SOUND ON SOUND

EUROPE'S No.1 HI-TECH MUSIC RECORDING MAGAZINE



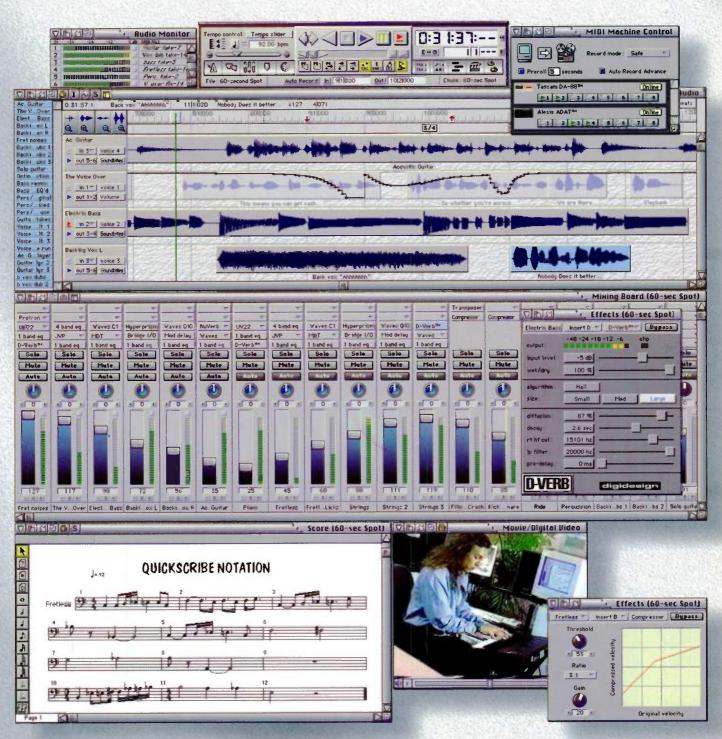
MARK SHREEVE - ROLAND VP330 RETRO - ATARI, PC, MAC & AMIGA NEWS

VOLUME 10 • ISSUE 11

SEPTEMBER 95

£2.95

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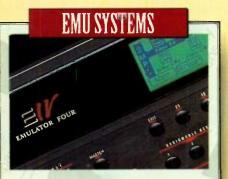
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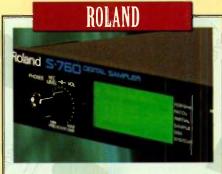
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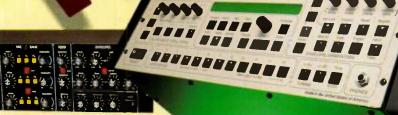
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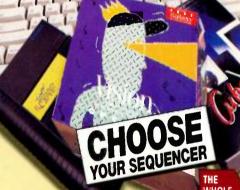
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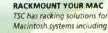
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eadel

must confess that after reading

Sound On Sound, you could easily reach
the conclusion that the more gear you have
in your studio, the better the studio will
be. My own studio has evolved on the principle
that if you can actually reach the top piece of gear
in a rack, then there isn't enough gear in it — but
studios tend to grow in much the same way as
other bureaucracies, and, as I've recently
discovered, they eventually reach the stage where

Disaster Looms

getting anything done is so much of a hassle that it's easier not to do anything at all!

Breaking point finally came when my patchbay could no longer accommodate all the bits and pieces I'd accumulated over the years, and because the studio was planned before I bought a hard disk recorder, the inputs and outputs from my computer-based hard disk recording package ended up just being tacked onto the rest of the system, rather than being integrated into it. Then there was the business of patching and repatching digital cables between



DAT machines, sample rate converters, the computer, and external equipment — it was all too much of a fiddle. The only solution was to rip everything apart and start again from scratch.

Not wanting to be left without a studio while I tackled the problem, I dismantled my MIDI system, complete with my hard disk recording setup and a keyboard mixer, and set it up in my office. The result is a neat little system that's so easy to use that I've actually become far more

productive than I ever was in the main studio.

So far, I've started to strip out all the redundant cable harnesses from the back of the patchbay system. Once, these were connected to long-since sold effects units and modules — now all that's left are bunches of loose jacks and cables with nowhere to go. If you remember that scene in the film *Brazil*, where the maintenance men remove the panels inside the hero's flat to reveal miles of ducts, piping, cables and pulsating

bladders, you will have an idea as to what the inside of my patchbay pod was like! Sorting out this tangled mess actually had unexpected benefits. Kneedeep in cable, I stumbled on the cause of a particularly stubborn hum that had been

bothering me for some time — it was actually interference from the neon light in a mains plugboard which had been placed rather too close to the insert point harness!

So what will I do differently this time? Well, the outboard equipment will be divided into two racks — one which I actually use on a regular basis, and another (with its own patch panel) that can be wheeled in when (or if) its services are ever required. The patchbay will be simplified to remove those options which have stood unused since the beginning of time, cable harnesses will be tied into neat bundles rather than being abandoned to the machinations of entropy, and every item that can't justify its place in the studio will be put into storage.

The really sad thing is that I'm actually starting to believe this will solve all the problems, whereas if I'm really honest with myself, I know that I'll have to do it all again in a couple of years' time. In any event, if the refurbishment turns out to be in any way 'interesting', have no fear that I'll turn it into an article, but for the meantime, at least I have the consolation of knowing that while the studio is out of action, I have a system set up in my office that will actually allow me to work productively for the first time in months!

Paul White Editor

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Photography Ewing-Reeson
Sound Design
Colour Scanning C.L. Enterprises Ltd
Colour Origination Spectrum Repro Ltd

Printing

Newstrade Bistribution

Spectrum Repro Ltd WYSIWIG Warners Midlands Plc

Warners Midlands P Warners Group Distribution Ltd. The Maltings, Manor Lane, Bourne, Lincolnshire, PE10 9PH

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BEASONS TO CHOOSE THE MACKIE 8-BUS-PT 2 %

Lately, several big pro audio companies have gone out of their way to "mention" us in their own 8-bus console ads. Okay, we'll admit it, several consoles have at least one more thingamajig, dooflanger or whozamabob than ours does.

If your sole criteria for buying an 8-bus console is the sheer amount of STUFF on it, there's always gonna be contenders.

But the Mackie 8 • Bus console is founded on sound quality — ultra low noise, high headroom, premium mic preamps — rather than sheer quantity of knobs and buttons.

Not surprisingly, seasoned professionals share the same priorities. In competition with several of the very consoles that keep "mentioning" us in their ads, we recently won MIX magazine's highly coveted TEC Award for Small Consoles. As well as LIVE! Sound magazine's Best Front of House Mixer Award.

Call us toll-free for our 24page 8 • Bus brochure. It details more of the reasons that our 8 • Bus Console series is the best recording or PA console values available today. An expandable console system.



If you can successfully foretell the future, you might as

well play the stock market, make a zillion bucks and buy a 128-channel SSL console.

However, because most of us are less clairvoyant and a lot poorer, we've designed a system that can grow with your needs and budget.
Start with our 24 •8 or 32 •8 console. Then, when your tax refund comes back, add an optional meter bridge. When you land that Really Big Project That Pays Actual Money, add more input channels (and tape returns) in groups of twenty-four with

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operating levels:
-10dBV and +4dBu.
Without knocking our
competition, let's just say
that +4dBu is the only
truly professional standard, used with
all serious recording, SR and video
production components.

