Rack has, I feel, more interesting sounds than the Roland, while Korg's are suffering from a degree of over-exposure. Buying an Ensoniq is not the risk it was a few years ago, and now could be just the moment to jump in. SOS

FURTHER INFORMATION

£ Ensoniq MR Rack £1299 inc VAT. Expansion boards are planned to retail from £200 (inc VAT) — but firm details are not yet available.

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New Releases

NEW!

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O.D. Hunte's sequel to his successful 'Freekee Jack Swing' CD. This CD follows a similar format, but concentrates on the split loops and adds a large selection of individual sounds on top of these. The loops are divided into three styles - Rap Street Loops, Future Funk Street Loops, and Caribbean Street Loops. Each loop features four alternate versions, a standard drum loop, one with bass, another with vocal fx, and lastly with everything together. This sequel will not disappoint. Audio CD: £59.95

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Vol.1 is a 2-CD set of phrases & instruments from all over African continent. Following the success of Heart of Asia, this sequel was a smash hit even before it was released...
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CD-ROMs: £199.

Heart of Africa Vol.2 has all new tribal phrases, vocals, performances & SFX from a huge tribal competition in Kenya. This material is very primitive & really enhances the volume 1 samples. Audio CD: £59.95 CD-ROMs (most formats available): £149.00

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NEW!

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NEW!

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Hot new disc from Invision (USA), comes with loops, samples and standard MIDI-files. Multiple layers of percussion instruments were played live and the MIDI-files were created directly from the loops. Killer material for Dance, Pop, Latin, R&B, HipHop, etc. Enhanced construction kit format includes: multiple tempos of each groove, alternate instrument mixes, fills, MIDI-files & samples. Gives you the power to quickly create and modify tracks. Performed by Rafael Padilla and meticulously recorded at Mama Jo's Studios
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NEW!

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NEW!

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NEW!

BURNING GROOVES

New from SPECTRASONICS, and devoted to raw, aggressive, in-your-face energy. Blazing, all-original live drum grooves laid down by L.A. slammer Abe Laboriel Jr. (drummer for Seal) with extreme remixes by producer Eric Persing (who brought you Bass Legends & Distorted Reality). Unrelenting alternative, power funk, progressive soul, rock'n'roll and grungehead loops in a wide variety of tempos put this collection in a class by itself. Each groove has several mix variations (edge, ambient, distorted, lo-fi, etc) and is also given without kick or snare for flexibility. CD-ROM version includes killer multi-dynamic drum kits & the single hits used in the loops. Attitude!! Audio CD: £59.95 CD-ROM: £149.00

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NEW!

EUROTECH

☆☆☆☆☆
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...A hit release" (Sound on Sound magazine).
Specialising in Euro-dance/ Europop. This style of music has dominated the charts all over Europe over the last few years & seems set to continue to. A very commercially attractive set of sounds, and all original. The loops are fast (192 of them are over 140bpm!). A nice balance of experimental & straight. All bpms given. A hot & hard techno resource.
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NEW!

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Crunchy Nut Loops - A collection of Phattening Grooves from Drummer Jim Carmichael (Freak Power, K-Creative etc.), played with vibe in mind, these loops are encrusted with funky substance and fortified with extra compression to start your day in the positive way. Audio CD: £59.95

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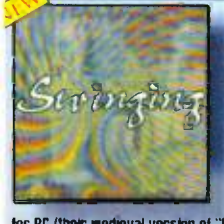

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- Project Music, 433 Gt West Rd, HOUNSLOW, Middx, Tel: 0181-570 4444;
- C.T.I., Fumbally Court, Fumbally Lane, DUBLIN 8, Ireland, Tel: Dublin 45 45 400;
- Music Village, 10 High Rd, Chadwell Heath, ROMFORD, Essex, Tel: 0181-598 9506;
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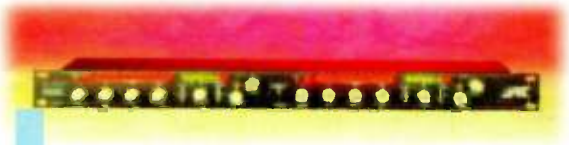

A CONCISE GUIDE TO COMPRESSION & LIMITING

PAUL WHITE looks at the many parameters which govern compression, how to improve your recording technique, and how not to throw the baby out with the bathwater.

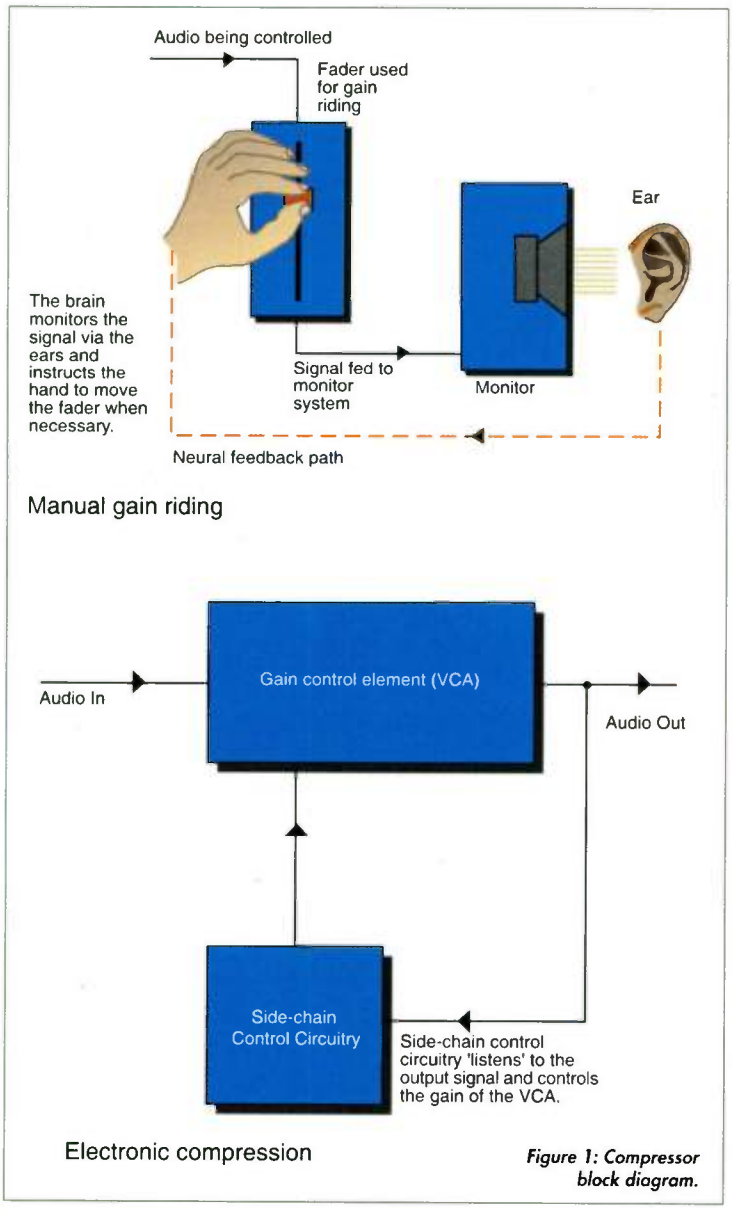

Figure 1: Compressor block diagram.

Compression and limiting have been covered in *SOS* before, but like the brown mould that you blitz every few months in the bathroom only to watch gradually return, questions on the subject steadily build up again, mere months after we explain the basic principles in an article such as this one!

On the one hand, musicians are encouraged to give an enthusiastic and dynamic performance, while on the other, their levels must be controlled to some extent, if we are to create musically acceptable mixes. One tool that is vital in helping us to do this is the compressor, but before looking at how they work, I'd like to outline the types of problems they are designed to solve.

While the faders on a mixer can be used to set the overall balance of the voices and instruments that make up a piece of music, short-term changes such as the occasional loud guitar note or exuberant vocal scream are less easy to deal with manually. When I first started recording, compressors were too expensive for home use, so we had no alternative but to 'ride' the faders. Once you've used a compressor to control your levels, however, you come to appreciate that there are certain things it can do that the human engineer is just too slow to manage. For example, unless you've played the track through and memorised exactly where the loud and quiet spots are, you'll always respond too late, because you can't start to move the fader until you hear that something is wrong. A compressor, on the other hand, will be aware of a level problem virtually as soon as it happens. Fortunately, good compressors are now relatively inexpensive, and next to reverb, a compressor is probably the most important studio processor to own — at least for those who work with vocals or a lot of acoustic instruments.

For the benefit of those who are still a little unsure as to what a compressor does, it simply reduces the difference between the loudest and ▶

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Roland

A Concise Guide to Compression & Limiting

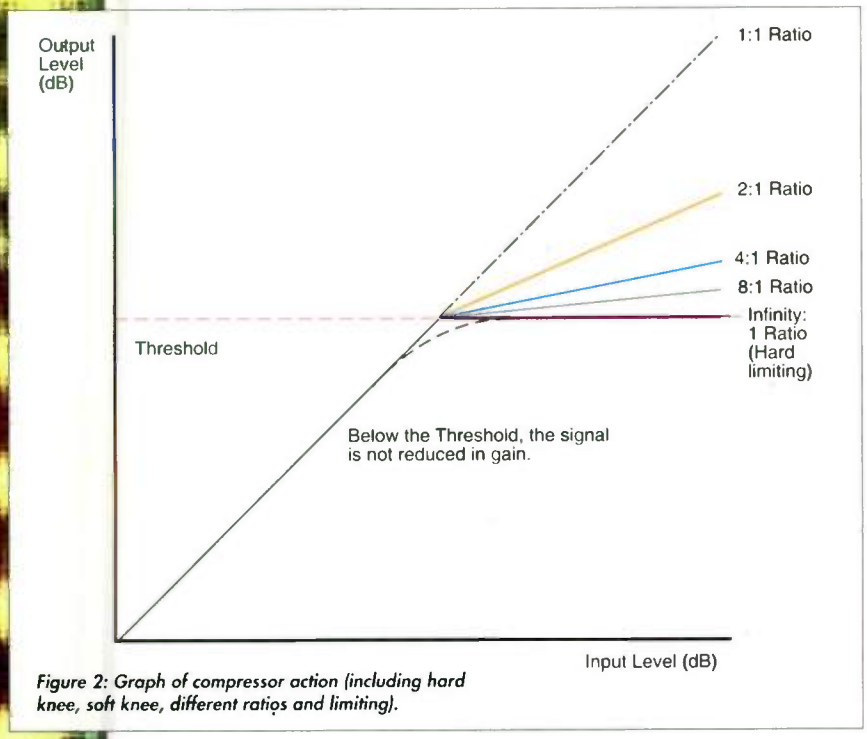

Figure 2: Graph of compressor action (including hard knee, soft knee, different ratios and limiting).

quietest parts of a piece of music by automatically turning down the gain when the signal gets past a predetermined level. In this respect, it does a similar job to the human hand on the fader — but it reacts much faster and with greater precision, allowing it to bring excessive level deviations under control almost instantaneously. Unlike the human operator though, the compressor has no feel or intuition; it simply does what you set it up to do, which makes it very important that you understand what all the variable parameters do and how they affect the final sound.

In order to react quickly enough, the compressor dispenses with the human ear and instead monitors the signal level by electronic means. A part of the circuit known as the 'side chain' follows the envelope of the signal, usually at the compressor's output, and uses this to generate a control signal which is fed into the gain control circuit. When the output signal rises past an acceptable level, a control signal is generated and the gain is turned down. Figure 1 (p.116) shows a simplified block diagram of a typical compressor circuit.

"Technically perhaps, the best compressor is one that doesn't add any distortion, but most engineers seem to like the 'warm' sound of the older valve designs."

SETTINGS AND CHARACTERISTICS

Threshold: With manual gain riding, the level above which the signal becomes unacceptably loud is determined by the engineer's discretion: if it sounds too loud to him, he turns it down. In the case of a compressor, we have to 'tell' it when to intervene, and this level is known as the Threshold. In a conventional compressor, the Threshold is varied via a knob calibrated in dBs, and a gain reduction meter is usually included so we can see how much the gain is being modified. If the signal level falls short of the threshold, no processing takes place and the gain reduction meter reads 0dB. Signals exceeding the Threshold are reduced in level, and the amount of reduction is shown on the meter. This means the signal peaks are no longer as loud as they were, so in order to compensate, a further stage of 'make-up' gain is added after compression, to restore or 'make up' any lost gain.

Ratio: When the input signal exceeds the Threshold set by the operator, gain reduction is applied, but the actual amount of gain reduction depends on the 'Ratio' setting. You will see the Ratio expressed in the form 4:1 or similar, and the range of a typical Ratio control is variable from 1:1 (no gain reduction all) to infinity:1, which means that the output level is never allowed to rise above the Threshold setting. This latter condition is known as limiting, because the Threshold, in effect, sets a limit which the signal is not allowed to exceed. Ratio is based on dBs, so if a compression ratio of 3:1 is set, an input signal exceeding the Threshold by 3dB will cause only a 1dB increase in level at the output. In practice, most compressors have sufficient Ratio range to allow them to function as both compressors and limiters, which is why they are sometimes known by both names. The relationship between Threshold and Ratio is shown in Figure 2, but if you're not comfortable with dBs or graphs, all you need to remember is that the larger the Ratio, the more gain reduction is applied to any signal exceeding the Threshold.

Hard Knee: This is not a control or parameter, but rather a characteristic of certain designs of compressor. With a conventional compressor, nothing happens until the signal reaches the Threshold, but as soon as it does, the full quota of gain reduction is thrown at it, as determined by the Ratio control setting. This is known as hard-knee compression, because a graph of input gain against output gain will show a clear change in slope (a sharp angle) at the Threshold level, as is evident from Figure 2.

Soft Knee: Other types of compressor utilise a soft knee characteristic, where the gain reduction is brought in progressively over a range of 10dB or so. What happens is that when the signal comes within 10dB or so of the Threshold set by the user, the compressor starts to apply gain reduction, but with a very low Ratio setting, so there's very little effect. As the input level increases, the compression Ratio is automatically increased until at the Threshold level, the Ratio has increased to the amount set by the user on the Ratio control. This results in a gentler degree of control for signals that are hovering around the Threshold point, and the practical outcome is that the signal sounds less obviously processed. This attribute makes soft-knee models popular for processing complete mixes or other sounds that need subtle control. Hard knee compression can sometimes be heard working, and if a lot of gain reduction is being applied, they can sound quite heavy-handed. In some situations, it can make for an interesting sound — take Phil

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A Concise Guide to Compression & Limiting

▶ Collins' or Kate Bush's vocal sounds, for example. The dotted curve on the graph in Figure 2 (p.118) shows a typical soft-knee characteristic.

Attack: The attack time is how long a compressor takes to pull the gain down, once the input signal has reached or exceeded the Threshold level. With a fast attack setting, the signal is controlled almost immediately, whereas a slower attack time will allow the start of a transient or percussive sound to pass through unchanged, before the compressor gets its act together and does something about it. Creating a deliberate overshoot by setting an attack time of several milliseconds is a much-used way of enhancing the percussive characteristics of instruments such as guitars or drums. For most musical uses, an initial attack setting of between 1 and 20 mS is typical. However, when treating sound such as vocals, a fast attack time generally gives the best results, because it brings the level under control very quickly, producing a more natural sound.

Release: The Release sets how long it takes for the compressor's gain to come back up to normal once the input signal has fallen back below the Threshold. If the release time is too fast, the signal level may 'pump' — in other words, you can hear the level of the signal going up and down. This is usually a bad thing, but again, it has its creative uses, especially in rock music. If the release time is too long, the gain may not have recovered by the time the next 'above Threshold' sound occurs. A good starting point for the release time is between 0.2 and 0.6 seconds.

Auto Attack/Release: Some models of compressor have an Auto mode, which adjusts the attack and release characteristics during operation to suit the dynamics of the music being processed. In the case of complex mixes or vocals where the dynamics are constantly changing, the Auto mode may do a better job than fixed manual settings.

Peak/RMS operation: Every compressor uses a circuit known as a side chain, and the side chain's job in life is to measure how big the signal is, so that it knows when it needs compressing. This information is then used to ▶

DUCKING YOUR RESPONSIBILITY

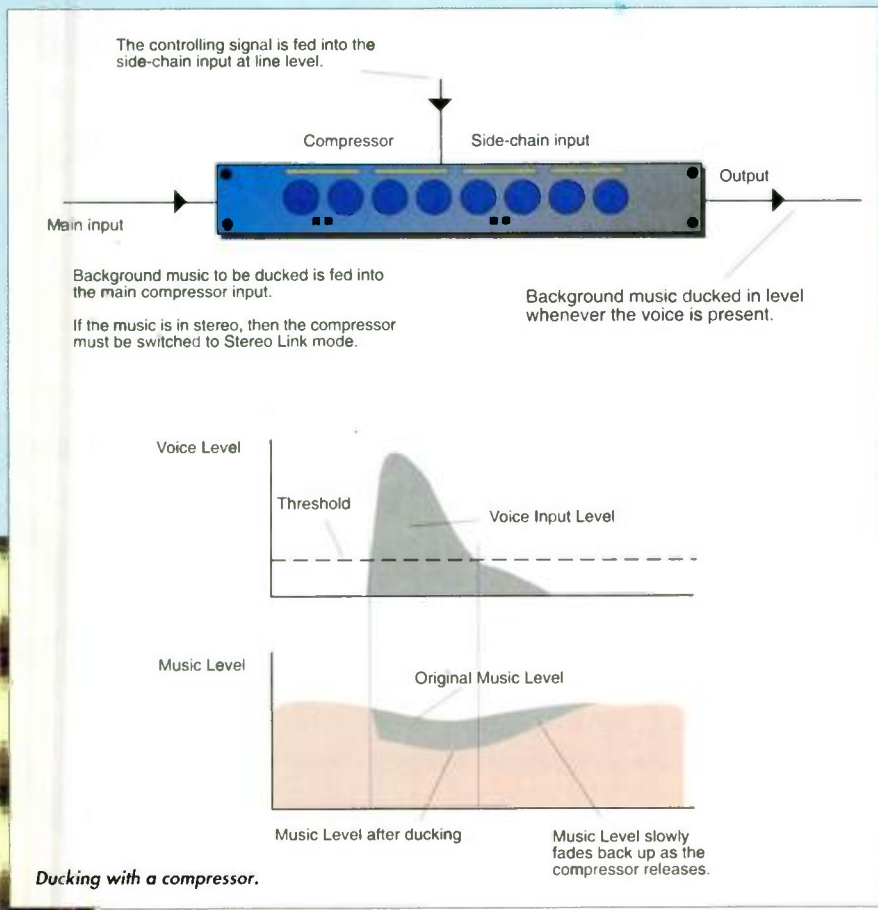
In addition to their more conventional applications, compressors may also be used to enable one signal to control the level of another. This is known as ducking, and is frequently used to allow the level of background music to be controlled by the level of a voice-over. When the voice-over comes in, the level of the background music drops, but whenever there is a pause in the speech, the background music is restored to its former level, at a rate set by the compressor's release control.

To try ducking, you'll need a compressor with a side chain access socket. This allows an external signal to control the compressor action rather than the compressor's input signal. When an external signal is patched in to the side chain, its dynamics will control the gain reduction of whatever signal is passing through the compressor at the time. Let's assume that a piece of background music is being played through the normal compressor input, but that the side chain input is being fed with a voice signal from a mixer send or direct channel output. The diagram in this box shows how this is set up in practice. When the voice exceeds the threshold set by the user, the compressor will apply gain reduction to the music signal, and when the voice pauses, the gain will return to normal at whatever rate is set by the release control.

Ducking is often used in broadcast, to allow DJs to interrupt and spoil perfectly good pieces of music. Exactly how much the music will be turned down depends on both the threshold and ratio settings, and some experimentation will be necessary. The attack time should normally be set fairly fast, but the release time should be long enough to stop the music surging back in too abruptly. A release time of a second or so is a good starting point.

Even though ducking is possible with a compressor as described, it is even easier to achieve using a gate equipped with a dedicated ducking facility, such as the Drawmer DS201. If you have one of these gates, then I suggest you take the easy way out and use it. The technique is not confined to radio voiceovers: it can also be used creatively when mixing music. Perhaps the most useful application is to force backing instruments such as rhythm guitars or pad keyboard parts to drop in level by a dB or two when vocals are present, or when someone is taking a solo. When mixing, a change in level of as little as 1dB can make all the difference between a solo sitting properly in the mix, and either getting swamped or being over-loud.

Ducking can also be used in a similar way to push down the level of effects such as reverb or delay, so that they only come up to their full level during pauses or breaks. This is a useful technique to prevent mixes becoming messy or cluttered.



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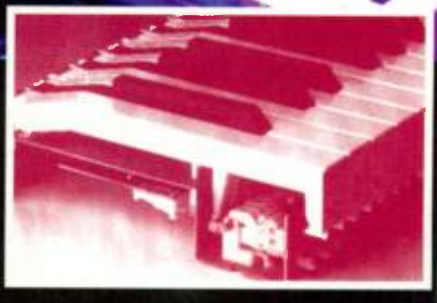

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control the gain circuit, which may be based around a Voltage-controlled Amplifier (VCA), a Field Effect Transistor (FET) or even a valve. The compressor will behave differently, depending on whether the side chain responds to average signal levels or to absolute signal peaks.

An RMS level detector works rather like the human ear, which pays less attention to short-duration, loud sounds than to longer sounds of the same level. Though RMS offers the closest approximation to the way in which our ears respond to sound, many American engineers prefer to work with Peak, possibly because it provides a greater degree of control. And though RMS provides a very natural-sounding dynamic control, short signal peaks will get through unnoticed, even if a fast attack time is set, which means the engineer has less control over the absolute peak signal levels. This can be a problem when making digital recordings, as clipping is to be avoided at all costs. The difference between Peak and RMS sensing tends to show up most on music that contains percussive sounds, where the Peak type of compressor will more accurately track the peak levels of the individual drum beats.

Another way to look at it is to say that the greater the difference between a signal's peak and average level, the more apparent the difference between RMS and peak compression/limiting will be. On a sustained pad sound with no peaks, there should be no appreciable difference. Peak sensing can sometimes sound over-controlled, unless the amount of compression used is slight. It's really down to personal choice, and all judgements should be based on listening tests.

Hold Time: A compressor's side chain follows the envelope of the signal being fed into it, but if the attack and release times are set to their fastest positions, it is likely that the compressor will attempt to respond not to the envelope of the input signal but to individual cycles of the input waveform. This is particularly significant when the input signal is from a bass instrument, as the individual cycles are relatively long, compared to higher frequencies. If compression of the individual waveform cycles is allowed to occur, very bad distortion is audible, as the waveform itself gets reshaped by the compression process.

We could simply increase the release time of the compressor so that it becomes too slow to react to individual cycles, but sometimes it's useful to be able to set a very fast release time. A better option is to use the Hold time control, if you have one. Hold introduces a slight delay before the release phase is initiated, which prevents the envelope shaper from going into release mode until the Hold time has elapsed. If the Hold time is set longer than the duration of a single cycle of the lowest audible frequency, the compressor will be forced to wait long enough for the next cycle to come along, thus avoiding distortion. A Hold time of 50ms will prevent this distortion mechanism causing problems down to 20Hz. If your compressor doesn't have a separate Hold time control, it may still have a built-in, preset amount of Hold time. A 50ms hold time isn't going to adversely affect any other aspect of the compressor's operation, and leaves the user with one less control to worry about.

Stereo Link: When processing stereo signals, it is important that both channels are treated equally, for the stereo image will wander if one channel receives more compression than the other. For example, if a loud sound occurs only in the left channel, then the left channel gain will be reduced, and everything else present in the left channel will also be turned down in the mix. This will result in an apparent movement towards the right channel, which is not undergoing so much gain reduction.

The Stereo Link switch of a dual-channel compressor simply forces both channels to work together, based either on an average of the two input signals, or whichever is the highest in level at any one time. Of course, both channels must be set up exactly the same for this to work properly, but that's taken care of by the compressor. When the two channels are switched to stereo, one set of controls usually becomes the master for both channels — though some manufacturers opt for averaging the two channel's control settings, or for reacting to whichever channel's controls are set to the highest value.

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Obtrusive noise during pauses can be gated out using a gate or expander before the compressor, though many compressors come fitted with their own, built-in expanders or gates for this very purpose. However, the gating action can only mute pauses — you're still stuck with any noise that is audible above *wanted* parts of the signal.

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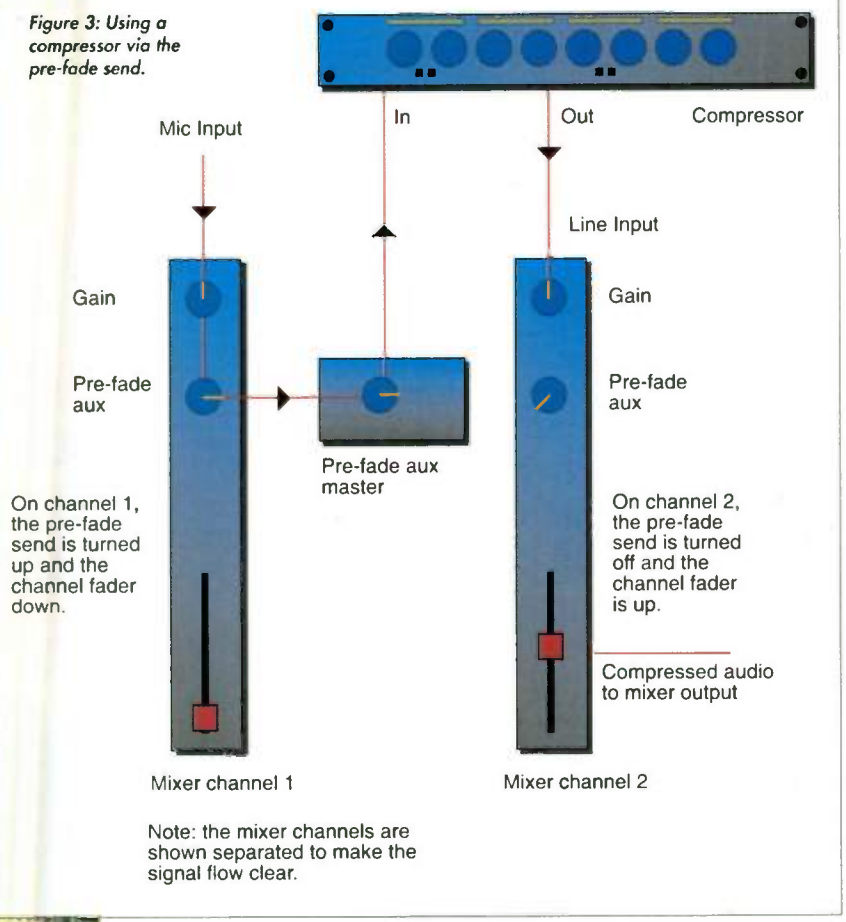
A Concise Guide to Compression & Limiting

ALL IN THE EAR

You may have noticed, or at least read about, the fact that different makes of compressor sound different. But if all they're really doing is changing level, shouldn't they all sound exactly the same? As we've already learned, part of the reason is related to the shape of the attack and release curves of the compressor, and of course peak sensing will produce different results to RMS, but at least as important is the way in which a compressor distorts the signal. Technically perhaps, the best compressor is one that doesn't add any distortion, but most engineers seem to like the 'warm' sound of the older valve designs which, on paper, are blighted by high distortion levels. The truth is that low levels of distortion have a profound effect on the way in which we perceive sound, which is the principle on which aural exciters work. A very small amount of even-harmonic distortion can tighten up bass sounds, while making the top end seem brighter and cleaner.

The best-sounding contemporary compressor designs include valve models with a degree of distortion built in, while others use FETs, which mimic the behaviour of valve circuits. As digital recorders and mixers are introduced into the signal chain, more people are becoming interested in equipment that can put the warmth back into what they perceive as an over-clinical sound.

Figure 3: Using a compressor via the pre-fade send.



USING COMPRESSORS

One problem newcomers to recording seem to have is deciding where in their system to patch the compressor. A compressor is a processor rather than an effect, so it should be used via an insert point or be patched in-line with a line-level signal (for more on patching effects and processors, see my article 'The Ins and Outs of Patching' in *SOS* March '95). If you have a system without insert points and you want to compress a mic input, you may be able to use your foldback (pre-fade send) in an unconventional way to get around the problem, as shown in Figure 3. Here's how to do it:

Plug the mic into a mixer channel, set the mic gain level as normal, but turn the channel fader completely down. Turn the pre-fade aux send control to around three-quarters up, and do the same with the pre-fade master control, if there is one. Turn the pre-fade send fully down on all the other channels. Now you can take your mic signal (now boosted to line level), from the pre-fade send output, feed it into the compressor and bring it back into another channel of the mixer — this time into the line input. And there you have it: your compressed mic signal.

Most engineers will normally add some compression to vocals while recording, and then add more if necessary while mixing. Working this way makes good use of the tape's dynamic range, while helping to prevent signal peaks from overloading the tape machine. It is best to use rather less compression than might ultimately be needed while recording, so that a little more can be added at the mixing stage if required. If too much compression is added at the beginning, there's little you can do to get rid of it afterwards. Similarly, if you have a compressor with a gate built-in, it might be better to leave this off when recording, and only use it while mixing. This will prevent a good take from being wrecked by an inappropriate gate setting.

A further benefit of gating during the mix is that the gate will remove any tape hiss, along with the original recorded noise. If a gate is allowed to close too rapidly, it can chop off the ends of wanted sounds that have long decays, especially those with long reverb tails, so most gates (and expanders) fitted to compressors have either a switchable long/short release time, or a proper variable-release time control.

SIDE EFFECTS

Most of the sound energy in a typical piece of music occupies the low end of the audio spectrum, which is why your VU meters always seem to respond to the bass drum and bass guitar. High-frequency sounds tend to be much lower in level and so rarely need compressing, but even so, high-frequency sounds in the mix are still brought down in level whenever the compressor reacts to loud bass sounds. For example, a quiet hi-hat

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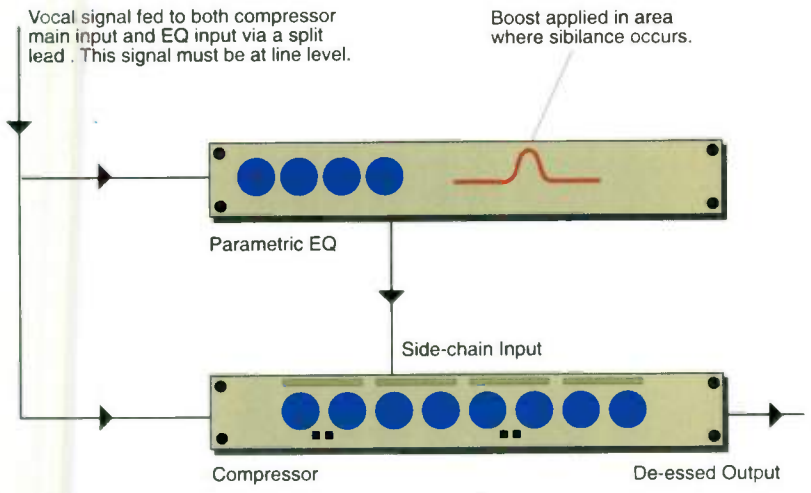
WRH

A Concise Guide to Compression & Limiting

▶ occurring at the same time as a loud bass drum beat will be reduced in level.

One technique to reduce the severity of this effect is to set a slightly longer attack time on the compressor, to allow the attack of the hi-hat to get through before the gain reduction occurs. This is only a partial solution, and if heavy compression is applied to a full mix, the overall sound can become dull, as the high-frequency detail is reduced in level.

Figure 4: De-essing with a compressor.



Going back to the subjective effect of subtle harmonic distortion for a moment, some compressor designs make use of harmonic distortion or dynamic equalisation to provide an increase in high-frequency level whenever heavy compression is taking place. This helps offset the dulling of high-frequency detail, and can make a great subjective difference, but it isn't a perfect solution.

More elaborate compressors have been designed which split the signal into two or more frequency bands and compress these separately. This neatly avoids the bass end causing the high end to be needlessly compressed, but it can introduce other problems related to phase, unless the design is extremely well thought-out.

DE-ESSING

Another side chain-related process is the de-essing of sibilant vocal sounds. Sibilance is sometimes evident when people pronounce the letters 's' or 't', and is really a high-pitched whistling caused by air passing around the teeth. If a parametric equaliser is inserted into the side-chain signal path of a compressor and tuned to boost the offending frequency, the compressor will apply more gain reduction when sibilance is present than at other times.

Most sibilance occurs in the 5 to 10kHz region of the audio spectrum, so if the equaliser is tuned to this frequency range and set to give around 10dB of boost, then in the selected frequency range, compression will occur 10dB before it does in the rest of the audio spectrum. The equaliser should be set up by listening to the equaliser output, and then tuning the frequency control until the sibilant part of the input signal is strongest. Figure 4 shows how a compressor and equaliser may be used as a de-esser. Some compressors have a built-in sweep equaliser, to allow them to double as de-essers without the need for an external parametric equaliser.

GENERAL GUIDELINES

For some general advice on compression settings, take a look at the 'Useful Compressor Settings' box elsewhere in this article. I should stress that these are just to get you started — the ideal settings vary from compressor to compressor, which is why I come up with slightly different figures every time I write on the subject. The more gain reduction is used, the higher the level of background noise, so never use more gain reduction than is necessary.

Virtually all recorded pop music has a deliberately restricted dynamic range, to make it sound loud and powerful when played over the radio. The more a signal is compressed, the higher its average energy level. In addition to compressing the individual tracks during recording or mixing, the engineer may well have applied further compression to the overall mix. This can be very effective, but don't choke the life out of a mix by over-compressing it either.

When it comes to individual tracks, it is pretty much routine to compress vocals, bass guitars, acoustic guitars and occasionally electric guitars, though overdriven guitar sounds tend to be self-compressing anyway! The most important of these to get right is the lead vocal, because even modest dips in level can make the lyrics difficult to hear over the backing.

"Next to reverb, a compressor is probably the most important studio processor to own."

Sequenced instruments are less likely to need compression, because you can control the dynamics by manipulating the MIDI data in the sequencer. My own rule is to avoid compression (or any other form of treatment) unless it's absolutely necessary. Even with vocals, if somebody gives me a perfectly controlled vocal take, I wouldn't want to compress it just because compressing vocals is the done thing. Compression is a very valuable studio tool, but like all tools, it is just a means to an end — not an end in itself.

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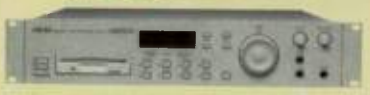

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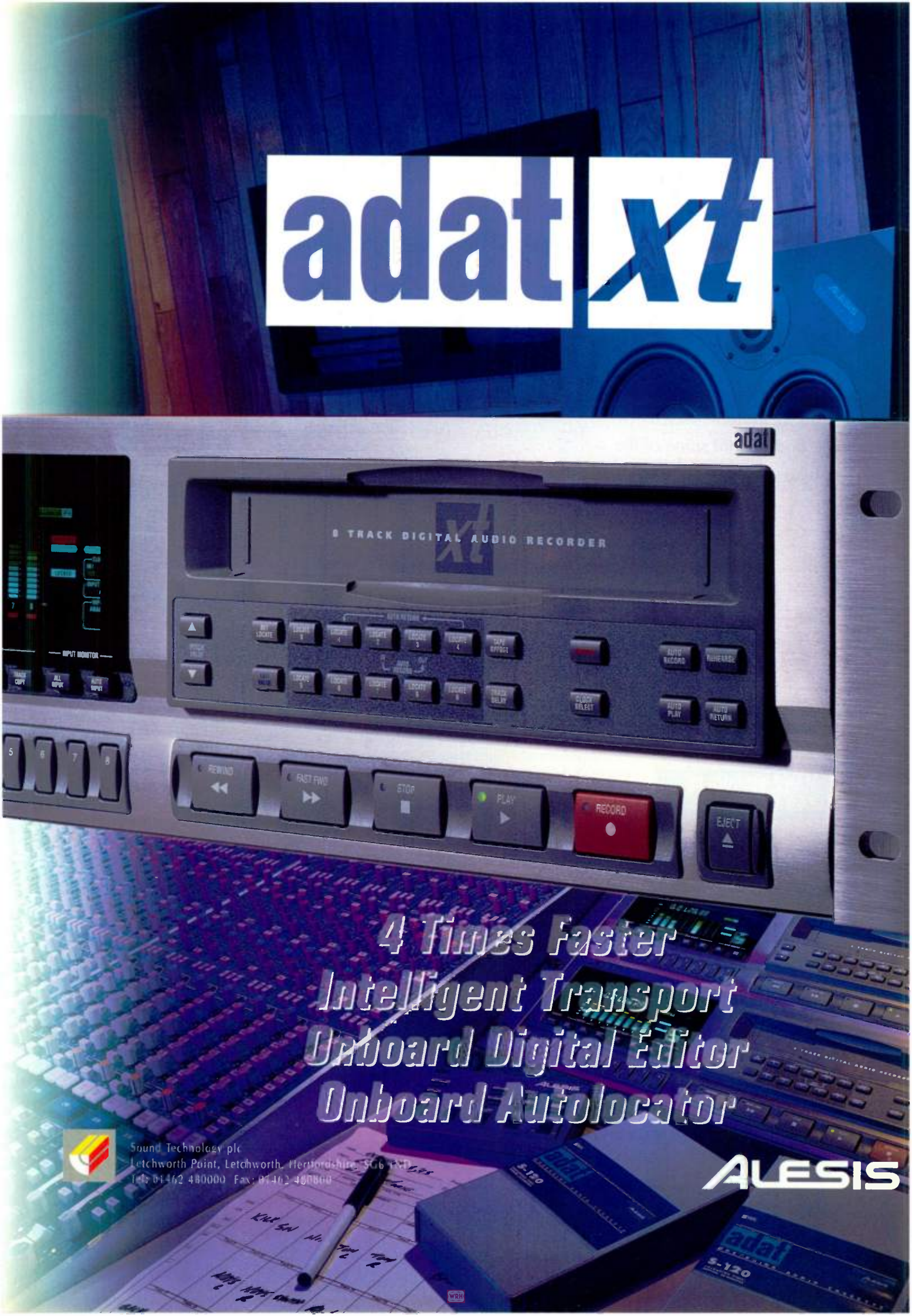
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YAMAHA RM800 RECORDING CONSOLE

The home and project studio mixer market is currently dominated by British and American manufacturers. With the release of the RM800 desk, Yamaha are clearly hoping that some of the success of their top-end digital mixers will percolate down to the middle market. DEREK JOHNSON finds out whether the RM800 has what it takes.

Ask any moderately clued-up home studio owner where you can get a digital mixing desk for under £2000, and they're almost bound to say "Yamaha". Ask the same person where to go for a reasonably-priced analogue recording console with lots of inputs and all the traditional features, and the answer is much more likely to be "Mackie or Soundcraft". So while Yamaha are at the forefront of affordable digital mixing development, with the ProMix 01 and the newly-released 02R, they're far from established in the UK home and project studio market.

But Yamaha didn't get where they are today by not knowing a lucrative market when they see one. The announcement last year of the RM800 series of desks marked the opening shot of a campaign to establish a serious foothold in this already crowded market. The preliminary specification of the RM800s seemed to indicate that the desks would present good value for money, with all the features you'd expect from a traditional recording mixer, plus a very reasonable sub-£1500 price tag (for the RM800-16, at least). Now the desks are here 'in person', let's see whether the likes of Mackie and Soundcraft should be looking to their laurels...

KNOW YOUR KNOBS

The RM800s are in-line consoles (see 'Getting In Line' for an explanation of this concept) available in 16- or 24-input versions — the choice is yours, but note that neither is expandable. Physically, the desks are imposing, and have a solid, professional look. They are also very strong, and it is quite possible to lean on the front panel without worrying about it caving in. The colour scheme is sober and effective, predominantly in pale grey, with colour-coded pots all the way through: for example, all pan pots are red, all aux sends are blue, and all EQ controls are green. You'll also notice the connectors — they're laid out at the top of the desk, along with a large expanse of empty panel (which we'll discuss later). Surprisingly, Yamaha have opted not to supply their new desk with an arm rest.

The facilities offered by the input channels of both desks are identical; take a look at the channel strip reproduced elsewhere in this feature for full details.

GROOVY GROUPS & MEGA MASTERS

To the right of the input channels are the 100mm Group output faders, the Aux Send and Return master controls, and various monitor and control room controls, plus the master Stereo mix fader — yes, there's just one, and it makes fading out a mix child's play.

The group faders are each joined by an AFL (After Fader Listen) button, a bit of scribble strip — and nothing else. There are no pan or assign controls, so the signal always goes to the group output jacks, never to the main mix or monitor output. AFL, or Solo In Place, allows you to check the level of a signal on its own, but at its correct relative level.

The master auxiliary controls — four aux send controls, four returns (mono, if you wish) and four balance/pan controls — also feature an identical collection of routing buttons to that found on the input channels. So, if you want independent reverb for a headphone mix, or want to record effects to tape along with the main audio signal, you can. Also in this area is the Monitor/Aux 5-6 send knob, along with its 'To Stereo' switch, which routes the monitor signal path from the input channels to the main stereo output.

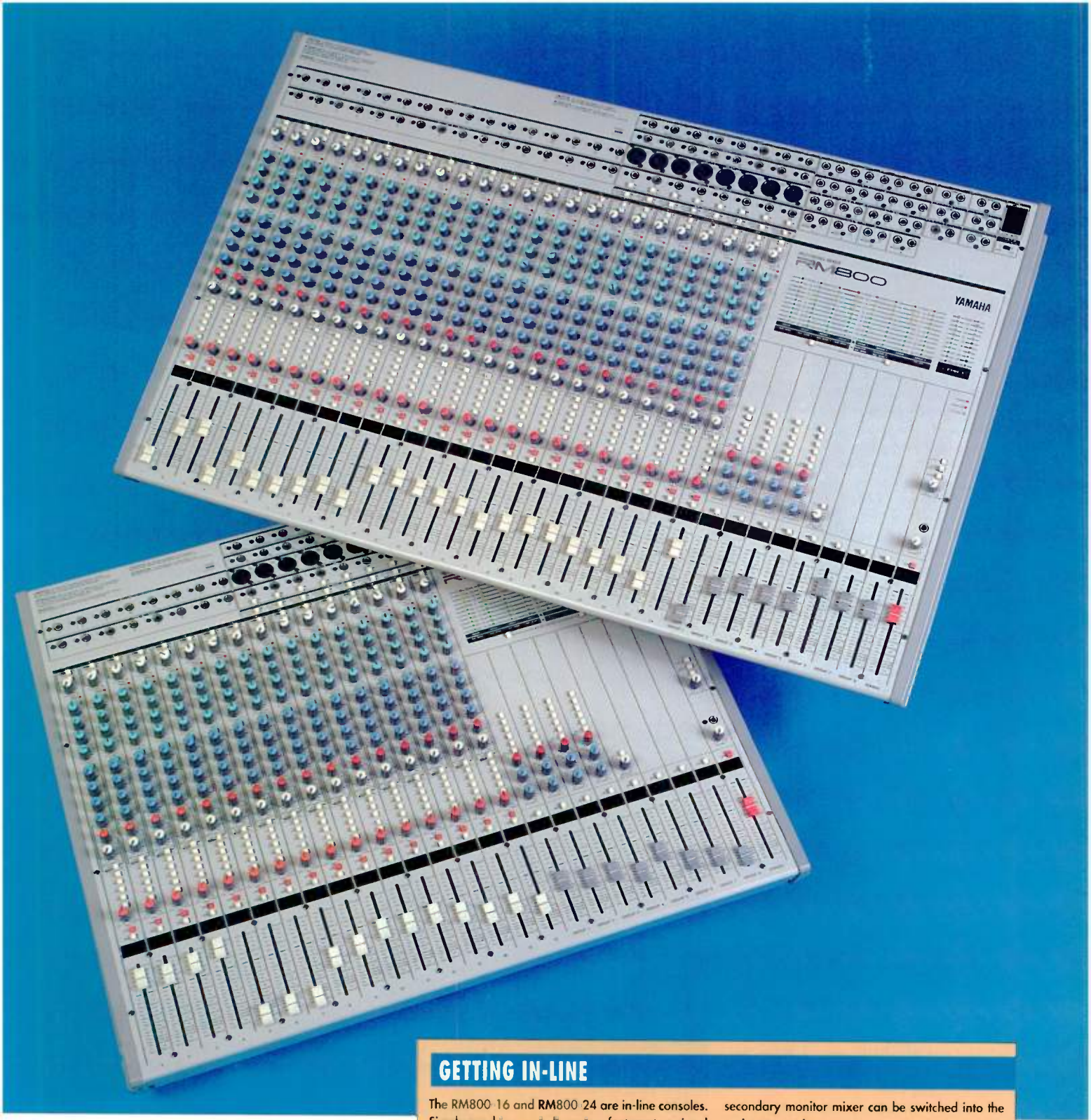
The remaining controls govern what happens to the stereo mix. Apart from the single master fader, there are two level controls. One is labelled 'Control Room', and alters the level sent to your main amp and monitors, independent of the main mix out to your stereo mastering machine. The other is labelled 'Headphones'. Three associated switches allow you to choose to listen (in the

YAMAHA RM800-16 £1499

PROS
- Lots of inputs.
- Flexible routing — up to 16-track recording!
- EQ bypass switch.
- Competitively priced.
- Reassuringly solid build quality and professional-looking finish.

CONS
- Not as compact as some of the competition.
- Only eight of the channels and two sub groups have insert points.
- Some buttons inconveniently placed.

SUMMARY
A desk for the recordist on a (not too small) budget who would still like to make an impression. Sonically, it's a good performer, and the plentiful inputs promised by an in-line design are delivered. Add 8-track (and even comfortable 16-track) recording, good EQ, and plenty of aux sends, and you have the formula for a winner.



GETTING IN-LINE

The RM800-16 and RM800-24 are in-line consoles. Simply speaking, an in-line mixer features two signal paths per input channel: the main signal path utilises all the EQ and auxiliary (effects) sends, and the secondary signal path, typically featuring only a level control and pan pot, is used for monitoring. During recording, this secondary path is used to monitor the signal coming back from multitrack tape, while on mixdown, the signal paths are swapped, so that the multitrack has access to all the input's facilities. Of course, that leaves a basic line mixer going to waste during mixdown, which is why this secondary monitor mixer can be switched into the main stereo mix.

Given that the overwhelming majority of modern synths and sound modules have stereo outputs and provide comprehensive digital effects themselves, they are the ideal candidates for mixing via this basic line mixer: the lack of EQ and aux sends is unimportant (although one aux send is assigned to the secondary input on the RM800), since this is taken care of within the synth or module. The end result is a mixer that offers twice as many inputs as you might have expected, in a smaller package, for a lower price.

control room and over headphones) to the main stereo mix, a 2-track return, or the monitor. There is even a switch which will turn off the main stereo mix, if you like. This area of the front panel also features LEDs to indicate Power, Phantom Power, and PFL/AFL operation.

All that's left, operationally, are the 10 bargraph meters: eight meters show the levels of the groups outs, aux sends and/or PFL/AFL, and a pair of switches selects which meters do what. The remaining two bargraphs meter the stereo output.

SOCKET TO 'EM

One very helpful feature of the RM800 is that its not-inconsiderable arsenal of connectors is laid out on the front panel, and not hidden at the rear. Some potential users will no doubt quibble with the untidy rat's nest of cables erupting from the top of their mixer, but the accessibility of this arrangement will be appreciated by most.

However, the connections do take a little getting used to. For example, the input channels, ▶

Yamaha RM800

while all offering separate Mic/Line and Tape inputs, come in two versions. The last eight inputs on both desks offer balanced XLR inputs with globally-switchable phantom power, Tape In jacks (switchable between -10dBV and +4dB operation to suit your multitrack), insert points, and direct outs. The remaining inputs offer balanced Mic/Line-in and unbalanced Tape In return jacks, and no inserts or direct outs. The last eight channels also feature some extra switching: the direct outs can be used simply as direct outs, which means the input signal can be sent straight to a tape track without subgrouping, leaving the subgroups available for the first eight (or 16 on the RM800-24) inputs.

Add that up, and you have 16 tape tracks individually addressable at any one time — something that the manual doesn't make clear. Instead, the manual dwells on the alternate use of these eight direct outs: a switch allows them to mirror the subgroups. Used in this way, as an extra set of doubled-up group outputs, the result is the same — 16 tape tracks can remain plugged in at any one time (though only eight tape tracks can be recorded at once). Either way, the flexibility of the RM800 is enhanced, and the in-line design means that whatever method you choose to get your music onto tape, you'll have full monitoring for all tape returns.

In addition to the above, the main group outputs are duplicated, with two sets of Group Out jacks: one at +4dB and the other at -10dB. Why not offer just one set of jacks, with a switch for the two operating levels? This is a strange extravagance on what is a budget desk, and even less understandable when you notice that only groups 7 and 8 have their own insert points. In practice, this shouldn't be too much of a problem, but insert points on all eight groups would have been most welcome, especially since only eight of the input channels are so equipped.