This higher operating level effectively lowers the noise floor and increases dynamic range.

Naturally, our 8 • Bus consoles operate exclusively at internal levels of +4dBu. (It's one of the many reasons that Mackie 24 • 8s and 32 • 8s have already been used to track top-

charted albums such as Queensryche's new Promised Land, edit dialog for TV shows like The Untouchables¹). And, for those of

you who still own

-10dBV gear, our 8 • Bus console tape outputs and returns can be switched to accept this semi-pro/hobbyist standard.

for durability. For example, several absorbed the impact of toppling monitor speakers during last year's Los Angeles earthquake with little more than a few broken knobs.

Others have survived drops off loading docks, power surges that wiped out whole racks of outboard gear, and beer baths, not to mention gazillions of air and semi trailer miles with major tours.

Read our 8 • Bus tabloid/brochure to learn about the impact-absorbing knob/stand-off design, fiberglass circuit boards and steel monocoque chassis that make our consoles so rugged. And why we ship our consoles with a massive 220-watt power supply that can withstand high ambient temperatures and low line voltages.

Bottom line: You simply can't buy a more dependable console. Maybe that's why LIVE! Sound magazine readers voted us 1994 "Best Front of House Console."

1 Mention in this ad denotes usage only, not official endorsement by the artists or production companies listed.

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Behringer Eurodesk Mixer p98

Judging by all the phone calls from readers, this is the most eagerly awaited new product since ADATI Find out if delivers all it promises in our bands-on review...

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Mark Shreeve p110

Possibly the most successful UK synthesist to bave emerged in years, find out why Mark has now set his musical sights on Hollywood. Drum Machine
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If you were repeatedly stomped on, you wouldn't sound so good, but this latest Zoom effects device certainly manages to...

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Philips DCC170 p36

There aren't that many portable digital recorders around for £249 inc VAT, but this one is exceedingly tempting.

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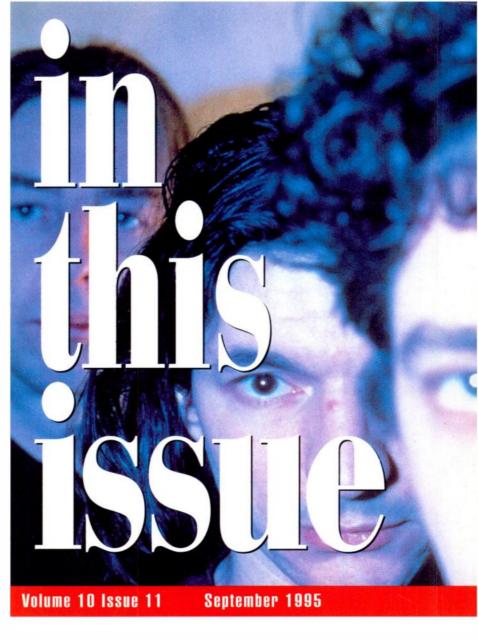


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Paul White kicks off our new column with a personal rant and a rave...

Yamaha Sound Edge PC soundcard p92 With Roland, Korg, Emu and Kurzweil already making PC soundcards, does Yamaba's first attempt bring anything unique to the PC party?



Grosstalk

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Or email us — from CompuServe on 100517,1113
or from outside CompuServe, on 100517.1113@compuserve.com

COMPRESSING THE TRUTH?

With CD, DAT, hard disk editing systems and the like, we have the promise of perfect sound reproduction through error-free storage; but this promise seems to have led the music technology press somewhat astray with regard to DCC and MiniDisc. Though the latter are also digital storage and reproduction media, they have differences from the former media that make a tremendous impact on sound quality.

It's common to interpret 'digital' as meaning 'perfect', when a closer equivalent would be 'controllable'. When digital technology is employed sensibly, it can offer immense advantages over analogue, a point evident in the recent rave reviews for the Clavia Nord Lead synthesizer. Digital technology is also used to good effect in encoding audio samples for CD and DAT, where the primary target is perfect sound reproduction; errors can be detected and in many cases corrected. However, in the case of DCC and MiniDisc, the primary target is compression. For the technically-minded, Sony use 5 to 1 compression to fit 74 minutes of audio onto the MiniDisc, and Philips use 4 to 1 compression to be able to store data at the same tape speed as conventional tapes. Both formats use 'perceptual coding' to achieve this, where the idea is that if you can't hear something, you don't store it.

Both ATRAC (Sony's algorithm) and PASC (Philips') rely on masking; they remove the frequencies that are masked by other, louder frequencies, rather like punching holes in the sound where they won't be noticed. The quality of DCC and MiniDisc is reliant on the quality of their perceptual models, which is an area of discussion in itself; but even if these models were perfect, I believe that they would still not be desirable for use with music, because they purposely throw away sound data. The process of compression is not reversible; once a hole has been punched in a sound, the data is lost, permanently. If the sound is altered (say, with an effects unit, or simply by mixing with another sound), the 'perceptual profile' changes. Some frequencies are masked, and others become unmasked and therefore audible. If you had perceptually compressed the original, some of the 'holes' would become obvious, and the sound would be degraded.

In the final duplication from master to consumerplayable copies, DCC may represent an advance in technology. However, within the process of music creation, up to and including the master, the recording needs to be of the highest quality. Perceptual compression is a threat to quality, because it actively jeopardises sonic detail.

For those on a tight budget — and that includes

me — I believe DCC represents a dubious investment, even at £250. I would more readily recommend saving for a DAT at twice the price, hiring or borrowing one when necessary, or spending £250 on a respectable analogue tape recorder.

Paul Masri

Bristol

Paul White replies: I have to agree with all the points raised by this letter as far as any professional application is concerned, and indeed, I did cover the implications of data reduction in my July 1995 review of the Philips DCC730. However, so good was the subjective quality of the Philips PASC data reduction system that I'd be happy to use the system for any non-professional application where a near-DAT mastering standard is required. The outcome of my review was that I felt the DCC 730 would make a good home studio mastering machine, and I feel that this is true even when the end result is a limited run of privately-funded CDs.

The reality is that in most home studios, the data compression used in DCC is far from being the weakest link in the audio chain, and in fact has arguably less serious side effects than the non-pro noise reduction systems used by the majority of semi-pro multitrack recorders. A further consideration is that most home-produced music is pop music of one kind or another, which usually means a quite limited dynamic range — and those who can hear PASC working usually find the effects most noticeable on very open acoustic or classical material.

As to the effect of further processing on PASC-compressed material, this may or may not produce audible side effects, depending on the nature and degree of the processing, but in the home studio, what goes onto the master tape is usually the final version ready for CD production, or, more likely, cassette duplication. When you consider that many home studio owners still master onto budget open-reel machines (which are rarely realigned, unless they actually break down!) or analogue cassette, then DCC can only be an improvement.

If you can afford DAT, that's great, but a good-quality DAT machine is going to cost around three times the price of a DCC recorder, and for those people working on a hobbyist's budget, this kind of expenditure may not be a realistic option. I did say that DCC could well set a new standard in home studio mastering, but I never for one moment suggested that it could or should replace DAT as a professional format — heaven forbid, even DAT isn't a professional format when it comes right down to it! For those who haven't yet listened to DCC, I think you'll be surprised at just how close to uncompressed DAT it sounds, even on difficult material.