We're still not done on the connector front: obviously, there are four Aux Send jacks, plus four sets of stereo returns, and a variety of stereo output and input connections. Here are the remaining connections in full:

- Main Stereo mix output, with two pairs of jacks: one pair offers -10dBV unbalanced operation, while the other offers a +4dB balanced connection.
- Stereo mix output insert points.
- Monitor Out/Aux Send 5-6.
- Control Room output.
- 2-track In, which allows you to monitor your mixed stereo recordings without repatching.
- Stereo submix input, which lets you easily patch in the stereo mix from another mixer (or a synth); the stereo submix input lacks a level control, and is routed direct to the stereo mix.

One connector you won't find is a Euro socket or DIN socket for a mains lead or external power supply: the PSU is thankfully internal, and the lead itself is captive.

TESTING TIMES

Although initially a little confusing to operate, the RM800 soon proves itself a smooth-running, fine-sounding and quiet mixer, perfect for 8-track recording and capable of 16-track recording with little or no hassle. There are a number of very nice features, not least of which are the smooth and musical EQ (with a Bypass switch, no less!), the 100mm faders, and the nicely spaced layout.

One or two odd operational points are worthy of note. Firstly, the inclusion of two Mic/Line-Tape buttons for each channel, one at the top and one in the Monitor section, causes a little initial head-scratching. You might expect that there would be only one such button, which would select between Mic/Line and Tape by its up or down position. Just keep in mind that pressing the button at the top of the channel doesn't simply switch between states. You certainly use this button to decide whether the Mic/Line or Tape input passes through the main channel, but you also have the freedom to set up a separate monitor mix of the same audio material, which ▶

MODULES AND PODULES

One side-effect of the RM800's size is a large and apparently unused section of operating surface, a feature which is rather distracting when you first pull the mixer out of its box. At first glance, you think the mixer is in some way modular, and that perhaps this blank area can be gradually replaced with nifty little modules (Talkback? Gooseneck lamp? Test tone generator?), but alas, the dividing lines between input channels and groups turn out to be, on closer inspection, merely graphics aimed at making the RM800 *look* like a modular desk, and the module-like lines in this great knob-free zone are simply decorative.

CHANNEL STRIP

Here's the full input channel strip controls, from the top down.

- Mic/Line-Tape Switch: this selects whether the signal from the mic/line or tape return socket is fed through the main input module.
- 20dB Pad Switch and Gain Control: these, between them, offer an input range of -60dB to +4dB, accommodating a wide variety of mics and electronic equipment.
- Signal and Peak LEDs: these indicate the presence of signal (green), or a signal within 3dB of clipping (red).
- Three-band EQ, with Bypass Switch: High and Low bands are shelving, offering +/-15dB of gain at 12kHz and 80Hz respectively; the Mid band is swept, with a range of 250Hz-5kHz, and +/-15dB gain.
- Auxiliary Sends 1, 2, 3: these are standard post-fader sends for use with external effects units.
- Auxiliary Send 4: this can be used as another post-fade effects send for the main signal path; it's also switched into the monitor path when the monitor is used for extra mix inputs, becoming a dedicated aux send for that path.
- Monitor Pan pot (labelled L/5-6/R pan), and associated Level Control: these are used to set up a monitor mix, as a pre-fader monitor stereo send, or to control the level and pan-position of the secondary mixer signal path.
- Monitor Mic/Line-Tape Switch: this selects which signal is sent to the monitor output.
- Assign Switches: these are used, in conjunction with the pan pot, to assign the main channel input to the sub groups or the main stereo mix.
- Main Pan pot: this positions input signals in the stereo field, or assigns signals to the sub-groups.
- On switch: this mutes or engages the main input signal.
- PFL: Pre Fade Listen.
- Scribble Strip.
- 100mm fader.

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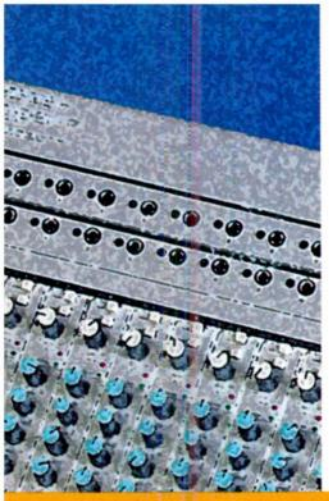

> *"The RM800 manages to deliver the goods without obviously copying any one desk."*

FUNKY FEATURES

- 16 or 24 inputs, 8 subgroups.
- 40 inputs on mixdown for RM800-16, 56 inputs for RM800-24.
- Balanced XLR and quarter-inch jack inputs.
- 48V phantom power (last eight channels only).
- Signal and peak LEDs.
- Three-band EQ with swept mid.
- Four aux sends, four stereo returns.
- Direct tape outputs (last eight channels only).
- Input insert points (last eight channels only).
- PFL/AFL monitoring.
- Ten 11-segment LED meters.
- 100mm faders.
- Dedicated 2-track input.
- Insert points for stereo and group 7-8 outputs.
- +4dB and -10dB stereo and group outs.
- Stereo sub-mix in for patching in an additional mixer.

▶ means the Monitor section's Mic/Line-Tape switch would be in the same position as the main switch (a note to the unwary: if you were to inadvertently engage the Monitor To Stereo switch at this stage, two mixes of the same material would appear at the main stereo output). For monitoring tape returns (during tracking), or to use the monitor signal path as a source of extra mixer inputs, the Monitor section's Mic/Line-Tape switch would have to be in the opposite position to that of the switch at the top of the channel.

One of the RM800's few patching compromises concerns the provision of only two insert points for the group outs, which is exacerbated by the fact that only eight of the input channels have insert points. If you need to compress or otherwise process your signals before going to tape, you'll have to plan accordingly, to make use of the insert points that *are* available, or set up a patchbay to do the job for you. And if eight channels of phantom-powered mic inputs is not sufficient for your needs, you'll have to invest in some extra mic amps. However, not many buyers of the RM800 will be miking up really big drum kits or the local Philharmonic.

On a more positive note, the RM800 can be easily used for 16-track recording with no repatching of leads in most circumstances, and offers plenty of monitoring options. Using the RM800 is much like using any other well-designed, spaciously-laid out desk: it doesn't get in your way while recording, whether that be to digital tape, hard disk or analogue tape.

Where the RM800 really scores is in build quality: it's a robust, solid desk which looks more than ready for life on the road. In fact, this robustness means that the RM800 is also rather heavy: the smaller RM800-16 is just about luggable by one person, although it's not an easy job — and you'd definitely need two people to move the 24-input version. Size-wise, the desk is not quite compact, nor is it full-size: while it would tend to dominate a bedroom studio, it wouldn't look out of place in a small commercial facility. This mid-size design gives the desk a roomy layout so often lacking in some of its lighter and less-solidly designed competition. It's also worth noting that although the controls are well-spaced out, some may cause minor accessibility problems for users with short fingers (or long fingernails): for example, the EQ bypass buttons may cause the digitally-challenged to accidentally interfere with Aux Send 1.

The manual is generally helpful, although there are one or two low points. It's one of Yamaha's multilingual jobs, so the English text runs to just 38 pages. Within those pages you'll find a good overview of the desk, a discussion on using in-line consoles, plus plenty of useful tips, which will come in handy if you're new to this kind of desk (or any kind of desk at all). I must say, though, that the blatant plugs for Yamaha monitoring and amplification, while perhaps understandable, do tend to stick in the throat somewhat. I think the user would rather make up his or her own mind.

WHAT DOES THE PANEL THINK?

Yamaha have certainly done their homework on this one: in designing the RM800, they must have had a look at what else was on the market for 8 and 16-track recording, analysed the various combinations of facilities on offer, and then come up with their own variant. The result manages to deliver the goods without obviously copying any one desk, which can't be said for some other recent entries into this marketplace. It's possible to point at certain features (or lack of them), or compromises that remind me of other desks, but the general impression is of a new desk going after its own niche.

In this price range, the RM800 does have a certain amount of competition: for example, Mackie's SR24•4 is exactly the same price as the 16-input RM800 (though the Mackie is a 24-channel desk, it is not in-line, which means that the Yamaha actually has more inputs). Which one you go for depends entirely on your needs. For example, the Mackie could be used for 8-track recording, but only four channels are recordable at a time without fiddling with insert points, while the RM800 can manage 16-track recording with few compromises. On the other hand, the Mackie has phantom-powered mic inputs and insert points on all its mono inputs and sub-groups, while the Yamaha only manages inserts on eight channels and two sub-groups, and phantom power on only eight inputs. You pays your money... In comparison with other budget in-line desks, the RM800 scores on a number of points, not least with regard to its reassuring build quality; some of the competition, while undeniably excellent value, suffers from a 'plasticky' construction to keep costs down.

The bottom line is that the RM800 is a well-specified, well-built desk that sounds good, is easy to use, and most assuredly does not cost the earth. There are plenty of inputs — 40 on mixdown for the RM800-16 and 56 for the 24, plus the stereo buss input — enough auxiliary sends (although we always want more, right?) and a flexible, musical EQ that even offers a bypass switch, a feature missing from many budget desks.

Who'll buy the desk? Well, the RM800 would make a perfect companion for Alesis' ADAT or Tascam's DA88, and many a small studio — project, commercial or home, digital or analogue — would well be able to live with the one or two compromises. I'll predict popularity for the RM800 — it certainly deserves it, and may well turn potential customers away from home-grown products. The mixer market has always been a competitive one, and it's going to be interesting to see how it reacts to this new challenge from Yamaha. SOS

FURTHER INFORMATION

£ RM800-16 £1499; RM800-24 £1899. Prices inc VAT.
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SAMPLE SHOP

Our regular look at the hottest new sample CDs and CD-ROMs.

THE ULTIMATE PIANO COLLECTION VOLUMES 1-3 (AKAI FORMAT CD-ROM)

If you've ever tried to create your own authentic piano multisample, you'll appreciate just how hard it is. Like many acoustic instruments, the depth of emotion and expression that can be coaxed from a piano leads many to believe that recreating it with samples would be virtually impossible. The only way to cover all eventualities would be to sample a number of different pianos at almost every note, in almost every conceivable style of playing — and that is almost exactly what the producers of this release have done.

This unique CD-ROM brings together the highest quality, stereo multisamples of the four greatest pianos in the world — namely the Steinway D, Steinway C, Fazioli F228 and the Bösendorfer 225. Each piano is sampled under a number of different playing conditions (marcato, with sustain pedal, loud and soft) and is presented in its own individual Akai programme. There are no fancy effects, no riffs, chords or licks to sample; just true stereo and mono multisamples of these four classic instruments.

It is the character and sound of the four pianos that really shines through these recordings. The Bösendorfer has a shorter decay and crisper attack, while the Steinways are much more 'classic'-sounding instruments. The Fazioli has a lot of sonic depth, and to buy, is actually more expensive than a Steinway, as it utilises much more modern construction techniques.

As you might imagine, this kind of sampling power has a flagrant disregard for memory space. Most of the various programmes contained here are presented in 32, 24, 16, 12, 10 and occasionally 6Mb formats. Obviously, the more memory you can use, the higher the overall sound quality will be. There is a good selection of mono alternatives for anyone working to a 'memory budget', and plenty of options for loading in only certain ranges and styles, to conserve sample space. But memory preservation is not really the order of the day here. Indeed, the Steinway D and Fazioli programmes give you the chance to load both soft and loud partitions separately (into two samplers for instance), giving you a SIMM-numbing 64Mb, velocity-switching, stereo multisampled piano to play with!

In practice, these sounds work like a dream. Depending on what kind of piano sound you are after, there will almost certainly be something here that you can use. Where the piano sustains have been looped, it has been done with jaw-dropping realism, using the programming parameters of the Akai platform to great effect. The sound clarity is sharp yet warm, and if you close your eyes while playing, you could be forgiven for thinking you were tinkling the ivories of the real thing.

This is undoubtedly a true professional's product, and General MIDI fans with 1.5Mb of memory to spare should steer well clear. If it were it a car, it would be a gas-guzzling V8. Forget about saving memory, and resign yourself to the fact that whilst RAM upgrades aren't exactly cheap, at least they're cheaper (and more portable) than the pianos themselves. *The Ultimate Piano Collection* is, in my experience, is as close to the real thing as technology will currently allow. Load up and enjoy. *Paul Farrer*

£ **CD-ROMs: Vol 1 (All pianos) £249; Vol 2 (Fazioli and Steinway C) £149; Vol 3 (Bösendorfer and Steinway D) £149. Prices include VAT and UK p&p.**

STAR NEWSCASTERS

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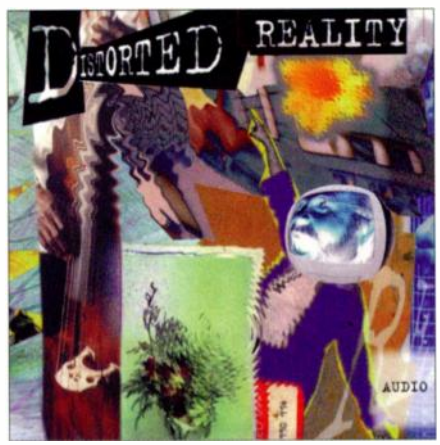
DISTORTED REALITY (AUDIO CD/AKAI & ROLAND FORMAT CD-ROM)

This new offering from Spectrasonics is produced by Eric Persing, who's well known for his work with Roland. The title might equally well have been 'Beauty and the Beast', for it oscillates between breathtakingly beautiful, evolving pads and seriously distorted, twisted sounds that score highly on the aggression scale.

After the opening demo, the disc starts off with a wonderful selection of ambient pads which have been created by layering and processing innumerable synths: this is off-the-shelf film soundtrack. Next, we enter the world of drum and percussive loops, again with a high degree of processing evident. Eric is obviously a fuzzbox fan, because fuzz gets everywhere, even on the drums, but it's all done so tastefully. Even the bell pads are severely weird, though the soft bell pad on track 21 of the CD has vinyl noise all over it, which I don't think adds to its usefulness.

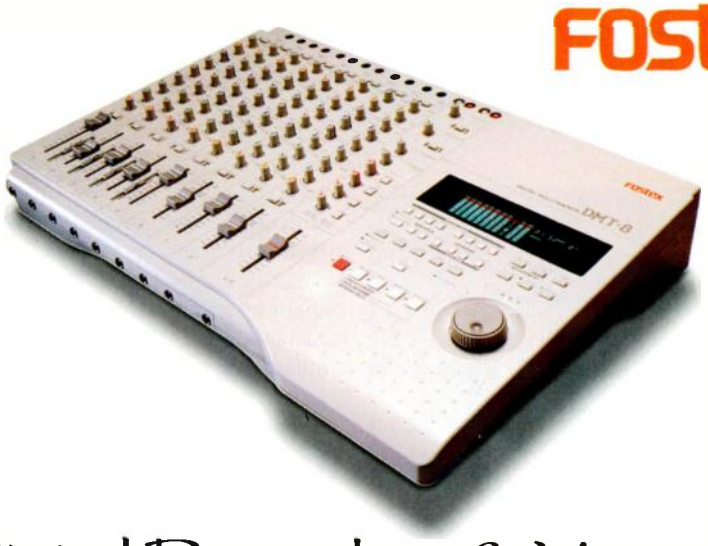
There's enough drones to see *The Terminator* through the next three sequels, but also included is an Indian drone, which sounds like samples of real Indian instruments that have been flanged and processed to the point of destruction. Next are the ambient drums, which range from cavernous and spacey to industrial and tortured, after which the fuzzbox is given full rein to create more aggressive mayhem. The disc also contains a few obviously techno, ravey sounds, but most of the samples manage to avoid being categorised too rigorously. The synthetic choirs are good, particularly on the last track, 'Gothic Choirs'. For me though, the real strength of this collection lies in its numerous evolving, textural sweeps.



It really is difficult to pigeonhole this disc. Other than to say that the overall coefficient of weirdness is significantly higher than average, I have no hesitation in recommending it to anyone involved in soundtrack work, ambient techno music or honest-to-goodness new age. It's also gratifying to see that most of the samples are relatively short, and there are few that wouldn't fit into 8Mb of ROM. *Paul White*

£ **Audio CD £59.95; CD-ROM £149.95. Prices include VAT and UK p&p.**

FOSTEX



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The channel strip has two inputs, main and SUB. SUB enables monitoring of recorded tracks during recording or can be used as a line input during mixdown. Channels 1-4 also have the addition of a 'wide-range' trim fader (-10dBV -50dBV) for perfect mic level matching.

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SAMPLE SHOP

METHODS OF MAYHEM
(AUDIO CD)

Not for the faint-hearted, this disc is full of very aggressive, often industrial sounds, both synthesized and processed. Extensive use is made of distortion, fuzz, feedback and heavy filtering, to make sure that no part of your attention remains ungrabbed. Most of the sounds are destined to end up in dance tracks, and numerous loops and arpeggios are included, all optimised for the genre. Even electric guitars, effects pedal hum and ground buzz have been hijacked, tortured and spat out for the benefit of the dancemongers.

A whole section is devoted to techno-style analogue drum sounds, including thrips, blips and squips, followed by a range of screeching phase sync and ring-modulated sounds that relentlessly claw their way through your sanity. Some of the effects defy description, but one sounds not unlike somebody being electrocuted underwater while trying to drink a litre of Guinness through a digeridoo! In fact, there's an air of the dentist's waiting room about this whole sound collection *[remind me not to visit your dentist, Paul — Ed]*, so if you're into making relaxation tapes, give this one a miss. Tracks 80 to 86 comprise numerous short voice bites from some of the cheesiest sci-fi films imaginable, and then the collection finishes off with a selection of electronic sci-fi effects.

If this is the kind of material you need for your music, then I'm sure you'll find this collection difficult to better — the whole thing screams of sweat, strobe lights and dubious chemical cocktails. Because most of the sounds are either single hits or rhythmic loops, getting them into your sampler should be fairly painless, and all the necessary tempo information is provided with the disc. Me, I'm just going to have nice cup of tea and a lie down! *Paul White*

£ Audio CD £59.95. Price includes VAT and UK p&p.

BEATS 'N' THE HOOD
(AUDIO CD)

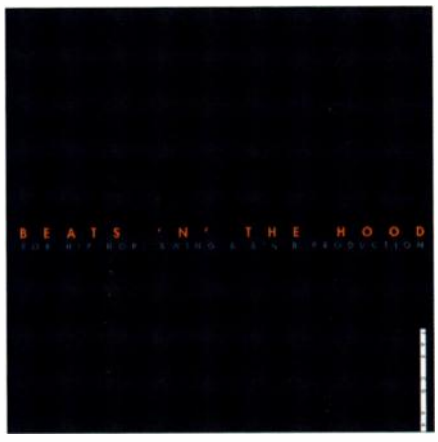
The title of this CD pretty much sets up the vibe, though the classy, minimalist, dual-texture black sleeve design seems to owe more to New Order than New York. Knocked up by producer-remixer team Roger King (*In the Name of the Father*) and Stepz (Boyz II Men, Black Box, etc), it's an interesting fusion of cinematic and hip-hop influences.

The sleeve notes criticise (or should I say 'diss') Steinberg for refusing to implement a simple percentage swing function on any *Cubase* platform — to which I say a hearty 'Amen!'. Stepz & King circumvent the problem by using iterative quantise, helpfully providing a comparison chart for *Cubase, Notator Logic, Vision* and *Performer* sequencing programs. All loops have an associated percentage swing value included in the sample index, as well as tempo and style. Thus, you can easily match programming to loop feel, without the need to resort to finicky groove templates.

As usual, it's loops first. The format is around half a dozen loops per track, each rotated four times (or two, in the case of 2-bar patterns). On any one track you get one, two, or three sets of programmed loops. Each set has variation(s) that might feature dropped elements, or quite commonly, application of a phaser or harmoniser to the original pattern. This goes on for 46 tracks, and I guess you get about 100 truly different patterns on this CD. So, no marks for quantity.

Quality, however, is another matter. I must have auditioned well over 10,000 drum loops during my time behind the counter of Sample Shop, but none as cool or effortless as these. Without giving a blow-by-blow account, they run the gamut of 'hops', from hip to trip, and even a few tangents such as rock and jungle. Tempos never exceed 120 bpm, although the sounds used are fairly orthodox for the genre. They are, however, extremely well-chosen. Nor is the programming particularly wild or busy: rather it feels good, and leaves space for you to work in some music over the top. I get the feeling that the 'less is more' formula has been understood and applied wisely.

Where noise was an integral part of the original source sample, it has been left in. Mostly, however, the loops are pretty clean, and stereo only where they have been effected. After the loops come single hits and fills. Kicks, snares and hi-hats come variously off the record, out of the box (Roland TR808/909 kicks), or even from a real instrument. Some hi-hats appear to have been recorded live, or maybe nicked from a good 16-bit (or better) source. It is good to hear such an unusually wide palette of hi-hat sets contained within just 43 samples. The fills, 30 of them, comprise old favourites cut from vinyl, and the collection concludes with upwards of 100 hits and strikes. Though some of these will be familiar to anyone with a decent sample library, pretty much all are genuinely useful. Once you've finished your sampling, you will hear a digital max tone at the end of the CD — great for telling you where you went wrong. Why no-one has thought to put this useful line-up feature at the *start* of a sample CD is still a mystery to me. *Wilf Smarties*



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A NOTE TO SAMPLE CD PROGRAMMERS

Here's a suggestion to all those making sample CDs. Instead of offering variations in which elements are progressively dropped out, why not offer composite loops as a set of individual instrument tracks (eg. hi-hat, kick, snare, congas). These, when layered, will give you the 'full-on' version. After all, that's how manufacturers work when mixing down the composite from multitrack or sequencer. The option of selective muting would then be available to the samplist. If you're worried about samplists getting the individual instrument tracks to run in sync, why not run a click track on the left channel, and an instrument track on the right? Once the samples have been taken and trimmed, the click track can be deleted from the sampler. On a CD-ROM, of course, the end-user would not have this problem. *Wilf Smarties*

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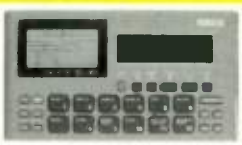

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At home with...

NIGEL BEAHAM-POWELL • BELLA RUSSELL

This duo can take the the credit for an amazing range of TV themes and scores, but how did they get into such a fiercely competitive industry in the first place? PAUL WHITE learns about the ratings game...

Nigel Beaham-Powell and Bella Russell are one of the most prolific, and certainly the most successful independent composing teams working in the UK television industry today. Their credits include over 60 incidental scores for BBC and ITV dramas, as well as such high-profile series as *The Chief* and *Wogan*. Their music has also found its way onto numerous documentaries, amongst them *The Plague* for Channel 4, and the BBC's *Natural World*. One of their more recent projects is the childrens' comedy drama, *Harry's Mad*, and earlier this year, they won an award for 'Toadskin Spell', part of the *Natural World* series. You've probably heard their title sequences for *Saturday Night Clive*, *The Full Wax* and *The World This Week*, which will give you some idea of their versatility.

LATE STARTERS

I arranged to meet Nigel and Bella at Nigel's Georgian house overlooking the Avon Gorge in Bristol. Though their studio is in the basement, most rooms in the house have been pressed into service for recording at one time or another, and the more popular rooms are permanently connected to the studio via tie-lines.

Nigel and Bella have known each other since their schooldays, but Nigel was keen to point out that they aren't married; I suggested they might be the musical equivalent of Torvill and Dean! I was curious to find out how they broke into film and TV work, so Nigel filled me in on their background, while we waited for Bella to arrive. Considering that Bella was expecting her third child at any moment, I felt honoured that she turned up at all!

Nigel: "I was rather a late starter, and came to music at around the age of 15, playing acoustic guitar and piano. I think I managed to get somewhere out of stubborn determination rather than any inherent creativity. I formed a band at school, and then after university, Bella and I played in a band called Streets Ahead, which later sank without a trace. But we did get a couple of TV appearances, and on one show, because they didn't have a theme tune, they asked us if we wanted to write one. It took about 30 seconds to write a 30-second tune, for which we received the magnificent sum of £25!

"Next, the BBC in Bristol had a slot after *Top Of The Pops* for cut-down versions of the *Natural World* programmes. It was quite politically sensitive; we were lucky enough to get the job, but in the process, we discovered that we were much better at writing music for films than we were at playing pop music. Gradually, the other band members disappeared, but Bella and I have continued to work together ever since. We'd spent a lot of money going in and out of studios, so we bought a Tascam 8-track and a Studiomaster desk. The studio we are in today is a Mk V or Mk VI version."

I know that a lot of our readers are interested in how you get TV work in the first place. Is it all down to personal contacts?

Nigel: "We were appearing in, and writing music for a network ITV series, as well as doing the wildlife series for the BBC, and after 15 or so episodes, we had enough of a track record to branch out into wider areas. I think it's a combination of luck, talent and energy. When you're writing music for television and films, you can't be good at just one thing — you have to cover lots of different styles. This is one business where it pays to be a jack of all trades rather than a master of one. If you look at top film composers like John Williams, you'll find that they are enormously gifted in lots of different areas."

How do you come to terms with writing to picture rather than writing stand-alone music?

Nigel: "It's a very interesting medium. If you have a series of pictures that lasts for 1 minute, 36 seconds, your music has got to be exactly that length — it can't be a few seconds over or under. There are two approaches: one is to write the music largely independently of the picture, in which case it is likely to be more musically coherent, and the other is to do something that follows the pictures in a more supportive role. This way, you can use more minimal compositional styles, where the crescendos and so on match the action on screen. ▶

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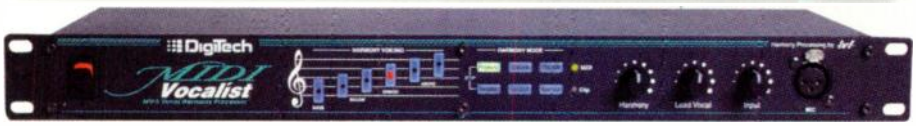

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At home with...

Nigel Beaham-Powell • Bella Russ

▶ Writing to a drama is always easier than writing for a documentary, because you have the actors' voices to work to. With a documentary, the music will often be done before the narration, and you don't really know where the voice is going to go."

"At the moment, we're working on two projects, one of which is the childrens' series, *Harry's Mad*. It's a comic series, full of gags, and

Nigel and Bella's home studio, containing their trusty Atari ST (left) and the gigantic Emulator II (right).

the joy of it is that it's handled like a drama, so what you write is what you're going to hear. On the other hand, we're also doing a series of wildlife films where they haven't decided who's going to do the voiceover yet, so we have no idea when we write the music where the voice is going to be. That means we write to the pictures, to try to capture the mood, but certain changes may be made in the edit suite when the voice is put on. There is, however, one advantage with documentaries, in that if you write a good piece of music that the director really likes, they may reduce the amount of dialogue and allow the mu
Often, you can tell a story jus
music as you can with dialogue.

THE REAL FEEL

What kind of setup do you have for picture?

Nigel: "The picture comes up in three pl
one monitor in the small live room, and
screens in the studio. The picture syncs
an Atari ST running *Notator*, though we ar
planning to change over to *Logic* on the
Mac as soon as we get the time to do it.
The multitrack is a Fostex E16, also
controlled via a synchroniser."

"We tend to write all the music in the computer, and then get live musicians in afterwards. Budgets are often the significant factor, and the more money you have, the more musicians you can employ. We like to use as many live instruments as possible, because of the warmth — the human element. I feel that there's so much purely electronic music about, that it's hard to be individual enough without using live musicians. Even one live instrument can be enough to give an electronically-generated piece a human feel. In fact, the instruments don't even have to play notes — hitting the side of a violin gives a very nice effect. These are solutions you don't think of when all your sounds are coming out of a box."

So, would you create the impression of an orchestra by overlaying strings on sequenced samples, or would you record the strings first, then add the MIDI instruments?

Nigel: "When you're working with conducted music, you don't have a rigid bpm, which means you get more ebb and flow in the music, which is wonderful. In the past, we've tended to do the sequencing first, but in future, we may well try recording the strings first. Interestingly enough though, we have worked on news themes where it was necessary to *add* electronic instruments, to give the acoustic sound enough dynamism."

Do most of your jobs combine both electronic and live instruments?

"Yes, that's generally how we work. We very rarely have the budgets to allow us to employ 30 musicians. Right at the top of the scale is Hollywood, where you've got a million dollars to spend on the music, and where the composer gets $350,000 for a score — and right at the other end is television. The big dramas like *Pride and Prejudice* get relatively big budgets, but much of the music only has a budget of two or three thousand pounds, and there doesn't seem to be much of a middle ground. Once you've paid for the musicians, paid yourself, covered studio costs and taken into account the inevitable last-minute changes, it's pretty tight."

STUDIO DESIGN

I guess that having your own studio must help with the studio budget, and because you have a

CONCEPTUAL TELEPATHY

Although Nigel are Bella are briefed in advance about a project, anything can happen during filming to take the director off on another tack. In their line of work, flexibility is the key:

Nigel: "We had a project this summer for a John Hurt film where it seemed clear that an orchestral approach was required, but as we went through this film, the music became more electronic. That's because we were trying to find out where the director was coming from. Quite often, they don't say what they want — because they don't really know — so they start at point A, but we eventually end up at somewhere like point M, which is a long way from where we started. In a case like that, you need quite a lot of time to allow things to evolve, and it can be very frustrating when you've already done some rather nice pieces of acoustic music along the way. What starts off as three weeks of composition time can end up coming down to 10 days, and even then, things are still changing. But then you must remember that you're part of a crew: you can't play the artist and be over-defensive about your work."

Bella: "There was one occasion when a well-known East End soap came onto the box, and just about every single person who we worked with wanted us to do something similar. But they weren't talking about the *tune* — what they really wanted was the popularity and success that went with it.

"Ideally, you want all the people you've ever worked with to come back to you about every 18 months, but at the same time you want to add half a dozen new people each year. But the situation is always fragile — we don't know what we're going to do from January '96 onwards. If you have an accountancy-led mind, there is no stability whatsoever in composing."

TAKE THE MONEY AND RUN?

I asked Nigel how he and Bella resolve the copyright issues that arise from a successful TV score or theme.

"This is a huge issue, and I firmly believe that copyright should remain with the composer, largely because the commission fees paid in TV are so small. In the USA things are different — there's a lot more money about, and if somebody wants to pay us £100,000 to buy out our copyright on a piece, then that's fair enough, but it's different when the total commission fee is around £5000, and the TV company wants to take a slice of the royalty action as a clawback. It can be very galling, and it's made worse by the number of people so desperate to get work in that area that they're prepared to accept those terms."

house with large rooms, high ceilings and wooden floors, you must be able to do a lot of your live instrument recording here too.

Nigel: "When we built this version of the studio, we wired the house for sound by running cables along the heating pipe ducts. In the drawing room, I have my Steinway piano, which I record using a Neumann mic, but last week we recorded 16 string players in there. We have been known to record in the bathroom from time to time for particular effects.

"The drawing room windows are not double-glazed, but noise is seldom a problem. We just close the shutters and hope that the traffic is not too loud, or that car alarms don't go off while we're recording. What never ceases to amaze me is the volume a string orchestra produces — it's very unlikely you'd hear any traffic rumble over that.

"Down here in the studio, there is a double window system, and there's a certain amount of acoustic treatment, but I think it's true to say that the studio has *evolved* rather than been designed — and that often produces the most comfortable working environment."

Even so, you've obviously gone to some lengths to make this room acoustically suitable for mixing; for example, there are absorbers and diffusers on the ceiling.

Nigel: "The person who did the acoustic design is Neil Perry, who originally worked at Real World, but is now a private acoustic designer with a lot of project studio clients. He tries to solve problems in an interesting way — he never wants to make the same studio twice. Because we didn't want lots of things on the walls, his solution was to use high-density foam traps fitted to the ceiling, as well as a central reflective diffuser. It works incredibly well.

"I'm keen to cut down on the noise from computers and such like — I hate the whirring of hard drives. We've looked at putting

"When you're writing music for television and films, you can't be good at just one thing — you have to cover lots of different styles."

the drives into an isolated cupboard, but unfortunately, the cupboard is at the other side of the room, and the SCSI connections won't work properly over that distance. There's another recess in this wall which we may end up adapting.

"Our Atari hard drive has a little box built around it with a foam lining, and that works quite well. You can still hear it, but it's a lot quieter than it was."

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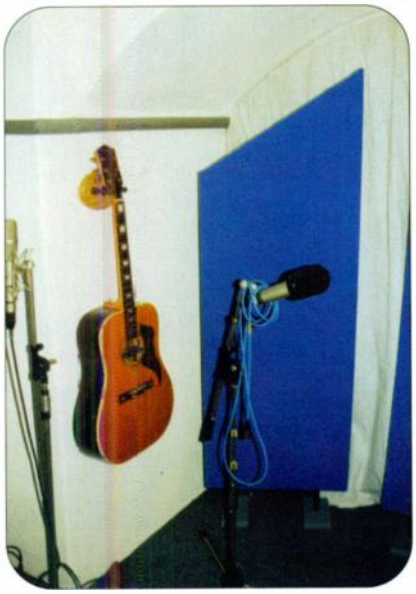
WORKING METHODS

Bella, what aspects of technology do you feel make your work easier?

"I love *Notator* on the Atari, and because I know that a lot of what we do will be replaced by real musicians at a later stage, the sounds themselves become less important. Five years ago, when nearly everything was electronic, you really did want the best synthetic or sampled strings available. What is so nice now is the ability to write in so many different ways; to improvise. Both of us learnt traditional music at school, so I rely heavily on the score side of the system — I can't make any sense of the piano-roll display which shows the notes as blocks. It's nice to be able to move notes around on the score, and then hear the changes."



This small alcove currently doubles as a vocal booth.

As you've got so comfortable with *Notator*, you must be viewing the move to *Logic* on the Mac with some trepidation?

Bella: "Well, we've played around with it a bit, and providing we can get at the score page it should be okay. It's more a case of finding the time to get into it. Just as you think you've got a week or two of free time to learn a new system, a new project comes along, so it keeps getting put off. I did quite like *Logic*, although it is a different way of working, and I think we will need to bring in somebody for odd days over the course of a couple of weeks to get us up to speed."

Nigel: "Because we're working almost continuously, what we don't want is to be faced with a deadline at the same time as we're learning a new computer program. We keep starting on *Logic*, and then putting it off again, but we will get around to switching to it!

"Bella is particularly good at improvisation, though her playing isn't quite so precise as mine, which meant that before using computers, I tended to do most of the playing. Now that we have the computer, we've converged, and what happens is that one of us starts a piece, then the other takes over. You can't do that with a manuscript — you'd spend all your time rubbing out the notes."

Bella: "Nigel might be at the computer doing one thing, and I'll sing a counter melody — it's a very collective process. The computer has provided us both a with a common musical playpen."

As a classical player, how do you get on with a computer that's beeping a rigid four to the bar at you?

Bella: "I think we just got used to it — it's not that different from using a conventional metronome, though when it comes to handling tempo changes, I think *Logic* is going to be much better. In the brief time we have played with *Logic*, it seems possible to make things flow much more naturally."

The computer is obviously a great help to you, but are there any aspects of modern technology that you find counter-productive?

Nigel: "As the studio has evolved, I think we've managed to iron out most of the wrinkles that get in the way of writing music, but it's still not as simple as I'd like it to be. I'd like to be able to come in here, turn everything on and have all my sounds patched into their own mixer channels, ready to go. What we both hate is when things go wrong."

When you are writing to picture, do you run with both your multitrack and sequencer sync'ed to the timecode track on the video you've been sent?

Nigel: "We actually adopt a rather weird process, in that we nearly always write everything on the computer to start with, then we lay it off onto the multitrack — unless what's required is more of a reaction to the picture, in which case we might work straight onto tape. Going via computer, there is a temptation to fuss too much and make tiny changes that aren't necessary. A lot of what we do is thematic and includes several variations, especially in dramas with lots of episodes. Where the computer is brilliant is that when a character from early in the series turns up later on, you can call up the original piece and then tweak it. Because of the pressures of time and deadlines, you don't have enough time to write a completely fresh cue every time — nor would you want to."

Bella: "The computer is also good for welding different characters' themes together. You might

THE CREATIVE EMUS

You seem to have a lot of Emu samplers. Is there any particular reason why you favour these?

Nigel: "We've always been Emulator fans: we went to see an EII in 1984, got a bank loan, and bought one. It was very expensive, but we still use it now, and we have a lot of sounds for it on floppy disk. These seem to become more valuable as the sounds become rarer. The sounds are loaded from hard drives: we have 32Mb in an expanded EIIIXP, and 8Mb in an original EIII. It's actually not enough for us — I notice that Hans Zimmer has 19 samplers, each with loads of memory, all hard-wired into his studio. How long it takes to load them all up, I don't know."

I see you've resisted investing in flash RAM.

"We tend to use certain sounds all the time, so it would certainly be useful, but flash RAM is also very expensive. What seems to happen is that with each module, you tend to find about five or six sounds which evolve into part of your whole sound. They become your hallmarks, and the rest don't get used much. Neither of us are that interested in wading through library banks of thousands of synth sounds or samples. Where it does become useful is when you want to make up a set of sounds for a particular project, and when the project is finished, you may never use the sounds again.

"We did a couple of programmes for Channel 4 a couple of years ago, one called *Sex Talk*, and another called *Men Talk*. We decided that for *Sex Talk*, we'd use recordings of people talking about sex — we just processed the various sounds and put them together in interesting ways. Doing it the old way with tapes and razor blades would have taken forever, but using samplers, it was quite a simple process. What's more, the director and producer could choose the phrases they wanted to use.

"With *Men Talk*, we used mainly acoustic instruments, but in some very bizarre combinations and embracing about ten different musical styles within 30 seconds. It was fantastically good fun to do, and in direct contrast to what we did for *Wogan*, which was supposed to be slick and glossy."

think that two pieces of music are very disparate, but you decide to have a go at putting them together anyway, and sometimes something quite interesting comes out of it."

SOUNDS AND VISION

Do you get any of those creative accidents where you switch on, and the wrong sounds come up, but it sounds wonderful?

Bella: "We have used a drum track to drive an instrument: it sounded completely wacky, but it happened to fit."

Nigel: "You have to continue to surprise yourself in the studio. If you do the same things all the time, your music becomes stale. The happy accidents are terrific when they happen: like the grungey effects you get as the multitrack is coming up to speed, when it's locking to the U-matic."

Are there any secrets to getting a professional sound?

Nigel: "We often have a live microphone lying around in the studio, so Bella can try out ideas as they occur. Instead of going into the vocal booth, we might just record using the mic where it is, track it six times and use it. It's not a big fuss to do that, and it allows us to be spontaneous. It doesn't matter that there might be a small amount of noise on there, or that the acoustics aren't perfect. It's a really quick way of solving a problem, and you can't hear any noise on the finished mix.

"I know there's a whole world of sample CDs, but when it comes to percussion, for example, I still think it pays to bring in a percussionist and do your own. That way, you retain your individuality. The most important thing is to do right by the musicians you use and pay them properly, otherwise they won't want to come back again.

"When it comes to getting the right sound, it pays to bring in another set of ears. We have a very good engineer, who mixes all our stuff so that we can sit back and listen to what's happening, without worrying about the technicalities."

Bella: "I've said already [*see the 'Creative Emus' box — Ed*] that we aren't interested in wading through banks of sounds, but that doesn't convey quite the right impression. I think that we have come to know what the right sound is, which means we usually select the appropriate sounds at the outset. Sometimes, when I hear other peoples' work on television, I think that they've got a really good piece of music, but the sounds might not be quite right: they don't do themselves justice. We try and make sure that whatever we do, it sounds as good as it possibly can when it comes out on television."

Nigel: "That's another reason for bringing in another pair of ears. After all, our last film is our next calling card." SOS

BASIC GEAR LIST

KEYBOARDS
- Korg Lambda
- Roland D50
- Roland Juno 6
- Yamaha KX88

SOUND MODULES
- Emu EII
- Emu EIII
- Emu EIIIXP
- Korg Wavestation Rack
- Roland JV1080

DRUM MACHINES
- Alesis HR16
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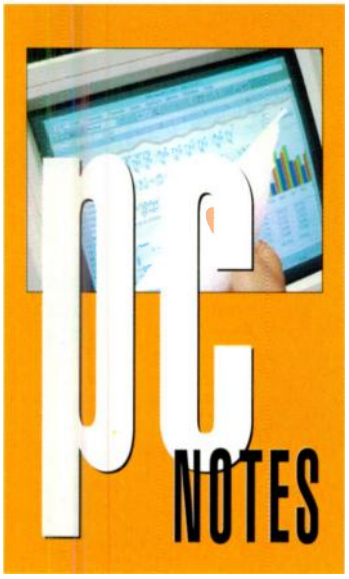

Thanks to Evolution's Music Creator system, it's never been easier or cheaper to turn your PC into a powerful MIDI sequencing tool. BRIAN HEYWOOD gets creative...

I am often asked to recommend a keyboard that can be used with an MPC soundcard. Most cards have a MIDI In function, accessed via the soundcard's game port, so it is usually quite easy to add an external MIDI controller. There's a number of MIDI keyboards on the market that will do the job — as long as you can get a MIDI cable for your soundcard.

In the December '94 and March '95 PC Notes, I included in this column a schematic diagram of a circuit that would do the trick for most SoundBlaster types of card, but not everyone is able to take this approach. While it is a simple enough process to get an appropriate cable, it's just another complication, and when there are so many dodgy cables on the market, you can get yourself into deep water quite easily.

To simplify matters somewhat, the clever people at UK-based Evolution Electronics have brought out two systems that solve the problem. The first of these, the *Music Creator* system, is based around a four-octave keyboard with three-quarter-sized keys. This product represents the bare minimum that you need to be able to play music into the PC without a velocity or other MIDI controller. You can select different MIDI channels and a number of different 'fixed note' velocities (64, 90, 112 and the default of 100), but that is the limit of the controllability.

The system comes with a very basic software package called *Key West Music* which is essentially a simple auto-accompaniment application. While not much use for performance or teaching/learning situations, this compact keyboard could be quite useful for notation entry, or situations where there is very little space available.

Somewhat more interesting to the serious musician is the *Music Creator Pro* package, which is based around Evolution's MK149 MIDI controller. This is a four-octave keyboard with full-sized keys, velocity sensing and a full complement of MIDI control functions. It has both Pitch and Modulation wheels, the latter of which can be assigned to any MIDI controller message (ie. pan, breath control, expression) as well as Channel Pressure, fine tuning and Pitch Bend sensitivity. The front panel buttons allow you to select either MIDI channel, note or octave transposition (+/- 12 semi-tones and/or +2 or -1 octave), and select between 10 velocity curves.

The MK149 keyboard can also send MIDI program and bank change messages, as well as 'Select General MIDI Mode' and 'Reset All Controllers' messages. You can also get the keyboard to remember five bank/program change messages that are available at the touch of a button. The software element is somewhat more sophisticated than the software bundled with the basic keyboard, being a version of Evolution's well regarded *Procyon* package, called *Evolution Audio*. ▶

MUSIC CREATOR KEYBOARD FEATURES

MK149 (SUPPLIED WITH *MUSIC CREATOR PRO*)

- 49 Velocity-sensitive standard keys (4 octaves).
- Standard MIDI connection. Interfaces to most PC soundcards with suitable lead.
- Battery Holder and external power socket (9V DC, 100mA).
- Pitch bend wheel.
- Modulation wheel.
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- Supports all MIDI controller change messages.
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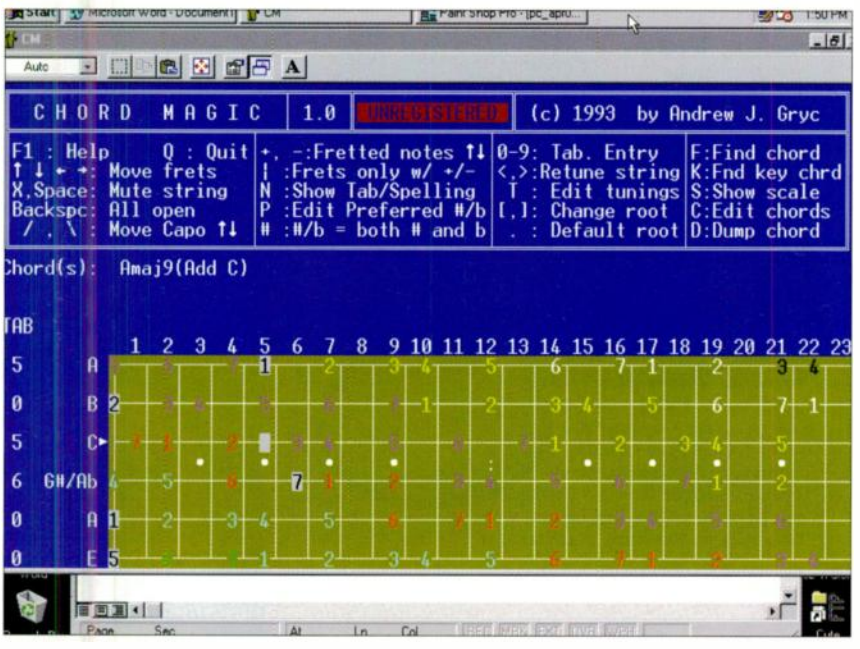
- Transpose up to full range of 109 keys in semi-tone steps, and pitch by 24 half-steps.
- Selection of 10 velocity curves.
- 3-digit LED display.
- Sustain pedal connector.
- Dimensions: 805 x 205 x 84mm.
- Weight: 3.2kg.

MK10 (SUPPLIED WITH *MUSIC CREATOR*)

- 49 Mini keys (4 octaves).
- Standard MIDI connection and lead provided.
- Status LED to indicate MIDI data and power on.
- Battery holder and external power socket (9V DC 15mA).



Chord Magic (see page 152) can show the chord voicing in relationship to the root (or indeed any) scale.

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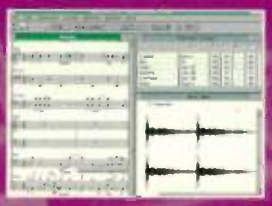

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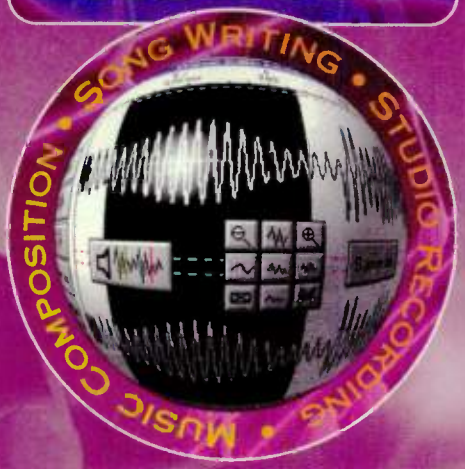

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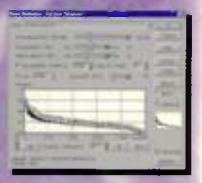

Now there's no need to slave away filtering noisy recordings. Sonic Foundry's Noise Reduction plug-in is designed to automatically remove background noise such as tape hiss and electrical hum. Click Removal is also included, allowing you to eliminate clicks and pops automatically.

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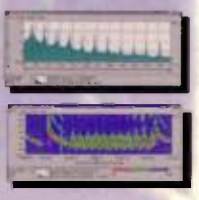

If you need to identify that particular frequency component, you'll find the Spectrum Analysis plug-in a great addition. Spectrum analysis includes Spectrum Graph and Sonogram display for easy frequency (or pitch) identification.

BATCH CONVERTER PLUG-IN

The Batch Converter plug-in is a time saving utility for those needing to convert tens, hundreds or even thousands of sound files to different formats automatically. All plug-ins require Sound Forge 3.0.

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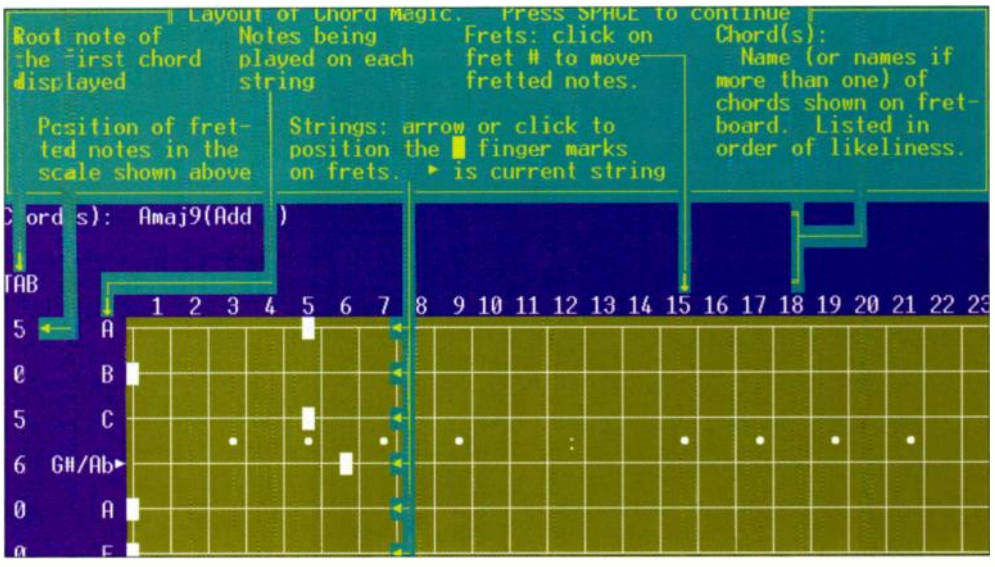
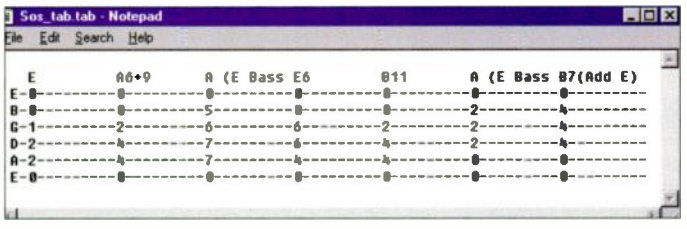


You can select the chords with the mouse, use the cursor keys, or even type in the chord directly, in TAB notation.

▶ As well as being a feature-rich MIDI sequencer, it also has auto-accompaniment features, and a single digital audio track for playing WAV files.

The larger of the two keyboards is really a little gem, since it has all the features that you need in a MIDI controller keyboard without costing the earth. In the month or so I've had the MK149 in the studio, two of my collaborators have decided to buy units after playing with the keyboard. The mini-keys version of the package costs just £49 (inc VAT) while the 'Pro' version retails at £99 (inc VAT). Both units come bundled with a MIDI-to-soundcard cable and power supply, and can be operated off batteries. For details on where to get either version of *Music Creator*, contact Evolution on 01525 372621.



Chord Magic's TAB printout could be described as crude but effective, and ideal for sending via email.

STRIKING A CHORD...

One activity that will amuse guitarists for hours on end is the game, 'Name that chord'. This is especially true if you use open chords or strange tunings for your musical plan. A PC-based utility I've come across recently can ease the pain of documenting a guitar part. Andrew Gryc's DOS-based program, *Chord Magic*, allows you to 'draw' in the chord shape onto a graphical representation of the guitar fretboard, and then gives you a choice of chord names that apply. You can retune the strings, and even define a capo fret position. Strings can be muted by selecting a 'string' and pressing X, or you can use the mouse to click on the 'nut' or the capo. Alternatively, type in the chord in TAB notation to see what it would look like on the guitar fretboard.

You can also use *Chord Magic* to help you find a suitable voicing for a particular chord. Simply select the root and type of chord you want, and the program will check through its internal chord database to give you a suitable fingering. The program will pick the chord shape that is closest to the currently displayed fingering, allowing you to guess (or verify) a chord.

Other neat features include: the ability to superimpose a scale over the fretboard and chord display, which can be useful for working out solos; the ability to add new chords; and there is even the facility to generate a simple TAB printout using standard ASCII print codes (ideal for transmission via email). *Chord Magic* is shareware, so it's available to download from a number of on-line services. I got mine from the guitar conference on CiX. To get a registered copy, send $20.00 to: Andy Gryc, Chord Magic, 1520 Springhill Road, Albany, OR 97321, USA. This gets you a bigger version of the software, which includes built-in chords, on-line help, built-in tunings and a detailed manual.

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If you want to look at the screen shots for the items in this column, or link to the Web sites listed in this (and previous columns), point your web browser at the PC Notes area on Route66 at...

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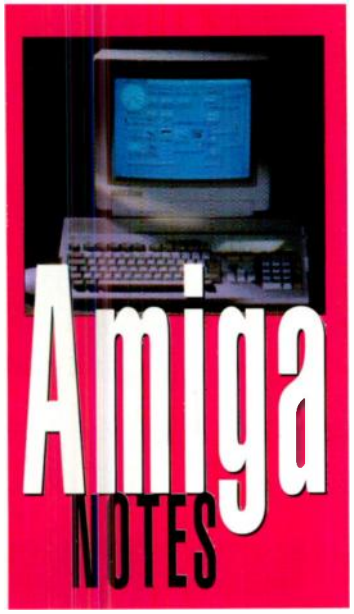


Orphaned in childhood and now suffering a PC brain-drain, the Amiga needs all the help it can get. So, could tracker programs like OctaMED v6 be the platform's saviour? PAUL OVERAA asks whether the future's IFFy...

The best thing to happen Amiga-wise for me this month was to have the Beta version of the new *OctaMED Sound Studio* package drop through my letterbox. OK, so the program isn't going to be available until later this year, but it's still something you should know about. The current version of *OctaMED*, version 6, is without doubt the best tracker program seen on the Amiga to date, but from what I've seen so far, the new *Sound Studio* package is going to provide some significant advantages. One of the new features, for example, is a player mode which can handle up to 64 virtual channels, mostly independent of the kind of audio playback hardware being used. This will allow for easy support of different soundcards.

Existing *OctaMED* users are going to get a special deal on the new program when it arrives. In a sense, this is a way of saying thankyou to existing *OctaMED* users, although the main reason is of course to encourage anyone thinking of jumping on the *OctaMED* bandwagon to do it now, rather than wait until the *Sound Studio* upgrade appears.

OctaMED v6 is available on CD-ROM at £29.95 from Weird Science of Leicester (tel: 0116 234 0682), or on two floppy disks at £25 + £1 p&p from RBF Software (tel: 01703 785680). Because of the extra room available on the CD-ROM version, a lot of extras are provided. As well as *OctaMED v6* itself, you get tracker modules, about a thousand IFF sound samples that come from the Walkabout Music sound library, MIDI files, and a variety of other goodies.

Incidentally, if you are one of the few *OctaMED* users who have still not upgraded to version 6, then you are missing out on some important benefits. The main screen is now split into a main control window, a separate tracker editor window, and an information window. The tracker editor display has also undergone several changes, including the addition of scroll bars and a sizing gadget. The bar equalisers, which in earlier versions had been part of the tracker display, have now also been given their own separate window.

OctaMED v6 can handle both 8 and 16-bit sound samples. Options for temporarily freeing up the Amiga's audio channels have been added (so that other music programs can be run without having to quit *OctaMED* completely), and MIDI file types 0 and 1 can be read, although only type 0 saved. There are file compression options (XPK and Powerpacker), provision for saving modules as executable files, and support for MAUD, AIFF and PC WAV samples. There's a Toccata Capture window for users of Toccata soundcards, improved internal buffer arrangements, and even a tempo operations window to allow easier tempo conversion. ARexx support is also now available from within *OctaMED Pro* itself, rather than only through a standalone *OctaMED* player.

TRACKING — WHAT'S IT ALL ABOUT?

Tracking is one of the oldest of the Amiga's music areas, simply because right from the machine's early days, programmers needed a convenient way of creating music for games and demos. One early utility that appeared was called *SoundTracker*, and within a few years of that, other similar programs had appeared. The only trouble was that, being essentially tools for programmers, these utilities used programmer-style conventions for creating music sequences. Song definitions were built around awkward-looking lists, showing the times and the pitches at which various samples should be played. Editing facilities were also very limited.

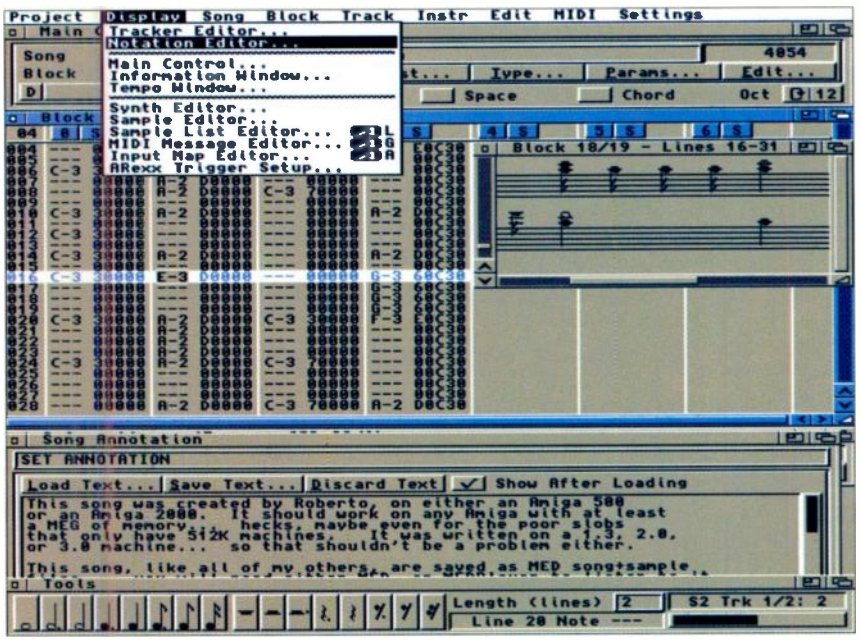
Now, whilst none of this was ideal from a musician's viewpoint, this 'tracker' method of composing music caught on in a big way within Amiga programming circles. What everyone needed, however, were tools that everyday Amiga users could work with — and it was during this time that Teijo Kinnunen produced his public domain tracker called MED. This wasn't perfect by any means, and initially not particularly easy to use either, but over the course of a few years, MED got better and better. Once 8-channel sound facilities were added, the first commercial version of the product *OctaMED* was released.

OctaMED Professional then appeared, which included some basic MIDI options so that you could link up synthesizers to the program and play riffs, bass patterns and so forth, using a conventional keyboard (better than bashing away on the musically meaningless Qwerty Amiga keyboard). The rest is history. As development continued, the program became both more powerful and more user-friendly, and eventually *OctaMED Professional v6* arrived. Nowadays, people don't ask each other what tracker program they're using — they just ask what version of *OctaMED* they're using!

AND NOW FOR THE BAD NEWS

Over the last few weeks, the Amiga music scene has been rocked by the news that Blue Ribbon Soundworks, creators of *SuperJAM* and the *Bars & Pipes* sequencer, are pulling out of Amiga software development in order to concentrate on developing software for the PC. There's no denying that the loss of Blue Ribbon Soundworks is something that the Amiga could have done without, and doubtless it has been prompted by concerns about the survival of the platform. After the Commodore ▶

The new Sound Studio program will be one very good reason for sticking with the Amiga!



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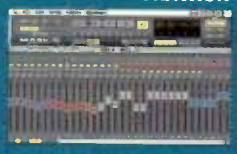

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Above: Three screen shots from Ultramix Pro™. Top to bottom: Main screen, Edit Fade Curves window, Group/Master Section

[2] If you live a gazillion miles from any of the dealers listed, you can get a copy of the video by calling us toll-free. Offer is not available via Reader Response Card — you must call Mackie. Offer expires June 30th, 1996

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Q What is the Ultramix™ system?

A It's a 3-part MIDI automation system consisting of the Ultra-34 Automation Interface (with 4-patch points per channel on the front and lots more technostuff inside), the UltraPilot™ Control Interface (looks like a fader pack but does much more), and Ultramix Pro™ software.

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Q Will Ultramix™ degrade my sound?

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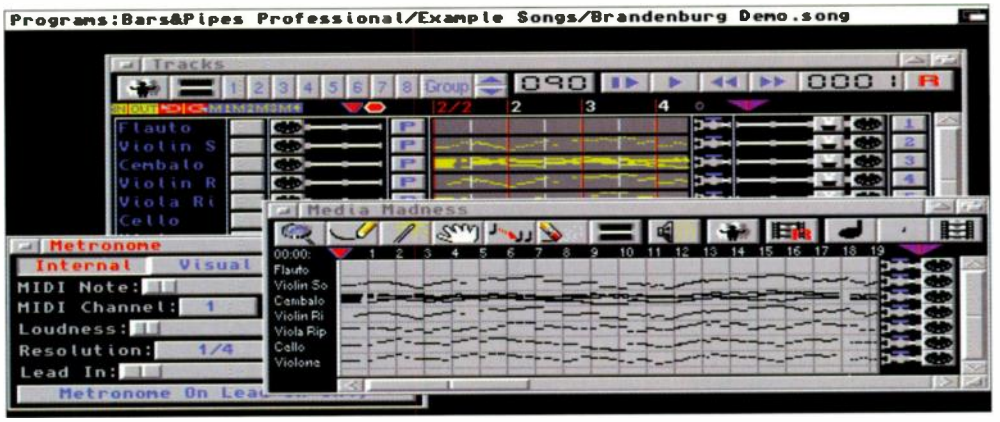
Amiga NOTES



Blue Ribbon Soundworks' Bars&Pipes — future development now uncertain!

Amiga fiasco, everyone knew it would take time for the Amiga to re-establish itself, but a lot of Amiga developers are still struggling to make a living. It's little wonder that a few have thought it safest to move to other areas.

The trouble is, whilst we've all been waiting for the last couple of years to hear good news about the Amiga, our hard-earned cash has either stayed in our pockets or been spent on other things. You can't blame people for not rushing out to spend money on gadgets or software for their Amiga, but companies selling Amiga software or hardware can't survive on thin air. They need people to go out and buy things, and if this doesn't happen, those companies either go under or move into different areas (like the PC)!

Let's look on the bright side, however. There are tentative signs of an Amiga comeback. The question we all need to be asking is, what can we do to encourage things along? Amiga Technologies, while not getting everything right, are trying desperately hard to do their bit, but it's a hard slog when you haven't got an advertising budget like Microsoft or Sony to thump the word 'Amiga' on every TV screen in the land. The message is very much, 'use it or lose it'. How many Amiga users out there, for example, have yet to get a hard disk?

Software-wise, the Amiga has barely started to show what it is really capable of. This is an area we would do well to promote. And don't forget the Amiga still multi-tasks better than the PC, as well as having minor advantages, such as the ability to use long filenames — Windows 95 has only just got around to that.

More than anything though, the Amiga is a machine that offers affordable computing and cost-effective sequencing. Most software runs perfectly happily on a 2Mb machine, and few other machines can boast of that. In recent months, I've met PC users quite blinded by the 'latest is best' hype, who've gone to their local dealers to see about upgrading to Windows 95, only to be told that they're going to need a minimum of 8Mb of RAM to be able do anything useful!

So, remember the advantages. And also remember that the one thing that Amiga Technologies do *not* need at the moment is Amiga owners going around talking as though the Amiga is still dying. It isn't, or rather it needn't, but in some respects, we users hold the key to the Amiga's successful re-birth. So, next time someone asks you for your opinion of the Amiga — *think* before you speak!

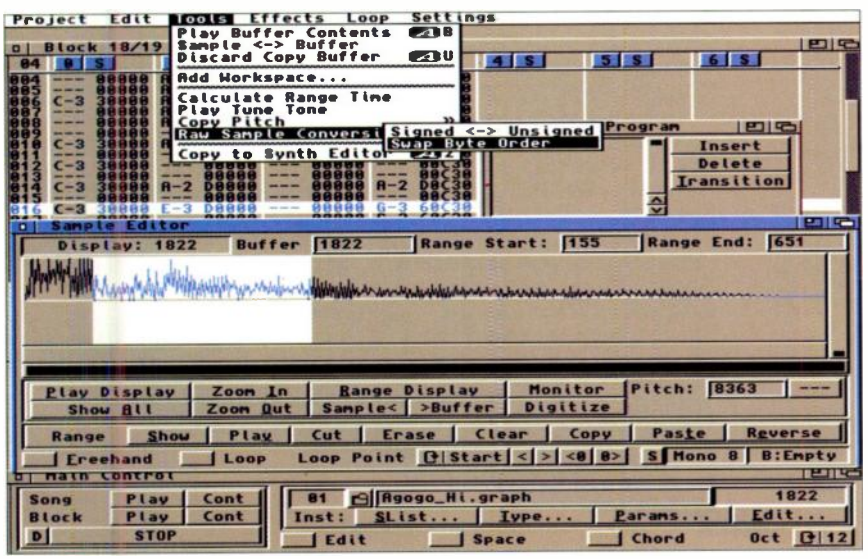
AMIGA NEWS IN BRIEF

• AMIGA SURFER PACK

John Smith, sales manager of Amiga Technologies, has announced that their new internet-specific Amiga packs will soon be on sale. Purchasers will get an A1200 with 2Mb of RAM, a 256Mb hard drive, plus a 14,400 baud modem. The comms software will allow access to the web, ftp file transfer, IRC electronic teleconferencing, email and so on, and the usual Amiga Magic software, namely *Wordsworth, Datastore, Organiser, Turbocalc* and *Personal Paint* packages are also going to be included. Price including VAT is expected to be £599.

• A LOGIKAL DROP

Soft-Logik have reduced the price of *PageStream v2.2* by an incredible £160, and are now selling the program for just £24 (and that includes a new 100-page manual). The idea is obviously to encourage more Amiga owners to jump on the *PageStream* bandwagon, in the hope that they will eventually upgrade to the latest *PageStream 3*. Contact Soft-Logik on 001 314 256 9595.



Lots of new editing facilities are being added to the OctaMED Sound Studio.

WIN ROLAND JV1080

Rackmount Synth + Expansion Board

It's nearly 18 months since Roland unveiled the JV1080, yet this rackmount synth remains a class leader in every way. Drawing on 8Mb of ROM data, the JV1080 offers 448 different core waveforms, up to four of which can be individually effected and used to create a patch. In Performance mode, up to 16 patches can then be split, layered or stacked to respond multitimbrally to a sequencer — creating what our reviewer Dave Crombie described in *SOS* December 94 as "a monster sound".

At the heart of the JV1080 is a powerful 32-bit, 66MHz RISC processor, allowing the envelope generators to run at lightning-fast speeds without quantisation side-effects or glitching. The advanced processing power is also put to good use in the comprehensive multi-effects section, which boasts 40 different editable effects. The algorithms bring out the best in the sample waveforms, lending the Cathedral Organ a truly seismic quality. Many are also MIDI-clockable, bringing a new dimension to filters, amplifiers, pitch mod, panning, audio delay, tone delay and flanging.

The JV1080 is 16-part multitimbral and 64-voice polyphonic, allowing you to make the most of its onboard sounds when driving it from a sequencer. The default sounds alone might be enough for some, but when combined with expansion boards and PCM memory cards, the JV1080's range of sounds becomes truly staggering. There's a choice of eight expansion cards at present: Pop, Orchestral, Piano, World, Vintage Synth, 60s & 70s Keyboards, Dance and SuperSound Set (PCM sounds). Also due shortly is 'Session', offering a selection of sounds ideal for the travelling session musician, including high-quality acoustic instrument sounds.

The JV1080 can host up to four expansion cards at once, providing up to 1500 possible patches and 1000 digital sample waves. This month's prize comes bundled with an expansion card of your choice, which is just one more reason why you should lose no time in answering the simple questions below, and completing the easy tie-breaker. When you've finished, post the entry to the address below, to arrive no later than the closing date: **Friday May 3rd 1996.**

Prize kindly donated by Roland UK (01792 702701).

the small print

1. Only one entry per person is permitted.
2. Employees of Sound On Sound Ltd, Roland UK, and their immediate families are ineligible for entry.
3. No cash alternative is available in lieu of the stated prizes.
4. The competition organisers reserve the right to change the specification of the prizes 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. Prizewinners must be prepared to make themselves available in the event that the competition organisers wish to make a personal presentation.

QUESTIONS

1. How many patches can be driven by a sequencer in the JV1080's Performance mode?

a. 12 ☐
b. 24 ☐
c. 16 ☐
d. 4 ☐

2. What does the 'RISC' abbreviation stand for in the name of the JV1080's processor?

a. Random Intelligence Silicon Chip ☐
b. Rhythm Information Synthesis Controller ☐
c. Routing InfraStructure Centre ☐
d. Reduced Instruction Set Chip ☐

3. How many core waveforms go to make up the JV1080's sounds?

a. 144 ☐
b. 448 ☐
c. 488 ☐
d. 224 ☐

4. What is the name of Roland's new expansion card for the JV1080?

a. Session ☐
b. Cosmic ☐
c. Classic ☐
d. Catatonic ☐

Name .....

Address .....

.....

.....

Daytime tel. no .....

TIE-BREAKER

The nine expansion cards available for the JV1080 offer you a vast range of sounds, but what theme would you choose for a tenth? Give the name of the card, and (in not more than 30 words) the musical area it would cover.

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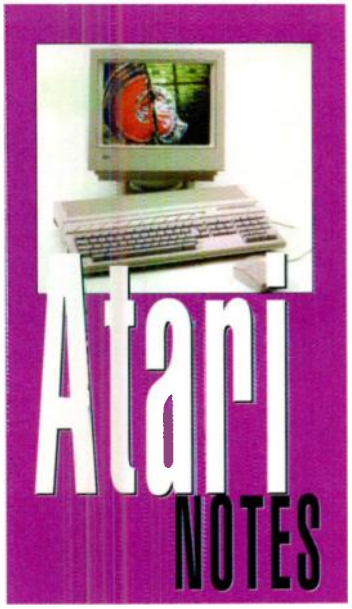
Would you like to receive news about new products from Roland? If not, please tick box. ☐

Post your entry to: *SOS Roland JV1080 Competition, Sound On Sound, Media House, Burrel Road, St Ives, Cambridgeshire, PE17 4LE*



There may be a famine of new applications for the Atari, but there's a positive flood of utilities. OFIR GAL offers some tips on how to turbo-charge your Atari.

The Atari scene continues to show the expected high-quality releases, but it is now rare to see any new applications or even updates of existing applications. What we do seem to get are utilities of an exceptional quality. The reasons for this trend are simple — the market is perceived to have shrunk so much that programmers just don't want to invest too much time or money in program development. Instead, they're chasing a quicker buck by channelling their talents into utilities. This is especially true of non-musical applications like word processors, database or DTP applications, where development has all but ceased. On the music front, at least we still have companies like SoundPool carrying the Atari flag. A recent personal study of some Mac audio applications made me realise just how powerful Falcon programs like *AudioTracker* and *ZeroX* are.

NEW PRODUCTS

While there's not much new on the audio and MIDI front, two of the most successful Atari products have just seen a major upgrade. MagiC, the multi-tasking operating system, is now at version 4, and is Falcon-compatible for the first time in its history. NVDI, the screen accelerator, is also in its fourth incarnation, with some useful new features. The two products are from the System Solutions stable, and improve your existing Atari system by providing multi-tasking support and an increase in speed. As good as they are, they merely enhance other applications. The good news is that there are a couple of exciting video and audio programs in the pipeline as well as a professional spreadsheet, so continue to watch this space.

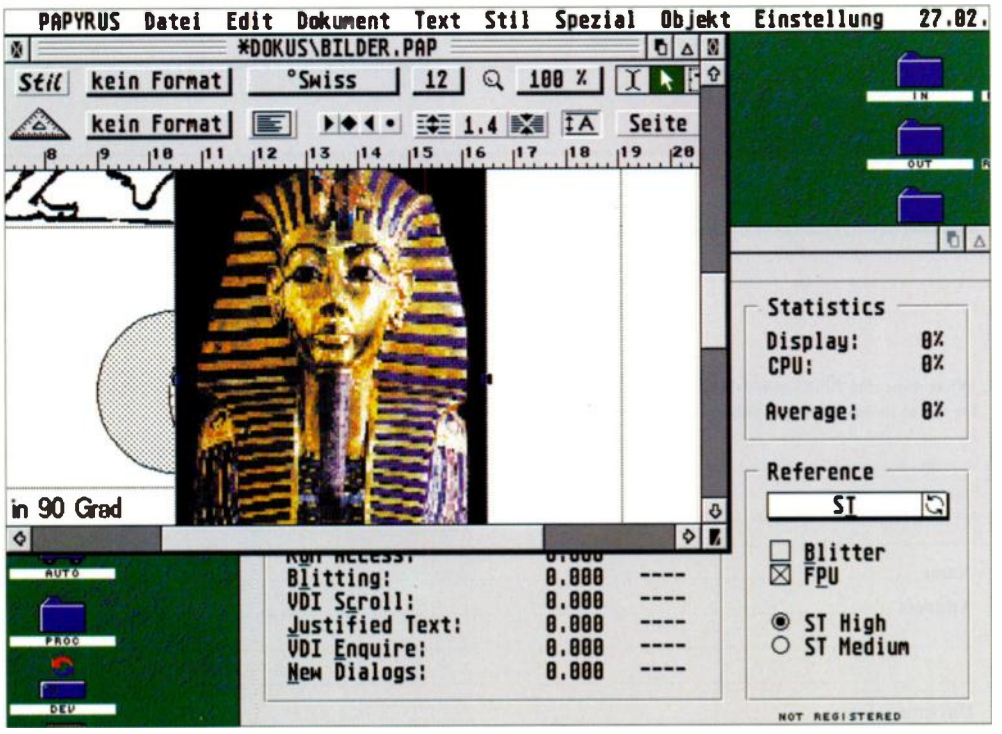
MULTI-TASKING

When Atari released MultiTOS along with the Falcon, there was much excitement over the prospect of a true multi-tasking operating system. In theory, such a system allows you to run and use several programs at the same time, memory permitting. This is not the same as being able to switch between programs, as was made possible by short-cuts like C-Lab's *Softlink* or Steinberg's *Switcher*. A true multi-tasking system lets programs share the screen space while all being active at the same time. So, you could type a letter into your word processor while *Cubase* is printing a score sheet in the background, for example. Both Windows 3 and the Mac System 7 which were available at the time were also able to multi-task, but to a much more limited degree, so MultiTOS was a true ground-breaker.

In practice, MultiTOS proved slow and unreliable, but not irredeemably so. Atari engineers, headed by Eric Smith, continued to refine and improve MultiTOS for a while, until Atari management decided to channel their money and time into the ill-fated Jaguar. The last Beta-test version was a great improvement, but it was never released to the general public. In addition, *Cubase* or *Notator* simply would not run under MultiTOS, for a variety of technical reasons. Strange as it may seem, no attempts were made by Atari to take time-critical applications like *Cubase* into consideration. The criticism could equally be aimed at the sequencer authors for not trying at any stage to make their products more multitask-friendly.

A TOUCH OF MAGIC

MagiC was launched in Germany around the same time as MultiTOS. From day one, it showed great promise. It was stable, reliable and much faster than MultiTOS or TOS. It was not compatible with the main MIDI sequencing packages available at the time and still isn't, despite many user requests. The authors still maintain that the fault lies with *Cubase*, which sounds plausible, but no one seems to have the definitive answer. The only MIDI sequencers that reportedly work with MagiC are *Breakthru* and *Notator Logic*. So, why should you even bother with ▶



MagiC v4 finally works on the Falcon, providing true pre-emptive multi-tasking, 3D windows and dialogue boxes, and a host of other useful features.

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Atari NOTES

DONGLE JUNGLE

Alan Bailey from Cheshire wrote in to point out a common problem for Atari users. The cartridge port is a favourite among software makers when it comes to protecting their programs. A dongle is used by Steinberg, C-Lab, SoundPool and others to prevent or minimise piracy. The trouble is that if you have two or more of these programs, as Alan does, you have to keep switching the dongles around. This can only be done after turning off the computer, and is bound to cause eventual damage to the delicate connectors. There are several solutions to this problem:

- CartMaster Lite (£69.95) provides two ports, which are switchable via a desk accessory.
- CartMaster 4 (£119.95) — same as the above, with four ports. Both from Systems Solutions, tel: 0181 693 3355.
- Midex + (£475.00) — Four cartridge ports with automatic switching, four extra MIDI outputs, two extra, mergeable MIDI inputs and SMPTE sync. This product can be modified to work with the Falcon, but there have been reports of problems with this modification. From Harman, 0181 207 5050.
- C-Lab Combiner (£99.00) — Four ports with automatic switching. From Digital Media, 01422 340875.

▶ MagiC if you don't use these products?

If all you use your Atari for is running a MIDI sequencer, then getting MagiC would be a waste of time and money. However, if you also use it for word processing, graphics or DTP, MagiC offers a much improved working environment. The basic package comes with a greatly improved desktop, and of course the ability to multi-task. MagiC installs itself over TOS, completely overwriting the existing operating system. It doesn't matter which version of TOS you have, and if you ever need to return to it, you can just remove the MagiC loader program from the AUTO folder and restart.

Being a complete re-write of the operating system, installing MagiC means that you can forget about the various TOS patches and fixes that litter your AUTO folder. Additionally, everything works much faster: disk access, screen redraws, the lot. Its features include the ability to run up to 16 programs in parallel, switch between programs using the mouse or keyboard, and single-task obstreperous applications (before you ask, this doesn't help with *Cubase*). It also has an improved file selector and desktop. When used with a compatible disk driver, MagiC can also perform background disk access. You can format a floppy disk while copying files on your hard drive, while using another program or two, while powdering your nose, all at the same time.

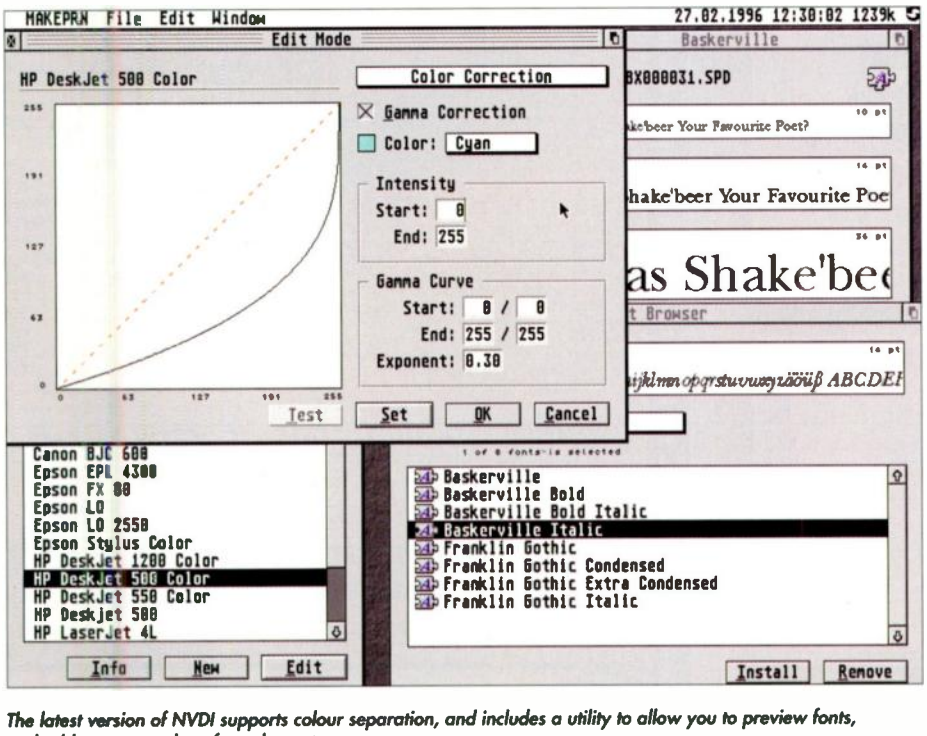
If you plan on getting MagiC, I highly recommend that you check with the dealer that your main programs are compatible with it. Many older programs were not written with multi-tasking in mind, and this can mean that they will simply not work with MagiC installed.

NVDI v4

NVDI must be the most popular utility on the market. Basically, what it does is to replace the parts of the operating system that handle screen display and printer output with much faster and more reliable code. The improvement is stunning. Depending on the actual task in hand, you may see a speed increase by a factor of two or more. Some tasks, such as plain text display, are 10 times faster. NVDI works happily with applications like *Notator SL* and *Cubase*. In fact, there are very few programs that don't work with NVDI.

If you only use your Atari for music-making, the latest version doesn't offer you much. All the screen acceleration is already present in version 2.5, which is still available at a lower price. What version 4 has to offer are further enhancements to the font engine that first appeared in version 3. This means that you can use scaleable PC fonts (Truetype) as well as Speedo fonts, if you have a compatible word processor such as *Papyrus* or *AtariWorks*. Unfortunately, *Cubase Score* makes no use of these facilities, and uses its own built-in font driver.

The new version of NVDI offers several improvements, most notably the ability to install and remove fonts at any time without needing to restart. This is done using the included utility FontName, which lets you preview fonts and add them to your setup at any time. Print handling has been improved, and for the first time, colour separation is possible. This will be handy once *Papyrus 4* is released, because it will rely on NVDI 4 when printing colour graphics. If needed, you can adjust the colour and gamma correction tables used for printing via the MakePrn utility, and even create your own printer driver should the need arise. MagiC 4 (£69.95) and NVDI 4 (£59.95) are available from System Solutions (0181 693 3355).



The latest version of NVDI supports colour separation, and includes a utility to allow you to preview fonts, and add or remove them from the system.

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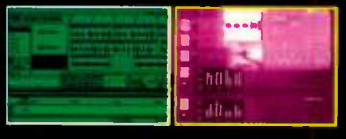

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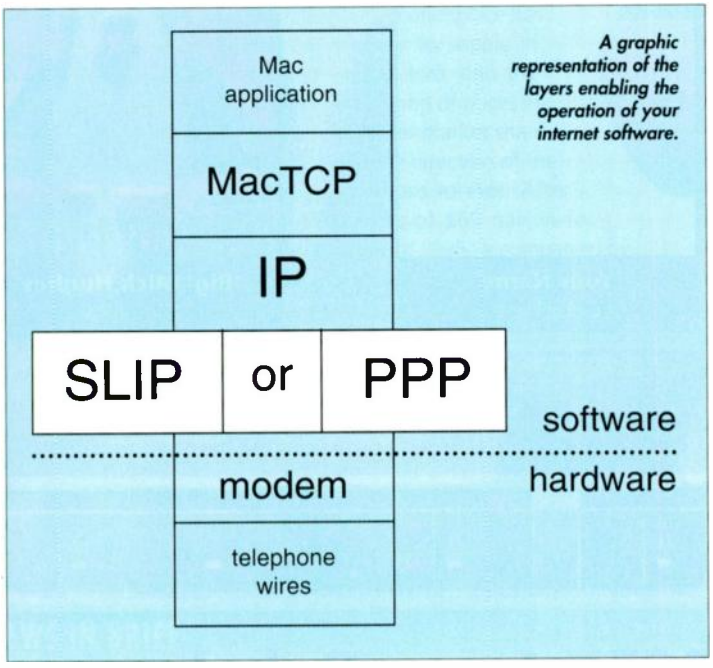
Apple NOTES

HOW IT WORKS: INTERNET SOFTWARE

Last month, I talked about the modem part of an internet connection, which is the only hardware link in the chain. Everything else is software, so let's look at how the Mac gets you connected.

The internet uses a protocol to enable the movement of bits of information from one computer to another. MIDI is another protocol that you might be more familiar with — it's just a set of instructions about how messages are put together, and what they do. The internet protocol is called IP, surprisingly enough, and it supports functions like addressing (roughly analagous to MIDI channels) to make sure that the information heads towards its intended destination. It also specifies the structure of a message packet: header, data, footer.



A graphic representation of the layers enabling the operation of your internet software.

Some types of computer network can work directly with IP, but unfortunately, telephone networks aren't one of these. Although a modem can move computer data through telephone cables, IP and modems don't work together very well. What is needed is another protocol to enable the telephone line to be used to carry the IP messages or packets.

There are two common ways of doing this on the Macintosh: SLIP and PPP. SLIP stands for Subscriber Line Internet Protocol, whilst PPP stands for Point-to-Point Protocol. Both of these do nothing more than enable you to move IP packets between your computer and the internet, using a telephone cable and a modem.

The internet is not like a telephone network. You don't make a call to the far end and then send data over that connection. Instead, it's more like posting a letter: you address the letter and post it, and then the post people take care of delivering it to the address. It travels to a sorting office, where it is routed to a sorting office nearer to the destination, and from there, delivered. On the internet, you post a message, and it gets passed around from computer to computer until it arrives at one which can deliver it. Rather like the mail, the internet is not 100% reliable — you can't assume that because you posted a letter, it arrived. In order to make sure that something is delivered, you need to keep track of the letter as it is moved around, and get confirmation that it has finally been delivered.

In the postal system, this is where additional services like Registered, Special Delivery and Recorded Delivery are used. On the internet, you just need to add another protocol! TCP, the Transport Control Protocol, handles these functions. TCP and IP are often bundled together into one, but they have very different purposes. On the Mac, they are both handled by a system extension called MacTCP. Applications like WWW Browsers and Terminal Emulators talk to MacTCP.

By now, you should now have a clearer picture of the organisation of this 'low-level' part of the internet interface to your computer. At the bottom is SLIP or PPP, which allow IP packets to be conveyed over a telephone line. Above this is TCP, which organises the transport of the IP packets, and above TCP are the actual applications that you use. Next month we'll look at SLIP and PPP in more detail. SOS

TIP OF THE MONTH: MOUSE MATS

I'm very good at wearing out mice. I seem to average about six months before they give up the ghost. I've never bothered to install any of those fun accessory programs which keep track of how far your mouse has moved, but I suspect that they build up quite a mileage. The standard faults I get are broken or intermittent wires in the mouse cable, or just a plain refusal by the on-screen pointer to acknowledge real-world mouse movements. I have quite a thorough mouse-cleaning regime, so any differences in the lifespan of a mouse must be due to either me or the mouse-mat.

Given that choice, I blame the mouse-mat. I've noticed recently that the life expectancy seems more like three months, which was quite a drop, and so I examined the mouse and the mouse-mat quite closely. The trouble seemed to date from when I changed from the traditional fabric-covered rubber foam to the more hi-tech, hard, shiny, textured plastic picture mouse-mats. Very pretty, but not so clever from the point of view of mouse traction.

Lately, I've returned to a traditional fabric-covered foam rubber mouse mat, and had trouble-free mousing ever since. Some people try turning over the shiny picture mats and using the foam rubber side instead, but this soon clogs up the inside of the mouse with bits of rubber. It may not be as decorative, but old-fashioned fabric seems the best solution.

ON THE NET: MORE USEFUL ADDRESSES

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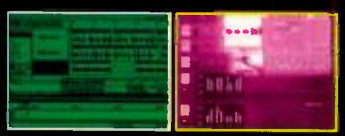

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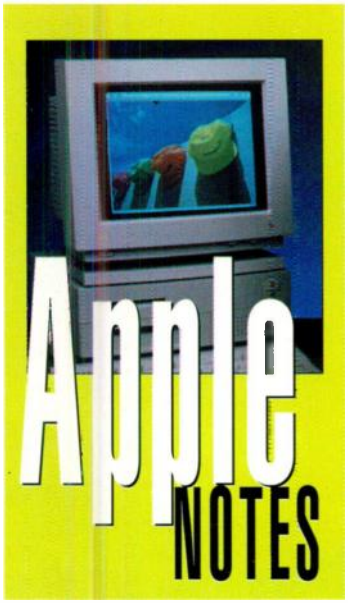


Last month, MARTIN RUSS got caught up in Apple takeover fever. This month, he explains how the situation has completely changed...

Last month, Apple looked like a prime takeover target, with most of the financial press tipping Sun Microsystems as the likeliest partner for the troubled computer giant. This month, however, all bets are off, with Apple battling on alone as the only major alternative to Microsoft and Intel.

Hanging on to their 10% of the computing marketplace has been very costly for Apple in the last year or two, and the continued lowering of prices in pursuit of a larger market share has changed the direction of the company, perhaps forever. After reporting a loss of $69 million for the last quarter of 1995, accompanied by 1,300 job losses and the promise of more to come, it was obvious that ex-suitors like IBM, Sony, Fujitsu, Hewlett Packard and Sun might have another go at trying to buy Apple. The first sign of some concrete developments was when the Apple board met at the beginning of February, and Chief Executive Officer Michael Spindler was ousted.

New CEO (and chairman) Gilbert F Amelio has a reputation as a mover and shaker, having turned around the ailing fortunes of the National Semiconductor Corporation in the space of only four years. NatSemi were one of the longest-established semiconductor companies, with a history of innovation and a wide range of products. Despite inventing many of the standard analogue op-amps and other chips, NatSemi's performance had been in the doldrums until Amelio's arrival, when vigorous change and a new logo restored them to profit. Indeed, Amelio has described himself before now as a 'transformation manager'.

Apple may need some transforming. The licensing of clones using the Mac Operating System has been woefully late and small-scale, while some interesting but not-overly successful projects like the Newton seem to have distracted the company from their core business. Despite lots of talk about Windows 95 being where the Mac was five years ago, the gap does seem to be closing, while Apple's full multi-tasking, totally reworked System 8.0 (Copland) seems to be receding into the distance rather than getting closer.

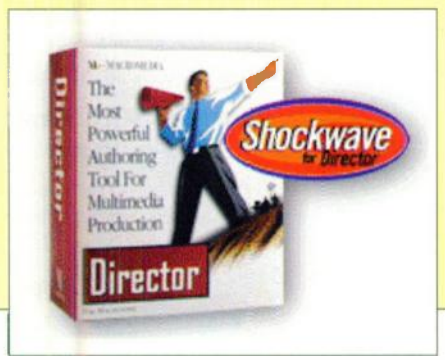
But Amelio should change this. Apple has huge strengths: a loyal customer base; easy-to-use products (even in these days of blanket Windows 95 coverage in the technology media); innovative software (PowerTalk e-mail, Open Transport networking and OpenDoc mini-programs) and the potential for huge sales of Mac OS clones. There are also all the people in the music business who use Macs to produce music, audio, and multimedia — not the largest of markets, perhaps, but leading-edge, high-profile stuff nevertheless.

Apple are not about to vanish — they never were, even if Sun had bought them! There may be changes in the next year or two, but I, for one, am not looking to change to a PC. In fact, after borrowing an 8100/110 for a month or so in order to review Opcode's *Studio Vision Pro v3.0* for *SOS* (thanks again to MCMXCIX), I'm now thinking about a new Power Mac!

APPLE NEWS IN BRIEF

• NYOUSO NO NIHON

Who is the third-biggest desktop computer supplier in Japan, with 14.5% of the market? Actually, after NEC and Fujitsu, it's Apple — according to a survey by International Data Corporation! At the Tokyo MacWorld Expo, Apple's new CEO, Gilbert Amelio confirmed Apple's commitment to the Japanese market: "We are here, and we will stay."



• SHOCK NEWS

***Shockwave*, the plug-in that lets you play Macromedia Director multimedia presentations from inside a WWW browser, is now available for the Mac (and the PC). Download it free from the Macromedia WWW site.**

• SIZZLING NEWS

***Sizzler*, Totally Hip Software's new animation plug-in, allows Netscape *Navigator 2.0* to replay animation and multimedia. Again, it's free on the net. A QuickTime converter is also available.**

• QUICKTIME NEWS

QuickTime continues to be one of those news topics that just won't lie down and die. Apple have announced further enhancements to the QuickTime Music Architecture in QuickTime 2.2, which is due for release soon. Is this the one with OMS in it? Wait and see!

• CLONE NEWS

Apple may be finally sorting out licensing the Mac OS to the right manufacturers. In a recent announcement, Motorola have licensed the Mac OS in a deal which allows them to sub-license it to other manufacturers. Given that Motorola make the PowerPC chips, this makes a lot of sense. With Motorola also making some of the best 28.8K modems around, can we expect some integrated, Motorola Mac, OS-based, internet-browsing computers soon?

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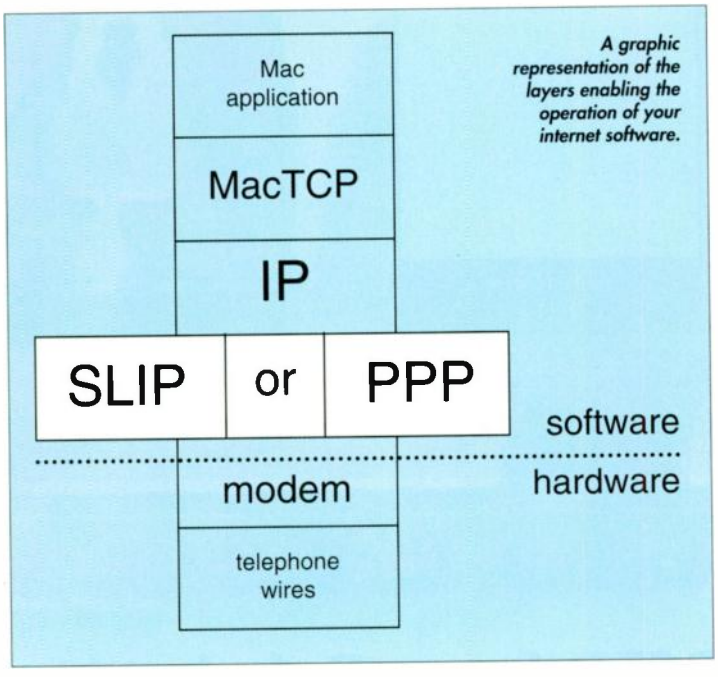
Apple NOTES

HOW IT WORKS: INTERNET SOFTWARE

Last month, I talked about the modem part of an internet connection, which is the only hardware link in the chain. Everything else is software, so let's look at how the Mac gets you connected.

The internet uses a protocol to enable the movement of bits of information from one computer to another. MIDI is another protocol that you might be more familiar with — it's just a set of instructions about how messages are put together, and what they do. The internet protocol is called IP, surprisingly enough, and it supports functions like addressing (roughly analagous to MIDI channels) to make sure that the information heads towards its intended destination. It also specifies the structure of a message packet: header, data, footer.



A graphic representation of the layers enabling the operation of your internet software.

Some types of computer network can work directly with IP, but unfortunately, telephone networks aren't one of these. Although a modem can move computer data through telephone cables, IP and modems don't work together very well. What is needed is another protocol to enable the telephone line to be used to carry the IP messages or packets.

There are two common ways of doing this on the Macintosh: SLIP and PPP. SLIP stands for Subscriber Line Internet Protocol, whilst PPP stands for Point-to-Point Protocol. Both of these do nothing more than enable you to move IP packets between your computer and the internet, using a telephone cable and a modem.

The internet is not like a telephone network. You don't make a call to the far end and then send data over that connection. Instead, it's more like posting a letter: you address the letter and post it, and then the post people take care of delivering it to the address. It travels to a sorting office, where it is routed to a sorting office nearer to the destination, and from there, delivered. On the internet, you post a message, and it gets passed around from computer to computer until it arrives at one which can deliver it. Rather like the mail, the internet is not 100% reliable — you can't assume that because you posted a letter, it arrived. In order to make sure that something is delivered, you need to keep track of the letter as it is moved around, and get confirmation that it has finally been delivered.

In the postal system, this is where additional services like Registered, Special Delivery and Recorded Delivery are used. On the internet, you just need to add another protocol! TCP, the Transport Control Protocol, handles these functions. TCP and IP are often bundled together into one, but they have very different purposes. On the Mac, they are both handled by a system extension called MacTCP. Applications like WWW Browsers and Terminal Emulators talk to MacTCP.

By now, you should now have a clearer picture of the organisation of this 'low-level' part of the internet interface to your computer. At the bottom is SLIP or PPP, which allow IP packets to be conveyed over a telephone line. Above this is TCP, which organises the transport of the IP packets, and above TCP are the actual applications that you use. Next month we'll look at SLIP and PPP in more detail. SOS

TIP OF THE MONTH: MOUSE MATS

I'm very good at wearing out mice. I seem to average about six months before they give up the ghost. I've never bothered to install any of those fun accessory programs which keep track of how far your mouse has moved, but I suspect that they build up quite a mileage. The standard faults I get are broken or intermittent wires in the mouse cable, or just a plain refusal by the on-screen pointer to acknowledge real-world mouse movements. I have quite a thorough mouse-cleaning regime, so any differences in the lifespan of a mouse must be due to either me or the mouse-mat.

Given that choice, I blame the mouse-mat. I've noticed recently that the life expectancy seems more like three months, which was quite a drop, and so I examined the mouse and the mouse-mat quite closely. The trouble seemed to date from when I changed from the traditional fabric-covered rubber foam to the more hi-tech, hard, shiny, textured plastic picture mouse-mats. Very pretty, but not so clever from the point of view of mouse traction.

Lately, I've returned to a traditional fabric-covered foam rubber mouse mat, and had trouble-free mousing ever since. Some people try turning over the shiny picture mats and using the foam rubber side instead, but this soon clogs up the inside of the mouse with bits of rubber. It may not be as decorative, but old-fashioned fabric seems the best solution.