STOP PRESS: MIKAIL GRAHAM

Assistant Editor Matt Bell writes: Emagic would like to clarify a couple of statements made by their product demonstrator Mikail Graham in his interview starting on page 40 this month. On page 44, Mikail states: "We have an AV extension actually

included with version 2.5 [of Logic Audio], and what this allows you to do is use any Macintosh with Sound Manager 3.0 or greater to record and



Mikail Graham in action at an Emagic roadshow.

play back digital audio. If you're using an older Mac, then obviously this will only give you 8-bit sound, but if you have a Power Mac or AV Mac, you can get full 16-bit CD quality sound".

Though Logic Audio 2.5 does indeed allow you to use certain Macs to record and play back digital audio, Mikail neglects to mention that in addition to Sound Manager v3.0 or greater, these Macs require 16-bit audio inputs to record and play back full 16-bit sound. When using older 8-bit Macs, only playback of audio files is possible.

Emagic put Mikail's slightly unclear utterances down to 'lack of sleep and caffeine when Paul White was interviewing him'. Must be Paul's new interview technique — rumours that he also shone a desk lamp in Mikail's eyes and demanded to know his name, rank and serial number are entirely unfounded...



Crosstalk

ROOM WITH A SKEW

I am currently moving my studio to a downstairs room in my house. I have designed the layout to fit what I think will be a nice working environment, but have a problem; the room is not symmetrical. Will this matter when it comes to acoustic treatment, as so far all the *SOS* articles on the subject have been demonstrated in rectangular rooms? I've drawn a plan of the room to show you the problem [see Figure 1].

I am concerned that the strange shape of the room will make some frequencies more prominent than others. How do you suggest I treat the room, given quite a tight budget? Tim Hartnell Leicestershire

Paul White replies: It's hard to be precise, as you don't have any dimensions on your drawing, but I have a few recommendations which should help keep you out of trouble. Firstly, consider fixing a single 2- or 3-inch thick foam acoustic tile to the wall on the left of the left-hand speaker, and another to the right-hand side wall, about level with the end of your keyboard. These should be the same height as your monitors. It's also important that you choose nearfield monitors that don't have too much of a low bass response, as this will only cause problems in such a small room. Ensure that the right-hand speaker is at least a foot or so from the corner.

Your other potential problem is the rear wall, as the sound from your monitors will be reflected back at you from both the wall and the piano. It could help to drape a thick blanket, or better still, a quilt, over the piano when you are mixing. Fixing shelves above the piano would help break up any reflected sound — and it looks as though you could use the space for tape and

disk storage! It can also help to use a high-backed, fubric-covered chair for mixing, as this will absorb some of the unwanted sound from the back of the room. If you have curtains over the window, you may also wish to balance this with a section of pleated fabric on the wall opposite. If the room is still too live, try hanging rag rugs or similar

heavy material over the door, and over the opposite end of the rear wall, keeping all your treated areas as symmetrical as possible.

Resist the temptation to overtreat the room, as this can easily make things worse. As long as the floor is carpeted, and you're monitoring close to the speakers, the simple steps I've suggested should do the trick.

TOO HARD... OR TOO EASY?

The following two readers' letters were both received within a day of one another, during the course of last month.

Your magazine appears to be aimed at both the professional and amateur market. Unfortunately, your fluent use of the language involved (and your apparent assumption that every reader understands) is patronising, and makes me feel excluded from a world which I desperately want to be part of. So, can you either:

- Provide a glossary of terms.
- Offer simple explanations.
- Stop showing off.
- Suggest other ways of entry into this world.

Recognise the ignorant amateur, and you will increase your sales and credibility.

M P Curtis

Thanks for putting out a great magazine. For someone like myself, who is starting out in the daunting world of music technology, your publication is really informative. I feel well guided. I'm not trying to flatter you to death, this is a genuine thanks...

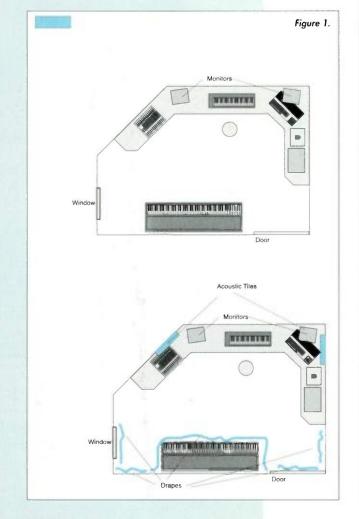
Simon Smith Gloucestershire

Editor Paul White replies: SOS is a relatively advanced magazine, with

a hardcore readership of experienced MIDI musicians and project studio owners, but we do recognise that everyone has to start somewhere. To help smooth out the learning curve, we target certain articles at the less experienced user, and endeavour to explain the necessary common terminology as we go along.

Happily, letters like Simon Smith's, and statistics like the overwhelming number of people who said they liked the mag pretty much as it is in our 1995 Reader Survey would seem to indicate that we get the balance right most of the time [see pages 106 and 107 this month for a detailed examination of the Reader Survey results].

In response to Mr Curtis, I have to say that it simply isn't practical to include a comprehensive glossary of terms with every issue, because it would probably occupy a quarter of our editorial pages each month. For those needing a glossary, I'd recommend Tech Terms, by George Petersen and Steve Oppenheimer, which is available from the SOS Bookshop, order code B230, for just £7.95. You might also like to try the Studio Musician's Jargonbuster by Godric Wilkie, which is available from the same source, order code MX30045, at a price of £12.95. In the meantime, if there are any particular areas that you think need demystifying, let us know, and we'll write articles to explain them!



SIMON NEALE, TAKE NOTE

With reference to Simon Neale's letter asking for Yamaha SY85 sounds [Crosstalk, August '95]; here at Sounds OK, we stock eight different SY85 sound disks. Find out more by contacting us on 01276 22946.

Paul Wells

Sounds OK Interactive

System 200°

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The singer's stopped moaning about us being too loud, now that we've given him an Sx200 to use as a wedge monitor on stage. As for the punters, they're well made up for 'em. They can hear us properly, and since our new System 200 doesn't take up all our stage room, they can see us properly, too. And, although my Dad said it would never happen, everywhere we play, they ask us back. **

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Electro-Voice



By Derek Johnson & Debbie Poyser.

3M CUT THROUGH MEW TAPE

announced the arrival of their new 986 low print analogue mastering tape. Based on 3M's 9-Series high level tape formulation.



3M Professional Audio Video 01344 858614.



CRIMEWATCH

says lightning never strikes twice? Mike also reports that on June 18, he had a Zero 88 desk, lighting and power pack stolen. If you can offer any help or information, phone on 01752 665419 or fax on 01752 228058.

MUSIC

usic Sales, one of the world's largest publishers of music, has moved onto the Internet. The new Internet Music Shop will allow you to search for, browse and buy sheet music from the convenience of your computer. In addition, you'll be able to buy MIDI Files, browse catalogues and download free samples. You can access The Internet

- Music Sales Ltd, 8-9 Frith Street, London W1V 5TZ.
- **11** 0171 434 0066.
- 0171 438 2848.

Music Shop on: http://www.musicsales.co.uk

SOS can be reached on CompuServe; our e-mail address is 100517,1113.