ON THE NET: MORE USEFUL ADDRESSES

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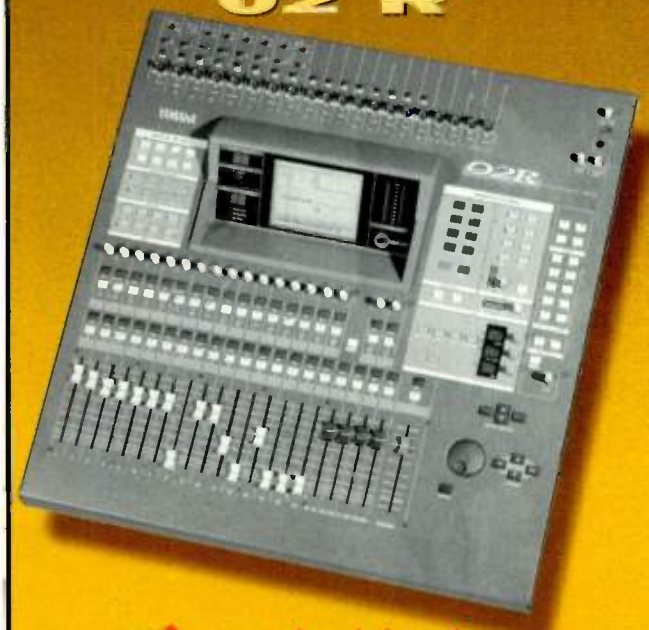

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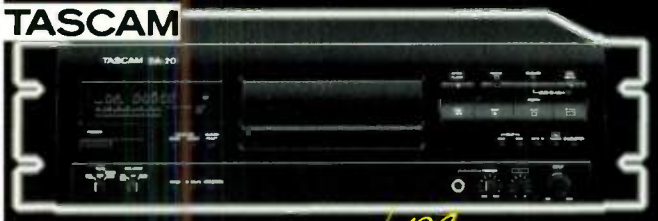

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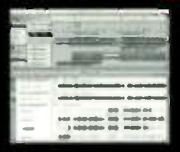

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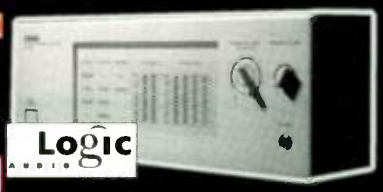

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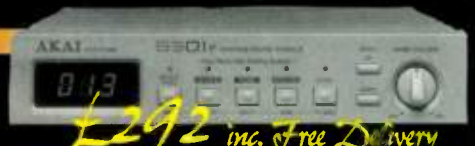

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The concept of programmable patchbays has been around for a while, but somehow they never quite made it into mainstream recording. My own view is that the early models were too expensive, too complicated, and if anything, they arrived on the scene about five years before anyone realised they needed them. Now that we are all familiar with the broader concepts of MIDI, MIDI muting and MIDI console automation, programmable or MIDI-controlled signal routers seem far less esoteric.

Based in Dorset, Isotrack have been around for as long as I can remember, their main stock in trade being very nicely engineered patchbays priced to appeal to the home recording market. More recently, they have moved into the pro-Bantam patchbay market with considerable success, but the Smartpatch heralds a completely new product area for the company.

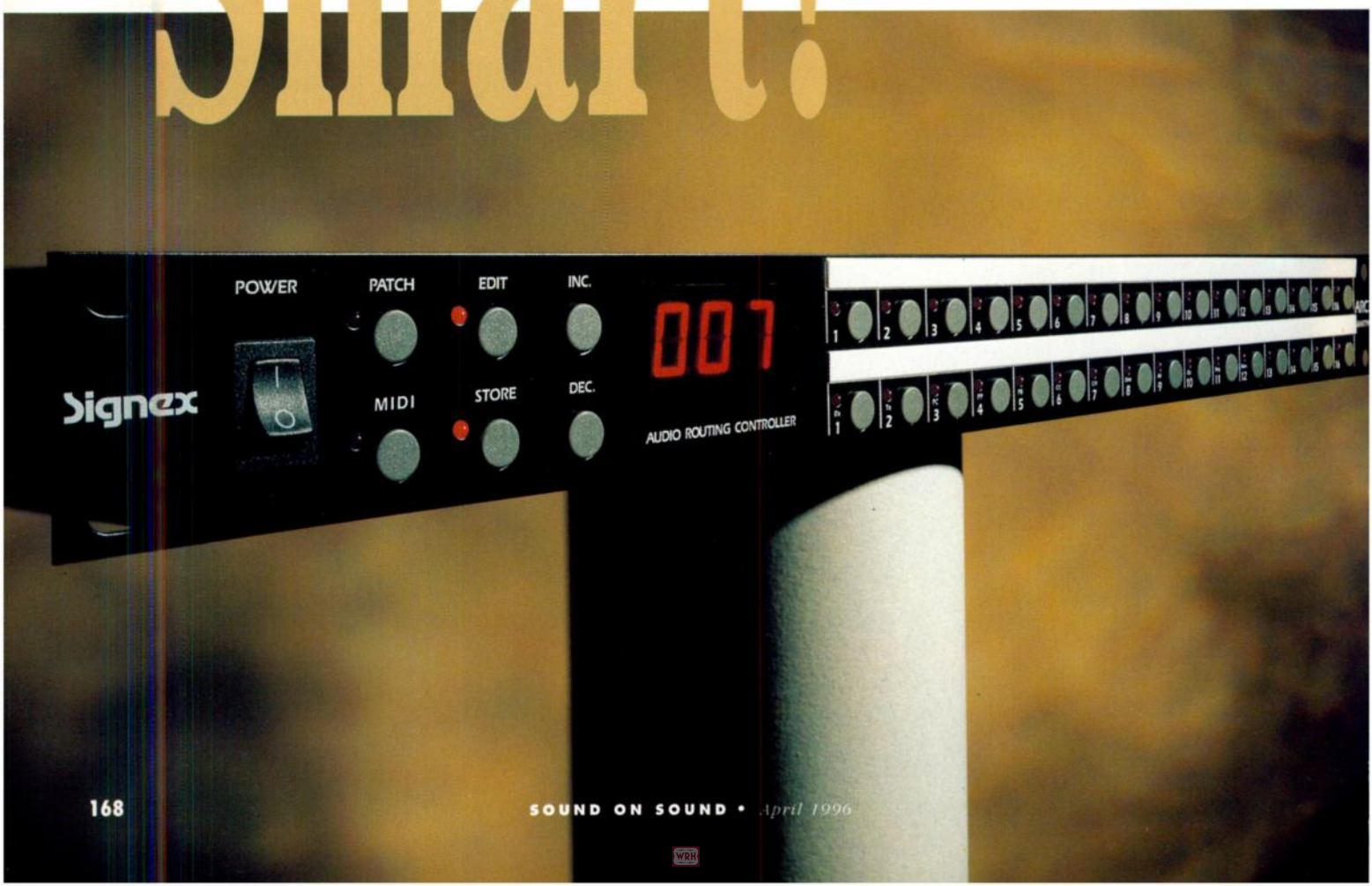
Essentially, the Smartpatch is a 16-in, 16-out audio patchbay available in both balanced and unbalanced configurations, but instead of requiring physical patch cords, the necessary connections are provided by an internal switching matrix controlled by two rows of front-panel buttons. Each input and output has its own button and its own status LED, and any input can be routed to any output, with the proviso that only one source can feed one destination and vice versa.

Once the patchbay has been set up, the resulting Patch (in this case, a term for a snapshot of all 16 input and output patch settings) may be saved for later recall, and up to 128 different Patches may be stored. Patches may then be recalled via the front panel buttons or via MIDI Program Change messages, though there's also provision to send real time patching data out over MIDI, so that it can be stored in a sequencer for more ambitious applications.

Frankly, I think that having 128 snapshot modes to work with is enough for most people, but because real-time patching is available, it's possible to perform other tricks. The Smartpatch can be used as a MIDI muting system, for instance, by plugging it into the console insert points and then using MIDI messages to make and break the connections. Alternatively, the Smartpatch could be used to create simple MIDI gating effects.

ON THE CASE

Physically, the Smartpatch is refreshingly straightforward — it's a 1U, mains-powered box with all the audio connections on jacks at the rear, along with the MIDI In, Out, Thru and Power connectors. The patchbay section, comprising two rows of clearly labelled buttons, is set out over the rightmost two thirds of the front panel, with round buttons where you'd normally expect to see the jack sockets on a conventional patchbay. Each button has its own red LED, and when a Patch is loaded, you can see what is routed to ▶



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Isotrack Smartpatch

▶ where by pressing any input or output button, whereupon the LEDs pertaining to both source and destination buttons will light. If a connection is not routed, pressing the button will cause its own LED to light, but no other LED will come on.

In Edit mode, patches can be made and altered simply by holding down a button on one row and then pressing the desired target button in the other row. Similarly, if a connection is already made, holding down the source button while pressing the destination button (or vice versa) will break the connection and the LED will go out. The only time you can't edit a patch in this way is if you attempt to make one source feed two destinations, or vice versa.

A numeric LED display indicates the patch number in normal operational mode, and if a patch includes one or more connections, a decimal point appears on the far right. A simple procedure allows patches to be copied, but I couldn't find a button to allow me to reset all connections in a patch to off, which I thought might have been a good idea. As it is, you have to switch them off individually, or keep a blank patch somewhere that you can copy. It might also have been a good idea to fit a rear panel memory lock switch.

MIDI CONTROL

Conventional Inc and Dec buttons are used to move up and down the patches, and the new patch information is loaded once the Patch button is pressed. Alternatively, MIDI Program Change messages may also be used if Program Change is switched on. This is accomplished by pressing the MIDI button to enter MIDI edit mode: here, you also set the MIDI channel being used, plus the data format in which real-time patching information is sent.

Because some sequencers don't record and play back some control changes or poly pressure, the Smartpatch lets you choose from the three different types of MIDI message to represent real-time patching: Poly Pressure, Pitch Bend or Control Change, and there's a choice of control change numbers available. Once in MIDI setup mode, the necessary selections may be made using the Inc/Dec buttons and the first few routing buttons on the bottom row — these are the only dual-function keys in the system, and as they're only used in MIDI setup mode, there's little likelihood of confusion. However, on the early production model I received for review, only the first four buttons were labelled with their alternative functions, which meant I had to keep looking in the manual.

In MIDI mode, LED 12 on the bottom row flashes to show that MIDI data is being received, and you can also use MIDI to save the Smartpatch memory as a SysEx dump (either as single patches or the whole memory). A nice touch is that Isotrack have retained the labelling system from their existing patchbays, in which a thin cardboard strip is slid into a flat, transparent plastic sheath fixed to the patchbay.

TECHNICALLY SPEAKING

The matrixing chips used in this patchbay don't present the zero resistance of a theoretically perfect plug and socket, but with typical audio signals, the nominal 150Ω on resistance is negligible, and in any event, far preferable to the wildly-varying resistance of a contact that's started to become noisy. With a source signal of 600Ω and a load impedance of 10kΩ, both of which are in the right ballpark for most line level audio equipment, the frequency response of the switches is only 3dB down, at 20MHz — so even serious treble freaks have no worries on that score!

The maximum insertion loss is quoted as 0.02dB max (a technical term for bugger all!), and the signal handling capacity of +/- 12V leaves plenty of headroom for hot signals, although it's still a couple of dBs less than you might expect from a well-designed mixer. I suspect this is a limitation of the switching chips, but unless you're in the habit of running everything at around +20dB, you needn't worry. The actual input impedance of the patchbay is around 100kΩ, which means normal line level signals won't be affected at all, and the system noise floor is better than -100dB.

I suspect that the switching chips are the same ones used in high-quality telecommunications applications, which means the audio quality is excellent, but there is one factor of which you need to be aware. These systems switch very quickly, unlike most MIDI muting systems, which have soft switching deliberately built-in. In practice, this means it's unwise to make or break any signal path that has a signal on it, otherwise you might hear clicks. This isn't a fault of the system — switching any audio signal on or off with mechanical switches has the same effect, but it *does* mean you have to plan your patch changes or real-time routing operations carefully.

Because of the way the switching chips work, it isn't possible to cascade two patchbays to give you 32-in, 32-out capabilities, but you can use several Smartpatches independently, by allocating a different MIDI channel to each one.

USABILITY

The Smartpatch is simplicity itself to use — some of the programmable patchbays I've seen in the past have a learning curve that only the brave would tackle without crampons! With the Smartpatch, it just takes five minutes or so with the manual, and you're away. The audio quality seems fine: there's no noise, distortion or change in signal level that I could hear, and there's no switching noise, provided you don't change patches when there's a signal passing through them. Similarly, the level of crosstalk is too low to hear, the quoted figures being 92dB at 1kHz and 69dB at 20kHz.

As expected, switching while a signal *is* present does usually result in a small click, but if you switch

ISOTRACK SMARTPATCH £410/468

PROS
- Very easy to use.
- Balanced or unbalanced versions available.
- Manual or MIDI operation.

CONS
- Not expandable.

SUMMARY
A sensible approach to automated patching that will have numerous applications where the 16-in, 16-out format isn't a limitation.

MIX & PATCH

A 16-in, 16-out patchbay might seem a touch parsimonious, but I'll bet most of us could make a substantial reduction in the amount of patching we need to do by installing just one Smartpatch unit. For example, how about connecting the output of your multitrack back into the mixer via the Smartpatch, and then leaving your gates and compressors permanently patched into, say, the first eight channel insert points of your desk?

Now, instead of having to move the compressors and gates around to match what's on tape, you could use the Smartpatch to reorganise your tape machine outputs, so that the vocal track goes through the compressor, the guitar track through the gate or whatever. Similarly, you could use a Smartpatch (or part of one) to determine which of your effects units are connected to which aux sends and returns. Just a little lateral thinking, and you could probably replace a large proportion of your patchbay with fixed wiring, without losing any flexibility. What's more, you'd sidestep the risk of intermittent normalised patchbay contacts and dodgy leads, which plague even the best patchbays from time to time.

on a drum beat, or use the Smartpatch to gate a signal in a rhythmic way, I don't think the click will bother you. However, if you use it as a conventional mute system, then you really do have to switch during a pause in the music.

The MIDI side of the unit checks out with no problems, though how easy it is to record and edit patch data in your sequencer depends largely on the type of sequencer you are using. Also, because two buttons have to be pressed to make or break a connection, programming patches on the fly requires a certain degree of dexterity, especially if you want to record a lot of moves within a short space of time.

VERDICT

The Smartpatch is actually a very useful piece of kit, and it has the additional benefits of being sensibly-priced and very simple to use. Any limitations are inherent in the switching chip used, the most serious being that you can't chain several units to expand the matrix size. On the MIDI control front, I felt that the designers could have included the more common MIDI Note and MIDI Velocity system of representing switching data, rather like you find in many MIDI muting systems. This has the advantage of being a little easier to edit from within a sequencer, though I have to be honest and say that most of the useful applications I can envisage for the Smartpatch don't rely on MIDI patch-changing at all.

For me, the great attraction is being able to switch between several preset configurations at the touch of a button (or two), without ever having to bother about patch cords, dodgy sockets or faulty leads. Maybe not everyone will feel the need for a programmable, cordless patchbay right now, but let me disabuse you of the notion that it couldn't benefit you. As I recounted earlier, I think that with a modicum of planning, most users could really simplify their patching system and end up with a more reliable, more streamlined setup, without having to accept too many operational constraints. I don't think that the Smartpatch will ever completely replace conventional patching, nor is it intended to, but on the whole, I feel it's a well-thought out product that will have more uses the more you think about it. SOS

"With the Smartpatch, it just takes five minutes or so with the manual, and you're away."

FURTHER INFORMATION

£ Smartpatch ARC32 (2-pole) £410.07; ARC32S (3-pole) £468.82. Prices include VAT.
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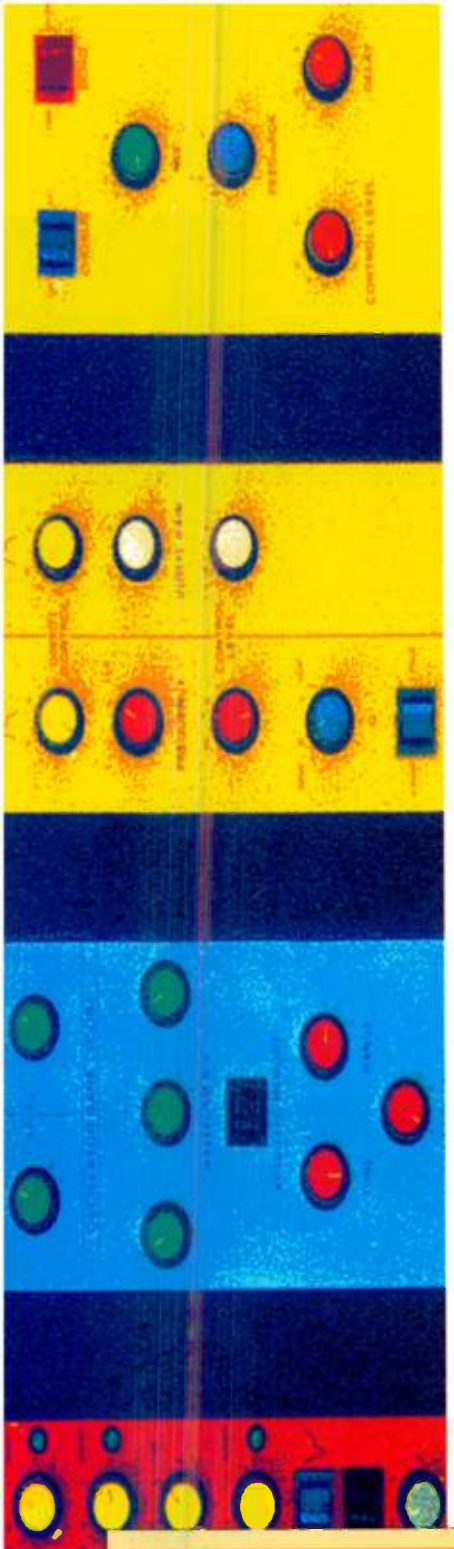


Different

CREATING DRUM SOUNDS ON ANALOGUE SYNTHS

OK, you've read the interviews; Vince Clarke, the Human League, 808 State and many others all obtain their drum sounds from analogue synthesizers. And, of course, Roland's famous TR808 and TR909 drum machines are just analogue synths anyway. So, how exactly do you coax killer drums from your hoary old monosynth? TOM CARPENTER offers some guidelines...

Today's dance music is dominated by the sound of Roland's TR808 and TR909 drum machines — whether sampled from the original unreliable machines or generated directly by the real thing. But many people, particularly those who only have access to the sounds in the form of disks for their samplers, forget that these sounds were originally generated by analogue sound generation circuitry not so different from that found in analogue synths. In fact, it is possible to generate a wide variety of drum sounds using even fairly simple monosynths. Most of Kraftwerk's percussion sounds were generated in this way, and the music of Erasure's Vince Clarke represents an even more extreme example. The 'drums' on his last three albums have been produced exclusively from synths, with not a Tibetan finger-cymbal sample in sight — and does anyone recall that the rhythm track on his 1982 smash hit 'Only You' was all created on a Sequential Circuits Pro One monosynth? Some of his hard-won drum sounds have, of course, become generally available to the public via his *Lucky Bastard* sample CD, released with the aid of sample CD merchants Time & Space two years ago.

Why these sounds are so effective is hard to say, but many people (pioneering rap producer Arthur Baker is one example) believe that it is the synthetic nature of these sounds that makes them ideal for the creation of all-pervading rhythm tracks. Some contend that as these sounds are generated exclusively by analogue electronics, they often contain many frequencies unobtainable from acoustic drums, allowing them to cut through a mix that bit more effectively.

Whether this is true or not, there is no denying the hold of the analogue-generated drum sound on modern dance. But if you've got access to an analogue synth, why stick with the all-too familiar sounds of the Roland TR-series, or Vince's samples? Why not create your own? With a little careful programming, it can be done.

IN GENERAL

Analogue drum machines have miniature synths built in for each sound they produce, and each of these synths has the basic elements needed to produce each sound. Some sounds may only require a noise source, a voltage-controlled amplifier (or VCA) and a simple envelope generator (or EG), with just a decay setting, to produce their sound. More complex sounds might involve a couple of oscillators, filters, and EGs.

EXAMPLES 1.11-1.14: SH101 KICKS, THIPS, AND HITS

The SH101 is good for a wide range of kick sounds with its powerful 24/dB filter.

In all the following examples, set:

VCO MIX LEVELS	0
VCF MOD	0
KYBD	0
ATTACK & SUSTAIN	0

Also ensure the envelope release time is the same as the decay settings given, so the same length drum sound is played, no matter how long you hold the key down — unless you want differing lengths of drum sounds on different beats.

1.11: STANDARD KICK

FREQ	3
RES	10
ENV	3
DECAY	3.5

If the decay time is increased, the kick will start to sound more like a tom drum.

1.12: TR808-TYPE KICK

FREQ	3
RES	10
ENV	less than 2.5
DECAY	greater than 4

Decay times of less than 4 are good for percussive clicks (see below).

1.13: CLICK

Whilst not strictly kicks, these sounds (essentially 'thips' with the top end taken off) are ideal for mixing *with* one of the above kick sounds, to give the 'click' sound of the stick hitting the drum skin.

FREQ	0
RES	10
ENV	4-8
DECAY	less than 3

Higher ENV values give more of a thip. To create a TR909-type kick, increase the decay in the above example. For more variations and unusual effects on any of the above examples, add VCF MOD (try settings of 1-3) with the LFO speed set to 10.

1.14: PULSE HITS

FREQ	1-4
RES	10
ENV	7-10
DECAY	1-2

Drums

Because drum sounds are generally more complex than a straightforward synth sound, the more sound-shaping modules your synth has (ie. oscillators, filters, ring modulators etc), the more wide-ranging and 'realistic' your drum sounds will be. Of course, you do not want your new sounds to be *too* realistic; just enough so you can recognise your sound as a snare, kick, or hi-hat-type sound, for example.

How successful you are depends to a great extent on the spec of the synths at your disposal. You may find that you are able to create reasonable approximations of drum sounds, but which lack the 'oomph' of (say) the Roland TR-series sounds. In this case, don't be afraid to mix the sound you've created with a low sample from one of the TRs — or even an acoustic drum sample! After all, provided you don't swamp your sound with the sample, you'll still be using something different from what most people can produce.

Generally, decent kick drums are easily achieved. Snares, on the other hand, are very hard to obtain, and often sound the weakest. Here it may be necessary to add analogue and real snares together, to add extra snap. Most percussive sounds (such as metallic percussion and white noise sounds) sound reasonably alright on their own, but external effects such as reverb, delay and flange will help them sound more effective.

EXAMPLE 1.2: PRO ONE KICKS

The Pro One produces decent kick sounds in the same way as the SH101. Set all modulation matrix switches TO to OFF.

OSC A & B LEVELS	0
NOISE/EXT LEVEL	0
FILT & AMP ATTACKS	0
SUSTAINS	0
CUTOFF	0
RESONANCE	10
ENVELOPE AMOUNT	10
KEYBOARD AMOUNT	0
FILTER ENVELOPE DECAY & RELEASE	4-5.5
AMP ENVELOPE DECAY & RELEASE	6

Try a FILTER DECAY of 4, and a NOISE/EXT level of 4 for a dirtier sound.

BEFORE WE START...

In this article, I have described a little of the theory behind each common drum sound, so you can try and duplicate the results on your own synth. Ideally, you will need an analogue synth with two oscillators, a ring modulator, a white noise generator, and high-pass and low-pass filters (HPF & LPF) which you can send into self-oscillation, in addition to the usual LFO and Attack-Decay-Sustain-Release EGs (preferably independent ones for the filter and amplifier). Some of the descriptions are referenced to example patches for specific machines, including the Roland SH101 (use anything more basic than this one-oscillator synth and you will find yourself very limited), the aforementioned Sequential Circuits Pro One (the next step up, with two oscillators), and the Korg MS20, which is extremely good for creating a wide range of sounds, with its two oscillators, ring modulator, HPF and LPFs. You should be able to broadly replicate these examples on other analogue synths — though some tweaking to the parameters suggested here may be necessary.

1.00: KICKS AND HITS

Kick drum sounds are created by one or a combination of the following two methods:

■ Using a 'pulse hit' or 'thip' sound (of which more in a moment). Turn your resonance up high (though a touch down from maximum, so the sound is more of a thud than a 'thip'), set the filter cutoff at zero, and use your EG to modulate the cutoff in a quick downward sweep. For the sound to work, you really need a synth with a filter that can be sent into self-oscillation. This includes most monosynths, such as Moogs, the Sequential Circuits Pro One, the Roland SH101 and MC202, and the Korg MS20. The filters of Yamaha CS monosynths, the Roland SH09, and most polysynths tend to be a bit too weak to create decent kicks and thips.

■ Using a low note (a sine waveform works best) with a short decay time. Most monosynths can produce kick sounds using this method. For the best results, try a mixture of these two sounds. The SH101 produces some excellent results (see examples 1.11-1.13), as does the Pro One ▶

EXAMPLES 1.31-1.32: MS20 KICKS AND HITS

1.31 KILLER KICK

The MS20 can produce some devastating kicks, with a killer bass end, even though it only has a 12dB/octave filter. On the following example, set:

VCO 1 & 2 LEVELS	0
LPF & HPF CUTOFF	0
HPF PEAK	0
LPF & HPF MG/T.EXT	0
HPF EG2/EXT	0
EG2 HOLD	0
LPF CUTOFF	0
LPF PEAK	8
LPF EG2/EXT	8
EG2 ATTACK	0
EG 2 DECAY	2
EG 2 RELEASE	2

1.32: PULSE HITS

As in 1.31, but increase LPF PEAK to 10, LPF EG2/EXT to 10, and use a shorter DECAY setting. The MS20 pulse hits are less zappy than those on the SH101, but good nonetheless.

Korg MS20.

(see example 1.2) and the MS20 (example 1.31).

Having mentioned the 'pulse hit' as an important component of decent kick sounds, it's worth pointing out that this superb sound (with resonance at maximum this time) has become an essential percussive staple in electronic music of any kind. Kraftwerk's albums, among millions of others, are littered with them. See examples 1.14 and 1.32 for some typical pulse hits on the SH101 and MS20.

2.00: SNARES

Most analogue drum machines create snare sounds using white noise (run through an HPF to crispen the sound, making it snappier and less bassy) together with two oscillators at different pitches. The whole signal is run through a VCA modulated by an EG. Some analogue snares are more complex, using individual VCAs, filters and envelopes for each of the oscillators and the noise. By balancing the levels of the three sound sources, together with the pitch ratio of the two oscillators and the HPF cutoff frequency, different snare drum tones can be created. By sending the HPF into self-oscillation, you create extra resonances, thus mimicking real snares, which produce different harmonics depending on skin tightness.

Roland SH101.

Ideally, a two-oscillator monosynth with a noise generator is needed. The MS20 (see example 2.1) or Yamaha CS15 are ideal, as they meet these requirements, as well as having an HPF to filter the noise. The SH101 and Pro One are only good for noise-based snares, due to the lack of an HPF. Nevertheless, these are worth trying (see examples 2.21-2.22). If your monosynth only has one oscillator, try sending the filter into self-oscillation (with no envelope sweep) to produce an extra tone, and mix this in. If you have a sweepable EQ available, try boosting the mid-range and cutting the bass end to add more 'snap' to the sound. As mentioned above, punchy snares can be tricky to create on basic monosynths, so you may wish to add another snare sample (fairly low in the mix) to anything you create.

EXAMPLE 2.1: MS20 SNARE

On the following example, set:

VCO 2 LEVEL	0
LPF & HPF MG/T.EXT	0
LPF & HPF EG2/EXT	0
EG 2 HOLD	0
EG2 ATTACK & SUSTAIN	0
VCO 1 WAVEFORM	noise
VCO 1 LEVEL	10
HPF	4
HPF PEAK	8
LPF	8
LPF PEAK	6
EG 2 DECAY	0.8
EG 2 RELEASE	0.8

Adjust the HPF setting to change the pitch of the snare. The HPF PEAK setting changes the volume of the snare's pitch.

EXAMPLES 2.21-2.22: SH101 NOISE SNARES

In both the following examples set:

VCO MIX LEVELS	0
VCF MOD	0
KYBD	0
ATTACK & SUSTAIN	0

In both examples, set the release time to the same as the decay settings given — so no matter how long you hold the key down, the same length drum sound is played.

2.21: STANDARD NOISE SNARE

NOISE	10
FREQ	10
RES	0
ENV	10
DECAY	1-2

Try different FREQ levels. Increase the decay time as you decrease FREQ (for example, try FREQ 2, DECAY 3). With lower FREQ settings, try adding VCF MOD for variation. Use maximum LFO speed, with a square modulating wave (this will sound more cutting). Set VCF MOD around the maximum level.

2.22 FILTERED NOISE SNARE

FREQ	2
RES	0
ENV	10
VCF MOD	0-10
DECAY	2-3

3.00: HI-HATS, CYMBALS, AND METAL PERCUSSION

Creating great analogue hi-hats and cymbals like those on the TR808 is tricky with monosynths. To quote the TR808 service manual, the metal sounds are created by 'the combined square wave outputs of six Schmidt triggers...'. So, forgetting that, I usually resort to the good old ring modulator to create metallic-sounding hi-hats. Create a high-pitched, discordant metallic sound (it's not too tricky with a ring modulator!), and set up a slow decay but a quick release time on the VCA EG. Quick, staccato notes should give you the closed hat sound, and long, held notes the open sound. Experiment by adding some HPF-filtered white noise to the sound if it's not quite right.

For all of these parameters, the MS20 is ideal (see example 3.11). Of course, if your synth hasn't got a ring modulator, like the SH101, you'll have to fall back on pure noise hi-hats (see example 3.21), or find another way of creating a similar effect (see example 3.22 for an SH101 trick along these lines).

Convincing cymbal sounds are almost impossible to create — even Vince Clarke has given up! Having used samples to get around the problem at first, he now avoids the use of cymbals in his compositions altogether. If you don't wish to go to such extreme lengths, and don't mind unconvincing cymbal

EXAMPLES 3.11-3.12: MS20 HI-HATS & CYMBALS

3.11 MS20 HI HAT

In the following example, set:

LPF & HPF MG/T.EXT	0
LPF & HPF EG2/EXT	0
EG 2 HOLD	0
EG2 ATTACK/SUSTAIN	0
VCO 1 WAVEFORM	any (not noise)
VCO 1 SCALE	4'
VCO 1 PW	0 to centre
VCO 2 WAVEFORM	RING
VCO 2 SCALE	2'
VCO 1 & 2 LEVELS	10
HPF CUTOFF & PEAK	0
LPF CUTOFF	10
LPF PEAK	0
EG 2 DECAY	2
EG 2 RELEASE	0.6

Different VCO 1 waveform settings give slightly different tones. Noise on VCO 1 cannot be used, as a normal waveform must be selected for good ring mod sounds. Although the VCO 1 pulse width settings shouldn't affect the sound, they do!

Adjust the VCO 2 pitch to get a good discordant sound (try -5 or +5), and reduce VCO 2's level to attenuate the discordant effect. Play the highest note on the MS20 keyboard. Try LPF CUTOFF settings of 7-8 and LPF PEAK settings of about 8 for more variations. By adding resonance on the LPF, you create more ringing, discordant sounds for a more metallic effect.

For those more familiar with their MS20, set LPF CUTOFF to 10 and LPF PEAK to 10. Patch the white noise generator to the VCA IN, the VCA OUT to EXT SIGNAL IN, and MOD WHEEL to VCA CONTROL INPUT. This will add noise to the sound; just adjust the mod wheel to obtain a desirable level of noise mix.

3.12: MS20 CYMBAL

In the following example, set:

LPF & HPF MG/T.EXT	0
LPF & HPF EG2/EXT	0
HPF CUTOFF	8
HPF PEAK	6
EG 2 HOLD	0
EG2 ATTACK	0
VCO 1 WAVEFORM	RAMP
VCO 1 SCALE	4'
VCO 2 WAVEFORM	RING
VCO 2 PITCH	+2
VCO 2 SCALE	4'
VCO 1 LEVEL	10
VCO 2 LEVEL	10
LPF CUTOFF	10
LPF PEAK	10
EG 2 DECAY	0
EG 2 SUSTAIN	3
EG 2 RELEASE	4

Patching the white noise generator into the mod wheel as described in 3.11 above allows you to adjust the noise mix from the wheel. Use the highest note on the keyboard, and play fairly short notes. The short decay time gives a percussive hit sound. Once the sound has settled to the sustain level, the release gives a ride-type cymbal decay. By setting DECAY to 2 and RELEASE to 0, you get even more hi-hat sounds.

sounds, try patches like the hi-hats, but with a longer decay and more HPF-filtered noise (see example 3.12). All of these sounds respond to phasing and flanging effects superbly, another trick Kraftwerk exploited to the full.

4.00: HANDCLAPS

The ubiquitous TR808 clap is generated from analogue circuitry; but sadly, creating your own sounds from a monosynth alone is very difficult, as the TR808 clap is more complex than it appears.

Sequential Circuits Pro One.

The sound can be viewed as the result of lots of people clapping nearly all at once, and is actually produced on the TR808 by passing white noise through a band-pass filter. Two envelopes are used on a VCA; one is a repeating sawtooth-shaped envelope, to produce the 'lots of people clapping nearly all at once' sound, while the other envelope has a long decay to produce the reverb. Using this principle, a usable sound can be created on the MS20 (see example 4.1), but most monosynths are not flexible enough to make the sound work unaided. At a push, several bursts of white noise with a long decay through an HPF may do the trick. If you're prepared to add some effects and processing, however, you can make something usable quite easily from a snare patch; what you're after is a basic snare sound made almost entirely from filtered noise, with no real note to it.

The first step is to heavily EQ the sound by cranking up the mid boost control on your desk as far as it will go (don't use mole grips for this!) and then adjusting the frequency until you get a nice aggressive snap. As you tune through the EQ, you'll get to a point where the patch sounds like a techno snare or exploding champagne cork. If you keep pushing the frequency up, you'll move into the clapping region. If you go too far, you'll lose the snap and end up with a thin edge to the sound, but as every EQ behaves differently, it's best to do this by ear rather than try to follow any figures I might give you.

EXAMPLES 3.21-3.22: SH101 HI-HATS

In both the following examples, set:

VCO mix levels	0 (except NOISE)
VCF MOD	0
KYBD	0
ATTACK/SUSTAIN	0

Do not use any VCF ENV depth, unless you want peculiar sounds. Also, set the decay time shorter than the release time. This way, you can have open hi-hats with a long key press, and closed hi-hats with a short press.

3.21: STANDARD WHITE NOISE HI-HAT

NOISE	10
FREQ	greater than 7
RES	5-8
DECAY	4
RELEASE	1

Add VCF MOD for more effects. Use maximum LFO speed, a square wave, and a VCF MOD depth of around 5-8.

3.22 METAL HI-HAT

Although the SH101 does not have a ring modulator, it can still produce some good metal hi-hats by using resonance with fast VCF MOD, or by tuning one of the oscillators close to the pitch of the resonance, producing a beating, discordant, metallic sound.

Using the white noise hi-hat in 3.21 as a starting point, add various levels of RES for more metallic hi-hats. Try reducing the NOISE level compared to the resonance to obtain a good balance, but at the same time reduce VCF MOD to less than 2. Adding VCF MOD (with a depth of less then 1), can give more of a discordant sound, very similar to the effect of ring modulation.

Set the keyboard transpose and RANGE to the highest settings, and increase the VCO level to maximum (with either square or sawtooth wave).

Play a key near the top of the keyboard, and adjust the tune knob until the VCO is close to the pitch of the self-oscillating filter. Get them to beat with each other; this will give an even more metallic sound. The more VCOs you have beating together, the better! Make sure ENV and KYBD are set to minimum.

Creating Drum Sounds on Analogue Synths

At this point, you have a single and none too convincing clap, but there are several ways of turning this sound into a thick ensemble, the first and easiest of which is to feed it through a gated reverb patch. Gated reverbs are actually short bursts of closely spaced reflections which neatly simulate a multitude of almost-in-time hands. You may also find that deliberately overdriving the reverb input makes the sound even more authentic.

If you don't have a gated reverb, try a short plate reverb with around 80ms of pre-delay, and if you don't have a reverb unit at all, use a digital delay to add one or more delays in the 50 to 100ms region. If you don't have a delay, but you're working with a sequencer and your analogue synth can be MIDI-controlled, simply copy the handclap track two or three times onto new tracks and delay the copies to create the ensemble effect. Again, delays between 50 and 100ms should work fine. If this seems a lot of trouble to go to, you could always just set it up once and sample it!

EXAMPLE 4.1: MS20 CLAPS

VCO 1 WAVEFORM	noise
VCO 1 LEVEL	10
VCO 2 LEVEL	0
LPF & HPF MG/T.EXT	0
HPF EG2/EXT	0
HPF CUTOFF	6
HPF PEAK	7
LPF CUTOFF	10
LPF PEAK	0
LPF EG2/EXT	10
EG 2 HOLD	0
EG2 ATTACK & SUSTAIN	0
EG 2 DECAY & RELEASE	1.2
MG FREQUENCY	10
MG WAVEFORM	centre (square)

Patch the MG square wave out into VCA CONTROL, SIGNAL OUT to VCA IN, and VCA OUTPUT to your mixer. Try different HPF CUTOFF and HPF PEAK settings for different clap sounds.

POST-PROGRAMMING

Once you've programmed your sounds to your satisfaction, there are a couple of points to be aware of.

■ SAMPLING

If you don't have a MIDI-CV converter and a range of monosynths, you will have to sample sounds in order to use several at once (in a full, analogue-generated 'kit', for example). 8-bit sampling may change sounds containing high frequencies or too much resonance, but it can sometimes change the sound in *useful* ways. I once created a reasonable snare sound on my MS20, but when sampled and played back through an Ensoniq Mirage, it sounded more realistic! But more often than not, it is unrealistic (but usable) drum sounds you are after. If you sample in 16-bit, there is no real worry of losing any analogue 'feel', unless the sound uses slow LFO sweeps or Sample and Hold.

■ LAYERING

Drum machines such as the TR808 and TR606 create their drum sounds by combining two or more sounds together. So if you are sampling your analogue drum sounds, try mixing several sounds together, for example a long TR808 kick (to rattle the floorboards) and a short pulse hit sound (for the percussive effect).

With some careful programming and mixing of sounds, powerful kicks and snares can be created without the need for any samples of real drums.

■ GOING LIVE

If your analogue synth has filter cutoff CV inputs, and you have a MIDI-CV converter, you can obtain several versions of the same sound by opening or closing the filter on different beats via MIDI. If you have lots of analogue synths, running them live is certainly the most fun. It's a great feeling hearing all your percussion coming live from your analogues, knowing you can tweak any sound on the fly as you perform your final mix!

THE LAST WORD

Use the information here wisely and you'll be able to put a new sheen on your rhythm tracks. The quest for certain sounds will often throw up others, which you didn't realise were sonically generated in a similar way, and by means of these you'll widen your programming repetoire. Lastly, don't be afraid to experiment! Follow the general guidelines I have given, but be prepared to ditch it all if the snare patch you're creating turns into an amazing talking drum... SOS

MISCELLANEOUS PERCUSSION

• WHOOSHES

Any synth with a white noise generator can produce whooshes, simply by sweeping the filter as noise passes through it. This example shows how it's done on the SH101, and this effect is easily reproduced on other monosynths. Set:

VCO mix levels	0 (except NOISE)
VCF MOD	0
KYBD	0
ATTACK & SUSTAIN	0
NOISE	10
FREQ	1-4
RES	3-6
ENV	7-10
DECAY	4-6
RELEASE	1

Also set up VCF MOD; set the MOD depth between 2 and 8. Try any LFO speed; slow speeds around 5 sound good. The most usable LFO waveform is square.

This is sound that likes to be flanged. If your effects processor has 'triggered flange', use it.

• PITCHED ENVELOPE SOUND

This sound uses an envelope signal to modulate the pitch in a large downward sweep, and is ideal for kick and snare sounds. Also, it is a sound you do not hear much at present — so you can be the first to bring it into the top 10! Unfortunately, a possible reason for this is that not many synths have the ability to produce this sound: a few that can are the Pro One, Octave Cat, and Korg MS10 or MS20. Here's an example on the Pro One:

Set all TO switches on the modulation matrix to OFF, except OSC A FREQ — set this to DIR.

Set modulation matrix FILT ENV FROM amount to maximum, and switch to DIR. Turn OSC A's frequency and OCTAVE switch to its lowest settings. Either waveform can be used. Then, set:

OSC A LEVEL	10
OSC B LEVEL	0
NOISE/EXT	0
CUTOFF	0-10
RESONANCE	0
ENVELOPE AMOUNT	0
KEYBOARD AMOUNT	0
ATTACKS/SUSTAINS	0
DECAYS/RELEASES	5-6

Try different AMP DECAY settings for longer/shorter sounds. The filter's decay must not finish before the amplifier's, otherwise the sound will be too much like a musical note. Add resonance to give this sound a hint of 'thip'!

• COWBELLS

These are created by mixing two square waveforms at different frequencies, and passing both through a band-pass filter (if you have access to one). Set the oscillator frequencies and BPF cutoff to settings that sound best for you, and use a short decay time on your VCA EG.

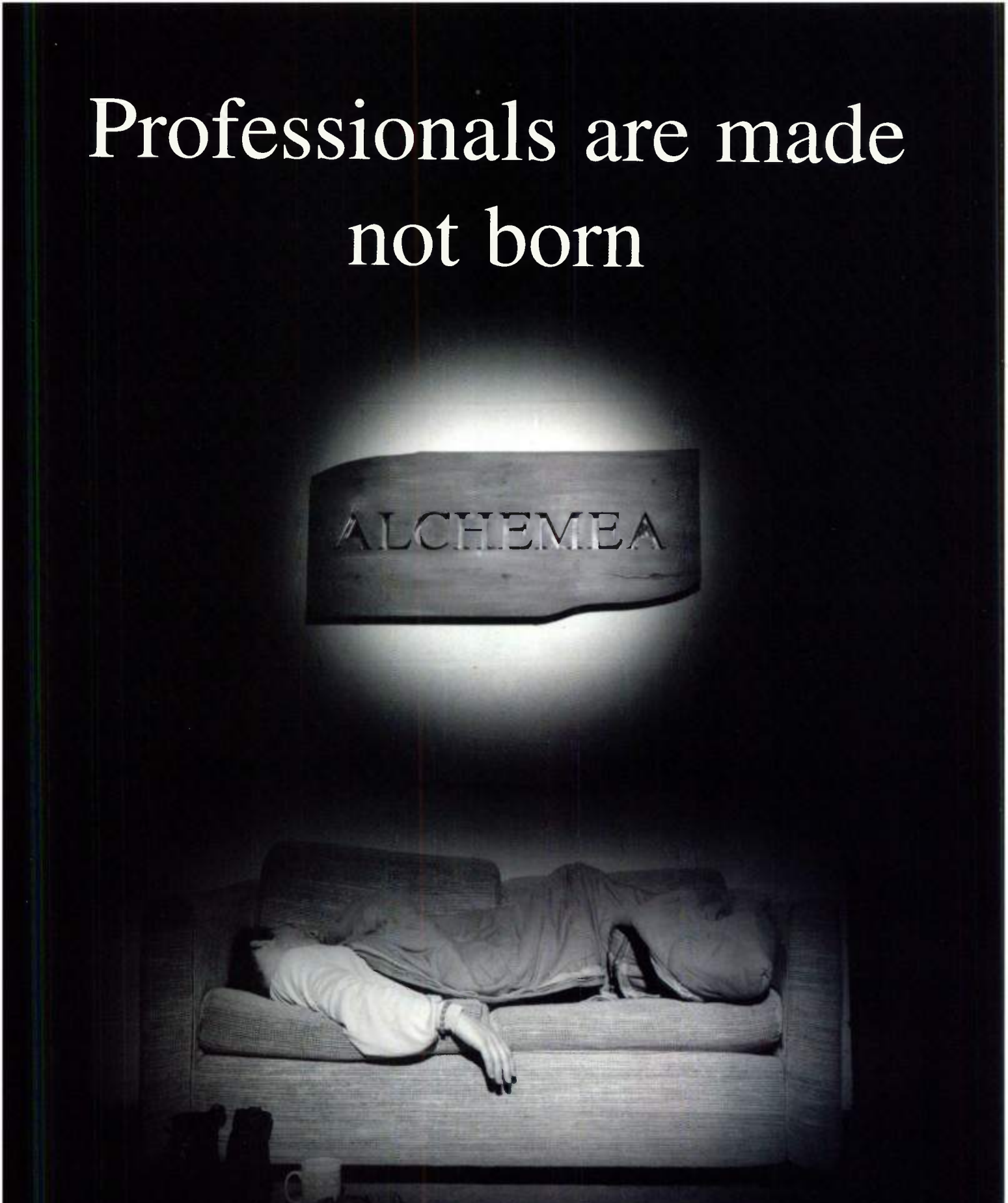
• MARACAS OR CABASAS

These are easy! Pass white noise through an HPF, then use a short decay time on the VCA EG.

• TOMS AND CONGAS

Toms are basically an oscillator swept down by an envelope signal. Some analogue drum machines add a touch of white noise passed through an LPF, with a longer decay time than the oscillator to add artificial reverberation. Congas are created in the same way, but without the noise and different pitch and decay settings.

Professionals are made not born



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CONS
- The only con I can think of is that life will never be the same when the review period is up.

SUMMARY
A thoroughly professional microphone that makes it easy to capture a good sound, especially when you're pushed for time.

SoundField are almost legendary for their microphones, which are unique in that they use four independent capsules to capture the sound field (hence the name). By varying the contribution of the different capsules, the system can emulate any discrete mono or stereo coincident microphone setup, all remotely controlled from a box up in the control room. Their top-end Mk V mics even allow the engineer to record the capsule outputs as a 4-channel matrixed signal, (4-channel B format), then use the controller box to reconstruct the stereo outputs in such a way that the microphone pattern, angle and even direction can be changed. This is obviously very useful for specialist recordings and orchestral work, as changing the mic pattern allows the engineer to change the balance of direct and reflected sound, or to steer the mic's axis. And remember, all this can be done *after* the recording has been made, and the tape brought back to the studio.

The new SPS422 microphone system reviewed here is based around the same capsule geometry and matrixing principles as the SoundField Mk V and ST250 microphones, but its operation has been greatly simplified, and the price much reduced. The high audio quality, however, would appear to remain unchanged; the same hand-made, individually tested capsules are employed as in the Mk V.

All the capsule matrixing parameters are linked to just two main controls for setting the capsule Pattern and the stereo Width, and the result is a single microphone that can take on just about any job you can imagine (apart from doubling as a tie clip model!). The benefit of remote pattern and width control allows the engineer to make adjustments while monitoring the result in the control room, but the option to record first, and dial in the mic parameters afterwards, has been ▶

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Soundfield SPS422

▶ omitted from the SPS422 on the grounds of cost and simplicity of operation.

The SPS422 may be used as either a variable-pattern mono microphone or as a variable-width, coincident stereo pair, where the mic patterns are again fully variable. As with the other SoundField mics, there are four sub-cardioid capsules set in a regular tetrahedron (see pictures), and by adding or subtracting the outputs from these four capsules in different proportions, the different polar and width characteristics are produced. Additional compensation circuitry is employed, so that the small physical distance between the capsules is cancelled out, making the SPS422 a true single-point microphone.

Those familiar with the existing SoundField range of microphones will notice that the SPS422 is in many ways similar to the ST250 system (reviewed in *SOS* June '95), the main differences being that the more costly ST250 also includes a B format output and a battery power facility, making it more of a broadcast tool than a studio microphone system.

THE PACKAGE

The system comprises the mic itself, the 1U controller box, and a 20-metre multicore cable to link the mic to the controller. An optional heavy-duty shockmount is available, but a basic standmount is included with the standard package. All the necessary controls are on the controller box (there are none on the mic), which has two fully balanced outputs for connection to a mixing desk.

It's possible to use the mic in either end-fire or side-fire modes, and a switch for selecting the desired mode is provided on the control box. The output signals are also available in either XY or undecoded MS (Mid and Side) formats. The bargraph metering system provides level readout of the left/right signals in XY mode, and of the M/S signals in MS mode. A separate headphone output is provided, so the mic output can be monitored during setting up — again, useful for live recording work, where there may not be a suitable monitor system available.

To set the microphone gain, there are two controls; one of which provides 10dB switchable steps from -30 to 0dB, and a further, continually adjustable Fine control with a +/- 10dB range. A further button allows the left and right outputs to be swapped over when the mic is used in an inverted position in side-fire mode.

Most professional microphones have a switchable high-pass filter, but in the case of the SPS422, an 18dB-per-octave low-cut filter acting at 40Hz is built into the controller. The Mid/Side button switches the controller from conventional XY output to MS, but there is no MS decoder provided with the system, so you'll either need to buy an MS matrix box or use three mixer channels to set up your own sum and difference decoder. In practice, I feel few people will use the MS facility, unless they have a specialist reason for doing so.

"If I had just one mic to take onto a desert island with me, it would probably be a SoundField, because it's the nearest thing to a no-compromise jack of all trades that I've ever played with."

Changing the microphone pattern is accomplished via a single knob, which may be continually varied from omni, through cardioid, to figure-of-eight, with all the hybrid options in between. In MS mode, the Pattern control sets the polar pattern of the equivalent XY pair, so the only difference is the setting of the MS switch. If the SPS422 was two separate mics, the Width control would change the physical angle between them, but here nothing moves — you have to imagine that you're changing the angle between two virtual mics. When Width is set fully anti-clockwise, the SPS422 produces a mono output.

The SPS422's unique tetrahedral capsule.

USING THE SPS422

The microphone should be powered up for a few minutes before use, to allow the capsule-charging process to stabilise, and to allow any condensation to disperse. For close-up vocal work, a conventional pop shield is a good idea, but for any other application, it's just a matter of plugging the controller into your mixer and getting on with it. You'd normally feed the controller directly into a console line input or into a recorder such as a DAT machine, but you can also feed it into mic inputs if need be, providing they have a pad facility.

To use the microphone as a coincident cardioid stereo pair, which is always a good starting point, you set the Pattern and Width controls mid-way and the Mid/Side switch out. Press End if end-fire operation is required, otherwise leave this button

out. The first test was to record a friend playing 12-string guitar. Straight away, I was greeted by a marvellously clear, three-dimensional sound. Experimenting with the Pattern control, I found I could let in more of the room ambience, by moving the pattern more towards omni. I could focus on the guitar while excluding most of the room sound, by going to narrow cardioid. The biggest surprise was the coincident figure-of-eight pattern, which produced a very tightly focused sound that cut out virtually all the boominess from the room, and actually seemed to produce a slightly brighter result than the cardioid pattern. In theory, the mic has the same response for all patterns, so the difference is most likely caused by the acoustic properties of the room — and it may be that the proximity of the wall behind the microphone plays a significant part. Whatever the reason, I found I could get a whole range of sounds that would normally have necessitated a lot of tedious mic moving.

The same is true when you come to mic up a drum kit, and although the SPS422 makes a good stereo overhead, it can also be used on its own to make super drum recordings — if you have a suitable acoustic space to record in. For these tests, I set up a kit in a friend's hallway, which has bare wooden floors and reflective walls. The mic was set up on a stand around five feet in front of the kit. Over the monitors, the kit sound was virtually indistinguishable from the live sound of the kit — except it wasn't as deafening!

On vocals, the mic has a big, rich sound and can hold its own against any of the large-diaphragm condenser models popular in vocal recording. To record in mono, all you need do is turn the Width control to zero. Again, you can adjust the pattern during performance, to fine-tune the sound instead of varying the mic distance.

SUMMARY

The SoundField has two big things going for it — one is the sense of spaciousness it creates, and the other is the ability to remotely control the microphone, particularly the polar pattern, allowing you to hear any changes in real time in the control room.

Overall, the sound quality is superb, and other than the simpler facilities on offer, the SPS422 seems to be every bit the equal of its more expensive counterparts. If I had just one mic to take onto a desert island with me, it would probably be a SoundField, because it's the nearest thing to a no-compromise jack of all trades that I've ever played with — though getting a mains lead long enough could be a problem! There are other mics that work as well in specific applications, but when it comes to choosing a 'mic for all reasons', I can't even think of an alternative to a SoundField.

Evaluated on price, the SPS422 is obviously a lot of money, but it's really not much more than some of the big name mono mics, and is vastly more flexible. It's also a lot less expensive than buying a Mk V if you don't need the B format facility, but if you need battery operation, you'll have to opt for the mid-range ST250. Having experienced the luxury of the SoundField's sound and its controllability, working with conventional mics is always going to seem just a touch primitive. SOS

FURTHER INFORMATION

£ SPS422 microphone, controller box, 20m cable, standmount; £2203.13 inc VAT (£1875 excluding VAT).

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How to become a Record Prod

PART 4 — WORKING AS A TEAM

Once the artist, their record company and A&R manager have agreed the balance sheet, there are still artistic questions to be resolved. This month, continuing his look at working as a team, DAVID MELLOR explains how producer, arranger, programmer and session musician can live together in perfect harmony...

Last month, I explained how record production is a team effort, with the record producer in the role of team leader, and the record company's A&R manager having the final say. In some types of production, the rest of the team consists of the band, and no-one else need be involved. But for a solo artist, there has to be a musical backing of some sort, and unless he or she (or the producer) happens to be an extremely talented multi-instrumentalist, then extra musical input will be necessary.

THE ARRANGER

Before samplers and synthesizers were quite as all-singing and all-dancing as they are now, arrangers were commonly employed to put the music together, and work with a number of session musicians to create a musical backing in a style appropriate for the song. Now, many programmers and keyboard players effectively take on the

THE ARRANGER'S VIEW —THE KICK HORNS

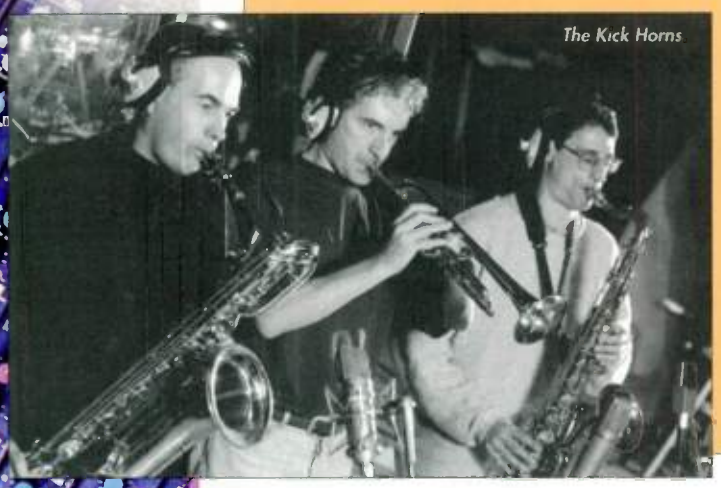
The Kick Horns (Tel. 0171 732 2889) are Simon Clarke (alto and Baritone sax, flute), Roddy Lorimer (trumpet and flugelhorn) and Tim Sanders (tenor and soprano sax). Credits include Blur, The Rolling Stones, Rod Stewart, Eric Clapton, The Stereo MCs and Trevor Horn.

• MAKING COMPROMISES IN THE STUDIO:

"Arranging is the most time-consuming part of the process, as it involves a complex series of decisions and collaborations. When we do more than a couple of takes of something, it tends not to be because we've got a phrase wrong, but because, for example, the bass player wants to hear a big chord with a fall on the end, while the singer wants us to play a unison line that the keyboard player player hates, which the producer has earmarked for backing vocals..."

• A HORN SECTION VS INDIVIDUAL MUSICIANS:

"Producers booking individual musicians get just that, whereas with the Kick Horns, they get a very efficient horn section with a shared sense of phrasing, achieved from 13 years of playing together. They get a team with a long-standing commitment to songs and singers, who enjoy collaboration with bands and producers; a group who understand each other, and whose aim is quite simply to make songs sound better."



The Kick Horns

arranger's role themselves, for the simple reason that a few modules, and a few CD-ROMs perhaps, can supply just about any instrumental sound that could possibly be required — all you have to do is play the notes into a sequencer, and you have an 'instant' arrangement.

Of course, even though an arranger may no longer be necessary, good arrangements for synths and samplers don't create themselves. For certain styles of music, arrangers are still used. For example, it is difficult to get the best out of a string section, brass section or orchestra, unless you have a deep understanding of the

ucer

instruments, and the way in which they interact. You could bash out a few chords on a keyboard, get your favourite sequencer software to turn them into musical dots, and hand them out to a group of strings. But would it get the best out of the players and the instruments? I think not.

Arrangers seem to come in two types; lone arrangers (I think there's a pun in there somewhere) who work at home with a sharpened pencil and large sheets of music manuscript paper, and arrangers who are themselves string or horn players. I could also put backing vocalists into this category, since a trio of singers can often work out their own vocal arrangements, saving the producer a job.

You know it's time to hire an arranger when someone says, "I think we need an orchestra on this track", or a jazz band, big band or even a choir. Your first port of call will be your CD collection, where you will scan through discs where you remember a song being given the orchestral treatment, and hope that the arranger is credited in the sleeve notes. A call to the Musicians' Union will probably get the two of you in touch. Likewise, you may find that string and horn sections are credited on the CDs on which they appear, and you might even find them in the phone book or Yellow Pages.

Of course, I have to say that London is still the centre of musical activity in the UK, and you will stand a better chance of finding arrangers and musicians you have heard of in the metropolis. If you live elsewhere in the country, you will still be able to find excellent musicians and arrangers, but you might not be able to expect them to have as much experience of recording. String players in particular find studio recording much more difficult than playing live. The reason is that if they have to wear headphones, they won't be able to hear themselves in the way they are used to, and will find tuning more difficult. For a larger group of instruments, the musical director or MD might wear the headphones and conduct the musicians. If the MD doesn't have much recording experience, he may find it difficult getting the musicians to keep pace with a totally inflexible, previously-recorded backing track.

SESSION MUSICIANS

Once upon a time, it was every instrumentalist's dream to become a session musician. With the irresistable rise of computerised instruments, the demand for session players has waned, but there is still a keen market at the top of the business. The reason you would hire a specialist session ▶

THE PROGRAMMER'S VIEW — STEVE McNICHOL

Steve is currently working on George Michael's new album.

• WORKING WITH PRODUCERS:

"I think it's important when programmers work with producers or artists, to be able to work together in a similar way. I've been in a situation where people have had an idea for a sound in their head, have explained it to me, and my understanding of it was different to theirs. If you are on a similar wavelength, you can get things done a bit quicker. It's also a matter of learning to understand how they describe things. It's the age-old thing: a producer might say, 'Make it brighter'. Your reaction might be to crank the top end up, but that is perhaps not what he means. One producer's description can be completely different to another's. You almost have to be able to read their minds."

THE MUSICIAN'S VIEW — DAVE CLAYTON

Keyboard player Dave Clayton is working on the final Take That album with producer Chris Porter. He also played on George Michael's 'Jesus to a Child'.

• EQUIPMENT:

"I tend to bring it all, leave it in a room somewhere and bring out what I need. I've got masses of analogue gear and modern equipment too — clavinets and electric pianos, and synths ranging from the Roland System 100 to the Waldorf Wave."

• PRODUCERS' REQUIREMENTS:

"Some get me in to show them how it could be. They rely on my experience, and see if I can develop something from their idea. They might like the sound of a particular era and just let me jam and find a way I can fuse it into their track."

• FEES:

"I've had people quote MU rates to me, but people hire me because of my ability, and also because of the fact that I can bring in a lot of equipment as well. The rate varies from project to project. I might work for someone on a small label for a negligible rate, and charge the full rate to people who can afford it. I'm in the fortunate position that I've been in the business a few years, and I tend to do things I feel will inspire me."

Dave Clayton.

How to become a Record Producer

musician rather than your mate who can pick and strum a bit, is simply because a good session musician can inject an wonderful air of confidence into the recording.

As your experience as a producer increases, you will find that there is a world of difference between someone who can play well, and someone who really 'has it'; 'it' being that indefinable something that makes a recording sound terrific rather than just alright. Be warned that there is still a breed of session musician that thinks it is okay to place a copy of *Exchange and Mart* on the music stand and imagine they are professional enough not to have to give their full attention to what they are doing. I would personally show someone the door if they did this, but I'm afraid it is still considered to be acceptable practice in some circles.

Of course, this won't happen if you get your musicians from a reputable source who is used to dealing with top producers. This source would be what used to be called a 'fixer', nowadays more politely known as a session agent. Whatever instrument or voice you need, you can ring up a session agent and he or she will be able to deliver the goods — at a price. If you want quality, then you can forget about Musicians' Union rates, because these are considered to be a minimum level of remuneration. Of course, when the payment exceeds the MU scale, then you will also get flexibility and a certain amount of freedom from MU conditions on how sessions are conducted. You would need to clarify these points with the contractor and find out precisely what you are agreeing to in terms of the duration of the session, breaks, maximum recording time, and so forth. Be prepared to sign a contract or letter of agreement which will also contain the performers' consent required under the Copyright, Designs and Patents act for the types of use proposed for the recording.

But what if your budget is limited, or you only want to make a demo recording, and can't justify too much expense? If your material is good enough, you might be able to persuade a top session player to work for you for the minimum fee, simply because they like the music. Another strategy is to book a musician on a demo rate, which may be lower than a full session rate. Of ▶

THE ARRANGER'S VIEW — WIL MALONE

Credits include Peter Gabriel, Depeche Mode, Massive Attack, Seal, Neneh Cherry and Simple Minds.

• IDEAL NUMBERS OF STRING PLAYERS:
"Sometimes 10, sometimes 40. It's about texture, warmth and a lot of different things. If a producer says to me, 'I want this to sound very big, but I have only so much money,' then there's a problem."

• SUPPORTING THE VOCALS:
"I am working on a project with a girl singer, which is just orchestra with no rhythm section. Her voice is slightly thinnish, so I have added violas into the string arrangement just to pick up the lower range of her voice, to bring out the bottom edge. That is the kind of thinking behind what I do."

• CHANGING THE ARRANGEMENT IN THE STUDIO:
"I rewrite it for the principal of each section, and ask them to pass it on. It's the quickest way I've found. It happens quite a lot, since you often get a track where the vocalist has changed his phrasing and you need to make adjustments."

Wil Malone.

Debbie Haxton.

THE SESSION AGENT'S VIEW — DEBBIE HAXTON

Debbie runs the Session Connection session agency, who handle many of the top musicians in the UK.

• CHOOSING THE RIGHT PEOPLE:
"Quite often, there will be eight or nine people who can do the gig, and only one of them will be the right one. We take pride in what we put together. We want producers to be very, very happy with the people we send. 99% of the time it works out well."

• FEES:
"For a lead vocal, we ask for an advance and then points. A lead vocal is going to make or break the track, and if it does make it then the vocalist should be getting royalties, somewhere between two to five percent for a first single. If there is a band who wants a guitarist and they can't pay very much, I'll put them in touch with one of the younger people on the books, and say 'if you want to, go ahead and do it'. Sometimes there's no point in getting involved, except to get the younger people started. We can put people in touch with each other, and sort of try and create families."

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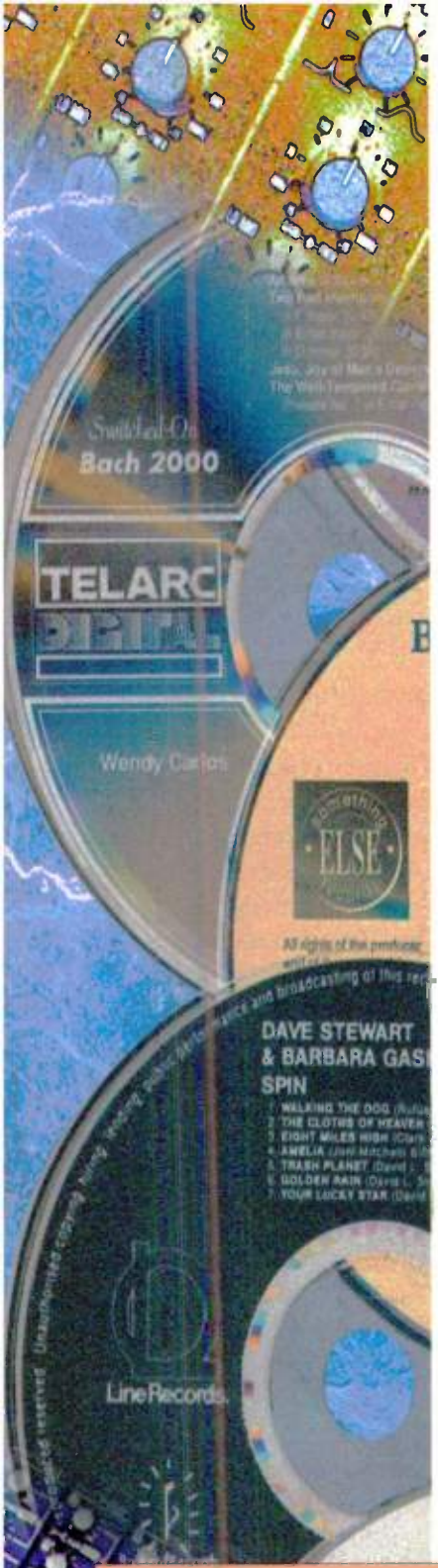

How to become a Record Producer

course, you won't be able to release the recordings — or if you did, you'd never be able to book a session player again. But you could record your demo, hawk it around the record companies, and if someone does take to it and wants to release it, all you have to do is go back to the session agent and renegotiate the fee — you can't lose! Also, bear in mind that not all the musicians on a session agent's books will have reached the pinnacle of their careers. Some will just be starting out, and although the agent will have taken them on because they have outstanding ability, they may need to build up a track record, and may see your project as a means to an end.

THE PROGRAMMER

There is a very subtle dividing line between keyboard players and programmers. Typically, a keyboard player will specialise in tinkling the ivories, and only tweak the odd sound here and there if he feels inclined. A programmer, on the other hand, is hired for his collection of instruments, sounds and samples, and is expected to be able to produce exactly the right sound for the occasion, and maybe just do a bit of playing on the side.

As a budding producer, perhaps you have a MIDI setup and are capable of programming yourself, as many established producers can. But you will be aware that programming takes a lot of mental energy and patience. Hiring a programmer to do something that perhaps you could have done yourself will allow you to concentrate fully on the music, which is exactly what a producer needs to do. The programmer will also have a fantastic memory for sounds, and when you need a string sound that is just so, the programmer will be able to call up a few patches and demonstrate them to you, so that you can choose the best.

Equipment-wise, what should you expect a programmer to bring to the session? Having seen top programmers in action, I can say that you should be expecting three or four keyboards, a couple of racks full of modules, a Macintosh computer equipped with a pair of large monitors running an audio sequencer and Digidesign Pro Tools, and all the interfaces, disks, cables and backup devices that are necessary to make it all work. The time spent setting up such a system is considerable, as is the time spent after each day's work logging all the sounds and making sure that they can be recalled the next day, or at any later time, if necessary.

It is quite common for a producer to regard a programmer as a kind of producer's assistant. The producer will give the programmer an idea of what he wants, then go away for an hour or two, leaving the programmer alone with the equipment, to see what he can come up with. This is where you really need to be working with people who understand your requirements, and who you can trust to come up with something that is likely to suit your taste. SOS

THE ARRANGER'S VIEW — JOHN ALTMAN

Credits include Bjork's 'It's Oh So Quiet', Alison Moyet's 'That Old Devil Called Love', Simple Minds' 'Street Fighting Years' and Monty Python's 'Always Look On the Bright Side Of Life'.

• TYPES OF PRODUCER:

"Some producers are very specific about sounds and styles of writing. They will go over the arrangements they want with you quite meticulously. Other producers will ask you to do what you feel is right, and then on the session you will take out a phrase, repeat a couple of bars or something like that. In a lot of cases, people ask for me because they know what I can do, and I get a free hand to go in any direction I want."

• SCORING:

"I don't have a computer or a synthesizer. I find writing out music is quicker than doing it on a computer. I wrote and orchestrated the tank chase sequence in *Goldeneye* in about half a day. Once you get the momentum, you can hear what the strings and brass ought to be doing. Technology just gets in the way."

John Altman.

THE MUSICIAN'S VIEW — ANDY DUNCAN

As a drummer/rhythm programmer, Andy's credits include Take That, Tina Turner, The Beautiful South and the Manic Street Preachers.

• GETTING WORK:

"It's all word-of-mouth recommendation. Agencies try very hard to represent musicians, often fruitlessly, because recording is a high-cost, high-pressure enterprise, and no-one wants to recommend someone who is going to make a fool of them. Producers, generally, are very wary of using people that they have never heard of, because they don't know what they are going to get when the person walks in through the door."

• PRODUCER'S EXPECTATIONS:

"All producers have their own methods, but most of the people I work with regularly call me in to be creative. They don't just call me in to play an idea that they have. I have worked quite a lot with Trevor Horn over the years, and I said to him that my enjoyment was in being presented with a rhythmic puzzle that I have to solve. He said that that's the same way he feels about producing, except that he is solving the entire musical puzzle, not just a segment of it."

• FEES:

"I got into music because I love music, not because I want to make loads of money. I have a ludicrously expensive rate I go out for, but if something sounds like really great fun, I'm quite willing to negotiate. I often think I'm a very lucky person to be doing this. I'm getting paid to do the thing I most love to do anyway."

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PIAPRISM

Recording Venue: Home.
Recording Equipment: Portastudio 05 HS with Yamaha MIDI sync (early tracks), Studiomaster P7 mixing desk, 2 x Akai DR4D digital multitracks, Marantz DD82 DCC machine, Sony Dolby S tape deck, Wilmslow Audio SPL1 monitors, Audio Technica AT4033 microphone.

A Khan (music) and Budge (vocals/words) met at university, and have been recording for about two years. The style draws on 'rock and modern technology' which gives it a wide brief. The name of the band sounds a bit dodgy; one slip of the tongue and you could have the word 'priapism'. They're certainly a pair of cheeky chappies, trying to bribe me with a packet of cherry menthol Tunes (get it?) — but I like their style.

The first song, 'Captured', starts with a lot of promise, and bears a certain resemblance to Peter Gabriel in its density of production. The vocal is also treated to a hefty amount of reverb and modulation, recessed in the mix but still audible. On occasion, the gritty wailing of Budge is pushed even further back in the mix — another Gabriel trick which works well. Meanwhile, a relentless beat is provided by the kick drum and the bass synth riff, with a big wedge of strings occupying the mid band. Good to see that the lads can exercise some restraint — it's a relief when the song finishes without the appearance of a big snare sound.

The general sound of the track lacks bass end, which I'm sure could be added on post-production. Although the mix benefits from the reverb treatment, not all the instruments need as much. The guitar and keyboards, for example, could be quite dry, to provide a contrast for the vocals.

'Happiness' turns out to be a totally different style of song. A real C-F-G chord sequence, with some nice ninths thrown in on the clean, picked guitar track. The guitar itself is treated to a little delay and modulation too, which fills the sound out well. Looking at the other instrumentation, the piano should have been given a darker sound (less upper mid) to sit under the guitar in the mix, and the bass could have been louder.

Actually, a good reference level for bass in the mix is given by the third song, 'Kick it In'. Yet the change in musical style is a bit confusing for the listener; this one sounding like early Simple Minds. The vocals aren't the only area that could benefit from a bit more continuity. ❑

Readers submitting demo tapes should note that SOS regards the inclusion of photos or artwork with demos as permission for the magazine to reproduce this material free of charge, as illustration, with any review of the accompanying tape.

LOVE IN A PLAGUE

Recording Venue: Home.
Recording Equipment: Tascam 38 reel-to-reel multitrack, Soundcraft 200B 16:4:2 mixer, Sony DAT recorder, Alesis compressor, Midiverb 2, AKG C1000 mic, Akai S950 sampler.

Stourbridge (West Midlands)-based Love in a Plague hope that their recordings come across as being 'urban and a bit seedy'. They get off to a good start, with some traffic noise and sampled trumpet for 'Searching Uptown/Downtown'. The breakbeat could have been louder in the mix, and the kick drum could have been beefed up with some EQ at 60Hz or so. The grainy quality helps with the seedy feel, but some of the other instrumentation could have benefited from the dry treatment. This would provide an effective contrast for the very wet vocal and trumpet treatment, which worked well. Some percussion added to the breakbeat in places would also have been nice — congas, maybe tambourine

By the second track, we're into familiar territory for Demo Doctor readers: a song that starts with a sample from a movie soundtrack (which I unfortunately didn't recognise). However, the track develops quickly into something with far more depth. Great harmonies, unusual vocal melody, interesting arrangement and the skilful use of sound help to paint a story.

The dramatic atmosphere of the piece and choice of instrumentation is sometimes reminiscent of the Grace Jones/Trevor Horn collaborations, while the occasional sections of cold vocal harmony are aided and abetted by the choice of a short reverb, heavy in the mix. The drums groove with a smooth sound which is more lurex than silk, punctuated by distorted vocal samples, which have a dramatic effect. ❑

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demo DOCTOR

NURB

Recording Venue: Home.
Recording Equipment: Mackie 24:8:2 mixer, Lexicon LXP15 multi-effects unit, Alesis Quadraverb, Drawmer compressor, Fostex R8 multitrack, Roland S750 sampler.

A kind of a back-handed compliment from Mark Chitty of Nurb: 'I await your comments with interest, as from reading previous reviews, I am confident that you rate honesty higher than tact'. Compared to some unmentionable music tabloids, this review column is moderation itself, Mr Chitty!

Joking aside, and with great candour, let me say that Nurb have come up trumps with this demo of ambient techno. The conga and low drum intro to the first track, 'Jungle Jim' is excellently mixed, with a real depth to the low drum which shakes the room! Once the four-on-the-floor kick gets going and the sampled didgeridoo loop cuts in, the track is kicking along nicely. There are jungle samples used in the track, but these are real tribal sounds and shrieks, as opposed to what has become known as 'jungle' music. Here, the mood changes and becomes more what I'd call standard ambient, with rhythmically-echoed looped sequences, and some VCF modulation added for interest.

top tape

Sampled guitar is used effectively on the second track. A sustained guitar line weaves in and out of the looped synth and strings, before the track breaks into harder, almost rock-orientated material. Some of the 16th-note synth chord pattern with slowly opening filter is actually reminiscent of (dare I say it) the old FGTH hit, 'Two Tribes'.

Nurb have the ability to move seamlessly from one section of an arrangement to another. That's something which precious few dance demos seem to be able to manage. For example, the change from rock to Spanish-style nylon strung guitar is achieved with a gradual movement in the instrumentation. Harsh power chords over the bass drum are backed with a low, warm synth rumble. The chords drop out to a slow-attack, heavily echoed guitar with congas. Short decay percussive sounds introduce us to percussive attack and the rounded tone of the nylon strung acoustic. There is always a clever suggestion of what is to come next before it actually happens — something to lead the listener from one section to another. ❑

GUESS?

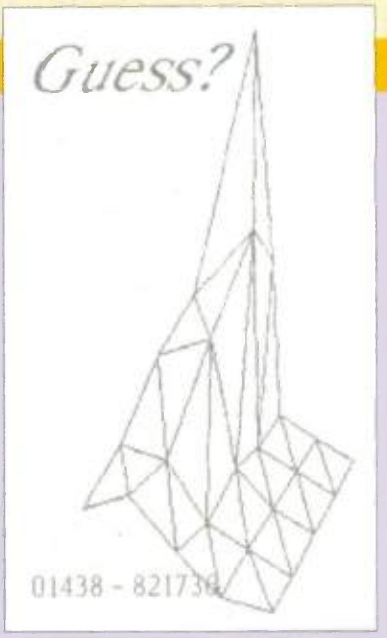
Recording Venue: Home.
Recording Equipment: Ensoniq ESQ1 synth, Cheetah SX16 sampler, Cheetah MS6 sound module, Roland TR626 drum machine, HRD digital recording system, Atari STE running Emagic *Notator*, Aiwa XDS260 DAT.

A rather uninspiring name which belies the interesting music that this band produce. The strength is in the rhythm section, with electronic drums and loops by Dave O'Hara and bass/Chapman stick from Colin Hird.

The first song, for example, has an unusual, repetitive bass line which invites comparison with Tina Weymouth of Talking Heads. The main body of the song is built around the bass and its offbeat harmonic relationship with the chords above it. Hitting C bass and passing through C sharp to D gives a nice sense of suspense and mild quirkiness, especially when the chords above are G and C. The bass sound is nice too, and sits well with the slightly muddy drum loop. Sadly, the lead vocal lets the song down with a rather weak delivery. It is only on the harmony sections that it really comes to life.

Track two takes that old rock/pop stalwart — eighth note synth bass and straight backbeat. Firmly placing the production in the early '80s, Guess? are poised to wade into the charts on the back of the latest retro craze with this track! Clean, picked guitar from Mark Anderson has been given short shrift in the mix and needs to be louder, while the stabbing, distorted chords punctuating the rhythm are just about right. The drums are solid — they're samples triggered from Simmons pads, with a good choice of medium length reverb, and a nice balance of kick and snare against the rest of the instrumentation. Vocalist Colin Hird experiments with some question-and-answer dry and wet vocal reverb treatments. Here, the dry vocal is a bit loud and the pitching uncertain, although the general idea is good.

In some ways, the last track is the most modern, with a very dry mix, drum loop and good open snare sound. The cabasa also helps the rhythm groove along, and it sounds like the Chapman Stick has been used at last. The stick has its characteristic middy tone emphasised, and I suppose it could have been improved with a little more bass end, but it's great nonetheless to hear this instrument.



Overall the band sound good, if a little dated. The last two of the four tracks are the most commercial and, as it happens, have the best vocal performances too. ❑

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Assistant Editor Matt Bell physically modelling the AcoustiShirt System.

The APES (Association of Professional Engineering Sciences) has proposed a simple solution based around a standardised engineering sweatshirt, woven from a mixture of organic cotton and specially treated rockwool. APES spokesperson Lil Parofo claims that this is designed to standardise the body reflections from a wide range of individuals to within very narrow limits, so that different engineers can obtain more consistent mixes, especially on projects where two or more engineers/producers might be involved. Available in a choice of colours with APES logo, the AcoustiShirt, as it has been christened, will also be made available to members of the public via specialist hi-fi dealers, for the benefit of those who want to listen to music exactly as it was recorded.

A proposed 'wash-in' upgrade is also planned, comprising a special dye based on sound-sensitive crystals, which change colour according to the SPL in much the same way as Global Hypercolour shirts change with heat. As well as looking cool and letting you know when you're monitoring too loud, you can also, allegedly, walk around the room while pink noise is playing, and identify all the troublesome room modes simply by looking at the colour of your shirt. This will save an absolute fortune in studio design costs, and if all goes to plan, you'll be able to choose from two different frequency bands, which opens up the possibility of a matching, full-frequency shirt and trousers set. It's also claimed that by using different strengths of dye in carefully masked panels, you could print a working VU meter on the front of a shirt. If this ever gets into production, I want it first! *Paul White*

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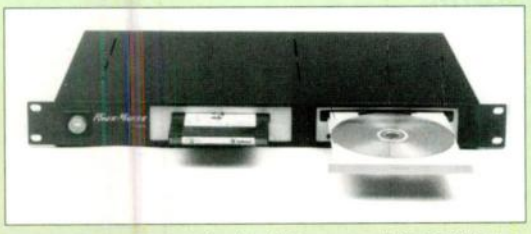
Music House Data Products are in the business of building, amongst other things, PowerMaster SCSI drive systems, but unlike most off-the-shelf products, the Genesis comes as a 1U, two-bay system into which can be fitted two different hard drives, removable media drives or DAT data drives. The system is specifically designed with musical applications in mind, has a relatively quiet cooling fan, and a generously rated power supply capable of running up to two 4Gb drives simultaneously.

What you see on the front panel depends on what drives are installed. Fixed hard drives require no front panel controls, so all you see is a HD blanking panel with a disk activity LED. In the case of removable media, the facia of the unit is framed by the front panel cutout. Rear panel switches with safely recessed actuating buttons are used to set the SCSI IDs, and both SCSI Ins and Thrus are fitted to both bays. Internally, the two bays are SCSI-linked by a ribbon cable, and a simple plug and socket arrangement allows this link to be broken if you need to use the two internal drives in different systems — for example, one on your computer and the other on your sampler.

The review system came fitted with a 1Gb fixed hard drive, plus a Mezzo data DAT backup system. Although DAT systems are quite slow compared to hard drives, the very low cost of the media makes them very worthwhile and practical for backing up data-intensive work such as Pro Tools sessions. The archiving software included creates a library on your internal hard drive, so that you know what's on all your backup tapes. Each tape also has its own directory, so you can see what files are backed up. A special backup mode is provided for Pro Tools sessions.



A PowerMaster Genesis fitted with Syquest and CD-ROM drives.

The PowerMaster Genesis system can be ordered empty or with a variety of drive types ready-fitted, including Syquest, magneto optical, fixed hard drive and DAT. Tests confirmed it to be quieter than most external hard drives, and the internal drives fitted for the purpose of review ran with no problem. You should keep in mind, though, that if the Genesis is to be used at the end of a SCSI chain, a terminator must be plugged into the unused SCSI thru socket.

Genesis is distributed in the UK by Syco, although the makers are on the lookout for a foreign distributor. It is a simple, well-engineered solution to housing your hard drives that makes effective use of limited rack space and doesn't cost a fortune. A great improvement over a shelf full of plastic bricks and connector cables! *Paul White*

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Here comes the

ROLAND MSQ700 SEQUENCER

Beethoven's amanuensis* it might not be, but for dancey doodlings, you won't find a better scratchpad than the Roland MSQ700 'multitrack digital keyboard recorder'. STEVE HOWELL reassesses the sequencer that dared not speak its name...

What is a sequencer? Is it, as we have come to believe of late, a device where your every musical idea can be realised, recorded and edited to microscopic perfection, so that intricate and highly detailed musical themes and arrangements emanate exquisitely from a multi-track, multi-channel compositional environment fashioned in software? Or is it, more prosaically, just a device that plays a sequence of notes?

In the August '95 issue of *SOS*, Derek Johnson and Debbie Poyser mentioned (in passing) the Roland MSQ700, an underrated little sequencer from the early days of MIDI. Falling somewhere between a 'composition workstation' and a simple sequencer, I felt their comment that the MSQ was a "fun tool" was about right. While it isn't the all-singing, all-dancing composition workstation that modern devices aim to be, its very simplicity is its greatest asset.

The 'alpha' portion of the gadget's name was a bad acronym of MIDI SeQuencer, but the numeric part is harder to fathom. There was nothing '7' or '700' about the MSQ700; being an 8-track device with 6,500 note storage across 16 MIDI channels. Maybe it had 700 components inside! Anyway, it was Roland's first proper foray into multitrack MIDI sequencing, and intended to build upon the modest success of MC4 MicroComposer. The MC4 was a 4-channel CV/gate device, into which you entered notes and note-lengths methodically and numerically. Tedious? A little, but actually quite interesting, and once you got the hang of it, a very flexible and extremely precise way of creating music. The MSQ700, on the other hand, was a MIDI sequencer, and data was entered in a more approachable manner, from a MIDI keyboard rather than a numeric one.

MY FIRST SEQUENCER

The solidly-built MSQ700 came in a similar styling to the contemporaneous TR909. Festooned with chunky, smackable keys and no less than 33 (yes, 33!) big glowing or flashing red, green and yellow LEDs, the MSQ700 was very easy to use and a joy to behold. Moreover, it had more sync facilities than you could wave a stick at, being able to sync to the Roland DIN SYNC 24 code, MIDI clock (though no Song Position Pointer) and/or FSK tape sync code. It could also convert one sync type to another; so it was possible to use the MSQ to sync your TR808/909 or TB303 to MIDI clock or to tape (the latter of which, unless you had an MC4, was previously impossible, or at least very difficult). Even if you don't use its sequencing capabilities, its MIDI-to-DIN SYNC and DIN SYNC-to-MIDI conversion capabilities alone justify its second-hand price — especially if you own any fashionable, DIN-SYNC equipped Roland devices. It will also record and play Roland synths equipped with their precursor to MIDI, the DCB buss, and so could perform as a MIDI-to-DCB converter for your Juno 60 or (suitably-equipped) Jupiter 8.

However, this is to neglect the MSQ700's sequencing capabilities. True, it doesn't offer hundreds of tracks or 128 MIDI channels, and you can't embed SysEx commands at machine code level — but then that kind of malarky is not its greatest strength. Where it scores over even the latest sequencers is in its immediacy and ease of use. The MSQ700's eight, large track keys are used to record and overdub data into, and although essentially an 8-track device, each track can store up to 16 MIDI channels. The track keys are a welcome alternative to all the cursor-pressing, page-scrolling, soft-keying data entry methods found on other hardware sequencers, and certainly a lot more fun than mousing around a computer sequencer and clicking on inscrutable icons, only to be rewarded with "The application has unexpectedly quit, because an error of type 39 occurred." Even the MSQ's four-digit LED display, which shows nothing more than bars or tempo, is informative enough for the most part.

Recording is as simple as selecting a track; you just press Load and play. To add more parts, press Overdub, select another track, press Load and go for it. Any MIDI data you lob at the MSQ will be recorded, including program changes, mod wheel, pitchbend, aftertouch, sustain and other footswitch information, and these may be overdubbed onto separate tracks and then merged later if you want. The MIDI channel to record on is selected on your MIDI keyboard — whatever you select gets recorded. Painfully easy!

Data can be input in step-time or real-time, and these modes are selected by a large toggle switch. In step time, notes are entered at a length equal to the step length selected by the dedicated horizontal Resolution switch, and you may select from 1/2 notes to 1/32 notes, including triplets. Two big keys allow you to enter rests and/or tied notes equal to the selected resolution. Step time is an ideal way to enter really tight, metronomic sequences and solid bass lines, and if you're a bit ham-fisted, it also enables you to enter quite dextrous performances. Step-time data entry can be a novel way to make music, and the accidents that happen from time to time can be highly serendipitous. The large keys certainly make step-time entry easier than most sequencers I know of. The quantisation option on real-time-only machines helps a bit, but they still demand a certain level of keyboard profiency.

NOT-SO GOLDEN RETRIEVERS

Data storage has come a long way in ten years, and although there's no floppy-disk drive on the MSQ700, the memory can be backed up to a normal cassette. This may seem a bit archaic, but it works okay and is no different in principle to modern DAT back-up routines. 'Files' can be given reference numbers at the point of back-up, for easier recall when restoring. Furthermore, the restore functions are actually quite intelligent, and you can select to replace the whole memory with the contents from tape, or have the MSQ place the restored data into any spare tracks that may be available, preserving data on other tracks. If this sounds a bit arduous, the fact that sequences and chains are retained in memory when you power-down is a big plus point, and the cassette-streaming is only there as a back-up function.

How about editing? Sadly, very little to speak of. There are three buttons, which give access to the aforementioned quantise and merge functions, plus an erase function. However, this will only erase entire tracks — you can't use it to erase one bum note or lop off four bars from the end of a sequence, for instance. Missing, of course, is Copy: it would have been nice just to have a simple 'append' function for extending, say, a four-bar bass line, over which you might want to add eight bars of chords. A transpose function would not have gone amiss either, and of course no Undo function is available. In fact, *none* of the functions we take for granted these days are available on the MSQ700. Having said that, neither is the mind-boggling complexity!

*Even the publisher didn't know what this word meant, so we thought we'd help you: *Amanuensis* meaning composer's assistant.

Hotstepper

Of course, real-time entry is also available on the MSQ, and it will faithfully record what you throw at it. An internal 'beeper' metronome is provided (by way of another large toggle switch) for you to keep time to. In many respects, you can use the MSQ700 much like a tape machine, locate to any bar position in a sequence, and continue adding data in a tape-like linear fashion. You can punch in and out, and a footswitch is provided to assist in this. If you're a reasonably decent player, the MSQ's simplicity may well appeal to you as a straightforward multitrack MIDI recorder.

TOUCH ME IN THE MORNING

Quantise, called Time Correct on the MSQ700, is quaintly described in the manual as "allowing modification of your key touch manner". Available after the event, it's almost non-destructive, in that you quantise the track onto another, so if it all goes horribly wrong, you still have the original to try again. You may quantise to a variety of resolutions from 1/2 notes to 1/32 notes. No fancy 'groove' templates, shuffle or microscopic note slippage functions, but again, that's the charm of the MSQ — it's quick and easy. The quantise is pretty effective most of the time, but it can do odd things sometimes. As the curious Japanglish manual warns: "If setting a longer or the same timing value, you may be annoyed by the various troubles such as timing values differs, a notes is lost, etc". Absolutely!

Once you've filled up a few tracks, you can merge several tracks onto one, freeing up the other tracks for more overdubs. No 'un-merge' is available, so be careful before you erase the source tracks. Playback is achieved by hitting the large blue Play key (a footswitch input is also provided, for hands-free operation). A sequence may be set to repeat endlessly by flicking the big Repeat switch. Being so simple, there is no undue strain on the MSQ's processor, so MIDI is dealt with efficiently, and sequences play back with a reassuringly solid 'feel'.

With each track capable of storing a complete multi-channel sequence, the track keys can also be used as 'sequence select' keys, and you can play each sequence simply by selecting the 'track' (ie. sequence) you want to play. These may be selected manually, but you may also program the running order of the eight sequences using the Chain mode. To do this, select Chain mode, press Load and simply specify the sequences in the order you want them to play, by hitting the track keys as appropriate. Pressing a track key enters the sequence into that step, and advances to the next step where you may enter another. There is no repeat function for steps as such; just select the same sequence as many times as you need it. The Chain mode is a great way to construct songs (albeit limited to eight sequences), and I much prefer this way of working over the linear, almost tape-like method adopted by a lot of sequencers today.

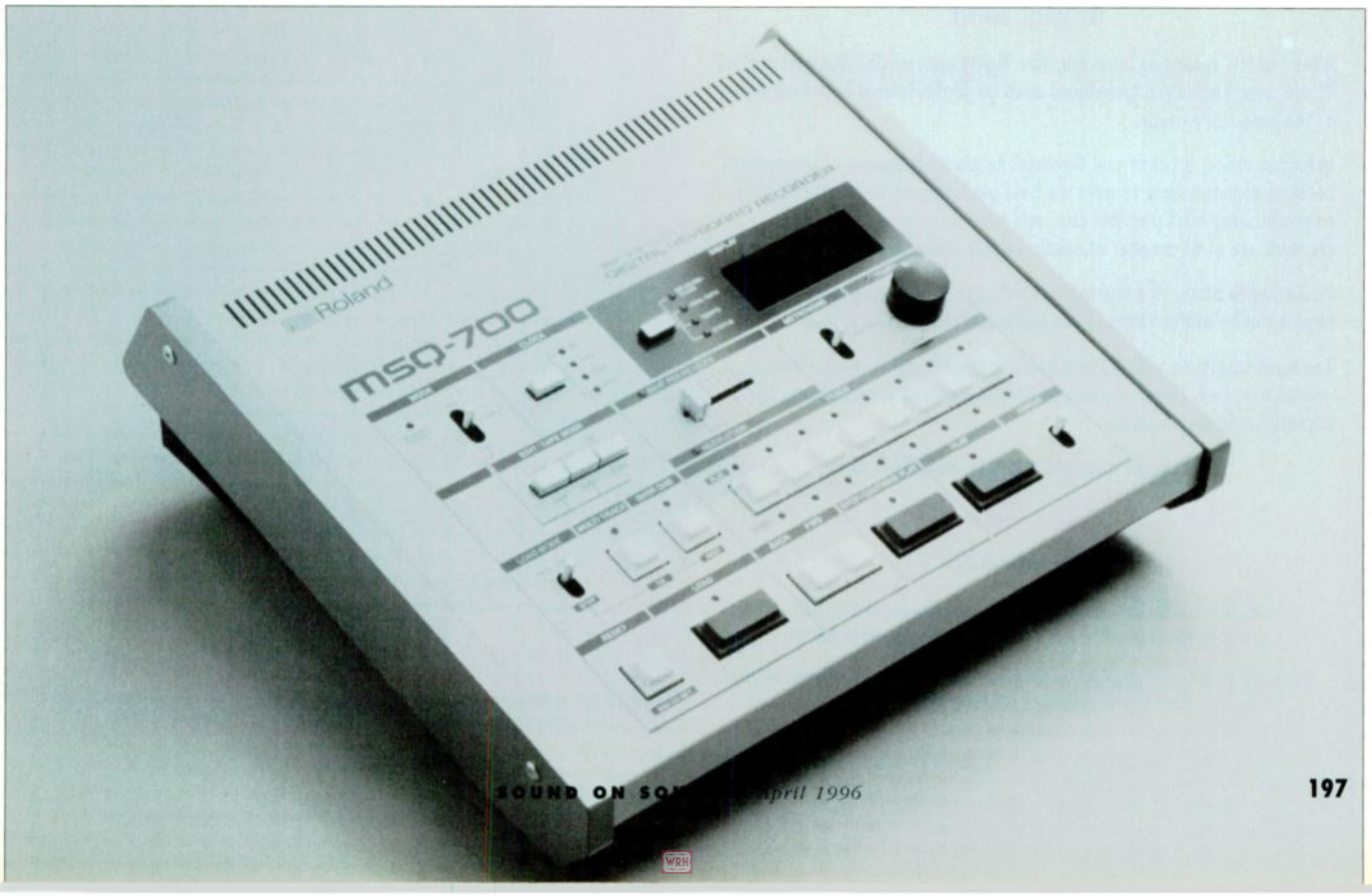
DANCING IN THE BARGAIN BASEMENT

With a second-hand price of £100 or so (pay no more), if you're on a budget and you want to sequence some noise, a second-hand MSQ may be just the ticket. If you're into the dance scene, where simple, hypnotically repeating sequences and riffs are the order of the day, you could be knocking out respectable dance tunes for around £500, armed with nothing more than a simple MIDI keyboard, an MSQ700 and (say) an Akai SG01V 'vintage' synth module. The MSQ's DYN SYNC compatibility makes the similarly-equipped Roland MC202 MicroComposer an ideal choice for adding squidgy, sequenced basslines. Add to this setup even the simplest little multi-tracker, with the MSQ's simple but effective tape sync, and you could expand your music-making capabilities enormously.

I have to say that I would not recommend the MSQ700 to someone wishing to realise dense, intricate orchestral compositions, other than as a scratchpad for getting ideas down quickly and easily. But for those who believe that simplicity and immediacy are of more value than esoteric functionality, a second-hand MSQ700 may be a refreshing alternative to today's multi-functional sequencing workstations.

Eight sequences may seem a big limitation, but a sequence can be any length, and may be added to at will. With some forethought, quite structured compositions may be realised in this way.

Of course, at this point, the normal reaction would be to dismiss the MSQ's sequence storage capabilities as wholly inadequate. Let's be honest, though, a vast majority of records these days consist of a basic structure (8- or 16-note bassline and a simple drum pattern and chord structure) that run throughout the whole song, with just a few variations and build-ups for choruses, hooks, a middle eight and the like. Viewed in ▶



this light, the MSQ's seemingly miniscule storage of just eight sequences may even be considered excessive for modern purposes! In practice, however, it restricts the MSQ700 to only one song in memory at any time.

TUNE IN, TURN OFF, DROP IN

Gripes? Of course! Apart from the absence of even simple editing (see the 'Not So Golden Retrievers' box), one missed opportunity is that as the sequence is playing, you can't drop tracks in and out of Play using the track keys — the MSQ must be stopped first. Similarly, you can't change sequences in real-time, to create on-the-fly extended remixes or to try out ideas before committing them to a chain. On the other hand, the chain mode is so simple to use, it's not especially limiting. To be able to do either of these would have made the MSQ700 quite a neat little 'performance' sequencer.

Another irritation concerns overdubbing. Imagine you have laid down a four-bar bass line and drum part on some tracks, and you overdub something on another. When recording with Repeat switched on, the bass and drum tracks keep trundling on repeatedly as you overdub onto the other track, but on playback, they will stop at four bars while the overdub keeps playing in isolation. It would be nice if tracks repeated in playback regardless of other tracks' lengths, but then I suppose it's a tad late to ask Roland for a software upgrade!

Niggles aside, the MSQ700 is still a good sequencer, the main reason being because it's simple, fun and spontaneous. Once you are aware of its limitations, you can easily work within them. You may swear at it from time to time, but even the most powerful modern sequencer will elicit profanities, especially when it crashes mid-session — which the trusty MSQ700 will *never* do!

SIMPLE PLEASURES

So, who would buy an MSQ700 these days? Me, for a start. I had one when they first came out (I must have paid £800 or more) and I made some of my best music on it. But of course, I read the ads, believed the hype and convinced myself I needed all the sophisticated, nerdy functions other sequencers offered, and rather foolishly traded it in for something else. Big mistake! Instead of making music, I was poncing about with tiny keys and a 2 x 16 LCD — and my music was none the better for it *[Yes, we've noticed — Ed]*.

I've recently acquired another MSQ700, and the fun and spontaneity is back. My musical requirements are not that demanding, and so the MSQ suits me just fine. If you are one of the many people still recording to tape, then the MSQ may be an ideal way of doing some basic sequencing, or adding 16 'virtual' tracks cheaply. If you already own a more comprehensive sequencing package, as an adjunct to your main sequencer, you too may find the MSQ's ease of use appealing. Quick, easy and almost the modern day equivalent of lifting the lid off a piano and playing! When I've run out of steam, I can just switch it off and walk away, safe in the knowledge that I can come back to it at any time with no system re-booting, application launching, sequence loading, MIDI map extensions reset and the like.