Our full Internet address is 100517.1113@compuserve.com.



hough this year's British Music Fair appeared to be on a slightly smaller scale than previous years, there was still plenty of new gear of all types on show. Naturally, we don't have space to mention everything, so here are as many highlights as we can cram into limited space — apologies to anyone who feels neglected; we'll try to correct any omissions in coming issues.

The Arbiter stand at this year's BMF bore an uncanny resemblance to a flash '50s bar, complete with colourful neon lighting and bar stools. But as well as looking good, it also fulfilled its required function - supporting stacks of new hi-tech toys, such as the new units from Digitech which caught our eye. At a projected retail price of £449, the MV5 MIDI Vocalist is the latest and lowest-cost addition to the Vocalist family, and it promises to be the easiest to use yet, as Digitech have done away with the need for programming! The new unit takes all its cues for creating vocal harmonies from the chords you play on a MIDI keyboard. Selecting the number of harmony

voices you want, and their position above and below the lead, is easy with the six backlit buttons on the front panel; you can have up to four harmony voices sing with you, and four types of vocal processing are available.

Also new from Digitech is the RPM1 Vacuum Tube Rotary Speaker Emulator which is exactly what it sounds like, packed in a 1U rackmount box and utilising a genuine vacuum tube preamp for authenticity. To add to the impression of realism, the RPM1 uses the same crossover frequency between the 'horn' and 'rotor' as classic rotating speaker cabinets, and also offers realistic Doppler effects, independent horn and rotor acceleration, separate outputs for left horn, right horn and lower rotor, control of the 'virtual mic' position, and numerous other control options. Retail price is projected at £549. That's not all from Digitech: though we don't have space to go into detail, they're also releasing the TSR6 true stereo multi-effects processor at £299.95, the TSR24S Studio effects processor at £799.95, and the Vox VO AES/EBU and S/PDIF input and

output for the Studio Vocalist (reviewed in 505 last month), at £299.95.

On the software front, Arbiter Pro MIDI had a range of programs on show, including the perennially popular PG Music Band In a Box, and other software from PG Music including The Ragtime Pianist and The Jazz Guitarist. They've also announced the release of Passport's MusicTime 16 for the Mac or Windows. They claim the software to be "the most interesting way to make music with your sound card or MIDI instrument". With MusicTime 16, you can record your performance live and immediately display it or print it out as actual music notation. Notes can be input from either the computer's keyboard or a MIDI instrument, and you can add guitar chord fret diagrams and chord names. MusicTime 16 costs £149.

- A Arbiter Group plc, Wilberforce Road, London NW9 6AX.
- T 0181 202 1199.
- F 0181 202 8568.
- arbiter@cix.compulink.co.uk.



FREE SPIRIT? POSSIBLY...

oo good to be true? Spirit by Soundcraft's 'money back for your mixer' promotion is definitely for real — the first winners have already had their refunds. Spirit's Andy Farmer and Simon Sinclair have visited London's Turnkey and Anderton's in Guildford to present the cheques. Buying any model from

the Spirit range, answering some questions and composing a tie breaker is all you have to do to be eligible for a chance to win back the price of your mixer. Entry forms are available at dealers, and these must be stamped at the time of purchase and returned to Spirit with your receipt — the promotion runs until September, so you've still got time.

- A Spirit by Soundcraft,
 Cranborne House,
 Cranborne Industrial Estate,
 Cranborne Road, Potters Bar,
 Herts ENG 3.1N.
- 01707 665000.
- F 01707 665461.

S eminars are really catching on, with Turnkey holding an evening event dedicated to computer notation on 23rd August at 6pm. Attendees will be able to compare various systems for notating and printing out music, including *Sibelius 7* (Acorn

NOTATE THIS!

RiscPC), Passport's *Encore* (Mac and PC), Coda's *Finale* (Mac and PC), and Steinberg's

Cubase Score (also for Mac and PC). Guest speakers from Sibelius, Passport, Steinberg and other distributors will be on hand to answer questions, and refreshments will be provided. Contact Richard Fincher at the telephone number below for free tickets.

0171 379 5148.

estled amonast the wide range of guitars and amplification on the John Hornby Skewes stand were one or two items of interest to SOS readers, primarily a new radio mic system dubbed The Scanner. At a very low price point of £199, the DTI-approved system uses an Audio Technica mic capsule and its receiver features the novel Pilotone Tone Squelch Carrier Muting Circuit. What this means in layperson's terms is that the receiver will only work with the Scanner transmitter — you definitely won't be receiving



taxis in the middle of your gig! JHS are also handling Re-An quality patchbays, and were displaying the sturdy and affordable SKB range of flightcases.

- A John Hornby Skewes & Co Ltd, Salem House, Parkinson Approach, Garforth, Leeds LS25 2HR.
- 1 0113 2865381. F 0113 2868515.

EMU'S NATURAL SELECTION

ever ones to let the grass grow under their feet, Emu have taken their expertise in sampling to its next logical step, with the announcement of the Darwin 8-track hard disk recorder (previously codenamed Buckeye). According to Emu, Darwin will deliver the ease of use normally associated with tape-based systems, combined with the convenience of random-access hard disk recording — at a price which will compete with the ADAT and DA88 digital tape multitracks. It's a standalone unit with tape machine-style control buttons and a 'straightahead' operating system and graphic user interface. The use of multipurpose soft keys, in conjunction with the large graphic display, keeps front-panel clutter to a minimum. Though the Darwin is a completely self-contained unit which needs no additional computer, monitor, keyboard or other hardware and provides an alternative to tape-based recorders. Emu also see the system as an ideal partner for tape; they're making available an optional ADAT-compatible digital I/O interface card so that ADAT owners could integrate a Darwin into their setup.

Darwin's features include non-destructive editing; the Virtual Slave Reel function allows users to create project versions with tracks that can be edited, moved in time or recorded over without changing the original. Multiple versions of a project can therefore be created and quickly compared. The process of creating new tracks and submixes is limited only by available disk space. Darwin has multiple levels of undo and redo for added security, and 40 instantly recallable auto locate points. Connections to the outside world comprise four balanced

analogue input jacks and eight balanced output jacks. Input jacks can be increased to eight with an input expansion card. Also featured is S/PDIF digital input/output, and one SCSI port as standard. Darwin has an internal 8:2 digital mixer, supports 44.1kHz and 48kHz sample rates, and MIDI Machine Control and MIDI Time Code.

Arrival of Darwin is imminent, at an estimated price of around £2650 for a drive-less unit; dealers will be able to provide Darwins equipped with the internal drive of your choice.

- Emu Systems, Suite 6 Adam Ferguson House,
 Eskmills Industrial Park, Musselburgh EH21 7PG.
- 0131 653 6556.



Shape of THINGS TO COME

Oops! We unfortunately printed an incorrect telephone number for Future Age Music Express (UK distributors of Doepfer products) in the July issue. The correct number is 0181 889 0616. Apologies to all concerned, especially the long-suffering gentleman whose number we printed!

Lancashire's Low Fold Audio, who have now been established for eight years, are moving to larger premises in Lancaster. The company can now offer a new demo room, a 16-track project studio with automated Tascam M3700 console, and a hire department. Low Fold Audio are main dealers for all major hi-tech suppliers, including Alesis, Tascam, Soundcraft, Beyer, Steinberg, Allen & Heath and AKG.

- Low Fold Audio,
 Unit 18, Lansil Industrial
 Estate, Caton Road,
 Lancaster LA1 3PQ.
- 1 01524 847943. F 01524 60868.
- Carlsbro Retail's Leicester branch recently supplied computer games specialist Sony Psygnosis with three Yamaha Promix 01 digital consoles and two Tascam DA88 digital multitracks.
- Carlsbro Leicester 0116 262 4183.

The deluxe Eventide
H3000DSX Ultra-Harmoniser
has come down in price by
more than 20%, to £1990 inc
VAT. The 3000DSX is used by
many top American
guitarists, including Steve
Vai, Joe Satriani and Eddie
Van Halen. Some of the unit's
celebrity users have even
pitched in with some of their
personal custom patches,
which can be found in its
preset banks.

1 HHB Communications 0181 962 5000.

PC SAMPLE EDITING, ET CETERA

t Cetera Distribution is now shipping Turtle Beach Systems' SampleVision for Windows, a visual editor for use with samplers and Windows PCs. SampleVision for Windows combines all the features of Wave for Windows V2 and the original SampleVision software. Any MIDI Sample Dump Standard sampler is compatible with the software, which can also communicate with the few

instruments that support SMIDI SCSI sample transfer, including Kurzweil's K2000 family and Peavey's SP. The software costs £199, with upgrades from Wave V2 or SampleVision costing just £89. Minimum system requirements are a Windows-equipped 386 PC or better, 4Mb of free RAM, sound card with MIDI interface and/or Adaptec ASPI SCSI interface with EZ-SCSI software.

- A Et Cetera Distribution, Unit 17, Hardmans Business Centre, Rawtenstall, Lancs BB4 6HH.
- 01706 228039.
- F 01706 222989.

oland's impressive two-storey stand was bristling with new releases, and if the queues were anything to go by, the most popular new range could be the Sound Expansion Series, a collection of 1U rack modules based on the JV- and XP-series synth sound sets and expansion boards. Priced at £599, the MGS64 is essentially the equivalent of Roland's SC88 Super Sound Canvas; it features two MIDI Ins, two pairs of stereo outs, 64-voice polyphony, and 32-part multitimbrality, plus 654 patches and 24 drum sets. And not surprisingly, it's fully GM/GS compatible. The other four units in the range have several features in common: a price tag of £499, 28-voice polyphony, 8-part multimbrality, 22 patches, two rhythm sets, eight reverb types and three chorus types, stereo output and stereo input. In addition, SysEx messages conform to the Roland JV-series, so external sound editing is no problem. The range consists of the MOC1 Orchestra module; the MVS1 Vintage Synth module; the MSE1 String Ensemble module (which features RSS 3D processing on some waveforms); and the MDC1 dedicated Dance module.

And the JV-series expansion boards keep on coming: new for the BMF were the SRJV80-07 Super Sound Set and SRJV80-08 Keyboards of the 60s & 70s boards. The Super Sound Set features a collection of 'pop' music sounds, but also includes fiddles, banjos, baroque instruments and much more; what makes this set especially different is a selection of instrument-specific techniques such as harp scroll, string tremolo and orchestral hits. Keyboards of the 60s & 70s explains itself: B3 organ, Mellotron, Vox, Rhodes Suitcase, Wurlitzer, Clavinet, Pianet and RMI are just some of the grand old names to be featured as clean '90s samples on this board. Both boards cost £255, and will work with the JV880, JV90, JD990, JV1000, JV1080 and XP50.

full GM/GS sound source, 'advanced' arpeggiator and built-in PC/Mac interface for just £599. The instrument also offers some novel sound-layering and real-time performance controls. Polyphony is 28-voice, there are 315 preset and 256 user patches, plus 14 preset and 10 user drum sets, and the 61-note keyboard is velocity sensitive.

Desktop musicians now have more choice from a range of Sound Canvas-based products; the SCP55 Sound Canvas PC card (£380) offers full GS compatibility, plus (with the addition of the external MCB3 Connector Box, priced at £60) 16-bit and 8-bit stereo sampling and playback. The PCMCIA type II card will fit into the PCMCIA slot of a notebook computer, making for truly portable access to Roland's quality sound set.

The SC88VL and SC55ST are stand-alone sound modules designed for use with PC and Mac-based music systems. Each features a GM/GS sound source; the £575 SC88VL is roughly equivalent to a Sound Canvas SC88, and offers two MIDI inputs, 64-voice polyphony, 32-part multitimbrality, 654 patches and 22 drum sets. The SC55ST will retail for £275 and offers standard Sound Canvas features, such as a single MIDI input, 28-voice polyphony, 16-part multitimbrality, 354 patches and nine drum sets.

Roland have announced that three top guitar manufacturers — Fender, Ovation and Godin — have finalised plans to produce models with factory-installed Roland GK2A divided Pickups. Guitars so equipped will be able to directly hook up to Roland's GR1, GR09 and GR50 guitar synths, as well as the new VG8 guitar system and GI-10 guitar MIDI interface. More traditional guitarists should check out the ME8 floor-

standing multiple effects unit. Based on the ME6, the new processor uses a newly developed DSP chip to offer 22 effects (of which a maximum of 11 can be used at any one time) which include some new treatments: for example, Harmonist intelligent pitch

shifter, Humaniser (human voice simulation), tempo delay, analogue distortion, a sophisticated phaser (like that found on the SE70), and guitar amp simulator. The ME8 also features a control pedal and six

Roland UK Ltd, Atlantic Close, Swansea Enterprise Park, Swansea,

Swansea Enterprise Park, Swansea, West Glamorgan SA7 9FJ. 1 01792 702701.

foot switches.



D · September 1995

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Shape of THINGS TO COME

WARM UP YER DIGITS WITH TL AUDIO

L Audio are expanding their range of valve-equipped products with the introduction of the VI1 eight-channel valve interface. The VI1 is designed to complement both tape and hard disk-based digital recorders, adding the warmth that valves can provide to the

DIGIDESIGN SHOW YOU THE HARD WAY

igidesign are holding a one-day hard disk recording event at The Business Design Centre, London, on Saturday 2nd September. Digiworld, as the show is called, will feature demonstrations based around project studio, music, mastering and broadcast applications. Also present will be many of Digidesign's development partners, including Steinberg, Opcode, MOTU, Lexicon, Waves and Gallery, who will be demonstrating Plug-In and sequencing applications. SOS will also be there.

Entrance to the event will be free; doors will be open from 10am to 6pm. All those attending the show will be entered into a free draw to win a Session 8 for PC or Mac. For more info, call Digidesign on the number below.

- A Digidesign UK, 20-28 Kingly Court, London WIR SLE.
- 0171 494 2949.
- **13** 0171 494 2758.

digital signal. All inputs and outputs can be balanced or unbalanced at +4dB or -10dB, and the VI1 offers a wide flat frequency response and good noise performance. One especially attractive feature of the VI1 (along with its simple layout and ease of use) is its price — a commendable £464.12 including VAT. The

first production unit has already been ordered by Digital Audio Technology, and will join their hire stock to accompany their digital multitracks and to act as a front end to the analogueto-digital conversion system.