You couldn't call the MSQ700 the best hardware sequencer in the world, but while it may be 'functionally challenged', what it does offer is blinding simplicity and ease of use, in a world where sequencing a tune seems to require an honours degree in computing science. Remember, folks, less can be more — and it can also be fun. SOS

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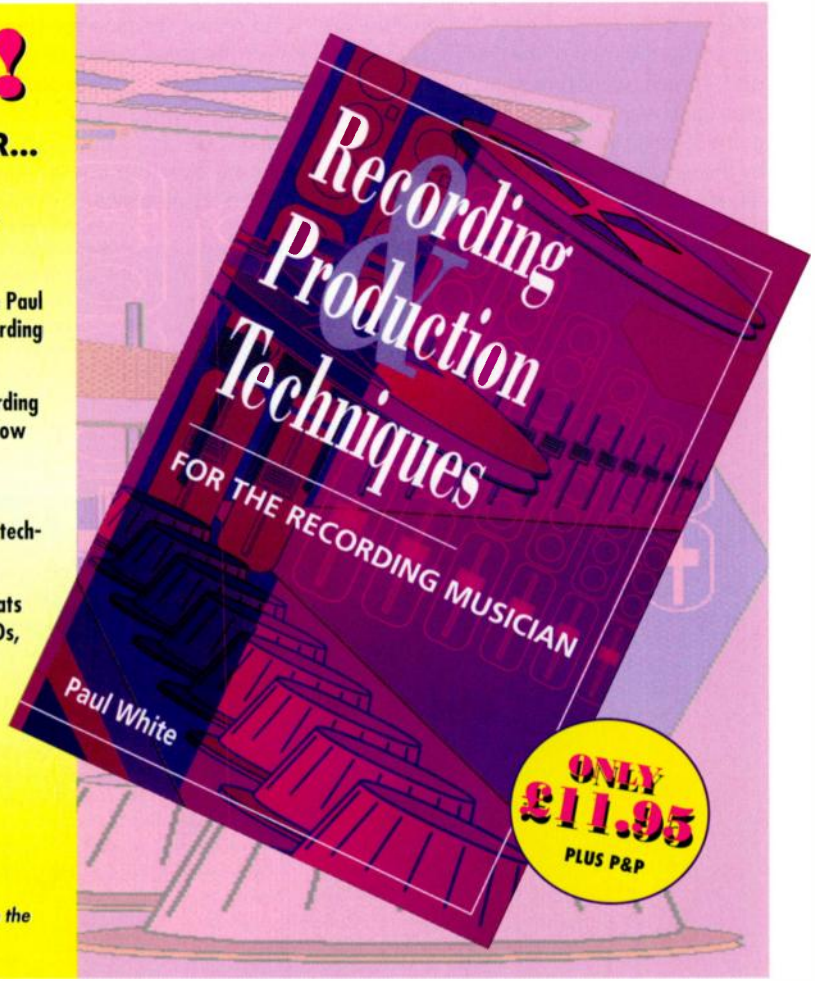

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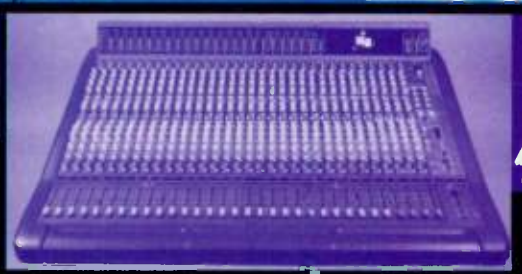

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YAMAHA SY85 workstation, 2Mb expansion, sound library, £695, Fostex X28, very low mileage, £240, Korg wavestation SR, £595, Alesis Quadrasynth module, £575, Quadraverb 2, £495. ☎ Greg 01482 632443.

YAMAHA SY85 Excellent condition with sound library and manuals, £750 ono, Fostex X26 multitrack recorder, £150, Korg SQ8 sequencer 8-track with manuals, £50. ☎ 01502 476430.

YAMAHA SY85 £635, Roland JX8P, £295; PG800 programmer, £225. Both £500. Yamaha CS60 little bro to CS80, £330; K5M additive, £245, K4R, £210. Might p/ex. ☎ 01261 832898.

YAMAHA SY85 8Mb sample memory, 6 sound disks plus MCD 64 card, £750, MU80 code generator, £500, SY22, £300, DX11 multitimbral synthesizer, £275, QX5FD sequencer, £50. All in excellent condition and boxed with manuals. ☎ Steve 01908 263400 daytime.

YAMAHA SY85 workstation, excellent condition with manuals, disks, stand and sustain pedal. Two Yamaha M5205 20W powered monitors. All just £900. ☎ 01423 340417.

YAMAHA TG55 sound module. 1U rackmounted with ROM and RAM cards and extra sounds on disk. Excellent condition. £300; also Roland AX1 keyboard controller with strap, immaculate, still under warranty. £330. ☎ John 0973 915269 anytime.

YAMAHA TG100 expander. 16-part multitimbral, 28-note polyphonic, including PC editor, with manuals. £195. ☎ 01895 835649.

YAMAHA TX81Z module, excellent condition, box, manual, £175. ☎ Alan 01271 24198 (Devon).

YAMAHA TX81Z FM expander. Multitimbral, great sounds, £130 ono, Roland TR707 drum machine, £130 ono, Steinberg Pro 24 v3 (Atari), manual and dongle, £25. ☎ Steve 01270 820393.

YAMAHA YPP50 electric piano, 76 semi-weighted keys, MIDI, multitimbral, immaculate with stand, pedal, manual. Accept £430 or swaps, eg U20, X5, XP10, JW50. ☎ Lee 01472 267665.

RECORDING

3M 79 2-inch tape machine, 24 track. Fully serviced. Spares included. Remote and autolocate, £4,500. ☎ Phil 0181 692 4769.

AIWA HDS1 portable DAT recorder, £230, Alesis MMT8 8-track sequencer, £85, JL Cooper PPS2 SMPTE/MIDI or FSK+ synchroniser, £90. All good condition. ☎ 01933 678608.

AIWA XDS1100 DAT machine, brill condition, 8 months old, £650; Studiomaster Proline Gold 16:8:16 mixing desk, £799. Both home use only. ☎ Scott 0585 498600 (North West).

AIWA XDS260 DAT machine, just serviced, excellent condition, full remote, some tapes, £275. ☎ Colin 01723 351450.

AKAI MG1214 plus £400 tapes, £1,750; Digitech VHM5 vocoder, £350, Peavey digital amp DPC750 plus EVS200 speakers, EQ, £1,450 complete! Wanted: ADATs, BRC, Yamaha Pro-Mix. ☎ 01273 686637 (Sussex).

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ALESIS ADAT v3.06, 650 hours, very clean plus EDAC balanced multicore, £1,200; J L Cooper Datasync, PSU and ADAT lead, £100. ☎ Jon 01993 850847.

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ATC SCM10s One year old, domestic use only, £650 ono. ☎ 01777 711386 (Notts).

AUDIO TECHNICA MICS (two) (ATM10s, reviewed SOS Jan '96). VGC, £55 each, dual enhancer rack unit, frequency and bandwidth individually selectable on each channel, VGC, £55 (cost £320). ☎ 01734 393558.

BBE 362 Sonic Maximiser, mint, boxed, manual, £145, Samson MPL1502, high spec, 15-channel mixer, boxed, manual, mint and still under guarantee, £199. ☎ Dave 0191 372 2621 eves (Durham).

BEHRINGER PEQ305 5-band parametric equaliser, brand new, perfect condition, boxed with manuals, £200. ☎ William 01623 843366 (Nottinghamshire area).

BOSS SE50 Great condition, Boss's best reverb, £250, QY20 sequencer, great for the nonstop songwriter, £215. ☎ 01494 464622.

BOSS SE50 multi-effects. Excellent condition, boxed with racking unit, £250, Drawmer LX20, excellent condition, £130, boxed. ☎ Paul 0151 487 0358 eves (Merseyside).

CASIO DA1 portable DAT recorder, £175 ono; Korg DSS1 sampler keyboard plus disks, £535 ono; Akai XE8 drum module plus cards, £125 ono; Roland TR626 drum machine, £125 ono. ☎ 01584 811653.

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FOSTEX DCM100 (two) and Mixtab. Full MIDI control. 8 stereo channels per unit, 2 aux send/returns. Perfect condition, £425 the lot. Will split. ☎ 01306 885057.

FOSTEX DCM100 1U rackmounted 16-channel mixer with bass and treble controls operated via MIDI from your computer. Cost £450, boxed with manual, £175; Roland D110, 9-part multitimbral sound module, good condition, boxed with manual, £225. ☎ 01622 738130.

FOSTEX E16 16-track and 4050 autolocator/synchroniser. Both excellent condition, £1,850 ono; also JBL Control 5 monitors with cases, £250 ono. ☎ Paul 0191 455 4681.

FOSTEX M20 2-track recorder, includes sync track, £495; Aphex C exciter, £150, Symetrix 525 compressor, £200. ☎ Celfyn 01222 864243.

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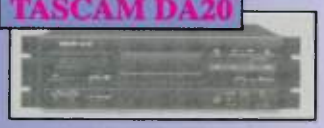

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AKAI S1000 sampler, 4Mb, £1,200, Oberheim Matrix 6R polyphonic analogue rack synth (Matrix 1000 with front panel controls), £470; Roland TR626, offers around £100; Ibanez HD1000, digital delay/harmoniser £100; Roland D50 c/w semi-flight case, £425. ☎ Antony 01386 832586 or email surreal@cityscape.co.uk.

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AKAI S1000 sampler, 8Mb, excellent condition, home use only, original packaging and manuals, version 4.3 operating system, £1,200 ono. ☎ Justin 01394 388806.

AKAI S1000 sampler, 8Mb RAM, good condition, £1,450 or best offer or will swap for other studio equipment. ☎ Trystan 0171 277 5978.

AKAI S1000 PB 4Mb, SCSI interface, latest 4.3 system software, 50 Akai sample disks (more available), all manuals, boxed, mint condition, £1,200 ono. ☎ 01553 617497 (Norfolk).

AKAI S1100 sampler with 18Mb RAM, version 4.3 operating system software and also 270Mb internal hard drive, £1,950. ☎ Nathan 01254 676166.

AKAI S3000 2Mb. Mint condition, bedroom use only, £1,700 ono. Boxed with manuals ☎ Matt 01703 595213.

CASIO FZ1 sampling keyboard, 2Mb, 9 disks, manual, book, £475, Boss DR220A digital drum machine, £65; Ensoniq VFXSD synth, manuals, disks, ROM cartridge, £475. ☎ Rob 01489 790596.

EMU EMAX II 2Mb, 16-bit stereo keyboard sampler. Built-in 16-track sequencer, manual, boxed, excellent condition with 200 disk Emax sound library. £900 ono. ☎ Stephen 0171 627 0995.

EMU EMAX II sampling keyboard. Powerful voice editing spectrum synth and built-in sequencer. Includes disks and manual. £800 ono. ☎ 01273 478491.

EMU EMULATOR II + HD. Excellent condition, includes owners manual and mega aluminium flightcase, £600. ☎ 01274 620004 (Bradford).

EMU EMULATOR E3XP sampler. 24Mb RAM, 32-voice, 8 outs, reads Akai S1000 samples and programmes. Excellent condition, boxed with manuals, £1,850; Oscar synth. Latest MIDI, very good condition, £900 ono, Roland Juno 60 polysynth, cased, £275; EDP Wasp, classic sound, very good condition, £275; EDP Spider sequencer for Wasp, £200. ☎ 0171 221 2214.

EMU ESI32 Updated version 2.1 plus disks, mint condition, £950; Roland E20 synthesizer, flightcased, £240; Yamaha YS200 synth, flightcased, £200; Digitech RP5 guitar processor, £250; Alesis SR16 drum machine, £135, Trainer TS15 guitar amp, £45. ☎ 01945 870474.

EMU ESI32 sampler, £800 ono. ☎ David 01273 678068 days, 01306 740936 eves.

EMU ESI32 8Mb RAM and SCSI. Version 2.0 operating system, home use only, £1,200. ☎ 01452 371525.

EMU ESI32 with 8Mb SCSI interface, Syquest 270Mb removable hard disk drive and 2 media CD ROM drive and 3 CD ROMs. Will deliver. £1,996 ono. ☎ Steve 01246 410799 (answerphone).

ENSONIQ ASR10 stereo sampler sequencer, upgraded to 10Mb, includes small library of approx 40 disks, perfect condition, complete with manuals, £2,000. ☎ Troy 0181 342 8142.

ENSONIQ ASR10 sampler keyboard, 10Mb, 175 second sample time, internal effects, output expander, 8 outputs, lovely sound, boxed as new with manual, cost £2,600, only £1,695. ☎ Graham 01803 616348.

ENSONIQ EPS sampler workstation. Memory expansion, disks plus manual, excellent condition, £595 ono. ☎ Simon 01225 401862.

PEAVEY SP sample player, £340 coupled with Peavey SX sample expander (sampler), £480. Both 16-bit, SCSI compatible, MIDI sample dump standard. Manuals, disks etc. ☎ 01933 678608.

PEAVEY SP+SX sampler, £650 inc Peavey sound library worth £500. VGC. ☎ Jon 01482 650674.

PEAVEY SP/SXII sampler, 4 Outs, 5 Mb RAM, 2 SCSI ports, 44 and 48 KHz sample rates, home use only. £700. ☎ 01327 351969.

PEAVEY SP/SXII sampler, 8Mb memory expandable to 32Mb. Very high quality samples. Complete Roland PR909, SH101 and MC202 samples. Excellent condition. Clearout sale. £699 ono. ☎ Stephen Hastings 0131 449 8159.

ROLAND MS1 sampler. High quality samples, can be stereo, and on-board sequencer with Roland sample CD. Check out the reviews. As new, boxed, manual. £350 ono. ☎ 01933 270930.

ROLAND MS1 with PSU and MS1 video, £285, Yamaha QY20 with PSU, QY20 video and carrying case. Boxed. £290. ☎ 0181 656 3634 after 7.00pm.

ROLAND MS1 digital sampler, 16-bit, 44KHz, features loops, truncate, and pitch control, very good condition, boxed with manual, £300 ono or will swap for Roland SH101 analogue synthesizer with MIDI and modulation grip or WHY, Boss DT550 MkII digital drum machine, MIDI, unused, boxed, cost £200, sell for £150 ono or swap for Korg 707 synth, Casio CZ3000. ☎ 0161 723 5523.

ROLAND MS1 sampler. Great 16-bit stereo unit. As new with box, manuals and sample CD, £299. ☎ Steve 01235 850002.

ROLAND S760 with CD-ROM drive and hard disk, 28Mb memory, £1,800. ☎ Alex 0181 520 6372.

ROLAND W30 SCSI upgrade, manuals, flightcase and lots of disks, £750, Yamaha DX9 FM synth. Case and manual, £130. ☎ Andy 01706 59652 after 7pm (Rochdale).

ROLAND W30 sampling workstation, 16-track sequencer with disks and manuals. In very good condition with original packaging plus additional hard case. £725. ☎ Andre 01435 865435 eves, 01892 603321 days.

COMPUTERS/SOFTWARE

20-TRACK computer sequencing system! Comprises Amiga, colour monitor, Music-X, MIDI interface (5 sockets), printer, games, etc. Mint condition, £300. ☎ Dave 01734 332892 (Reading).

75MHz multimedia Pentium, 8Mb, 540 E-IDE HD, double speed CD-ROM, 64-bit graphics/1Mb video RAM, 14-inch SVGA, 16-bit S/C, joystick, speakers, keyboard and mouse, Windows '95, boxed, new, £1,150. ☎ 0956 156712.

256K SIMMS Two available, upgrades a basic Atari 520STE to a full 1Mb for just £8. ☎ 01354 695239.

AMIGA 500 1Mb, boxed, c/w MIDI box, 2 x 8-bit samplers, Meglosound editing package, various sequencers, loads of samples, £110. ☎ Andy 01903 218126 evenings (Worthing).

AMIGA 1200120Mb hard drive, mint condition, boxed with all original software and manuals. Also music sampling software and Octamed plus lots more, £300 ono. ☎ Wakefield 01924 362348.

AMSTRAD PC1640 IBM-compatible computer, 3 and a half-inch and 5 and a quarter-inch disk drives, mono monitor, keyboard, mouse, manual and disks, £200. ☎ 01977 791770 (Pontefract).

ATARI 520 STE 4Mb, SM124 monitor, DAC DR2000 direct-to-disk system inc digital I/O, 100Mb drive, Notator 3.1, Sound Designer 1.5. All manuals and disks, £1,100. ☎ Ken 01536 81817.

ATARI 520 STE 2Mb for Cubase programme, £100. ☎ KoKo 01303 248815 (Kent).

ATARI 520 STE 2Mb, Cubase version 3.2, Cubase handbook plus many magazines some with CD, £330, Casio CZ5000 with photocopied manual and case, £250. ☎ 0181 368 8663.

ATARI 1040 ST plus external disk drive (TOS 1.6). Very little use, £150 ono. ☎ 01208 873649.

ATARI 1040 ST and Tatung 14-inch high resolution monitor, £175; Windows '95 floppy disk version with manuals, £30; Cubasis Audio for Windows, £180; Clarity 16-bit sampler for any Amiga computer, boxed as new, £75. ☎ Ian 01702 616961.

ATARI 1040 STE 4Mb, SM124 monitor and Creator SL, £250, also Unitor C, £100 and Export, £50, or the lot for £350 for 64 MIDI channel support. ☎ 01527 853761.

ATARI 1040 STE computer, £100. ☎ 01227 363078.

ATARI KEYBOARD EDITORS/LIBRARIANS for Roland D70, £35; Roland P5/D10/D20/D110/MT32, £35; Korg M1, £35, Kawai K1/K1MkII, £35. All with manuals for Atari ST computers. ☎ 0181 883 4329 or 0860 482822.

ATARI MEGA 4ST SM144 (14-inch) mono monitor, 200Mb HDD, Cubase V3.0, Digidesign Soundtools HD system (digital/analogue interfaces), £865 ono; Steinberg Midex Plus £175 ono. ☎ Matt 01629 636572.

ATARI ST computer with hi-res monitor, mouse, sequencing software, SP, DSDD, extra disks, all leads etc. Boxed, mint, £240. AWE32, £120; 4Mb SIMM, £65. Wanted: JD800. ☎ 01252 370550.

ATARI ST 1Mb, just add SIMMs to expand to 4Mb. Sorry, no monitor (works with TV), but ideal back-up machine and still the best for music, good condition, £120 ono. No time wasters. ☎ 01354 695239.

ATARI STE 1Mb, SM124 hi-res monitor, second disk drive, joystick and lots of games, £240; Roland D550, immaculate with manuals, £520; Cheetah MS6 with manuals, £230. ☎ 01825 724093.

ATARI STE 1Mb, high resolution monitor, leads, sequencer, Cubase handbook (worth £30), complete £240 ono. Other Atari hardware, hard drive, external drive also being sold. ☎ 01884 257487.

ATARI STE 4Mb, 65Mb drive. Mono and colour monitors. Notator Logic, X-OR, Neodesk 4, Geneva, MultiTOS, Lattice C, games, joysticks, books, manuals etc, £400 ono. ☎ Martin 0115 943 2578.

CUBASE 2.8 update for 2.6 version. Original with 2 manuals, boxed with Steinberg Waveplayer package, only months old, cost £70. Make me an offer. Remember this is to upgrade your 2.6 version. Also original Cubase manual in folder, excellent condition. Make me an offer. ☎ Paul 01302 538304.

CUBASE 3 Original disks, manual, dongle, £185, Steinberg SMP25 SMPTE/MIDI expander with manual, software, leads, £285. Both new condition. ☎ 01782 504850 after 6.30pm.

CUBASE AUDIO Digidesign AudioMedia II. Brand new, £900 ono; Zoom 9120 effect, £200. ☎ 0171 724 9379.

CUBASE SCORE version 2 for Falcon, full score writing facilities, boxed with manuals, £240 ono. (New, £400). ☎ John 01522 543243.

CUBASIS AUDIO PC. Unregistered, £175. AWE32 sound card, 8Mb sample RAM, £275. ☎ Chris 01638 743052.

EMAGIC NOTATOR LOGIC for PC, version 2.0, £195. ☎ 01638 780601.

EMAGIC NOTATOR LOGIC AUDIO (Mac). Brand new, unused, still shrinkwrapped, genuine reason for sale. £500 ono, or will swap and collect good condition JX8P. ☎ Dave 01896 754546.

GIVE YOUR PC a boost. Genuine Intel DX2-66 CPU with chip fan, £60 ono. ☎ Steve 01422 350281 (West Yorkshire).

MUSIC QUEST MQX32 MIDI card for PC. Cost £250, sell £175; also original SAW software with manuals, version 5.1 with effects rack, make me an offer. Wanted for S760 sampler, DA400 outputs and RA100 controller. ☎ Paul 01302 538304.

MUSIC QUEST MQX32M professional PC MIDI interface, 2 In, 2 Out, SMPTE, complete documentation, £95. Studio Vision AV MIDI hard disk recording for Macintosh, complete box and manuals, £65. ☎ 0181 856 9527.

PIANOWORKS Music Via Piano, Miracle. Great tuition software for PC. Also perfect pitch and relative pitch cassette ear training courses. All offers accepted. ☎ 0161 773 9003.

QUAD! Digital 4-track recording in real time including Turtle Beach soundcard with DSP, Wave for Windows 2, essential digital recording for the PC. £200. ☎ 01983 615370.

SIMMS 4 x 1Mb, 30-pin SIMMs from Mac IIci, but suitable for Mac, PC, sampler etc. £15 each, £50 all 4. (Will probably accept near offer!). ☎ Simon 0121 472 7655.

SIMMS 1Mb 30-pin 3 and 9 chip, £16, 4Mb 30-pin parity, £64, 256K 30-pin x4, £15. ☎ 01753 594382.

SOUNDFORGE PC wave editor, ideal for hard disk recording, multi-effects, Windows '95 compatible, boxed with manual, as new, £100. ☎ Mark or James 01474 703357.

ST GAMES Why not have some fun? Over 100 original boxed games for the ST, all sorts. Can supply list, but would rather not split. Just £100 (less than 50p a game!) for the whole collection. ☎ 01354 695239.

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SEQUENCERS

ALESIS MMT8 Datadisk SQ, Yamaha DX100. Boxed. Careful home use. Immaculate. All manuals. Sell together only, no offers, hence £250 the lot. ☎ Dave 10-11pm 01924 279992.

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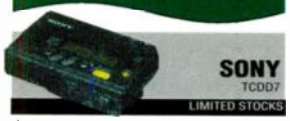

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Multitracks

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8-track stand-along random access recorder that features jog/shuttle, MIDI Machine Control and MIDI Time Code, S/PDIF as standard as well as 4-in, 8-out balanced connectors. Options include ADAT digital interface, SCSI port for computer hook-up, sync card for additional units, 4 extra analog ins etc.

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TASCAM 238S + MMC100 **+ SPIRIT** Folio Rac Pac

INCLUDES MMC100 INTERFACE

The 238S is based on the transport of the £1000 plus 122 pro mastering machine and with the addition of the ground breaking Dolby S noise reduction gives super recordings time after time. Other features include record all 8 tracks at once, shuttle control, large bar-graph meters, digital counters, auto punch in/out. Soundcraft's Rac Pac makes the ideal partner for the 238S and offers a highly flexible all-in-one rackmountable 8 track recording package.

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Only £99 if bought with any new DAT *machine*

Remove the SCMS code from a digital signal : you to make as many digital copies as you like. Co-axial and optical connections - can also be used to transfer from one to the other, ie your machine with only an optical out can now have a co-axial out etc... LEDs indicate the curent signal status and also show any digital errors off tape. 9v battery allows use with portable machines.

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PRO 8 TRK DIGITAL

The definitive statement in 8 track digital machines ! The Sony PCM800 is based on Tascam's DA88 but has the added advantages of balanced XLR connections and AES / EBU. Buying power makes our offer cheaper than the DA88 ! Limited quantities only available at this price. Buy now before stocks are exhausted !

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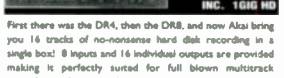
AKAI DR-16

INC. 1GIG HD



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AKG C1000S	£ 199		
AKG C12VR	£ 2,575		
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AKG C401B	£ 76		
AKG C401PP	£ 112		
AKG C402B	£ 93		
AKG C402PP	£ 116		
AKG C407B	£ 70		
AKG C407PP	£ 110		
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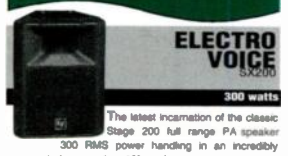

The latest incarnation of the classic Stage 200 full range PA speaker 300 RMS power handling in an incredibly compact design. 1 x 12" woofer plus wide dispersion horn. Makes an ideal portable system. Limited stocks at this price (bundled with Powerstation £2149.)

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Mixers

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Almost everyone involved in music production at some stage dreams of owning a Soundcraft console - The legendary sound quality, reliability and ease-of-use, means that a Soundcraft equipped studio must be taken seriously. The SPIRIT Studio range represents a minor miracle, produced in Britain using the world's most advanced production technology and revolutionary manufacturing techniques to bring you Soundcraft quality at a previously unimaginable price!

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AKG C410PP	£ 234	AUDIX UEM 81	£ 29
AKG C414BULS	£ 849	AUDIX ST 2	£ 89
AKG C747	£ 370	Beyer M300TG	£ 116
AKG CK91	£ 139	Beyer M88TG	£ 319
AKG D112	£ 217	Beyer MC740	£ 1,174
AKG D130	£ 134	Beyer MC834	£ 739
AKG D3700	£ 123	Beyer Si50N	£ 410
AKG D785	£ 58	DB tech VHF receiver	£ 169
AKG SE300B	£ 139	Groove MD1	£ 680
AKG WMS100HTCVC	£ 880	Groove MD2	£ 1,166
AKG WMS100HTDVC	£ 880	Groove MD3	£ 1,565
AKG WMS100PT	£ 939	NADY 201	£ 149
AKG WMS100PTB	£ 939	Neuman KM184	£ 565
AKG WMS100PTG	£ 939	Neuman TLM170	£ 1,025
AKG WMS100PTP	£ 939	Neuman TLM170R	£ 1,028
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Audio Tech ProIIMBM	£ 113	Sennheiser MKE46	£ 89
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Alesis MATICA900	£ 649	Fender SR6520P	£ 599
Amcron Powerbase I	£ 249	Fender SR6520PD	£ 734
Bose 502	£ 1,215	Fender SR8300P	£ 549
Bose 502P	£ 1,399	Fender SR8520P	£ 699
Bose 802	£ 1,299	JBL 8SR	£ 429
Bose 802C	£ 385	JBL 8ON15	£ 999
C Audio RA2001	£ 999	JBL M330MKII EACH	£ 704
C Audio RA3001	£ 1,299	JBL M350MKII EACH	£ 821
C Audio ST400	£ 699	JBL M35SMK2 EACH	£ 763
Dynamix DPA400	£ 199	JBL MR825	£ 680
Dynamix Spkr Control	£ 119	JBL SR4715A	£ 1,264
EV S300X	£ 999	JBL SR4726A	£ 1,526
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Fender 115ELC	£ 166	Peavey CS800X	£ 649
Fender 8520PD	£ 808	Peavey EUROS1PM	£ 279
Fender ESPL3001	£ 319	Peavey EUROSYS1PM	£ 1,264
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Fender LX1506	£ 349	Sabine FBX 1802	£ 1,523
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Fender MX5224	£ 2,349	Sabine SM 610	£ 387
Fender MX5232	£ 2,995	Samson S6	£ 429
Fender PCN2	£ 375	Samson S8	£ 549
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Fender PX2200	£ 1,233	Soundtech PL250M	£ 129
Fender PX2200D	£ 1,409	Stewart Dvnmd PRO12	£ 586
Fender PX2212D	£ 1,585	Stewart Dvnmd PRO16	£ 1,005
Fender PX2216D	£ 1,738	Stewart Dvnmd PRO24	£ 1,174
Fender SIDEKICK	£ 99	Stewart Dvnmd PRO8	£ 451
Fender SPL1185	£ 550	Yamaha H3000	£ 1,599
Fender SPL2155	£ 825	Yamaha H5000	£ 2,049
Fender SPL2912	£ 642	Yamaha H7000	£ 2,479
Fender SPL2915	£ 737	Yamaha P1500	£ 499
Fender SPL4000	£ 575	Yamaha P2500	£ 599
Fender SPL9000	£ 751	Yamaha P3500	£ 699
Fender SPLM300	£ 422	Yamaha YS212E	£ 159
Fender SR4150	£ 379	Yamaha YS215E	£ 189

FOLIO RACPAC Rack mixers by Soundcraft

NEW LOW PRICE

This excellent addition to the Folio range is a sure-fire winner combining superb sound quality with a fantastic list of features : 3 Band EQ with Mid sweep, 6 auxiliary sends, high-pass filters rackmountable (includes swivelling connector field) up to 28 inputs on mixdown, 4 true sub-groups plus separate mix bus, insert points and direct outs on every channel. STOP PRESS, Tremendous reduction

RRP £899 **£699** NEW BOXED

NEW, USED & EX DEMO

AIM G81	£ 899	Soundcraft Ghost24EXSTC	£ 423
AUDIO LOGIC SC610C	£ 69	Soundcraft Ghost24MB	£ 635
FOSTEX 2016	£ 406	Soundcraft Ghost24ST	£ 429
FRONTLINE 8:2	£ 99	Soundcraft Ghost32	£ 5,170
Mackie 16	£ 2,800	Soundcraft Ghost32MB	£ 740
Mackie 24	£ 3,100	Soundcraft Ghost32ST	£ 441
Mackie 24E	£ 2,749	Soundcraft LVMEI12	£ 1,174
Mackie 32	£ 3,800	Soundcraft LVMEI16	£ 1,299
Mackie BRIDGE16	£ 649	Soundcraft LVMEI24	£ 1,875
Mackie BRIDGE24	£ 699	Soundcraft LVMEI8	£ 799
Mackie BRIDGE32	£ 799	Soundcraft LVMEIEXP	£ 684
Mackie CR1202	£ 250	Soundcraft Protracker	£ 762
Mackie CR1202VLZ	£ 339	Soundcraft RACPAC	£ 699
Mackie CR1604	£ 650	Soundcraft SpiritAuto16E	£ 2,740
Mackie LM1204	£ 849	Soundcraft SpiritAuto24E	£ 4,672
Mackie MBE	£ 799	Soundcraft SpiritAuto32	£ 5,608
Mackie SC 8 SIDECAR	£ 269	Soundcraft SPIRLC16	£ 1,786
Mackie SR244	£ 1,495	Soundcraft SPIRLC24	£ 2,421
Mackie SR324	£ 1,999	Soundcraft SPIRLC32	£ 3,292
MIDIMAN minimixer	£ 69	Soundcraft SPIRST16	£ 1,189
NICHE audio cntrl mod	£ 99	Soundcraft SPIRST24	£ 1,589
PHONIC 6:2	£ 89	Soundcraft SPIRST32	£ 2,399
Samson MIXPAD9	£ 199	Soundtrac MACRO14C	£ 428
Samson MPL 2242	£ 649	Soundtrac MAXI24C	£ 1,938
Samson MPL1204	£ 499	Soundtrac MAXI32C	£ 2,291
Samson MPL1502	£ 269	Soundtrac MINI12	£ 323
Sndcft DC2000 24C	£ 13,790	SoundtracTopaz32	£ 3,877
Sndcft DC2000 32C	£ 17,138	Speck XTRAMIX	£ 2,999
Sndcft DC2000 32pb	£ 20,857	Spirit Folio 10:2	£ 329
Sndcft DC2020 32C	£ 23,488	Spirit Folio 12:2	£ 369
Sndcft DC2020 32pb	£ 27,600	Sflex MEM 24.2	£ 149
Sndcft Folio 10:2	£ 380	Sflex stage mix 8:2	£ 199
Sndcft Folio 12:2	£ 447	Stewart Dlvmond 12:2	£ 434
Sndcft Folio 12:2R	£ 447	Stewart Dlvmond	£ 502
Sndcft Folio 4	£ 1,049	Stewart Dlvmond	£ 338
Sndcft Folio LITE	£ 321	Stewart P7240:24:2	£ 3,289
Sndcft Folio SI	£ 499	Stewart P7320:32:2	£ 4,054
Sndcft Folio SIRACK	£ 540	Tascam MM20	£ 299
Sndcft Ghost16MB	£ 529	Tascam M2616	£ 1,195
Sndcft Ghost16ST	£ 423	Tascam M2624	£ 1,595
Sndcft Ghost24	£ 4,348	Yamaha Promix 01	£ 1,499
Sndcft Ghost24E	£ 3,643	Yamaha 02R	£ 1,049
Sndcft Ghost24EXMBK	£ 576	Yamaha PROMIX01C	£ 1,599

Mics

AKG C3000 Large Diaphragm Mic

INC FREE BOOM STAND

The C3000 uses all of AKG's experience in building large diaphragm mics such as the C12 and C414, but by using modern manufacturing techniques, and only offering two patterns (cardiod and hyper cardioid), the price has been kept to a minimum. Its open sound and superb frequency response make it ideal for vocals, as well as sounding great on a variety of other instruments.

RRP £399 **£299** NEW BOXED

Sennheiser MD441	£ 461	Shure SM58	£ 119
Sennheiser MD504	£ 93	Sony ECM999A	£ 70
Sennheiser ME64	£ 130	Sony ECM999	£ 370
Sennheiser MKH80	£ 2,500	Soundcraft DM01	£ 321
Shure SM57	£ 59	Soundcraft GM01	£ 321
Shure SM58	£ 95	Soundcraft MS	£ 73
Shure BETA57	£ 199	Soundcraft SM01	£ 64
Shure BETA58	£ 185	Soundcraft LM01	£ 321
Shure BG1.0	£ 40	Soundcraft VM01	£ 64
Shure SM57	£ 110	Soundcraft VM01S	£ 64

Guitars

YAMAHA PAC 112Pacifica

LOWEST PRICE EVER

The Yamaha PAC112 was voted Number One budget guitar for the past two years. Massive bulk purchase makes this unbelievable value for money. Order now to avoid disappointment

PRICE CRASH RRP £199 **£159** NEW BOXED

ZOOM 4040

FX PEDAL BOARD

Megadeal on top quality FX pedal board features include 25 digital and analog effects, 6 effects simultaneously plus compression and ZNR noise reduction. Built-in expression and volume pedals, MIDI out, built-in tuner, 80 patches, switchable input gain, buy now while stocks last !

RRP £379 **£299** NEW BOXED

MARSHALL DRP1

DIRECT RECORDING PRE-AMP

The Marshall DRP1 makes getting a fantastic sound through any system a cinch. Now you can have Marshall tone straight through a PA, studio monitors or direct onto tape (it also makes a great headphone practice amp. Controls include pre-amp volume, gain boost, bass, middle and treble, master volume and line-output level. A n LED indicates battery stength (unit can also be mains powered by a DC adaptor) These units are the last ever - incredible price

RRP £109 **£49** NEW BOXED

GUITARS - 0171 379 6766

NEW, USED & EX DEMO

BOSS MEB	£ 299	Gibson LP EB	£ 1,099
Crate G40CXL 2CH	£ 199	Gibson LP Std+	£ 1,899
Crate G40CXL 2CH	£ 199	Heartbeat Dr. Bass	£ 299
Crate G60XL combo	£ 199	H+K Tubeman	£ 199
Digitech BP10	£ 499	Marshall 8080	£ 329
Digitech RP5	£ 299	Reuter 2402	£ 169
Epiphone Les Paul	£ 369	Rickenb.360	£ 1,179
Fender 4X12 cab	£ 149	Rickenbacker 360	£ 769
Fender Jap Strat	£ 399	Roland GI10P	£ 499
Squier LSG 15W AMP	£ 79	Roland GP100	£ 739
Squier Precision	£ 199	TransRoad DI12Combo	£ 149
Squier Strat	£ 129	Yamaha diversity sys	£ 99
Fender USA Std Strat	£ 799	Zoom 1010	£ 149
Fender USA Strat	£ 599	Zoom 2020	£ 199
Gibson ES335	£ 1,499	Zoom 3030	£ 235
Gibson LP Classic +2	£ 1,649	Zoom 4040	£ 299

D. J.

GEMINI GMX2 Entry-level DJ mixer

SPECIAL OFFER

Massive saving on this pro-mixer features including 2 long-throw pro line faders. Replaceable cross-fader. LED channel displays for left and right signals. Inputs switchable from line/CD to phono levels. Balanced microphone input with separate fader. Also includes variable echo for the mic signal

RRP £199 **£99** NEW BOXED

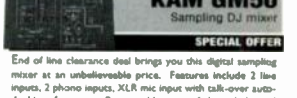
DJ STARTER PACKAGE £399 : GMX2 mixer, 2 x BJ1900 decks, free stanton carts & headphones

KAM GM50 Sampling DJ mixer

SPECIAL OFFER

End of line clearance deal brings you this digital sampling mixer at an unbelievable price. Features include 2 line inputs, 2 phono inputs, XLR mic input with talk-over auto-ducking feature. Removeable cross-fader, dedicated monitor fader and digital sampler with large stop-start button. Main channels feature 110 mm proline faders and master section has 10 LED meters. Starter pack with 2x KAM DDX380 direct drive decks, stanton carts and headphones - £649

RRP £229 **£129** NEW BOXED



TECHNICS SL-1200 Mk2 / 1210

MEGA DEAL

Still the club standard after many years, SL1200s are still going strong. This incredibly low price includes a free Stanton cartridge. Package deals available with many mixers, please call to enquire.

RRP £829 **£399** INC CART

turnkey 0171 379 5148 sound house **0171 379 5148**

Fax : 0171 379 0093, 114 Charing Cross Rd, London WC2H 0DT

E-mail : sales@turnkey.demon.co.uk

CADENZA music sequencing software for IBM-compatible PC. 3 and a half-inch and 5 and a quarter-inch disks plus manual. Still boxed. £100. ☎ 01977 791770 (Pontefract).

KORG P3 piano module, boxed as new, £90 ono; Yamaha QY10, boxed as new, £80 ono. ☎ 0115 972 8799.

ROLAND MC50 sequencer. Excellent condition with manuals and power pack, great for live work. £300. ☎ Dave 01273 883014.

ROLAND MC50 £275, Korg OW5R, £295, Kawai K1 keyboard, £210, Sony DAT DTC750, £220, Soundcraft Spirit Folio 12-channel mixer with mid sweep EQ, £270, Boss SE70, £360. All vgc. ☎ 01909 733049.

ROLAND MC50 MkII As new, boxed with manual, £450. Roland SC55 MkII, as new, manual, boxed, £400; Yamaha DX5, 2 ROM, manual, flightcase, £600. ☎ Jong 0181 780 5004.

ROLAND MC202 immaculate condition with manual and power supply, £300. ☎ Adam 0121 440 5305.

ROLAND MSQ700 sequencer and sound module, only one month old, virtually unused, offers around £500. ☎ 01723 864483 (Scarborough).

DRUM MACHINES

AKAI MPC60 drum sampler sequencer with memory expansion. Good condition, £950 ono. Seck 18:8:2 MkII mixing desk with meter bridge and flightcase, £800 ono. ☎ Paul 0191 455 4681.

AKAI XE8 drum module plus cards, £125 ono; Roland TR626 drum machine, £125 ono; Star LC10 printer, £55 ono. ☎ 01584 811653 (Worcester).

ALESIS HR16 MIDI drums, 49 excellent 16-bit sounds, 16 pads, four outputs, manual and original PSU, good condition, £75. ☎ 01843 587098.

ALESIS HR16B drum machine, good condition, £110 ono. Studiomaster Diamond Club 16:2, little used, £280. Korg X5, as new, £525. ☎ 01638 743052 (Cambs).

BOSS S50 MkII digital drum machine, 16-bit, over 90 sounds, MIDI, programmable, unused, with box, manual, £130 or swap for Alesis SR16 drum machine. ☎ Eve 0161 792 2603 days, 0161 723 5523 eves (Manchester).

BOSS DR660 very good condition, £220; NQX32 PC MIDI card, 2 Ins, 2 Outs, SMPTE, £120; Korg Audio Gallery PC, £100; Graws Ultrasound PC card, £80. ☎ Steve 01789 841356.

BOSS DR660 drum machine. Tons of kits inc 808/909 sounds. £240 with manual, PSU etc. ☎ 01933 678608.

ROLAND 626 R5, R8, R70, Yamaha RX15, RX17, RX21. ☎ Gordon 01670 523363.

ROLAND CR80 rhythm player, 69 percussion sounds, 36 rhythm styles, 7 drum sets, home use only, user manual and PSU, £100. ☎ 0121 354 4015.

ROLAND OCTOPAD II Stand, p/supply, manual, vgc. £225. Casio CZ3000, boxed, manual, extra sounds on disk, as new, £150. ☎ 01963 404949.

ROLAND R8 MkII drum machine (includes 909, 808 sounds), £325. ☎ Paul 0973 304474 or 01924 410656.

ROLAND R8M with 5 cards including 808. Box, manual, £350; also MC500 with S.MRC and manuals, £150. ☎ 0161 429 7717.

ROLAND R70 drum machine. Top spec with sequencer, humanise function and all the best sounds including 808 and 909. Boxed with manual. £280. ☎ Jamie 0113 278 7537.

ROLAND TR505 Excellent condition with PSU and photocopy manual, £100 ono. ☎ 01274 814790.

ROLAND TR505 drum machine, good condition with manual, £95 ono. ☎ Darren 01328 856035.

SOUNDMASTER SR88 analogue drum machine, works by step time, features include trigger outputs for sequencing or other devices, tom control, classic sounds, very good condition, £40 ono. ☎ Lee 0161 792 2603 days, 0161 723 5523 eves (Manchester).

YAMAHA RM50 drum module with sample dump chip, £300. ☎ 01254 676166.

YAMAHA RX7 99 samples including instrument, reverse and vocals. One of Yamaha's best drum machines for £90 or swap for Casio CZ101, Yamaha DX100 or pretty much anything. ☎ Paul 01772 626269, or email paul@softroom.demon.co.uk.

YAMAHA RY30 drum synthesizer, good condition, manual, £225; Yamaha RBX350 bass guitar, hardly used, £200. ☎ Roger 01450 870225.

PERSONNEL

CHRISTIAN MUSICIANS/PROGRAMMERS wanted to work within digital recording studio for making fourth album with Circus. ☎ Patrick 0117 924 6790.

EXPERIENCED JUNGLE & DANCE programmer/producer seeks like-minded musicians to work with. Also available for work. London. ☎ 0956 139029.

FEMALE SINGER Professional or pro attitude wanted to sing future dance hits. Have been compared to N Trance. Have received previous attention in rough form. ☎ 01422 380492 (Yorks).

FEMALE VOCALIST? Write own dance songs? Two producers want to work with you on house, hi-nrg dance. Together work to getting record deal. Send demo: Stuart Dzingel, Fuilroll, 10 Merlin Close, Waltham Abbey, Essex, EN9 3NG.

KEYBOARDIST/PIANIST arranger, sound wizard and technology maestro needed for experimental rock project. Influences from Michael Nyman to Tindersticks and Nine Inch Nails. ☎ 0171 794 0195.

KEYBOARD PLAYER required for rock/pop band with original material. Must have own equipment and transport. West Midlands and Birmingham area. ☎ Graham 01384 298034, Simon 0121 429 9094 (6-8pm).

NEW AGE dance producer seeks business partner or just friends, possibly in Wimbledon area. Interests from record labels also welcome. Good stuff awaits. ☎ 0181 544 1485 (between 8-10pm).

NORTHANTS COMMERCIAL dance act requires bass and keyboard players with good setup, transport and commitment. No time wasters, we're too busy! ☎ 01933 270930.

RED (Dangerous CD company), where are you? Get in contact. ☎ Scott 0181 647 7056.

VOCALISTS REQUIRED for various dance projects. Enthusiasm and total commitment to the cause absolutely essential. ☎ Andy (after 6pm) 01253 890048 (Blackpool). Must be reasonably local.

MISCELLANEOUS

18:2 LINE MIXER £200, ART FXR effects unit, £120, 2U rack tray, £15, 1R phones, £40, Alesis MMT8, £100, 2 tier keyboard stand, £75. ☎ Kevin 01242 230489.

ALESIS MIDIVERB II multi-effects unit, £110, patch commander, £60. Both excellent condition. ☎ Roland 01243 830697.

AR18LS MONITORS VGC, £150; Sony monitors, VGC, £30; ROMs for Ensoniq SQ80, ESQ1 synths, £40 and £20; Umatic dubbing machine modules, VGC, £10 each. ☎ 01342 323094.

BACK ISSUES OF SOS Jul '87, Nov '88, Oct '89, Nov '89, April '91, Feb '92 to Aug '93, Oct '93, Nov '93. Recording Musician issues 1 to 8 Jul '92 to Feb '93 £offers. ☎ 01932 246158.

CARLSBRO 150W keyboard combo, 4-channel + tape input, RX loop, 6-band graphic. Done many gigs, but still kicks serious ass. Two new piezos recently put in, £200 ono. ☎ 01274 814790.

CARLSBRO COBRA keyboard amplifier, 90W. Includes cover. £210. ☎ 01977 791770 (Pontefract).

CARLSBRO COBRA 90W keyboard combo, 5 channels, reverb, cover and footswitch, vgc, £160 ono. Pro24 v3 sequencer (Atari), manual and dongle, vgc, £25 ono. ☎ Steve 01270 820393.

CITRONIC SM250S sampling DJ mixer. 16 secs. Sampler battery backed. (8x2 sec or 4x4 sec) +/- 20% pitch sample looping, phono line and tape ins, mic in with EQ/gain. Punch on X/fader, £275 ono. ☎ Mike 01337 831172.

C-LAB EXPORT MIDI expansion interface, £50. ☎ 01767 269860 (Essex).

COPIES OF Keyboard, 1986-89, and Recording Musician, 1992-93. ☎ 01895 835649.

DRUMKAT 3.5 MIDI drum pad system with incredible programability. Latest software and all manuals, £695. Excellent condition, never gigged. ☎ Paul 01684 561397 (Midlands).

ENSONIQ MIRAGE sampler and Yamaha SY77 sound libraries for sale. Lists available. Also have Juno 60, DW8000, DX9, Poly 800, but no others, only these synths! ☎ Kevin 01628 663980.

FEELING PARTNER Intelligent sequencer arranger autoaccompaniment software for Atari, boxed, as new, £90; Sony TCK511 3-head cassette deck with Dolby S, as new, £170; Genexa 10-inch portable colour TV monitor, as new, £100. ☎ 0113 268 0331.

FENDER REISSUE valve reverb tank blonde. £200. Electro Harmonix deluxe big muff compressor, £65; Roland BF1 flanger, boxed as new, £100; Roland GR707 guitar synth, £450; Meistro Echoplex valve, offers. ☎ 01222 493528.

FOSTEX MC102 keyboard mixer/cassette player. 12 channels, separate EQ, pan, aux etc, pitch control, Dolby, mic inputs, LED metering. £250. Immaculate condition. ☎ Richard 01330 824433 after 6.00pm.

H&H K100 keyboard amp, manual, footswitch and built-in DIN tape socket for recording, mint condition, hardly used. £180. ☎ Ken 0181 524 1935 eves.

JBL M350 cabinets, new condition, £650 per pair; C Audio RA3001 power amp, 1250W, £550. ☎ Chris 0191 422 6056.

KAWAI K4 RAM card, £35; Alesis MMT8 8-track sequencer, £85; Boss DR660 drum machine (inc 808/909 sounds), £240. ☎ 01933 678608.

KLAAVAR PIANO course. 78 lessons, organ player tutor books, sheet music books, 'Cats', Christmas songs. Casio service manuals CZ1 101/403, offers? Contact Syd, 1 Gosden Close, Crawley, Sussex, RH10 6SE.

KORG M1 SOUNDS 200 brand new kickin' sounds, fat basses, analogue synths, kits, organs, great for dance techno film music, supplied on Atari disk, £35. ☎ 0121 443 1922.

LUDWIG DRUMS Black, immaculate, early 70s, as new, studio use only, 2 24-inch bass drums, 2 floor toms, 9 top toms, Ludwig snare, Speed King pedals, all stands and stool, £2,500. May split or swap for Tascam MSR 24-track recorder. ☎ 01482 448767.

MARSHALL 50W guitar combo amp, £149. VGC, has spring reverb, switching channels, pedal, cover, can post. Also Hughes & Kettner Red Box MkIII speaker simulator. ☎ Dave 0191 372 2621.

MESA BOOGIE V Twin valve recording preamp/pedal (ungigged), £250, Brand new E-blow, £60. ☎ Paul 01684 561397.

MPC SYNC TRACK Syncs pre-MIDI Roland Sync 24 gear to tape. If you don't need MIDI, then you need this, only £20. ☎ 01354 695239.

OBLIQUE STRATEGIES "Over 100 worthwhile dilemas" by Brian Eno and Peter Schmidt. Printed instruction cards in black presentation box. Very limited edition. Offers. ☎ 0113 262 7302.

OWNERS MANUALS for sale. Including Pro-One, SH101, Odyssey, Minimoog, MS10/20, Juno 60/106, Jupiter 4/6/8, TR808/909, MC202, Mono/Poly, Rogue, OB8, Cat plus others. Prices £3-£10 inc p+p. ☎ 01274 620004 (Bradford).

PA EQUIPMENT Peavey DPC750, Peavey EN118 bass bins, Peavey EN305 15-inch tops, includes speaker stands. Offers around £1,000. ☎ Paul 01302 782738.