- A TL Audio, Letchworth, Herts SG6 1AN.
- 01462 490600.
- **1** 01462 490700.



SHUTTLESOUND BY THE BOOK

huttlesound have announced the availability of their 1995-1996 catalogue. A lot of effort has gone into reworking the format, with the result that the new catalogue is more accessible: products are now listed by type rather than by manufacturer, and there's also a quick reference section at the back, with a comprehensive product index. If you'd like a copy, give Shuttlesound a call.

- A Shuttlesound, 4 The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX.
- 0181 640 9600.
- **II** 0181 640 0106.

org's Prophecy solo synthesizer, which we previewed back in May of this year, is now close to release and there's already one pleasant surprise on the horizon. We were

assignable footswitch and foot pedal sockets. The 37-note keyboard offers velocity and aftertouch sensitivity. We've also just received some



tag in the vicinity of £1200 at the time, but Korg have fixed the retail at a rather lower £999. Just to recap, by utilising the 'Multi-Oscillator Synthesis System' (MOSS?) the DSP-based Prophecy can convincingly mimic most forms of synthesis in software, including analogue, pseudo-FM and physical modelling. Also included are seven built-in effects, a MIDI-clockable arpeggiator, two mod wheels, a ribbon controller, and

stop-press news from London's Sutekina Music: the first ever public demonstration of the Prophecy will take place at the Denmark Street Sutekina showrooms, and will be presented by Korg's own Phil McDonald, who himself programmed many of the new synth's analogue sounds. The demo takes place on Saturday 16th September, 11am-4pm.

The latest addition to Korg's AI2-based X-series of instruments is the X5D keyboard synth.
Essentially an X5 in feel (see review in SOS January 1995),

___ X5D

but actually an X5DR module (reviewed SOS May 1995) with a keyboard, this is the instrument the X5 really should have been in the first place. What you get is 64-note polyphony, 200 factory Programs and 200 factory Combinations (doubling those on the X5), plus the X5DR's expanded waveform ROM — 430 Multisounds and 215 percussion sounds to the X5's 340 and 164 respectively. The X5 retailed for £799 at the beginning of the year, and the X5DR adds a mere £100 to that, retailing for £899.

Korg's i-series of 'interactive



workstations' now includes the i1, equipped with a weighted 88-note keyboard. Also featured are a built-in 40W stereo speaker system, 32 new Styles, a 16-track sequencer, and dual multi-effects processors. Another addition to the i-series is the ih vocal harmony processor. Designed to



work with any MIDI keyboard, but ideally suited to work in tandem with an i-series keyboard, the ih offers three different effect modes — Chordal, Vocoder and Detune. A maximum of four harmony notes can be generated to match a chord input from a MIDI device, or in response to SysEx messages from an i-series keyboard; Detune offers a subtle detuning effect to thicken or enrich the input signal.

- A Korg UK Ltd, 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middx HA1 2YR.
- T 0181 427 5377.
- F 0181 861 3595.



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The XR 600E is the latest addition to Peavey's popular powered mixer line. With cool features. great sound, easy affordability, and total reliability, the XR 600E is the obvious choice!

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XR 680E



XRD 680



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Peavey Electronies (UK) Ltd. Hatton House Hunters Road Corby Northants NN17 5JE England Tel: 0536 205520 Fax: 0536 269029 ©1995

Shape of THINGS TO COME

After a seven-month absence from the MIDI Song File business, due to action by the heavyweights in

HEAVENLY TRAX BACK!

music publishing (see Vic Lennard's Atari Notes in our July issue and editor Paul White's own editorial last month), Heavenly Music's Mega Trax MIDI Song File Library is to be re-launched with an all-new song catalogue. Prices will vary according to how many titles are ordered, so phone HM for details. Other Heavenly news

includes the release of All That's Jazz (£14.99), an R&B and jazz tutorial disk with exercises, chord progressions. scales and full backings to play along with. Heavenly made their reputation with MIDI Files and the Dr Beat percussion building block series; the latest percussion-orientated disks include B-B-Break (£15.99), a collection of classic and mainstream break beats and fills, Afro-Cuban Fantasy (£TBA) and Rhythm's Greatest Hits Vol 1 (£TBA), a comprehensive collection of dance beats. All files are GM/GS/XG compatible. Also new this month is Arpegaitron (£TBA), a collection of arpeggio phrases designed to be pasted into dance tracks. Last of all, HM have recently moved to larger premises, so note their new trading address.

- A Heavenly Music Productions, PO Box 3175, Clacton on Sea, Essex CO15 2RP.
- 01255 434217.
- 01255 434217.
- E heavenly@aspects.com

ew releases from MCMXCIX include new versions of two of Opcode Systems' software packages in native Power Macintosh formats. DigiTrax 1.2 is a multitrack digital recording and editing package, while Audioshop 2.1 is a digital audio editor and CD-ROM controller. DigiTrax 1.2 will take advantage of the Power Mac's enhanced speed and 16-bit audio capabilities; the program lets you work with up to six tracks of digital audio in a recording studio like environment. You have access to 20 autolocate points, and mixes can take advantage of full level, panning and bouncing facilities. Non-destructive editing tools include digital EQ, normalise, invert, reverse and chorus/flanging; the plug-in module architecture allows for future DSP expansion.

Audioshop 2.1 can now

process audio files captured from CD, CD-ROM or microphone even faster in its Power Mac incarnation. For example, a 20Mb file can be reversed in two seconds rather 30 seconds in earlier versions. Audioshop can also remix and resample between mono and stereo, and 16-bit and 8-bit files, as well as offering a range of cut and paste and editing tools. Also coming soon from MCMCXIX is Opcode's Studio Vision Pro 3.0, which includes new Audio to MIDI (and MIDI to Audio) features, allowing you to treat digital audio just like MIDI data in your sequences, even to the extent that changing the tempo of your MIDI sequence will cause the digital audio to follow.

- A MCMXCIX, 9 Hatton Street, London NW8 8PR.
- 1 0171 723 7221.
- F 0171 262 8215.

²turnkey complete



Being a leader in storage technology solutions means that you get the fastest, state of the art devices that are compatible and reliable. All areas of music need different storage solutions whether you have a computer based hard disk audio system, a sampler or mixing console automation. The **Advantage Series** is a complete range of CD-ROM, removeable cartridge, rewriteable optical, DAT and hard disk drive systems. For no compromise performance the **Raven Professional Series** feature Fast/Wide SCSI-2 disk drives that take full advantage of Apple's latest SCSI technology ideal for rapid, uninterrupted data transfer and fully Digidesign compatible.



ProTools now supports 32 & 48 tracks of record and playback along with several nifty new features including QuickPunch which allows seamless punch in/out -on-the-fly & automatically created crossfades. Digidesign's new Session Software™ 2.0 is a multitrack audio editing software for the Macintosh which runs on the PowerPC range of Apple computers without any additional hardware. Session software includes 4-16 tracks of simultaneous audio playback, 2 bands of real-time parametric EQ, automation of volume and pan. Although the retail price is £350 from the end of October for an introductory period we can offer it for £179 or FREE with the purchase of an AudioMedia II card.

A SELECTION OF EX-DEMON-STRATION, USED AND NEW ITEMS, (All prices include VAT) Tape

Tape
Alesis ADAT 199
Fostex RDB new 2329
Fascam 122Mk II 559
Fascam MSR16 dbx 2399
Fascam DA88 2PO



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Samplers / Synths
Aka CD3000 NEW \$2
Em J Ellixp \$1
Peavy DPMC8 \$1

18

Telephone: 0171 240 4036 Facsimile: 0171 497 0690

adj (1927): installed and ready to operate

The legendary American synth designer Tom Oberheim's **Pro Synth** is today's analogue synthesizer. The eight part multi-timbral voices utilise 200 RAM patches, 200 ROM and 100 layers, with 2 high resolution oscillators per voice. All this is housed in a 1U rack and at an incredible price of **£699**

We have the complete Time & Space sound CD/CD-ROM catalogue on Sony CD carousel, + full E-mu CD-ROM libraries + mountains of Turnkey library & available for anyone interested purchasing an **E-mu EIV** from us.



Yamaha's revolutionary new console shows that affordable digital mixing has come of age. For under £8,000 you can now have a 44ch, 8 bus desk configurable for direct digital interfacing to ADAT, DA88 or AES/EBU standards. 24 analogue inputs, featuring 20-bit, 64 x oversampling are built-in, with 16 mic inputs. 100mm motorised faders, with total recall dynamic automation, Yamaha's 32bit DSPs provide 4 band parametrice eq & 50 dynamics processors via 8 auxes.



Curz ne I K2800	£1699	DAT	
Inland JV 1080	EPOA	Sony TCD-D3	£115
ind MKS70	£695	Fontex D20B new	PO
Microphone	98	Sony PCM2300	£104
Aanley Baby Card od ne	W	Compute	rs
	£1199	OpCode Studio 5	£PO/
angevin CR3A NEW	£349	MOTU MIP II	EPO/
el man KM56	EPOA	JL Cooper Dan Master	£49
euman TLM193	EPOA	is/h Mile Quadras	CAL
ud o Technicna 4033	£POA	Outboar	d



We have on permanent demo all of the available Modular Digital Multitracks whether it is for a standard ADAT with a Soundcraft Spirit package or integration with hard disk audio via Digidesign's ADAT interface. If you need longer recording time and a slightly more rugged build the Tascam DA88 is ideal for mobile /on location recording. Or if you want ADAT compatibility with a souped up transport and all the timecode, MIDI, Sony 9 pin options built-in come and look at the Fostex RD8



The Waldorf Wave is the programmer's synthesizer with an unmatched sound quality. It has to be heard to be believed! Waldorf's new Miniworks Analogue Filter makes it now possible to address the legendary filter of the MicroWave with any audio signal, whether from a sample, mic or guitar A resonant 24dB low pass filter, ADSR envelope curves. Via a sequence, all settings can be operated in real-time a MIDI controller.



David Manley's vacuum tube designs use only the highest quality components He is the only authorised user of the original Western Electric passive EQ circuitry used in the original Pultecs. Both the EQP1 and Mid Frequency EQ monoblocks use this classic design for an equally classic sound. If you are interested only in the best valve equipment call us to arrange a demonstration. Assesments 'on site' are available, call for details.



turnkey Studio S y s t e m s

Turnkey Studio Systems. 14 Flitcroft St. LONDON.WC2H 0DT

Shape of THINGS TO COME

Our review of CP Cases' EMS400/500 19-inch modular rack cases, on page 160 of last month's issue missed out one useful bit of info: as well as the 3U, 6U, 9U and 15U sizes, a 12U system is also available. The review also suggested that in addition to the basic EMS 400/500 cases, kits were also available for gear that needs supporting at both ends. In fact, such gear can be supported by the basic 400/500 kit - no extra kits are required. Apologies to CP Cases for the omissions.

0181 568 1881.

Due to an error at the distributors, an incorrect price was published with the August review of the Byetone VM95 and VM97 mics — the mics actually retail for £52.87 inc VAT

0181 541 1177.

This year's hot and sunny Glastonbury festival had a Soundtracs Sequel II desk, operated by local firm Precision PA, at the heart of its sound system. The desk was supplied by Beyerdynamic UK, and mixed bands including The Dharmas, Banco De Gaia, Show Of Hands and The Levellers, the last of which were reportedly so impressed with the Sequel II that they've now invested in a Soundtracs Solitaire for recording purposes.

Soundtracs 0181 388 5000.

M Corporation (the new name adopted by the Music Corporation), launched their new name and image at the Audio Technology (APRS) show in June. The company aim to provide a one-stop shop for audio, multimedia, photographic and digital video hardware and support.

M Corporation 01425 470007.



ROLAND SOUNDS, OK?

S ound card specialists Sounds OK have announced a couple of new lines. First of all, the company are now able to provide 21 different products for Roland's JD800 and JD990. Included in the range are six sets from Sound Source Unlimited.

priced at £39 per disk (Mac, ST, MS-DOS, Amiga and Roland MC500 formats), two card sets from Metra Sound (£55 for ROM, £65 for RAM) and two sets from Kid Nepro, which are available on ROM (£55) or RAM card (£65) or Mac, PC or ST disk (£39). There

are also two sets from Sounds OK themselves, available on RAM or ROM card. Sounds OK can also supply Roland's own original library of PCM cards, which are apparently a little tricky to locate—there are seven in all, at £65 each. And if you'd like some blank RAM cards to fill with your own Roland D, JD, JV or E series sounds, Sounds OK can help—£59 each to you, squire.

The company can now also offer the massive Sound Ideas library of sound effects sample CDs to the UK. This range includes the four-CD Hanna Barbera cartoon sound FX library, Lucas Film's six-CD set and five-disk sets from Universal Studios and Warner Brothers.

A Sounds OK, 10 Frimley Grove Gardens, Frimley, Camberley, Surrey GU16 5JX.

01276 22946.

01276 682313.

MARK IV ESTABLISH UK BASE

ark IV Audio — the company behind DDA, Electrovoice, Midas and many other well-known audio names — have reorganised their European sales and marketing division. The move has seen three industry professionals named as vice presidents, with Bob Doyle leading the newly formed Mark IV Pro Audio

Group in the UK. The group will be responsible for the worldwide marketing of all Mark IV Audio products to the concert sound, broadcasting and recording markets.

Mark IV Pro Audio Group c/o Klark Teknik Plc, Klark Industrial Park, Walter Nash Road, Kidderminster, Worcester DY11 7HJ.

01562 741515.

01562 745371.

amaha took the opportunity of the BMF to show that they're not slowing the pace of new releases one bit: various new hi-tech products were on show, including the desk that everyone's talking about, the digital 02R (see preview in August's SOS). Those of us who can't quite stretch to an 02R can take consolation from a whole new batch of mixer launches from Yamaha. At the lower end of the spectrum, there's the MM1402 compact mixer, at £429. Aimed at users who need high quality and portable/compact recording, the 1402 has six mono inputs (with XLR and quarter-inch phono connectors, phantom power, three-band EQ and two aux sends) and four stereo inputs on unbalanced jacks, with switchable line level



control, one aux send and 2-band EQ. The main stereo ouputs also feature 5-band graphic EQ. The 1402 is comprehensively specified, and is, according to Yamaha, ideally suited for small PA, home studio, audio-for-video and post-production use.