PRS CLASSIC guitar, blue figured maple front, tremolo and locking machine heads. Good condition with PRS case, £849. New cost around £1,400. ☎ Paul 01684 561397 (Midlands).

RISE'S LATEST DEMO Ceased Negotiations, as reviewed in Demo Doctor Feb '96. Still available for only £4.00 (cheque/postal order) from D Tindley, 24 Church Road, Horley, Surrey, RH6 7EX. Order now as stocks are limited.

ROLAND CR78 £350; Juno 1, £350; Micropreset with CV, £85; SH09, £240; SixTrack, £450; SX1000, £75; SH2000, £95; DR110, £50; DR Pad, £30; TR707, £150; SH101, £250; drum synth, £200. ☎ Tom 01372 745494.

ROLAND D110 sound module, £250; Roland TR505, open to offers; Yamaha DX27, £150. All in mint condition with manuals. ☎ John Paul 0191 581 8222.

ROLAND GI10 guitar MIDI interface, mint condition, pickup not included, £170. ☎ Matt 01253 890695.

ROLAND JUNO 106 £400; MC202, £250; SH09, £160; TR707, £100; Atari 502 STFM Plus, £180; Yamaha electronic piano, guitars, amps and more. ☎ Chris 01865 773990 (Oxford).

ROLAND JW50 workstation, Amiga A1200, 50MHz Viper accelerator, Program 24RT digitiser, sampler. All mint condition, boxed with manuals and software, offers plase. ☎ Richard 01279 861082 (Harlow).

ROLAND JX10 76-key super synth, fat analogue sounds, £530; Roland U220 rackmount, multitimbral stereo sample player, £275; Shure SM10, headset make, £90. ☎ Ricky 01504 47732.

ROLAND PG1000 linear synth programmer for D50. Mass sliders = easy access to all parameters. £275. ☎ 01953 860447.

ROLAND PKS dynamic MIDI controller. 1 octave, rugged construction, only £200. ☎ Simon 01202 765529.

ROLAND U110 card - guitar and keyboards, £20 or swap for strings or brass card. ☎ Steve 0191 477 0912.

SIEL KEYBOARD stage monitor, stereo, 2 x 50W, recently serviced, £100 ono. ☎ Ian 0181 650 4610.

SUNSPOT 16-channel MIDI controlled lighting desk. Full manual operation, chases, fades, scenes etc. £350. ☎ 01782 415050 anytime.

SYQUEST 44MB removable drive, cartridges available; Roland MKS70 (Super JX), Yamaha TG77, Yamaha TX802, Roland D550, Matrix 1000. ☎ John 0115 947 0044.

VFX FLIGHTCASE for Ensoniq EPS16, foam lined, as new. £60. ☎ 0181 523 1151.

YAMAHA EMX2300 500W stereo desk, 4 outputs, 15 on-board effects, dual channel EQ, 12 channels, phantom power on all of them, £1,700 new, sell for £750 ono. ☎ 0171 939 4858 days, 0181 300 5334 eves.

YAMAHA G10 and 10C MIDI guitar with original flightcase and manual, £400. ☎ Mark 0171 226 8836.

WANTED

AKAI MPC60 MkII wanted. Cash waiting. ☎ 0181 883 4329 or 0860 482822.

AKAI MPC60 Cash waiting. ☎ Kevin 01402 261436.

ALESIS ADATS 2 wanted. Also good quality 24:8 or 32:8 desk. ☎ Ian 01734 624267 or 0973 752080.

ALESIS QUADRAVERB SPX90, SE50, DX7, SH101, MC202. Can pay £150. Juno 106, MIR w/keys, SPX990, JX10, £300. JV1080, S1000, PCM70, Soundtracs PCMIDI 24, £750. Cash waiting, anything considered. ☎ 0973 123965.

ALESIS QUADRAVERB Roland SH101, MC202, TB303, TR808, TR909, TR707, OSCar, Prophet, Moog, Bass Station, Emu or Roland sampler, ADAT, mixer, Jupiter 6 or 8 or anything analogue. Cash waiting! ☎ 01608 643531.

ALESIS QUADRAVERB 2 Vitaliser SPL or Behringer Ultrafex and sound library for Akai S3000XL (on audio CDs or floppy disks). ☎ 0171 720 3702.

ALESIS QUADRAVERB PLUS ☎ Sam 01793 526161 ext 5010.

APPLE MACINTOSH Quadra 800 or 950 A/V. Sensibly priced. Cash waiting. ☎ Chris 01327 350981 (Northampton).

ATARI LIBRARIANS editors for Kawai K1, Roland D110 and Akai S01 sampler. Also sample disks wanted. ☎ John 01325 311173.

BOSS DPR502 noisegate wanted. Cash waiting. ☎ 0181 883 4329 or 0860 482822.

BOSS MICRORACK RAD10 19-inch rack shelf (2 required) or BMR5 microrack unit. Also rack ears for Boss DE200 delay. Cash waiting for right price. ☎ 01354 695239.

CASIO DA7 portable DAT machine including case. Cash waiting. ☎ George 0181 933 3248.

CIMPLE SOLUTION EXTRA PORTS or Intrinsic Technology Plus 48 MIDI port expander for Atari ST needed urgently please. ☎ Kez 01208 873649.

DBX TYPE 1 noise reduction, 16 channels needed for Tascam MS16, alternative considered. Come on, help an analogue addict spend some money. ☎ Mike 01322 228515.

DOCTOR T's XOR for Mac and PC. Cash waiting for full versions with manuals, or exchange sounds, libraries and latest profiles. ☎ Mark 01689 815511.

ELECTRONIC DRUM PAD system wanted, preferably with bass drum and hi-hat pedals and built-in sounds. ☎ 01628 663980.

ELKA CR99 MIDI disk recorder. ☎ 01289 302138.

EMU PROTEUS 2 and Roland Sound Canvas modules. ☎ Paul 01905 610794.

EMU PROTEUS 2 orchestral module, Drawmer 1960 valve compressor. Cash waiting. ☎ 01225 311515.

EMU PROTEUS 3 World machine XR version wanted urgently, new, ex-demo or second hand. ☎ 01471 521314.

FAULTY OSCAR, faulty Minimoog, faulty Waldorf Microwave, faulty PPG products, Electro Harmonix products, Mutron, EMS. ☎ 0121 420 3295 eves.

FOSTEX DCM100 MIDI mixer. ☎ Robin 01884 254736.

FOSTEX GT10 4-track cassette recorder with Dolby S, will collect. ☎ Brian 01883 347746.

GERMAN MUSICIAN pays for: TB303 £500, TR808, £250, TR808 MIDI, £350, TR909, £500; SH101, £150; MC202, £150. ☎ 0049 5152 61676 or Fax 0049 5152 8179.

HELP! Needed urgently, service manual or circuit diagram for Cheetah MS6 and Atari Editor plus sounds for Cheetah MS6. Will pay cash. Please call 01296 437522 anytime.

KORG M1 PCM sound cards. ☎ Kevin 0191 253 0974 after 6pm.

KORG WAVESTATION keyboard. Must be in perfect condition. Cash waiting. ☎ Paul 01878 281925 (Suffolk).

KORG X3 Will pay £600 cash. ☎ Paul 01229 466238.

KURZWEIL K2500 synths and a DA400 digital to analogue converter for an S760. ☎ Paul 01302 538304.

LESLIE SPEAKER 145, 147 or 122 wanted. Preferably with cable and switching kit. ☎ 0121 681 6933.

PEAVEY DPMC8 mother keyboard. Cash waiting. ☎ Francois 01923 774436 (Rickmansworth).

REMOTE CONTROL for Tascam TSR8. ☎ Tony 01224 899524.

ROLAND JD800 keyboard; Oberheim OB8 keyboard; Korg MS20. Cash waiting. ☎ Nathan 01254 676166.

ROLAND JD800 synth. Must have manuals. Will pay up to £800. ☎ 01363 775214 (Devon).

ROLAND JUPITER 6 or Jupiter 8, preferably not working. Any condition considered, also wanted Drawmer Gate and Kenton Pro-One and any enhancer. ☎ Tom 01865 60584.

ROLAND MC202 wanted. Cash waiting. Also Cheetah MS6. Cash waiting at the right price. Also TB303 wanted. ☎ Mark 01732 362215 or 01732 360593.

ROLAND MS1 sampler memory card. Preferably 1.8Mb. ☎ Lee 0161 792 2603 or 0161 723 5523 (Manchester).

ROLAND R8 CARDS wanted. 909, 808, world drums, ethnic percussion. ☎ Simon 01225 401862.

ROLAND R8 MkII drum machine wanted. ☎ Eddie 0171 498 9965.

ROLAND S550 SCSI upgrade and S550 CD ROMs. Call and quote price. ☎ 01354 695239.

ROLAND SH101, TB303, TR808, TR909, Jupiter 6, Jupiter 8. ☎ 01536 418729.

ROLAND SH101, MC202, TB303, TR606, TR808, TR909, Jupiter 6, Jupiter 8, Korg MS10, Korg MS20. Good price paid. ☎ 01536 418729.

ROLAND SH101 MC202, TB303, TR909, JD800, Korg Prophecy, M1, Akai S2800, S1000. Any other keyboard, sampler etc considered. Cash waiting or swaps. ☎ 01276 31010.

ROLAND SH101 WANTED Best price paid. Will collect. ☎ Steve 01246 410799.

ROLAND TB303 £400, with MIDI, £550; TR808, £300; TR909, £600; OSCar, £450; Pro-One, £250, also SH101, MC202, TR606, TR707, TR727, Moog Rogue, Source, Jupiter 6, Prophet 5, Juno 106, Wasp. ☎ Kevin 01353 663613 evenings and weekends.

ROLAND TR707 and TR727 rhythm composers in perfect working order and good overall condition. Phone and leave details of condition and asking price. Thank you. ☎ 01952 260064.

ROLAND TR707 drum machine wanted. ☎ 0161 723 5523.

ROLAND TR909 required. ☎ Brian Rhodes 0161 707 7914 eves and weekends.

ROLAND TR909 drums. ☎ Alex 01384 442006.

ROLAND W30 Must be mint, boxed, manual, library. Swap for EMU SEI32 + £200 cash diff. ☎ Richard 01305 782554 after 6.30, mobile 0378 983557.

SAW 16+ hard disk recorder for PC. Also Cubase Audio for PC and lastly Drama Spectral compressor. If you have any of these, cash is waiting. ☎ Paul 01302 538304.

SIMMONS PADS Octopad or something similar. ☎ 01274 814790 (Bradford).

YAMAHA SY85 sounds wanted. Must be vintage analogue synths and drum loops etc. Must be ideal for electronic dance music. ☎ Lee 0161 723 5523.

YAMAHA TG500 wanted. Cash waiting. Will collect within 100 miles of Derby. ☎ James 01332 609638.

YAMAHA WIND SYNTH Old models considered. ☎ Craig 01793 490316 and leave details.

dance Village

"No more broken fingers for me pushing drum pads. I just use the Novation Drum Station and everything turns out lovely."

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KORG DAY
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Sat 6th April
FALCON DAY
Paul Wiffen demonstrates the Falcon in a MIDI studio environment

Sat 13th April
NOVATION DAY
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Sat 20th April
YAMAHA DAY
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230 High Street, Barnet, Herts, EN5 5TD Tel: 0181 440 3440 Fax: 0181 447 1129
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A division of the The Digital Village.

SPECIAL READER

ANATEK POCKET PRODUCTS TO SOLVE YOUR MIDI HEADACHES

At *SOS*, we have regularly found ourselves referring readers to one or other of the Anatek Pocket range of MIDI accessories to solve their all too common MIDI interconnection and transmission problems. Trouble was, Pocket Products were previously hard to find... until now!

POCKET SYNC

• 'Smart' FSK Tape-to-MIDI synchroniser • Starts anywhere in song • MIDI In to Out merging • Automatic read/write switching • 'Jam Sync' protects against tape dropouts • Records tempo changes • MIDI and FSK status LEDs

POCKET SYNC is the way to expand the capabilities of any multitrack studio. No longer is it necessary to allocate more than one tape track for sequenced parts. Now, shuttling to different points in the song is quick and effortless. POCKET SYNC writes a special FSK sync tone on one track of tape that is converted to MIDI Clock and Song Position Pointer on playback. Merging of data from the MIDI input to the output allows new sequencer tracks to be added while remaining synchronised to tape.

Automatic switching between write (recording FSK) and read (playback FSK) cuts downs on confusing switches and buttons. Tape oxide dropouts are no longer a problem with POCKET SYNC's variable dropout protection. The sequencer can continue playing over a dropout for a short time, even if FSK code is completely lost!

Price: £69 inc VAT.
Order Code: PP003
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET MAC

• Economical Macintosh MIDI interface • No external power supply required • 1 MIDI In, 2 MIDI Outs • LEDs indicate MIDI In/Out data • Uses serial or modem port • High speed CMOS design • Improves signal to minimise data errors.

POCKET MAC opens up a whole new world of MIDI programs for the Macintosh computer user. With many Macintosh programs simultaneously supporting both the serial port and the modem port, one POCKET MAC could be connected to each allowing access to twice as many MIDI devices.

Price: £39 inc VAT.
Order Code: PP004
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET CURVE

• Modifies MIDI velocity response • Controls keyboard sensitivity • 6 tapered curves • 6 velocity increase curves • 6 velocity decrease curves • 6 constant levels • Special DX7 velocity curve

POCKET CURVE is a necessity for master keyboards that require velocity scaling control. With it, a keyboard's response to harder or softer playing styles can be modified to suit the player and their MIDI setup. DX7 owners can especially benefit from POCKET CURVE! A special curve is available to boost the DX7's low velocity output, so that missing dynamic potential can be recovered. Use POCKET CURVE to allow a lighter touch during performance on a heavily weighted keyboard controller. For ease of programming, a quick reference to the many curve possibilities is permanently printed on the sides of the unit.

Price: £69 inc VAT.
Order Code: PP005
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET MAPPER

• Remaps MIDI controllers • Maps Pitch Bend to Aftertouch • 'Set and forget' programming • Supports 15 controllers • Allows unconventional routings • Updates older keyboards.

POCKET MAPPER allows modulation routings to be customised to suit a particular need. Controller data such as Pitch Bend, Aftertouch, Breath Control and others is received and can be retransmitted as a different controller. For instance, DX7 Breath Control modulation can be rerouted to MIDI Volume to modulate synths that do not accept Breath Control. POCKET MAPPER is the most convenient and cost effective way of rerouting MIDI modulation. Now, MIDI wind instruments can remap mouthpiece Breath Control to Aftertouch quickly and easily.

Price: £69 inc VAT.
Order Code: PP006
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET MERGE

• Merges 2 MIDI signals into 1 • Handles System Exclusive • Merges on all 16 MIDI channels • Merges Clock and MIDI Time Code • Merges all controllers • Handles large volumes of data • Stackable for 3 or more inputs

POCKET MERGE is an essential tool for sequencing or live use. Operating as a 2-In, 1-Out MIDI Merger, several Pocket Merges can be stacked to merge more than 2 inputs. Now any controller can be a 'master'. In live setups, POCKET MERGE allows any two controllers (keyboard, drum pads, guitar synth, etc) to share a sampler or sound module. Use one keyboard as a master, while using a favourite pitch bender from another, or combine two keyboards for a multi-tiered, organ-style controller. In the studio, POCKET MERGE is a must for sample dump editors, allowing a keyboard and a computer to be connected to the sampler at the same time. POCKET MERGE handles data very quickly, making buffer overflows a thing of the past.

Price: £59 inc VAT.
Order Code: PP007
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET FILTER

• Filter on all MIDI channels • Filter controllers, System Exclusive and real-time data • Combine data types/channels • DIP switch selectable filtering • Select channel from any keyboard • Filter all data on selected channels

POCKET FILTER is a vital tool for problematic setups. With MIDI data becoming increasingly complex, POCKET FILTER can unclog the MIDI data stream, sending only the most useful info. Use it to remove unwanted clock messages or System Exclusive data or memory-intensive aftertouch and controller information. POCKET FILTER frees-up unused MIDI Channels from multitimbral synths, making them available for other modules. In addition, it can be used

USE YOUR YAMAHA BREATH CONTROLLER WITH NEARLY ANY MIDI SYNTH!

Anatek's WIND MACHINE and your Yamaha BCI or BC2 Breath Controller (not provided) will add woodwind-like expression to keyboard performances. Brass patches can punctuate or pad according to your whim, not to some pre-programmed attack setting. Sax solos will turn heads with their authenticity. And layered string sounds can fade in precisely where they're needed, while your hands and feet are free to control wheels and pedals. *(Will not work with Yamaha WX7/11.)*

Compatible with everything, WIND MACHINE interfaces to Korg, Roland, Yamaha, Ensoniq and the rest! No longer are you forced to use your Yamaha breath controller with only one brand of MIDI synth. Any MIDI keyboard that will respond to MIDI Volume, Aftertouch, Modulation, Breath Control, Pitch Bend, Expression, Foot Controller, or Pan can be controlled via your breath controller and WIND MACHINE.

Blowing into a mouthpiece is the most natural way to enhance keyboard performance. Wind instruments have been designed around this principle for centuries. Alone, keyboard Aftertouch isn't as effective because when you release the keys, the effect goes away. Modulation and Pitch wheels alone aren't as effective because they don't allow you to play chords. But when combined with WIND MACHINE, all of these can be used to create vastly improved expression capability.

A flexible input/output configuration means that WIND MACHINE can fit seamlessly into any setup. The simplest way is to use it to send control signals to the MIDI In of a keyboard synthesizer. If the MIDI setup involves a master keyboard and external modules,

WIND MACHINE can combine incoming signals from the master with its control signals and then pass them on to a sequencer or sound modules. WIND MACHINE can transmit the most popular control parameters to keep it simple. Most MIDI keyboards respond to Modulation, Aftertouch or Volume so you won't have any problem finding one compatible with your synth. Any one of the 16 MIDI channels can be selected as well. All control parameters are set by switches on the lid that retain settings even when power is disconnected.

Price: £85 inc VAT.
Order Code: PP002
Postage: UK £2.50 Europe £4.95 ROW £8.95

OFFER!

to channelise older synths that only receive in Omni mode.
Price: £69 inc VAT.
Order Code: PP008
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET PEDAL

• Sends on multiple MIDI channels • Supports 1 continuous controller • Supports 1 momentary footswitch • Sends pitch-bend, modulation, portamento time, and MIDI Volume • Sends sustain, portamento on/off, sustenuto, and start/stop • Auto pedal/footswitch calibration • Forward/Reverse pedal operation • 3 mode pitch-bend operation • Combine data types

POCKET PEDAL is an indispensible controller for the performing musician. Use it with an ordinary volume pedal and footswitch to send MIDI volume, modulation, and sustain controls on all 16 MIDI channels simultaneously. For owners of multi-effects processors, POCKET PEDAL provides a convenient cost-effective way of providing dynamic control over effects parameters. It is also a handy controller for automated mixdowns, converting any resistive input into MIDI Controller messages for VCAs. Connect a photocell to POCKET PEDAL and control MIDI parameters with a light source!
Price: £69 inc VAT.
Order Code: PP009
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET THRU

• 1-In, 3-Out MIDI Thru box • High-speed CMOS design • Very low power requirements • Buffered outputs clean up data • Handles all MIDI data • Stackable for more outputs

POCKET THRU is an essential building block for any MIDI setup and an excellent companion product for all Pocket Products. POCKET THRU provides 3 buffered outputs from a single MIDI input. Use POCKET THRU to minimise MIDI delays, or expand the outputs of a POCKET MERGE unit. POCKET THRU also allows POCKET FILTER to be placed anywhere in the MIDI chain, when using it to channelise older synths. Up to 4 POCKET THRUs can be combined to provide a total of 9 outputs.
Price: £35 inc VAT.
Order Code: PP010
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET TRANSPOSE

• In-line 16 Channel transposer • +/- 5 Octave transpose range • Switch between normal and transposed modes • Separate intervals for each channel • Transpose key signature and octave simultaneously • All non-transposed MIDI data is passed • Harmonisation mode • Footswitch controllable.

POCKET TRANSPOSE is a performance-orientated transposer that supports separate transpose intervals for each MIDI channel. Although many keyboards have a transpose function, it's usually too cumbersome for live use. POCKET TRANSPOSE makes transposing easy. Intervals can be set while playing, and the user can select the normal or the transposed setting from a footswitch. Guitar synth players can use the POCKET TRANSPOSE to set intervals on 6 separate MIDI channels, or use it to transpose all strings by a certain amount. POCKET TRANSPOSE provides an easy way to try different arrangements without altering sequencer data. You can even set it so that the drum machine channel remains intact.
Price: £69 inc VAT.
Order Code: PP011
Postage: UK £2.50 Europe £4.95 ROW £8.95

POWER PACK

• 'Phantom' powers all Pocket Products • Functions in-line with MIDI signal • Powered by most AC adaptors • Automatic polarity switching • Fully regulated supply • Passes all MIDI data • Alleviates hook-up problems • Boosts MIDI signal

POWER PACK provides power to Pocket Products in instances where upstream devices from other manufacturers have neglected to meet MIDI specifications, or in any instance where power is unavailable. POWER PACK can be placed anywhere in the MIDI chain and accepts power from a standard AC adaptor (not included). It provides additional power when more than 4 Pocket Products are used in a row or allows POCKET PEDAL and POCKET FILTER to retain their channel settings when the master device is turned off. What's more, POWER PACK can be used to boost the MIDI signal and extend the maximum distance between two devices.
Price: £29 inc VAT.
Order Code: PP012
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET SPLIT

• 8-Zone Keyboard Splitter • Range from 1 to 127 notes • Fixed boundaries • MIDI Channel/Zone assignment • Footswitch controllable • Floating split point

POCKET SPLIT is an 8-zone keyboard splitter. Each zone has its own MIDI Channel, and has a range of 1 to 127 keys wide. Zone boundaries can be set for hard or soft (overlap or splits). Use POCKET SPLIT to maximise the performance of your master keyboard, or create interesting performance possibilities with your guitar controller. An added feature is an 'intelligent' 2-way floating split that automatically tracks the keyboard player's left and right hands. Now any MIDI device can have the features of a sophisticated MIDI controller at a fraction of the cost!
Price: £69 inc VAT.
Order Code: PP013
Postage: UK £2.50 Europe £4.95 ROW £8.95

POCKET CHANNEL

• Remaps Receive channel • Remaps Transmit channel • Sends multiple MIDI channels • Velocity-switch mode • Footswitch controllable

POCKET CHANNEL takes data from any MIDI channel and remaps it on to one, several, or all 16 MIDI channels. Up to 16 different channel assignments are possible. A unique velocity-switch feature allows automatic switching between two different sound modules depending on the key velocity. Use POCKET CHANNEL to organise channel assignments for a multitimbral sound module, or send a controller's output to two or more MIDI channels. With POCKET CHANNEL, for example, two drum machines or two samplers can share the same note assignments and be set to two separate MIDI channels.
Price: £69 inc VAT.
Order Code: PP014
Postage: UK £2.50 Europe £4.95 ROW £8.95

LONG DISTANCE MIDI

• Enables extra-long MIDI cable runs • Easy to connect to existing 3 conductor wiring • 4,000 feet capability • Balanced XLR connectors • Dual transceivers allow 2-way MIDI communication • Handy data input and output LEDs confirm presence of MIDI signal

The problem with MIDI is that you are likely to encounter data errors when running more than 50 feet of MIDI cable. These can be embarrassing errors such as hung notes, mysterious program changes or worse in the middle of a performance.

The cost-effective solution is MIDIMATCH by Anatek. Two identical units convert MIDI data to balanced signals that can be transmitted through up to 4,000 feet of cable. The balanced MIDI signal is virtually immune to the problems that have previously plagued studio owners and sound contractors over long MIDI runs.

MIDIMATCH works through ordinary balanced microphone cable so you can connect keyboard controllers to MIDI sequencers or lighting controllers to dimmer packs through your existing snake! Studios already wired for audio can connect MIDI through the cabling already in place. MIDI signals could even be run through a balanced patchbay!
Price: (includes transmitter, receiver, AC adaptors) £115 inc VAT.
Order Code: PP001
Postage: UK £2.50 Europe £4.95 ROW £8.95

ABOUT POCKET PRODUCTS

Pocket Products are handy MIDI accessories requiring no batteries or power supply to operate. They have been designed to solve the problems arising from incompatibilites between MIDI products from different manufacturers. Compact and sturdy, Pocket Products can be placed anywhere in the MIDI signal chain.

HOW TO ORDER

Join the group of satisfied customers worldwide who have found the solution to their MIDI problems with Pocket Products from Anatek, now available direct from *SOS*.

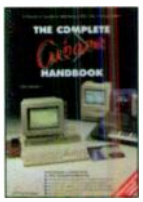
To order, just fill out the Order Coupon on page 213 (remember to add postage for each product) or simply call our Mail Order hotline on 01480 461244.

Please allow up to 28 days delivery on Pocket Products.

SOS Book Shop

BEST SELLERS

THE COMPLETE CUBASE HANDBOOK



2nd Edition

by Udo Weyers

After a short break, the definitive Steinberg Cubase Hanbook is back in print. This *new edition* is once again filled with real world applications and down to earth explanations of how to use all the powerful features offered by Cubase in all its many forms. *The book is now relevant to all three platforms (Atari, Mac and PC)*, and the main attraction of the revised text is its focus on Cubase Score. The Complete Cubase Handbook is a not-to-be-missed purchase for users of Steinberg's highly popular software.

CODE B195 **£29.95**

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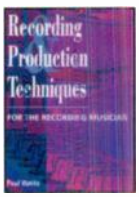
RECORDING & PRODUCTION TECHNIQUES



by Paul White.

This highly informative book by SOS's own Editor demystifies the techniques used by professionals in the recording of contemporary music. It reveals how to make full creative use of all manner of studio effects and signal processors. These techniques can be utilised both in the home and commercial studio. The book concludes with an invaluable section on master tape formats and an overview of the various processes and vinyl records.

CODE B200 **£11.95**

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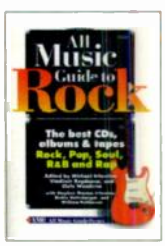
RECOMMENDED READING

ALL MUSIC GUIDE TO ROCK

NEW



From doo-wop to hip-hop, this is the most complete guide to the best CDs, albums and tapes in all genres of this music, both mainstream and alternative. Compiled by dozens of top music critics, 15,000 recordings by 2,500 performers are listed, rated and reviewed — including bootlegs, imports, out-of-print albums, and "cult" artists.

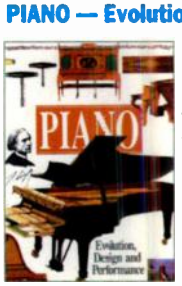
Easy to use and fun to explore, the All Music Guide to Rock also gives you major artist bios and discographies, essays exploring dozens of rock styles and influences, music maps, and more.

CODE B318 **£18.50**

Postage: UK £3.95, Europe £7.50, R.O.W. £14.50

PIANO — Evolution, Design & Performance

NEW



By David Crombie

This is the most spectacular and informative book ever assembled on the history of the piano. At its heart is a stunning collection of more than 150 pianos ranging from the instruments's earliest roots to today's magnificent upright and grand pianos.

This important new book is an essential purchase for every piano player and every musical instrument enthusiast, bringing alive the most fascinating and wide-ranging collection of pianos ever seen in one book.

CODE B308 **£19.95**

Postage: UK £3.95, Europe £7.50, R.O.W. £14.50

PROFESSIONAL COMPOSING

CODE B298 **£3.95**

Postage: UK £1.95 Europe £5.50 R.O.W. £8.50

THE COMPOSER'S GUIDE TO MUSIC PUBLISHING

(2ND EDITION)

written & compiled by Annie Gunning

This book has been produced by the Association of Professional Composers and examines the business of musical copyright and music publishing from the composer's point of view. It aims to educate composers of all kinds of music in the operation of the music publishing business to help them obtain, negotiate and benefit from publishing agreements and avoid expensive mistakes. Apart from publishing, the book also covers copyright legislation, performing and mechanical rights, the royalty administration societies, music in film, broadcasting, theatre and ballet and commissioning agreements. There is also advice for composers setting up their own publishing companies. An exhaustive and useful book.

CODE B297 **£18.95**

Postage: UK £2.50 Europe £6.95 R.O.W. £9.50

MUSIC & NEW TECHNOLOGY

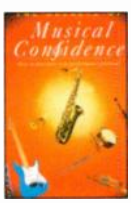
by Gabriel Jacobs & Panicos Georghiades

Forward by Vangelis. A thorough guide to creating music with today's music technology. Covers music theory, MIDI and electronics principles, computers, what gear to use in your MIDI studio, and most modern MIDI production techniques. Ideal for beginners and advanced readers alike.

CODE B156 **£14.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

THE SECRETS OF MUSICAL CONFIDENCE - How to Maximise Your Performance Potential



By Andrew Evans

Written by a musician and psychologist, this is claimed to be a first for musicians: a book aimed at maximising performance potential and increasing confidence. A series of questionnaires and exercises allow you to analyse your abilities and needs and allow you to deal with stress, creativity and career management, amongst other topics.

CODE B240 **£7.99**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

TAPELESS AUDIO DIRECTORY

(4th Edition) *By Yasmin Hashmi*

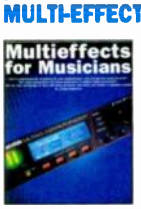
Completely updated, this 4th edition is the only international buyers guide to over 200 professional digital audio workstations and systems aimed at cart replacement and broadcast automation.

The comprehensive listings include target markets, hardware and software specifications, operational features, networking and file translation, future development plans, training and customer support, costs and suppliers details for USA, Europe and Far East. The Directory not only covers all existing systems, but those soon to be launched and those on which development has been halted. It also provides a comprehensive explanation of the terminology, with useful tips for potential purchasers.

CODE B304 **£14.95**

Postage: UK £2.50, Overseas £4.50

MULTI-EFFECTS FOR MUSICIANS



by Craig Anderton

Occasional SOS contributor Craig Anderton adds to his long list of music technology-based books with this comprehensive look at multi-effects units. The book helps you with what to look for when buying a new unit, how to use it when you've got it home, and provides a collection of tips to help you get the most out of your device. 137 Pages.

CODE B306 **£10.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

TECH TERMS - A Practical Dictionary for Audio and Music Production

by George Petersen and Steve Oppenheimer

This is a concise collection of definitions of electronic music and recording terms; 300 words and phrases are given quick accurate definitions in plain English. So if you're new to recording, synths, samplers and MIDI, this book could be a big help in getting your mind into the terminology.

CODE B230 **£7.95**

Postage: UK £1.50, Europe £3.75, R.O.W. £4.95

THE DAT TECHNICAL SERVICE HANDBOOK

by Richard Maddox

Information on DAT service and repair for engineers and technicians, including: step by step instructions for regular maintenance and repair; detailed techniques for maintaining and adjusting tape transport and head alignment; complete how-to instructions of replacing the record/play head drum; plus specific service notes, by make and model.

CODE B229 **£43.00**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

INTRODUCING DIGITAL AUDIO

2ND EDITION

by Ian R Sinclair

Explains digital audio – CD, DAT and sampling – non-mathematically. The updated 2nd edition adds information on oversampling and bitstream techniques, plus a glossary of technical terms.

CODE B274 **£7.95**

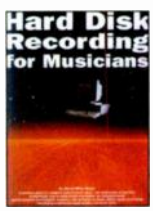
Postage: UK £1.50, Europe £4.50, R.O.W. £6.50

THE ART OF DIGITAL AUDIO

CODE B248 **£49.50**

Postage: UK £3.95, Europe £7.50, R.O.W. £14.50

HARD DISK RECORDING FOR MUSICIANS



by David Miles Huber

More of a digital recording overview, this book looks at digital audio in all its forms. Huber discusses the equipment, the techniques and processes of digital audio. Computer-based sound editing, digital audio workstations, digital signal processing techniques, sampling and real-world applications in music, film, video and broadcast environments are covered plus multimedia. The text is designed to be understood by newcomers, while delivering information of value to professionals. *182 pages.*

CODE B307 **£15.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

SOUND FOR PICTURE

Edited by Jeff Forlenza and Terri Stone

Covers all aspects of film and TV sound, dialogue, music, effects recording, and editing and assembling the result into a final soundtrack. Technical and creative aspects are all covered, and a comprehensive glossary is provided. A good proportion of the book is also taken up with a selection of case studies (including Malcolm X, The Abyss, Northern Exposure and Twin Peaks) that provide hands on information.

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by Godric Wilkie

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by F A Wilson

Volume 6 of the Elements of Electronics series, *Audio* offers a comprehensive guide to the physics of sound, its recording and its reproduction. There is a lot of physics used in the book – in fact, this aspect makes the book a good basic text for those with a serious interest – but the text in between the formulae is clear and informative. Not bad value for £3.95 – a total of 308 pages.

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How to achieve better samples - this book explains the technical issues involved, clearly and simply. Good advice on what to look for when buying a sampler.

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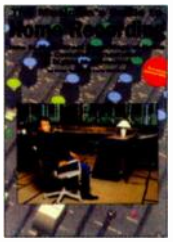

by Peter Mclan & Larry Wichman

(Revised and Updated)

This is the book every serious songwriter, musician, and home recordist needs, with a new chapter on MIDI and the lastest digital recording technologies. A problem-solving guide as well as an instructional text, it is designed to expain in simple terms how professional recording techniques can be applied at home.

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by Tom Misner

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RECORDING TECHNIQUES FOR SMALL STUDIOS

by David Mellor

This well written, user-friendly book is designed to offer accessible and helpful tips on how to get the most out of the equipment in your studio. Chapters cover: mic techniques; musical arranging for recording; 4-track recording; the mixer; preparing for an running a session; recording drums; recording vocals; integrating MIDI; using effects and signal processing; location recording, and digital recording. The book is rounded off with an "any questions" section, a glossary and a list of recording studios in the UK. As you would expect from a book based on an SOS series, this is a *must have!*

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The definitive guide to the creation and management of audio master tapes. With 'Master Tapes' literally flying around the world being copied, cloned or re-cut for seemingly endless variations of compilation albums, it is terrifying to think that there is no standard set of procedures for labelling and maintaining master tapes. Until now, that is.

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TIPS FOR RECORDING MUSICIANS

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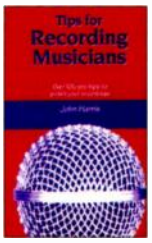

by John Harris

Today's studio equipment is affordable but sophisticated, and it takes a lot of know-how to use all this technology effectively. This book details the equipment you need - mics, effects, tape machines, etc. It has separate sections on recording of vocals, electric guitar, drums and acoustic instruments, as well as the use of MIDI in the recording process. You will learn how to get the best from delay and reverb, as well as effects like compression and gating. There are some useful tips on using the mixing desk and post production work. All in all it's a handy guide that will improve your recording techniques at a stroke.

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MUSIC BUSINESS

CAN YOU SING A HIGH "C" WITHOUT STRAINING

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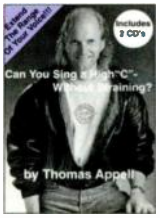

by Thomas Appell

This book features extensive coverage of the vocal cords and explains clearly how to sing high notes without going into falsetto, and without straining. You'll learn how to extend the range of your voice, and why most singers either strain or "break" into falsetto when attempting to sing above their normal range. It comes with 2 CD's jam-packed with over 2 hours of vocal examples and exercises that you can practice with. Many singers have increased their range by several notes after the first week of practice. If you can't sing high notes without straining, but would like to know how, then this book is for you. 122 pages.

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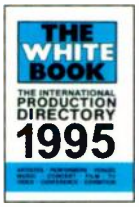
THE WHITE BOOK INTERNATIONAL PRODUCTION DIRECTORY 1995



This is the latest edition of the essential source of contacts for artists, performers, venues, services and facilities associated with music, concerts, shows, festivals, film, TV, video, conferences, exhibitions and corporate hospitality - there's even a comprehensive international section. The layout is logical and an index makes fact finding an easy task - altogether an indispensable 864 pages. The new edition once again comes with a complementary copy of The Little White Book, which distils the contents of the larger volume to a pocket-sized list of names and phone numbers.

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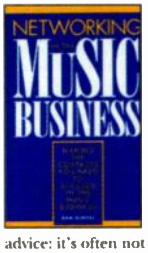
NETWORKING IN THE MUSIC BUSINESS



by Dan Kimpel

Think of this book as a popular psychology course for musicians. If you feel you could benefit from developing a positive attitude to getting ahead in your area of the music business, then *Networking* is for you. There's nothing like it for good, sensible advice: it's often not enough to have talent. To be successful, you'll need to persevere, have good "people skills", and exercise good networking skills. Success depends on what you know, who you know, and perhaps most importantly, who knows you. An essential book, and a snip at £11.95. Hardback.

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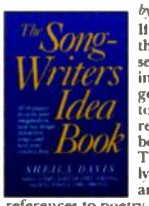
SONGWRITERS IDEA BOOK



by Sheila Davis

If you want a textbook, this is it: 250 pages of serious, intelligent insight into songwriting. Loads of good advice and a friendly tone make this a useful read to anyone, whether beginner or seasoned pro. The focus is firmly on lyrics rather than music, and the prominent references to poetry terminology shouldn't really be a surprise. Use Davis' 40 strategies and you to could soon be "designing distinctive songs". Hardback.

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THE ARC MUSICIANS' DIRECTORY

The new Musicians' Directory from Arc Publishing aims to provide all things to all musicians: whatever your style of music, the comprehensive listings offer you the contacts you need, whether it's labels, studios, venues, music shops or management - and that just scratches the surface of the dozens of topics covered by the book. Apart from being a directory proper, the Handbook also includes a selection of useful articles, including subjects such as how to be a session player (by SOS's very own Paul White), music publishing, releasing your own record, copyright protection, accounting, legal advice and more. The Musicians' Directory offers over 380 information-packed pages for little more the price of a new CD.

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HOW TO PITCH AND PROMOTE YOUR SONGS

by Fred Koller

The title is self-explanatory: if you've got the songs, and you want someone to hear, publish and/or record them, then this book could save you a lot of grief. There's a lot of sensible information about the music biz in general, plus a few (American-biased) words about setting up as your own publishing business.

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THE SONGWRITER'S MARKET GUIDE TO SONG & DEMO SUBMISSION FORMATS

From the Editors of Songwriter's Market

If you've got the songs and you've got the contacts, this book will help you to choose a format that will get your demo heard as well as overall packaging and presentation and dealing professionally with publishers, A&R reps and other industry people. Plenty of example documents (lyric sheets and letters) are given, and the book is nicely rounded-off with a glossary and index. Hardback.

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SONGWRITER'S WORKSHOP

Edited by Harvey Rachlin

If you want to work systematically at improving your songwriting skills, then try this book: it's divided into four individual 'lessons', each of which is backed up by audio material on cassette. This allows you to listen in the car or walk around with your personal stereo and still absorb useful information. The four sections are: On Songwriting by Janis Ian (yes, *the* Janis Ian); Making Demos by John Barilla; Understanding MIDI by James Becher; and The Art of Pitching Songs by Teri Muench (ex-A&R director with RCA and publisher). Also included is an intro, a quick and breezy glossary and an index. Includes two cassettes.

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MUSIC BUSINESS AGREEMENTS

by Richard Bagrhot

Written by a practising music business solicitor, "Music Business Agreements" can be seem as a legal textbook for the UK music industry. Don't let the formal tone put you off: this book is a mine of information with reference to real-life problems and examples, and a helpful question and answer appendix. Expensive, but invaluable. 522 Pages.

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THE MUSICIAN'S GUIDE TO READING & WRITING MUSIC

It's an entertaining but practical introduction, well, to reading and writing music. This is as friendly as it comes. Learning to read and write music isn't easy, but at least the process is lightened up with considerable doses of wit.

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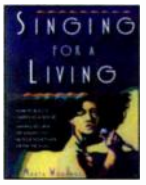
SINGING FOR A LIVING



by Marta Woodhull

The title says it all. If you're already a singer, this book gives you everything you need to know in order to exploit your talent further: looking after your voice and voice exercises, business advice and marketing and audience interaction are all covered in this straightforward book.

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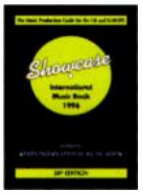

The music industry equivalent of *Yellow Pages*! over 500 pages crammed with all the latest information, including new phone and fax codes for record companies, recording studios, music publishers, equipment manufacturers, artist management, producers, PA and lighting hire, and more. Plus a USA section.

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88 SONGWRITING WRONGS & HOW TO RIGHT THEM

by Pat & Pete Luboff

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ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS

by Donald S Passman

This book is a must: the author manages a portfolio of high profile clients and teaches music business law at the University of Southern California, and has produced a clear overview of the music business. He starts at the beginning of your career, with advice on choosing a manager, lawyer and agent, and moves through getting a record deal, songwriting and music publishing and finishes with details of copyright, mechanical royalties, songwriter deals, films and more. An exhaustive and entertaining read. 415 Pages.

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SOS Book Shop

BEGINNING SONGWRITER'S ANSWER BOOK

by Paul Zollo

If you're just starting out as a songwriter or haven't progressed very far, perhaps you have questions about the art and business of songwriting that you can't find answers for. Chances are, they're covered in this book. Over 200 of the questions songwriters most often ask are answered in this book. There are 11 chapters, covering subjects such as lyrics, theory, song structure, collaboration, demos, publishing and the music business. Some answers - such as "What makes a professional-sounding demo?" are actually mini articles - and an index allows you to target subjects without wading through the text. A friendly, informative read.

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Charts and musical examples for re-creating Broadway songs with your QY10 using only the internal patterns. Includes useful set-up information. 77 pages.

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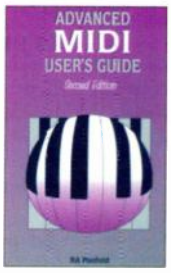

by R A Penfold

Most MIDI users do no more than scratch the surface of MIDI's potentialities. But dare to dig a bit deeper and you'll find a whole new world of creative possibilities.

With the Advanced MIDI User's Guide, you'll learn how to optimise your MIDI system to get the best results from your particular setup, and you'll find out how to use gadgets like switchers and mergers to enhance your system. If you want to incorporate a multitrack tape recorder into your MIDI system there's a section on synchronisers, SMPTE and MIDI time code, and retro freaks will learn how to hook up that dusty old analogue synth to their MIDI systems.

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By Francis Rumsey.

This revised edition has been expanded in an umber of topic areas, to provide even more comprehensive coverage of every area of MIDI. Contents include: an introduction to principles and terminology; MIDI timecode; librarians and editors; different approaches to sequencer software design; practical systems design.

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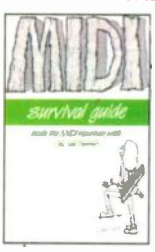
MIDI SURVIVAL GUIDE



by Vic Lennard

Whether you're a beginner or a seasoned pro, the 'MIDI Survival Guide' shows you the way. No maths, no MIDI theory - just practical advice on starting up, setting up and ending up with a working MIDI system. Contains over 40 cabling diagrams, and how to: connect synths, sound modules, sequencers, drum machines and multitracks; how to budget and buy secondhand; using switch, thru and merger boxes; transfer songs between different sequencers, get the best out of general MIDI , and understand MIDI implementation charts.

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PRACTICAL MIDI HANDBOOK (3rd Edition)

by R A Penfold

This book is completely updated, and features a section on General MIDI. It provides a "straightforward, non-mathematical introduction to MIDI", and features a full glossary of MIDI terms.

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A BEGINNERS GUIDE TO MIDI

by RA Penfold

The title says it all: all aspects of MIDI are explained, and many common beginner's problems are discussed.

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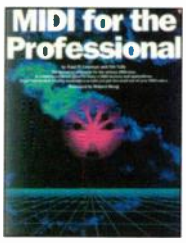
MIDI FOR THE PROFESSIONAL



by Paul D Lehrman and Tim Tully

Co-written by SOS contributor Paul D Lehrman, this substantial, exhaustive work covers pretty well any aspect of MIDI that you could think of. As an overview of what MIDI is and does in 1994, this 239 page book couldn't be better.

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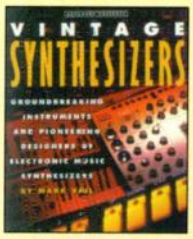
SYNTHESIZERS

VINTAGE SYNTHESIZERS



By Mark Vail

This well-illustrated, 300 page book covers synth history, interviews with designers and overviews of important instruments. Mark Vail's book could be the most entertaining and useful synth book yet – check out the definitive history of the Minimoog, complete with pre-production designers' sketches. While not strictly a buyers' guide, there is a comprehensive section to sourcing, valuing, upgrading and servicing classic instruments.

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KEYFAX 2

by Julian Colbeck

1989 version of Keyfax provides individual summaries and specifications of the last of the great mono synths, digital pianos, and classic polysynths like the Roland JX10 and Prophet VS -forerunner of the SY22 and Wave Station. Early Keyboard and rack-mount samplers are covered in this indispensable guide. Still a great buy.

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KEYFAX 4

by Julian Colbeck

The new Keyfax book (1993) is the most comprehensive guide to professional keyboards yet compiled, Keyfax 4 spotlights synthesizers and expander, and MIDI keyboard controllers. From classic analogue machines right up to the latest synth/sampler hybrids. Reviews include technical tour on a practical, need-to-know basis. Everything you need to decide which instrument is best for you.

CODE B201 **£12.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

THE MUSEUM OF SYNTHESIZER TECHNOLOGY

by Martin J Newcomb

If you liked our feature on the opening of the Museum of Synthesizer Technology in October, but haven't got the time or the cash to visit in person, then the next best thing has to be the museum's guide book. This 118 book is printed on glossy paper and contains full-colour pictures of a large selection of exhibits from the museum, together with some descriptive text and company backgrounders. The text reads a little like a fanzine, but the hardcore synth fanatic will want this book for the pictures. In these pages you will glimpse instruments that you are unlikely ever to experience in the flesh: an exceedingly large Roland System 100 modular set-up, an EMS Synthi 100, an ARP 2500, a large Emu modular and what must be the comprehensive collection of Moog equipment anywhere. The Museum of Synthesizer Technology book is yours for £24.95, plus postage.

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Postage: UK £2.50, Europe £6.95, R.O.W. £9.50

KEYFAX 5

by Julian Colbeck

The latest instalment in the intrepid Keyfax series offers potted specifications and concise mini-overviews of digital pianos, home keyboards, General MIDI modules, stage organs and computer sound cards. Look out for company backgrounders, contact details and cross-references to earlier Keyfaxes.

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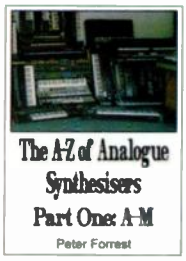
THE A-Z OF ANALOGUE SYNTHS PART ONE: A-M



by Peter Forrest

The author has aimed to make his book a complete rundown of all the major analogue synths and keyboards ever made, and on the evidence of this first volume, he seems to have succeeded. The book is useful and detailed, and shows evidence of the massive amount of research and effort put in by Peter. He gives pocket company histories and detailed data on the instruments produced - but note that a few entries for a few particularly obscure instruments and companies are limited due to lack of data. The book also provides a comprehensive overview of the qualities of various instruments; charts and tables assess second hand values and maintenance levels necessary to keep a given instrument playable as well as such intangibles as sound quality, collectability and user interface. The A-Z of Analogue Part One, which is limited to 8000 copies worldwide, also features 96 colour pictures of classic instruments.

CODE B294 **£14.00**

Postage: UK £1.95 Europe £5.50 R.O.W. £8.50

DRUM MACHINES

DRUM PROGRAMMING — A Complete Guide to Program and Think Like a Drummer

By Ray F Badness

Coming from a publisher that has a good range of real drum texts, we'd expect this book to be a little different. And it is: it gives plenty of insights into how real drummers approach their job, and there are plenty of example patterns to help translate these ideas to a drum machine.

CODE B235 **£6.95**

Postage: UK £1.50, Europe £4.95, R.O.W. £7.50

DRUM MACHINE RHYTHM DICTIONARY

By Sandy Feldstein

For use with Roland drum machines or any grid-based pattern system. First 75 pages on programming huge range of rhythms in rock, latin, jazz and funk styles. Remainder analyses styles and patterns of world's top drummers - Phil Collins, Billy Cobham, Steve Gadd, Stewart Copeland, etc. Highly recommended.

CODE B110 **£16.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

RHYTHMICAL GROOVES & PATTERNS

By Siegfried Hoffman

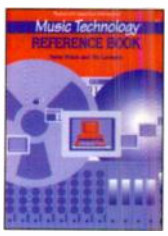
Looks at how drummers compose rhythm patterns to add emotion, swing or groove. Contains examples for you to programme into your drum machine or sequencer.

CODE B115 **£11.50**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

MIDI INFORMATION

MUSIC TECHNOLOGY REFERENCE BOOK



by Peter Buick & Vic Lennard

Written by Peter Buick and Vic Lennard (author of SOS's Atari Notes column), this book offers information at your fingertips and is an indispensable reference source for the musician or sound professional in the recording, broadcast, live, video, computer, multimedia, post production and theatre industries. It includes comprehensive MIDI spec, General MIDI, MTC, MSC, and SysEx information. It also includes charts, check lists, useful hints, tips, and ideas, plus a glossary, list of contacts and a comprehensive indexed, it is also organised into convenient sections. 150 Pages.

CODE B305 **£12.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

THE MIDI COMPANION

By Jeffrey Rona

A breezy run through MIDI that would suit the absolute beginner, this book is well-illustrated, clearly expressed and explains the technical bits in as close to non-technical language as the subject matter allows.

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Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

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260 DRUM MACHINE PATTERNS

By Rene-Pierre Bardet

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DRUM MACHINE PATTERNS

By Rene-Pierre Bardet

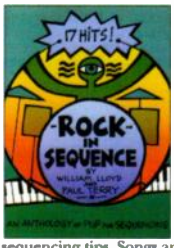
200 drum patterns and breaks presented in one-measure grid notation. Funk, R'n'B, ballad, pop, reggae, afro-cuban and many other styles.

CODE B018 **£7.95**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

PLAYING TECHNIQUES

ROCK IN SEQUENCE



by William Lloyd & Paul Terry

The latest book from the authors of Music In Sequence and Classics In Sequence is now available: Rock In Sequence offers detailed scores of 17 rock and pop hits from the '50s to the present day, alongside a collection of helpful sequencing tips. Songs are included from the likes of the Beatles, Led Zeppelin, Abba, Eurythmics, Blur and more. Rock In Sequence 112 pages.

CODE B320 **£14.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

CLASSICS IN SEQUENCE

by William Lloyd & Paul Terry

Takes concepts behind Music In Sequence and applies them to all-time favourite classical music scores. Authors show how to make fresh, exciting interpretations of classic scores. Info on reverb and effects, interpreting scores, editing synth voices. Highly creative—an ideal workbook for the music classroom. Covers Medieval, Renaissance dance music, Bach's Toccata in D minor; Vivaldi, Purcell, Handel; opera excerpts from Rossini, Verdi, Borodin; Mozart, Schubert, Tchaikovsky, music from Carmina Burana; Debussy, Satie, Steve Reich's Piano Phase and more. Highly recommended.

CODE B193 **£12.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

MUSIC IN SEQUENCE

by William Lloyd & Paul Terry

Still one of our best-selling books. Easy to follow, practical guide to making real use of your sequencer, written by people who really understand music and how to create it using today's technology. This brilliant, unique book carries the SOS seal of approval.

CODE B155 **£12.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

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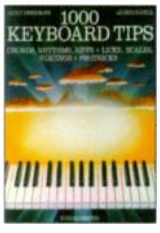

by J Dreksler & Q Harle

The hi-tech musician's guide to the basics of music, scales, chords and harmonies. 256 pages covering chord relationships, improvisation, suggested drum machine patterns, plus comprehensive chord table. Too good to miss!

CODE B113 **£13.95**

Postage: UK £2.50, Europe £6.95, R.O.W. £9.50

SOLID GROOVES

By Dieter Petereit & Herb Quick

128 pages dealing with both bass and drums, the 'heart' of the pop group, together. Although written primarily for drummers and bass players, anyone interested in understanding rhythmical music in popular styles will find this book invaluable.

CODE B172 **£11.50**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

COMPUTERS & MUSIC

THE COMPLETE SOUND BLASTER

by Howard Massey

Explains in simple, non-technical terms: how to install the Sound Blaster hardware and software for use in both the DOS and Windows environments, the two sound processes used by the card, MIDI, the Sound Blaster's MIDI capabilites, and the many different applications for the Sound Blaster, including the various software utilities provided with the card, and many of the third party support products that enhance its operation.

CODE B313 **£10.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

MULTIMEDIA ON THE PC

By Ian R Sinclair

If you want to know what multimedia is and what it can offer you, then this is the book for you. Much of the information is general enough for everybody, but as the title suggests, the book is aimed at PC users. The book explains the installation and use of a CD ROM drive and a sound card and covers all key concepts behind multimedia. As an added incentive, if you buy this book, you can send away for a free copy of *Picturebook*, a multimedia authoring package.

CODE B272 **£11.95**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

MULTIMEDIA ON YOUR PC

by Francis Botto

A practical guide to multimedia specifically on the PC. Botto's book is once aimed at users, educators and developers, and comprehensively discusses the hardware required to take advantage of multimedia in a PC environment as well as the hardware and software necessary in a multimedia authoring situation. The book is provide with comprehensive appendices covering a glossary and comprehensive product and manufacturer lists.

CODE B296 **£10.95**

Postage: UK £1.95 Europe £5.50 R.O.W. £8.50

COMPUTERS AND MUSIC

By R A Penfold

2nd edition. Covers hardware and software applications. Excellent glossary of jargon, and now bang up to date.

CODE B098 **£8.95**

Postage: UK £1.50, Europe £4.95, R.O.W. £7.50

SEQUENCER SECRETS

Ian Waugh

Ian's book aims to "go beyond the manual" in telling you how to get the best from your sequencer. The book features 29 hands-on sequencing projects and is suitable for use with all software sequencers. The book hopes to help you optimise your MIDI system and use your sequencer to create all sorts of useful effects. A troubleshooting section helps you track down stuck notes, double notes and so on.

CODE B299 **£6.95**

Postage: UK £1.50, Europe £4.50, R.O.W. £6.50

MULTIMEDIA, CD ROM & COMPACT DISK – a guide for users and developers (2nd Edition)

by Francis Botto

Ppractical guide to CD ROM and interactive multimedia aimed at both users and developers. Virtually all platforms and technologies are covered in this book - CD-I, CD ROM, CDTV, Macs, PC clones etc - and a comprehensive range of appendices include a glossary, and lists of development tools, manufacturers, and existing CD ROM titles. All aspects of system development - from image capture to sound - are covered.

CODE B295 **£14.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

MUSICAL APPLICATIONS OF THE ATARI ST's

By R A Penfold

Includes a general introduction to MIDI, a handful of MIDI add-on circuits (Thru box, MIDI switcher and so on), plus a collection of programs, in Fast BASIC, that allows you to use the ST's internal sound generator and create little MIDI applications.

CODE B280 **£5.95**

Postage: UK £1.50, Europe £4.95, R.O.W. £7.50

LIVE SOUND

SOUND REINFORCEMENT HANDBOOK

by Gary Davis and Ralph Jones

From recording to broadcast, fixed installations to touring, this 400 page reference covers live sound setups, equipment, techniques and jargon.

CODE B105 **£27.95**

Postage: UK £3.95, Europe £7.50, R.O.W. £14.50

CONCERT SOUND AND LIGHTING SYSTEMS

Written by John Vasey.

How to set up and operate sound / lighting equipment for the performance of amplified music or any kind of touring production.

CODE B247 **£14.95**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

THE FOCAL GUIDE TO SAFETY IN LIVE PERFORMANCE

Edited by George Thompson

This book provides an authoritative look at safety matters for workers in the live entertainment industry. It is edited by the Standards Officer of PLASA (Professional Lighting and Sound Association), and provides good solid information in an easily digestible, well-illustrated form. Topics covered include audience and crowd control, fire safety precautions and engineering, electrical safety, laser safety, sound levels and noise control and much more.

CODE B271 **£19.95**

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

LOUDSPEAKERS FOR MUSICIANS

CODE B284 **£3.95**

Postage: UK £1.50, Europe £3.95, R.O.W. £4.50

INTRO TO LOUDSPEAKER& ENCLOSURE DESIGN

by V Capel

The book provides both useful background to speakers and enclosures in general, plus practical information on crossovers and full details on constructing the so-called 'Kapellmeister' design of speakers.

CODE B281 **£2.95**

Postage: UK £1.50, Europe £6.95, R.O.W. £9.50

LIVE SOUND MIXING

by Duncan R Fry

This is a hands on, friendly introduction to all aspects of mixing live. It hails from Australia, and is an SOS Bookshop exclusive. The author is an experienced live sound engineer and has packed his book with loads of information, diagrams and hints to take you from basic principles through to trouble shooting when things go wrong.

CODE B256 **£19.95**

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

PUBLIC ADDRESS LOUDSPEAKER SYSTEMS

by V Capel

All aspects of PA speaker systems are covered in this book, including low-impedence matching, 100V systems, transmission lines and how to install inductive hearing aid loops. At the heart of the book is the Line-Source Ceiling Array, a system that is claimed to improve clarity, even coverage and reduce feedback. Full step-by-step construction and installation details are given.

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ELECTRONIC PROJECTS

ELECTRONIC PROJECTS FOR MUSICIANS

CODE B068 **£10.95**

Postage: UK £2.50, Europe £6.95, R.O.W. £9.50

MIDI PROJECTS

by R A Penfold

A comprehensive collection of simple MIDI projects, including CV and gate converters and a MIDI Thru box. A lot of the book is taken up with interface various obsolete computers to MIDI (Spectrum, CPC464, Commodore 64, BBC B, ZX81 and so on), but the general information is basically sound. Could prove a boon to musicians who are *really* broke!

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PRACTICAL ELECTRONIC MUSIC PROJECTS

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Postage: UK £1.50, Europe £3.95, R.O.W. £5.50

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CODE B286 **£4.95**

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HIGH POWER AUDIO AMPLIFIER CONSTRUCTION

By R A Penfold

Much useful background to amplifier design, speaker matching and more is included in the first couple of chapters, while the last section contains a selection of high power amp circuits plus suitable PSU circuits. Copper track patterns are also provided to allow you to make your own PCBs. While the circuits aren't too difficult as such, those with limited constructional experience should note that due to the high supply currents and voltages involved, even minor mistakes could be extremely dangerous.

CODE B282 **£3.95**

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ELECTRONIC MUSIC AND MIDI PROJECTS

by RA Penfold

Want a MIDI THRU box, patchbay or switcher? Well they're all here. And you don't need a degree in electronics either. All the projects are explained in detail, with full instructions on assembly. So if your into MIDI and you want to expand your system without taking out a second mortgage, fear not. Here's the book to help you build up your MIDI system without laying out thousands on hardware.

CODE B203 **£9.95**

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

DIGITAL AUDIO PROJECTS

by R A Penfold

A two part book, with the first section looking at the basic principles involved including converting an audio signal into digital form and then converting it back to an analogue signal. The second part contains some circuits – for the moderately experienced only.

CODE B279 **£2.95**

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PRACTICAL ELECTRONIC MUSIC EFFECTS UNITS

by R A Penfold

Another selection of musical effects, with more of a guitar angle. Projects include distortion, sustain, parametric EQ, graphic EQ, treble and bass booster, envelope modifier, wah wah effects and more.

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by R A Penfold

Projects for the video and camcorder user, including dynamic noise limiter, automatic audio fader, video faders, video wipe and video crispener.

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SOS Videos

ROLAND G800

NEW

Presented by Roland UK's product demonstrator Sara Reybould, this video covers every essential feature and function of the Roland G800. Sara provides the user with a wealth of knowledge on this sophisticated instrument, with recourse to many practical examples and close-up shots of the LCD screen. The video was produced in association with Roland USA and Roland UK to ensure that the content is accurate and informative.

CODE V060 **£19.99**

Running Time 92 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND GR09

NEW

Presented by Roland UK product demonstrator Nick Cooper, this application-based tutorial video for the Roland GR09, produced in association with Roland USA, covers every function completely. Covered topics include, the GK2A Synthesiser Driver, pickup sensitivity, use of the tuner, what a patch consists of, use of the pedals, patch edit 1 & 2 (including layering and detune, chromatic function, reverb & chorus, edit target, pitch shift), the use of external midi devices, saving to an external sequencer & more.

CODE V061 **£19.99**

Running Time 57 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND GP100

NEW

Presented once again by Nick Cooper, this video manual for the Roland GP100 covers every aspect in detail with many practical demonstrations. Everything you need to know is covered; topics include; an explanation of COSM layout, typical setups, initialisation, global settings, use of the tuner, selection and editing of patches, and use of the FX loop and harmonist

CODE V062 **£19.99**

Running Time 45 Minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND JV-1080 VIDEO MANUAL

Roland's amazing JV-1080 synthesizer module is covered in detail in this informative video. Presented by Tim Walter the video guides you through the basics, and leads you painlessly onto the advanced features. The video even shows you how to fit the expansion boards & gives demonstrations of some of the wonderful sounds they contain. Once again this video has been produced in association with Roland UK & USA to ensure that everything it contains is accurate, and relevant to the new and more experienced users alike.

CODE V046 **£19.99**

Running time: 80 minutes Format: VHS (PAL)
Postage: Uk £1.75, Europe £4.95, R.O.W. £6.95

ROLAND XP-50

NEW

This XP-50 video owners manual is produced by Roland Corporation US and covers all the major features of the instrument in detail. This is an application based video that provides many examples of how your new found knowledge can be applied. Just a few of the 30 separate topic areas covered are: Effects, Choosing Sounds, Loading a Song, Loop Recording, Copying a Track to Pattern, Making an RPS Set, Track Editing, Multitrack Recording, Patch Editing, Creating Splits & Layers in a Patch.

CODE V063 **£24.99**

Running time: 63 minutes
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WINDOWS 95: WHAT WILL YOU LEARN TODAY?

NEW

This video is aimed at new Windows 95 users and goes from basic to in-depth advice, covering topics such as minimum hardware requirements and common problems, and providing useful tips and tuition. The video also features Labyrinth's Video Index System to help the user locate particular topics, by means of on-screen timecode and an index booklet.

The video is written by computer journalist Ian Waugh.

CODE V065 **£19.99**

Running time: 74 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

EVERYTHING YOU WANTED TO KNOW ABOUT PCs BUT WERE AFRAID TO ASK!

Written by Ian Waugh

This video has been produced in response to the number of potential PC buyers and existing new users who do not fully understand the jargon and basic operating procedures associated with PCs.

It covers everything from 'What is a PC' to the 'Internet'. There is even a Windows tutorial, and a DOS basics section. (Over 120 different sections.)

It includes a booklet listing all the main and sub sections along with their respective TimeCode number for easy access when used as a reference tool.

CODE V048 **£19.99**

Running time 91 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

KORG PROPHECY VIDEO MANUAL

Written by Phil MacDonald

Korg's new Prophecy Synthesizer now has its own video manual!

The video covers all the major features over 6 sections, with lots of examples of the amazing effects that are available using the 'log' and 'mod' wheels. The video's visual interest is maintained by the extensive use of Chroma Key and multi camera effects. This is a video that is ideal for new owners, and those who want to know more about the Prophecy before they make a purchase.

CODE V049 **£14.99**

Running time: 36 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND MS-1 VIDEO MANUAL

This video manual has been produced by Roland Corporation US, and has been designed to provide the user with tuition, and examples of how to apply your new found knowledge in various applications. There is also a comprehensive "Tips & Tricks" section to give you that extra edge!

CODE V047 **£24.99**

Running time: 50 minutes (approx) Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

BOSS ME-8

NEW

Nick Cooper (Roland UK product Demonstrator) explains every single feature & function of the ME-8 in detail. The unit is clearly explained in a logical sequence with examples given of how the functions effect the available sounds, a perfect aid to new users of the ME-8 and those who would like to get that little bit more from it. Just some of the main points covered are: What is a Patch?, Selecting a Patch, Copying a Patch, Edit Mode, Using The Effects, Control Effects, The Tempo Function, Manual Mode, and lots more.

CODE V064 **£19.99**

Running time: 72minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

KORG AX30G TONEWORKS VIDEO MANUAL

The Toneworks series of guitar processors from Korg gets a real work out on this 55 minute tape. Korg's guitar demonstrator Steve Fairclough whizzes through the G1, G2, G3 and the flagship AX30G and provides clear explanations of how each units works. And to put the units into context, there's lots of footage of Steve showing off the sonic capabilities of each processor (not to mention his prowess as a guitarist).

ORDER CODE V028 **£19.99**

Postage: UK £1.75, Europe £4.95, R.O.W.£6.95

BAND IN A BOX 6.0 BASICS FOR WINDOWS

Designed to get the new user, and those less familiar with Band In A Box, up and running quickly and easily. Experienced users can also benefit from the in-depth tutorials which cover Basic MIDI, MIDI Connections, Custom Patch Maps, Screen Layout, Juke Box, Printing, Recording & Editing Melodies, Importing & Editing Styles, Drum Editor, Masks, Assigning Instruments.

CODE V031 **£34.99**

Running time: 88minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

YAMAHA PSR6000 ELECTRONIC KEYBOARD VIDEO MANUAL

Yamaha's PSR6000 is a home keyboard with a difference, and offers many professional features plus excellent sound quality. Tim Walter starts at the beginning and makes the instrument look easy and fun. His enthusiasm is catching, and, yes, the PSR6000 is a very capable instrument. The tape runs to 75 minutes, which makes for excellent value.

ORDER CODE V029 **£19.99**

Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND GR-1 GUITAR SYNTH

These two video manuals have been produced to help the user get the most out of Roland's sophisticated GR-1 guitar synth, the first covering all the basics from mounting the pickup and getting tuned up to selecting sounds and using the on-board sequencer. Each step is patiently explained and demonstrated by Roland's guitar synth specialist, Jay Stapley.

The Advanced tape takes the mystery out of sound editing, custom tuning, advanced sequencer applications, external sequencer hookups, using other MIDI sound modules, indeed virtually everything the GR-1 is capable of doing. If you own a GR-1 or are thinking of buying one, do yourself a favour and order these indispensible videos.

CODE V014 **ONLY £29.99**
FOR 2 VIDEOS

Total Running time: 4 hours. Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

STEINBERG CUBASE

This manual is presented by Chris West, Steinberg expert. It's very much a practical, 'get up and running' video, showing the novice user exactly how to install and begin using Cubase, whether they're running the program on an ST, Mac or PC computer — there's even a basic background on using the computers themselves! All of Cubase's controls are shown, explained and demonstrated in depth. Once you're familiar with the basic controls, Chris takes you slowly through recording your first session, followed by overviews of the various edit screens. It's rather like having an expert tutorial that you can run again and again in the comfort of your home, until you can use Cubase like a true pro. Topics covered include; the main screen, customising names and outputs, copying and pasting between arrangements, MIDI filter, cycle mode recording, the tool box, all edit screens.

CODE V011 **£29.99**

Run time: 1hour 30 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND TDE-7K DRUM SYSTEM

Roland's TDE-7K Compact Drum System Comprises the TD-7 Percussion Sound Module, MDY-7 Cymbal Pad Holder, FD-7 Hi-Hat Control Pedal, MDS-7 Drum System Stand, PD-7 Drum Pads & KD-7 Kick trigger. You may have a different configuration to what is shown in the video, but no matter!, Roland Product Specialist Gary O'Toole shows you how the complete kit is put together. Gary concentrates on the TD-7 in detail, showing how the parameters are set up, and giving demonstrations of how the sounds are derived and altered. Good use is made of the visual side in this video with multi-camera shots, a 'birds eye' view of the entire Kit shows Gary's playing abilities to the full. As you would expect from a production aided by Roland UK & USA, this video shows you everything you need to know.

CODE V045 **£19.99**

Running time 65 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

3 CAKEWALK 3.0 VIDEO MANUALS

CAKEWALK 3.0 For Windows

A collection of three videos on the Cakewalk Professional system for Windows, covering just about everything you would need to know to become totally proficient with Cakewalk. If you own Cakewalk Home Studio — no problem! The videos cover everything Cakewalk Home Studio is capable of and more...

BASICS

Basic MIDI, Step & Realtime Recording, Playback Features (on the fly), Editing Features, Graphic Views, The Inspector Menu, Menu Overiew, The Control Bar.

CODE V032 **£34.99**

Running time: 120 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

BEYOND BASICS

This video explains Customising Cakewalk, Extrack Merge, more graphic Views, Advanced Editing, the Settings Menu, Synchronisation, Embedding Wav Files and more...

CODE V033 **£34.99**

Running time: 113 mins
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

CAL

Programming Fundamentals, Creating a Program, Creating a CAL Program, How to use CAL Programs, CAL Examples, Automating Tasks, Tips on working with CAL, Creating Computer Music, Troubleshooting.

CODE V034 **£34.99**

Running time 90 minutes
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EMAGIC NOTATOR VIDEO TRAINING MANUAL

This video manual is detailed and helpful, and is presented in a most friendly and approachable manner by session musician Tim Walter, whose tone throughout the video encourages and inspires confidence. If you are new to Notator and are still in awe of its power, this is the video to bring you down to earth. An introduction and 28 tutorials take the user from the absolute basics - including plugging in the dongle - to working with Unitor and SMPTE, and synchronising to video. As well as actual recording of MIDI data and sequencing, comprehensive coverage is given to using the score layout and printing facilities that are so much a part of Notator. Topics covered include; sequencing page, score editing, lyrics and text, graphic arranger mode, hyper edit, the printer page, using the part box.

CODE V012 **ONLY £19.99**

Running time: 2 hours 20 minutes Format:VHS(PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ENCORE 3.0 FOR WINDOWS

The basics of Encore for Windows is covered, with in-depth tuition over 83 minutes. Everything you need to get up & running is here. Basic MIDI, Score Layout, Accidentals, Key Signatures, Note Editing, Step Time Entry, Adding Staves, Click Setup, Record Setup, Linear View, Quantisation, Editing, Printing, Staff Position & Spacing, and much more...

CODE V036 **£34.99**

Running time 83 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND JV-90 SYNTH

Roland's JV-90 synthesizer gets the treatment in this informative Labyrinth production. Virtually every facet of the JV-90 is covered, from the basic functions to more advanced programming. Chris Allen guides you through the powerful features this instrument has to offer. Produced in association with Roland UK & USA to ensure that everything it contains is accurate, and relevant to new and more experienced users alike.

CODE V044 **£19.99**

Running time 70 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

CUBASE 2.6 BASICS FOR WINDOWS

Practical guide to Cubase for Windows covers all the basic functions, ideal for the new user and those who need added insight into this complex system.
Contents: Basic MIDI, Value Selection, Arrangments, Arrange Window, Transport Functions, The Inspector, The Toolbox, Quantisation, Grid Editor, Step Recording, and much more.

CODE V035 **£34.99**

Running time 85 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

KORG X3

This video offers an easy way in to this powerful workstation. It starts from absolute basics, including audio connections and volume levels, and the clear and helpful script covers all basic facilities of the X3. The video features a sophisticated use of picture in picture, with the X3's display cut into the main image to show you clearly what Phil is actually doing, and main points are reinforced with on screen text and graphics. The main section headings are:
• *X3 Audio Connections* • *Getting Around the X3* • *Factory Disk* • *Disk Drive Modes* • *Selecting Sounds* • *Global Modes* • *Sequencer Mode* • *Quick Sound Editing* • *Playing MIDI Files on the X3* • *Using the X3 with an external sequencer*
Note that these are loose headings, with each section also containing information on connected subjects in varying amounts of detail. A lot of ground is covered, and we can recommend the tape to any X3 owner.

CODE V018 **£19.99**

Running time: 55 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

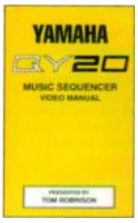
PERFORMER 5.0 BASICS FOR MACINTOSH

Expert tuition covering the basics and more for Performer 5.0. This video will provide you with all that you need to know, covering all the major topics: Basic MIDI, Tracks Window, Multitimbral Operation, Patch Changes, Time Signature & Meter, Real & Step Time Recording, Event List/Graphic & Notation Views, Regional Editing, Quantisation, Transposing, Copy/Cut/Paste/Merge & Erase, Loop Recording, Track Palette, Device Groups, Counter Window, and much more.

CODE V042 **£34.99**

Running time 87 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

YAMAHA QY20 MUSIC SEQUENCER VIDEO MANUAL



by Tom Robinson

Yamaha's popular QY20 portable sequencer/sound source is a deceptively simple device to use; if you think you might like some insight into getting that little bit extra out of the device, then look no further. Produced in co-operation with Yamaha, the video features mobile musician Tom Robinson showing you how to get the best from this portable marvel. Tom, who has used the QY20 extensively as a writing tool on the road, says: "I never leave home without it".

CODE V016 **£19.99**

Running time: 90 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

THE EMAGIC LOGIC TUTORIAL VIDEO VOLUME 1

Produced by Emagic themselves, this video once again sees Tim Walter (featured on the excellent Notator video) in the tutor's chair. There are plans for a series of videos which become ever more detailed and informative, but for now Volume 1 takes you through the first steps of getting the software up and running, and covers virtually all the controls you'll need. *This video is valid for all versions of Logic, whether being run on an ST, Mac or PC.* Presentation is rather intriguing, with a mobile camera that helps to hold the interest more than the average training video and some interesting graphics that aid comprehension and help to quickly find specific tutorials and bits inside tutorials. Contents as follows:

- Tutorial 1: The Arrange window and basic sequencing
- Tutorial 2: Playback parameters & Toolbox
- Tutorial 3: Controlling MIDI data flow
- Tutorial 4: Manipulating sequence data
- Tutorial 5: Moving around in Logic
- Tutorial 6: Windows and key commands
- Tutorial 7: More sequencing
- Tutorial 8: Score
- Tutorial 9: Looking at the Event List
- Tutorial 10: Editing the Event List
- Tutorial 11: Using the Environment
- Tutorial 12: The best of the rest (HyperEdit, Matrix Editor, Cycle Mode and more).

CODE V023 **£29.99**

Total running time 70 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

KORG X5 SYNTH

Korg's new X5 synthesizer, reviewed in SOS' January 1995 issue, now has its own video manual. Presented by Tim Walter in an entertaining and lighthearted manner, and explains all basic aspects of Korg's highly affordable instrument in very clear terms. If you're in any way daunted by your new purchase, or want to get a feel for the instument before laying out your cash, this is the video for you.

CODE V027 **£19.99**

Running time 55 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ANALOGUE HEAVEN

Remember our feature on the opening day of the Museum of Synthesizer Technology which we ran back in October 1994? Wish you'd actually been able to attend?
Well, now you can have the next best thing: the museum has released a fascinating 50 minute promo video that features footage shot on the day as well as a lightning tour of the facility. The program is hosted by SOS contributor Julian Colbeck. The tape opens with synth pioneer Bob Moog making the inaugural speech and officially opening the museum, followed by a nostalgic run through one of his old modular systems. Analogue Heaven makes diverting viewing for anyone interested in vintage synths, represents good value, and offers the perfect companion to the Museum's guide book, also available from SOS Bookshop.

CODE V026 **£12.95**

Running time: 50 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

BOSS DR-5 DRUM MACHINE

Presented by Nick Cooper (Roland UK Product Specialist) this video covers all the functions of the DR-5 in a clear and concise manner. Produced in association with Roland UK & USA. By using the information gathered from Roland 'helplines', particular attention has been paid to the areas that many users find most difficulty in. This makes it of interest to beginners and experienced users alike. Nick imparts the information with ease and a professional manner, making it enjoyable and entertaining.

CODE V043 **£19.99**

Running time 57 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

MASTER TRACKS PRO 4/5 BASICS FOR WINDOWS & MACINTOSH

All the basic functions of Master Tracks, from installing the software to advanced editing. Everything you need to know to get you started and beyond in easy to understand step-by-step instructions.
Basic MIDI, Track Editor Window, MIDI Settings, Screen Layout, Conductor Window, Transport Controls Window, Inserting Measures, Step & Real Time Recording, Event List Editor, Piano Roll Editor, Quantising, and much more.

CODE V041 **£34.99**

Running time 105 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

HOW TO GET A RECORD DEAL

The facts you need from the people who know. How To Get A Record Deal contains vital information and insight that you will not find anywhere else, from artists and executives who have made it and know what it takes.
On this video music industry pros give you the straight facts on how to break into this extremely competitive business. Because sometimes the difference between success and failure is information.
Presented by the National Academy Of Songwriters

CODE V003 **£14.95**

Running time: 1 hour 7 minutes
Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

YAMAHA QY300 VIDEO MANUAL

Complete overview of Yamaha's new QY300 sequencer/sound source. Presented by Joe Ortiz of Heavenly Music, the video offers a hands-on tutorial on what is potentially a very powerful piece of hardware. Starts off with a runthrough of QY300 features, followed by a clear, step-by-step tutorial that introduces you to creating your own sequences and styles. As a bonus, the video comes with a free disk loaded with 6 new QY300 styles and 6 demo sequences.

CODE V025 **£19.99**

Running time 69 minutes Format VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

4 FINALE 3.0 VIDEO MANUALS FOR WINDOWS & MACINTOSH

Four superb videos covering the Windows Version and four for the Macintosh version. From Basics through to the most Advanced topics in Power User, these detailed videos will guide you through Finale, giving you the knowledge you need to become a Finale expert with ease.

BASICS

MIDI setup, Tool Palette, Default File, Customising Templates, Drawing Slurs & Expressions, Key & Time Signatures, Metatools, Music Spacing & Allotments, Printing, Measure & Page Layout, and much more.

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Custom Instrument Library, Font Size, Pickup Measures, Measure Number Enclosures, Chord (midi & manual input), Finale Chords, Guitar Fret Boards, Mirroring, Mass edit Menues, Transoping, Alternate Notation, Moving Layers, and much more.

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Running time 92 minutes
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Clef Changes, Text Blocks, Tempo Tool, Multi-measure Rests, MIDI Tool, Making an Ossia, Optimising Staves, Custom Score Layout, Page Tool, Multiple Windows, Tiling Pages, and much more...

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Running time 75 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

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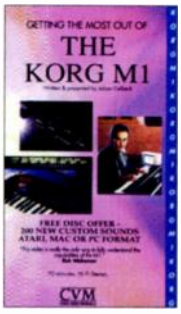
CODE V040 **£34.99**

Running time 108 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

GETTING THE MOST OUT OF THE KORG M1



Written and presented by Julian Colbeck

The Korg M1 is a classic instrument. The range and quality of its sounds has made it one of the most successful synthesizers of all time. But because the M1 is so immediate, it's too easy just to scratch the surface, leaving many of its exciting capabilities undiscovered. This highly informative video enables M1 owners to unleash the full creative potential of this enormously powerful workstation. With plenty of musical examples, tips and inside information, the video offers clear, concise explanations of the instruments features and operating procedures, helping you to greatly expand your dexterity and creativity across he whole range of this world-beating instrument.
Comes with a FREE exclusive custom library of fabulous new M1 sounds on Atari format floppy disk (100 Programs, 100 Combinations) created by ABWH/Yes programmer Chris Macleod.

CODE V002 **£24.95**

Running time: 1 hour 10 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

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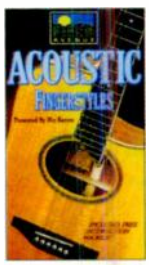
SOS Videos

ACOUSTIC FINGERSTYLES NEW



Presented by Mel Reeves

In this video there are 5 major instrumental studies to work through including country, classical and blues. Each style is broken down into small sections allowing you to learn more quickly and efficiently. Each piece is demanding, but great fun to play.The final section looks at styles and techniques used by players such as R.E.M, The Eagles, Sheryl Crow and Paul Simon, and provides an insight into creating new and interesting fingerstyles of your own.

CODE V059 **12.99**

Running time approx 90 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ACOUSTIC BLUES GUITAR NEW

Presented by Mel Reeves

Whether you can already play fingerstyle guitar, or are simply familiar with basic chords, this programme will show you all of the necessary techniques to play great blues guitar. All of the technical aspects are explained in the clearest possible way before getting down to the real business of learning 5 real blues that are great to listen to and terrific to play.

CODE V058 **12.99**

Running time approx 63 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

PLAY KEYBOARDS NOW! MELODIES NEW

Presented by Mel Reeves

This programme will not only teach you note reading, rhythm, rests, ties and how to move up and down the keyboard with ease, but will also teach you 6 complete melodies familiar to lovers of rock, pop and classical music.

In addition, there is a further look at improvising, making use of melody and scales combined.

Clear computer graphics and the booklet enclosed will mean you won't miss a thing.

CODE V057 **12.99**

Running time approx 55 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

PLAY KEYBOARDS NOW! NEW

Presented by Mel Reeves

An up-to-date video/booklet that gets to the heart of modern keyboard playing with no need to read music!

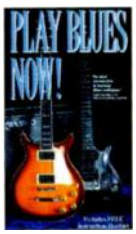
All you need to be able to create pop, rock and even jazz chord accompaniments using major, minor, seventh, sus 4th and added 9th chords. Learn arpeggios, random arpeggios, chord 'splitting', crushed tones, boogie blues, inversions and much more.

Free instruction booklet and stickers included.

CODE V054 **£12.99**

Running time approx 60 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

PLAY BLUES NOW! NEW



A complete guide to blues guitar playing that shows a variety of blues rhythm and soloing styles — for both beginners and advanced players alike.

Learn the blues style of Eric Clapton, Stevie Ray Vaughan, Peter Green, etc. The programme not only covers the usual blues shuffles and scales but using 4 complete songs, gives you the resources and techniques to create professional blues parts and solos in a wide variety of blues styles.

CODE V051 **£12.99**

Running time approx 50 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ORDER YOUR VIDEO NOW!
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PLAY HEAVY METAL NOW! NEW

A concise, easy to follow video guide to real heavy metal playing for guitarists of all levels.

A guide to hard rock/heavy metal techniques for guitarists of all levels. The programme covers RHYTHM, SOLOING, and TECHNIQUE. All of the techniques, solos, etc are clearly demonstrated

No need to read music. Free booklet contains tab, chord and scale diagrams.

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Running time approx 65 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

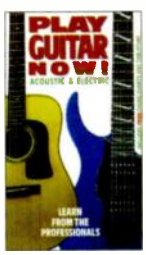
START HOME RECORDING NOW! NEW

This is the ideal volume one guide to the use of home recording equipment. From the set up of basic 4-track cassette machines to sub-mixing Mel Reeves uses straight-forward language to talk to fellow musicians about the methods used to get the sounds in their heads onto tape. Includes free instruction booklet.

CODE V055 **£12.99**

Running time approx 55 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

PLAY GUITAR NOW! ACOUSTIC & ELECTRIC NEW



An easy-to-follow video to take you from the basics to a full rock solo.

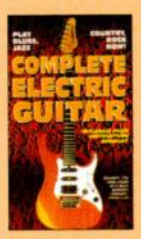
The programme covers TUNING, CHORDS, FINGERSTYLE, 12 BAR BLUES, BARRE CHORDS and ROCK SOLOING for both electric and acoustic guitars. Includes free chord/tab booklet.

It is not necessary to be able to read music to learn from this video.

CODE V053 **£12.99**

Running time approx 51 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

COMPLETE ELECTRIC GUITAR NEW



Presented by Mel Reeves

Learn how to create solos and rhythm parts in any style! The programme covers ROCK 'n' ROLL, BLUES, JAZZ, COUNTRY, ROCK and FUSION and much, much more. Plus the clearest possible guide to chord and scale construction, tonal centres and working out parts for yourself. Includes free construction booklet.

CODE V050 **£12.99**

Running time approx 65 minutes
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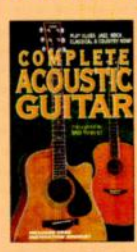
COMPLETE ACOUSTIC GUITAR NEW



Presented by Mel Reeves

Whether you only know a few chords, or are already proficient, this easy-to-follow programme will show you all of the main guitar styles, as performed on the acoustic guitar. As well as learning tips and 'tricks of the trade' Mel Reeves will show you 6 great instruments, step-by-step and take your playing to new heights. Plus, open tuning, the capo, high-strung guitar, reading music and more!

Styles include: Guns 'n' Roses, Bon Jovi, Hendrix Blues, Mississippi Blues, Django Style Jazz, Nuits En Moscow, Classical, Romance, Carter Style, Buffalo Gals and Bottleneck/Slide Style.

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Impeccably recorded and compiled by Alan Parsons and Stephen Court.

Sound Check CD contains 92 tracks of test signals and reference recordings made at Abbey Road Studios that can be used to set up monitors, check room performance, faulty equipment etc. and overall recording quality. No studio should be without one! 20+ close-miked instruments/vocals/ music extracts. SMPTE/EBU timecode tracks (25, 30, drop-frame). Pink noise test tones. Third octave tones. Sweep tones. Sine + Square wave tones.

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The vast psycho-acoustic spectrum of the Museum of Synthesizer Technology has now been opened up to the music-making populace — Over 1500 samples.

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HOW TO GET THE MOST OUT OF HOME RECORDING — 3 TOP CLASS VIDEOS

A superbly presented set of videos which no home recordist should be without. Have you got your set yet?!

LEVEL ONE

This well presented video explains how to set up and operate a simple cassette-based multitrack home studio. It clarifies all the basic terminology and demonstrates the recording of a song from beginning to end, covering how to record guitars, keyboards, vocals and drum machines; which microphones to choose; how to patch in effects units and use them well; what makes a good arrangement; what makes a good mix; plus what to master on to and why. *Full of professional tips and clear examples, this superb video offers the musician with no recording experience a fast route to successful operation of a simple home studio.*

CODE V005 **£24.95**

Running time: 1 hour 10 minutes
Format: VHS(PAL) HiFi Stereo
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

LEVEL TWO

This is, in our opinion, the *best ever* guide to the equipment and skills needed to produce high quality results from a home studio.

Full of clear examples and graphic information, the video majors on effects and how to use them well. It also covers the do's and don'ts of track bouncing; microphones and mic techniques for different applications; getting the most out of multi effects units; plus an analysis of guitar effects with top session guitarist Milton MacDonald and an enlightening interview with ace producer Alan Parsons. *Writer/ presenter Julian Colbeck packs the programme with professional tips, allowing musicians of all kinds to get the most out of their home studio.*

CODE V006 **£24.95**

Running time: 1 hour 45 minutes
Format: VHS(PAL) HiFi Stereo
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

LEVEL THREE

This video is packed with information and professional tips on advanced MIDI applications in the home studio, including interfacing with sequencers, which sync code is best for which application and why. Hit producer Martyn Phillips (Erasure, London Beat) discusses modern recording techniques, and top programmer Paul Wiffen examines the opportunities and benefits offered by hard disk recording.It offers practical advice on sampling - how to save time and tracks; plus professional tips on advanced arranging and mixing techniques, including spectrum mixing.

CODE V007 **£24.95**

Running time: 1 hour 30 minutes
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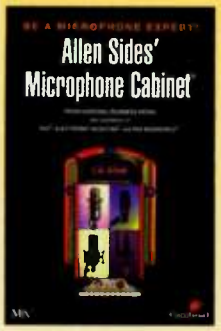

ALLEN SIDES' MICROPHONE CABINET

From Cardinal Business Media
A revolutionary new microphone auditioning tool. This unique, fully interactive CD-ROM lines up the top professional microphones, both classic and contemporary, for a series of 16-bit audio comparison tests on dozens of instruments. A superb resource for professionals and students alike, the disc features tests of 66 mics and 33 different instruments, including drums and cymbals, percussion, guitars, a Hammond B-3 organ and a wide variety of brass, woodwinds and strings. The microphones were chosen from the world-renowned collection at Sides' Ocean Way studios in Los Angeles, including models from: AKG, Audix, Audio-Technica, B&K, Beyer, Coles, Crown, Electro-Voice, Groove Tube, Milab, Neumann, RCA, Sanken, Schoeps, Sennheiser, Shure, Sony and Telefunken. Sort by microphone to check out the best instruments for each, or sort by instrument to see which mics you should use.

CD-ROM Requirements:
Mac: *68030 or better, System 7.0 or later, min. 8Mb RAM, double-speed CD-ROM drive.*
PC: *80486 or better, Windows 3.1 or later, min. 8Mb RAM, 640 x 480 or higher screen in 256 colours, double-speed CD-ROM drive.*

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3m 8-way jack to jack
Code CPP803 **£27.90**
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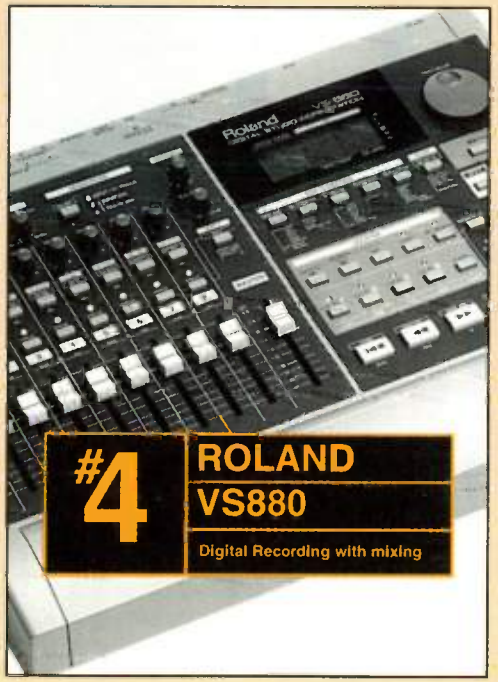

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sounding OFF

Regular SOS contributor MIKE COLLINS blows the trumpet for the Apple Macintosh, whilst sounding a note of caution to those musicians considering the Mac as a work platform today...

I have worked with an Apple Macintosh computer, Digidesign audio hardware, and a wide range of 'MIDI plus Audio' software since the introduction of all of these products, and people often ask me why I choose this particular gear for digital audio recording. The crucial point is that the Macintosh seems to me the best choice of computer, compared with the Atari which is essentially a games machine, and the PC which still lacks reliable, integrated 'MIDI plus Audio' software. DOS was a nightmare, and even Windows has inadequacies as an operating system.

In addition, I believe the Mac platform has attracted the most innovative developers since its inception. Mac music systems grew rapidly from simple MIDI sequencers to include multi-port interfaces capable of controlling large professional MIDI rigs. Stereo digital audio capabilities followed swiftly, in the form of Digidesign's Sound Tools, and this was in turn integrated with the powerful MIDI sequencers already on offer. Meanwhile, Apple had scarcely been marking time on the development front; the 680x0 processor models evolved into the Quadra range, including the 950 with its five available NuBus slots, and the 840 A/V — the fastest 680x0 Mac ever — which also has the fastest NuBus implementation of the range. The 680x0-based Macs were then superseded by the Power Mac range (of which, more in a moment).

Digidesign went on to expand Sound Tools into a range of products; the entry-level AudioMedia and Session 8 systems right up to Pro Tools I and then the Pro Tools III multitrack systems, which are expandable from 16 to 48 tracks. Even better, the sequencer packages like Opcode's *Studio Vision* and Emagic's *Logic Audio* were developed to integrate with Pro Tools III, to allow integrated multitrack audio mixing/editing alongside MIDI sequencing. Finally, third-party software companies developed software versions of studio outboard processors as plug-ins to run on Pro Tools III systems via the TDM buss, using DSP processing cards connected to the Mac's NuBus slots. This is an extremely significant development, paving the way for a future in which much more powerful audio processing will be available — all integrated via software. As a result of all this development activity, Mac-based Pro Tools III TDM systems are ahead by quite a margin compared with systems on other platforms.

Having heard my reasons, people frequently ask me what *they* should buy if they are to go the Mac route. Here's how I see it. If you want the best performance from a 680x0-based system, you need either a 5-slot Quadra 950 for a Pro Tools system with a few additional cards, or, for fastest performance, a Quadra 840 A/V with just three NuBus slots. A NuBus expansion chassis gives you more slots, although this adds a fair bit to the cost. If you don't need more than four tracks, the Pro Tools I (maybe with a TDM upgrade so you can use plug-ins) or Sound Designer II systems are first rate, and will let you burn CDs via Digidesign's *MasterList CD* much faster than a Pro Tools III or Session 8 system. If you need eight or 16 tracks (or more), then you need Session 8 or Pro Tools III.

One of the real problems for musicians looking to purchase Mac-based digital audio systems at present concerns the new Power Macs. You could run your digital systems using one of the recently-discontinued Power Mac 8100/7100 series, for example, but these are less suitable choices than the 680x0 machines in many ways, as much of the available software still doesn't use Power Mac native code, instead relying on software emulation of the 680x0 instructions, which slows them right down. Also, the NuBus implementations are not as efficient as on the Quadra 840 A/Vs, for instance. The latest Power Macs use the newer PCI slots instead of NuBus, but no Digidesign cards are available to connect to these as yet. And, unbelievably, Apple have stopped manufacturing all their NuBus-based models, and even the newer Mac clone manufacturers (see last month's *SOS*, page 38) are planning to drop their NuBus models shortly. This means that you'll have a very long wait for a NuBus Mac, so you will have to consider buying second-hand — or wait for the release of PCI versions of the Digidesign cards and get a new PCI Mac. However, as a result of this changeover from 680x0/NuBus-based to Power PC/PCI-based Macs, and the inevitable shakeup which will take place when Digidesign launch their PCI-based systems, the software companies will have to re-jig all their software — leading to a period of instability before the new systems settle down with all the bugs ironed out.

As if all that weren't enough, now there are financial questions over the future of Apple — it's rumoured that they may have finally lost the battle with the PC, in the face of the overwhelming success of Windows 95. All the leading Macintosh MIDI and audio product manufacturers are hard at work developing for the PC — so you could wait and see what comes out on the PC!

One thing is clear: due to the speed with which all the manufacturers involved are making relatively recent hardware obsolete, you have to exercise extremely careful judgement as to what and when to buy. It's easier than ever to get stuck with yesterday's soon-to-be-unsupported hardware systems! SOS

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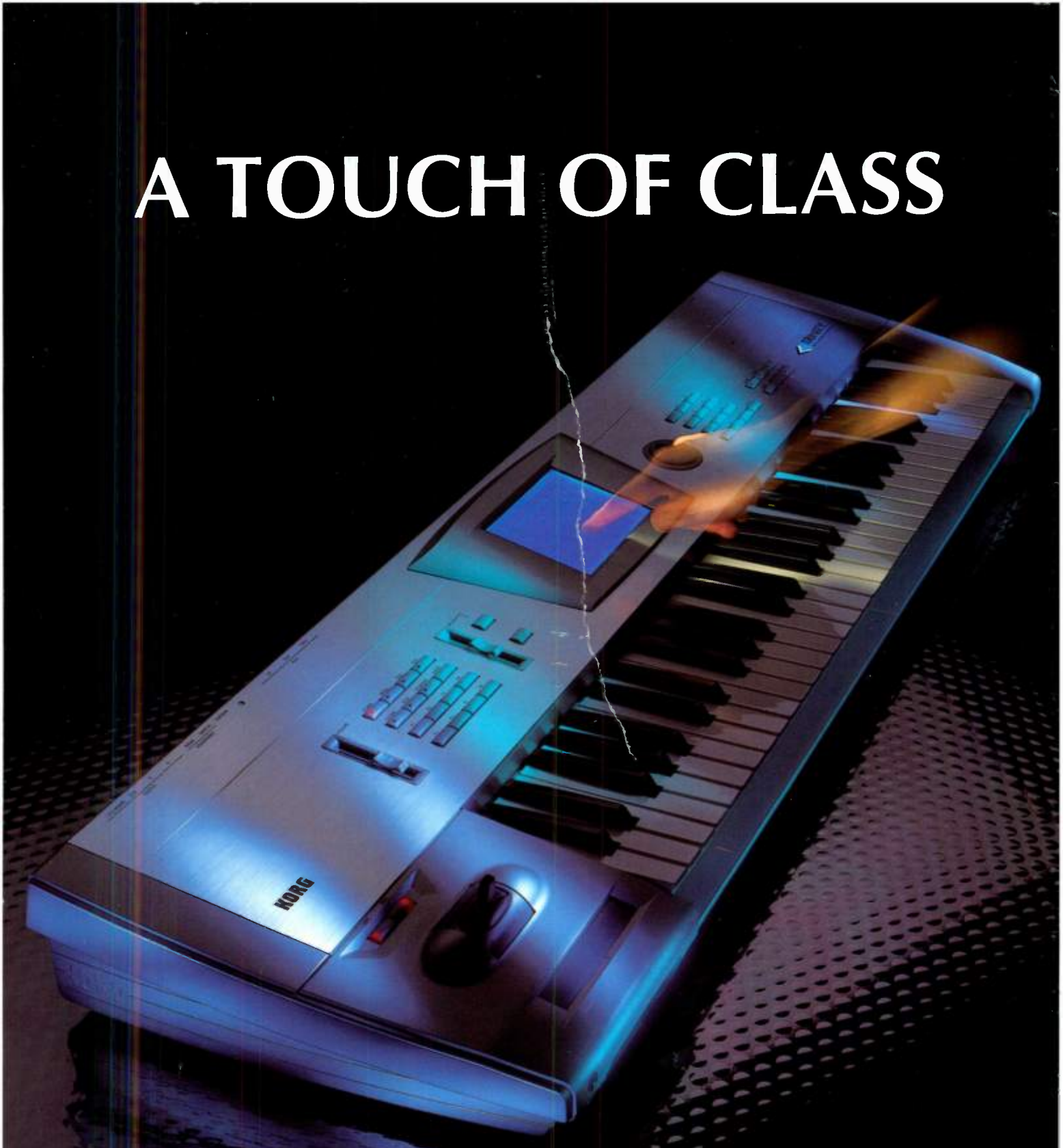

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