Next up is the MX400 multi-purpose stereo mixer, priced from £999. This flexible desk has a four-buss design and is available in 8, 12, 16 and 24-input configurations. All inputs have switchable A and B inputs, with balanced XLR connectors and phantom power for the A inputs, and balanced TRS phono jacks for the B inputs. Other features include: wide-ranging input sensitity control, five aux sends, 3-band EQ with swept mid, insert points and direct outs on all mono channels, and group insert points on all group outputs.

If you're looking for a dedicated recording console, you might like to check out the RM800, which seems very cost-effective for the facilities on offer — prices start at £1499 including VAT. Two versions of this 8-buss desk were released at BMF — 16 and 24 inputs. Yamaha point out that for not too much more than the cost of a good stereo mixer, the RM800-16 provides eight busses, direct outputs, tape returns and a total of 40 inputs on mixdown. The RM800-24 offers 56 inputs, for maximum versatility while mixing. Both versions have six aux sends (four mono and one stereo), and four stereo effects returns; there's also 3-band EQ (swept mid) and full-size 100mm faders.

EQ WITH THE MIDAS TOUCH

idas have launched a new rackmounting dual-channel EQ for live performance and recording applications. The XL42 (for that is its name) combines XL4 4-band parametric equalisation (as seen on Midas's acclaimed XL range of consoles) with mic/line preamps and 48V phantom power supply. Each channel has 10-segment LED metering, and switchable insert send and

return, plus DIP switches which enable auto-mute scene control from auto-mute masters on XL consoles

The XL42 can naturally also be used to add Midas EQ to any setup; it can be patched into any console via an insert point.

- A Klark Teknik plc,
 Walter Nash Road, Kidderminster,
 Worcs DY11 7HJ.
- T 01562 741515.
- F 01562 745371

SUBTERRANEAN SOUNDS

The Underground Network is a musicians' collective which offers unsigned bands/artists the opportunity to share space on a CD album in order to maximise promotion and distribution. The network would like to hear from bands anywhere in the country, as well as regional arts authorities, with the aim of maintaining a database to which bands will have access; gig swaps will also be encouraged between interested bands.

Underground Network, 32 Upper Tichbourne Street, Highfields, Leicester LE2 1GJ.

T 0116 255 2891.

icropolis have enhanced their AV Gold range of high-spec hard drives with the addition of three new models. The new

MICROPOLIS' NEW GOLD DREAMS

FastWide SCSI2 AV (WAV) drives are available in 2.1Gb (model Taurus 4221, RRP £830), 4.3Gb (model Capricorn 3243, RRP £1080) and 9.1Gb (model Scorpio 1991, RRP £2,110) capacities, and provide improved uninterrupted

data delivery for demanding applications, such as digital editing and video serving. Micropolis point out that the Scorpio is the highest capacity

5.25" disk drive now on the market. The AV Gold range of drives all carry a five-year warranty when purchased through an authorised Micropolis distributor or reseller, though their reported 650,000 hour Mean-Time-Between-Failure (MBTF) rate should mean that you don't have to call on it

too often!

- Micropolis Corporation, 4 Worton Drive, Worton Grange, Reading, Berkshire RG2 ODW.
- 01734 751315.
- 01734 868168.

merican company Astatic have been making microphones since the early 1930s, when they invented the first static-free crystal mic. Now their diverse range is being introduced to the UK by distributors Sound Dept. In addition to mics such as the

ASTATIC NOT STANDING STILL

CTM901 boundary mic (£130) and CTM915 electret condenser miniature gooseneck mic (£120), which are proving popular in theatres and conference installations, Astatic also have one or two models likely to be of interest to the musician. The CTM21 is a dynamic cardioid priced at just £37, while the CTM92 is a £134 electret condenser designed for both sound reinforcement and recording applications. Frequency response extends up to 20kHz, and the mic is capable of handling high SPLs (up to 130dB); it also benefits from Astatic's own Impact Noise Reduction system, designed to reduce cable, stand and handling noise.

- A Sound Dept, 33 Beaumont Street, Oxford OX1 2NP.
- 01865 516800.
- 01865 514461.



If you also need to record some music, the MT4X cassette four-track could be worth a look. This new machine incorporates many of the features of the 8-track MT8X, including 3-band EQ, two aux sends and two stereo effects returns. There's also a three-point autolocate, auto punch-in and out, double-speed transport and switchable dbx noise reduction. Price is £559 including VAT.

Yamaha were showing some worthwhile new instruments, including the latest in the QY series of mini music production tools, the QY22, which will retail for £479. There was also the CBX-K1 MIDI controller keyboard, mentioned in Brian Heywood's PC Notes column in July and reviewed on page 54 of this month's issue. The most notable new synth from Yamaha was

probably the QS300, which takes inspiration from the popular QY300 sequencer/composition module, and adds a 61-key touch-sensitive keyboard. The QS300's synthesizer section is based on all-new waveforms, and voices have been programmed specifically to meet the requirements of the dance and techno markets; it has an internal capacity of over 1100 four-element voices, powerful resonant filters and three internal digital signal processors, and is GM and XG compatible. The 16-track, 88,000-note sequencer has full editing facilities and can utilise the QS300's database of over 3000 musical phrases, including drum loops, basslines,

keyboard riffs and guitar parts, which can be copied and pasted into songs. The 3.5-inch disk drive can load Standard MIDI Files, and also allows songs to be loaded in the background while real-time performance continues. The QS300 should be available now, and has a retail price of £1199.

Though we don't have space to mention the rest of Yamaha's current gear, there is room to let you know about Yamaha's first solo venture into the PC soundcard market — but not on the news pages! There's a full review in this month's issue, and it starts on page 92.

- A Yamaha Kemble Music (UK) Ltd, Sherbourne Drive, Milton Keynes MK7 8BL.
- 01908 366700.
- F 01908 368872.

Shape of

If you're searching for information about and contact details for A&R, musical services, venues, rehearsal room or even fanzines, check out TMR: they can provide reasonably priced, comprehensive and up-to-date lists covering most areas of musical endeavour. Drop them a line for a full list of what's available.

A TMR, PO Box 3773, London SE18 3QR.

Otari's RADAR hard disk recorder has recently been used by Skratch Music to record noted tenor Jose Carreras, for a new album due for release soon. Skratch's RADAR is also being used to record the cast of West End musical, Fame. Nigel Wright of Skratch Music claims RADAR comes into its own on vocals: "Moving or slipping is so easy, and the technology is so familiar, it's just like a tape recorder.

T Stirling Audio 0171 624 6000.

Livingston Recording Studios are the first UK studio to order Amek's new Rembrandt mixing desk. The order is part of the studio's forthcoming refurbishment of their Studio 2. Livingston's Jerry Boys comments that the studio wanted a fully automated desk that offered the "sonic attractions of our existing Amek Angela coupled with the computer power of an SSL/Neve console. The recently launched Amek Rembrandt meets these criteria and more, combining classic Amek sound with Recall and Virtual Dynamics."

Amek 0161 834 6747.

The first week of May this year saw Stirling Audio staff, including Karl Bates, and Lexicon Sales Manager Dave McCarthy, take off on a whirtwind tour of Lexicon dealers on the Lexicon '95 Roadshow. At the end of the week there was a prize draw for a Lexicon Reflex, won by a Mr Bob Ballard, who was present at Carlsbro Nottingham when the Roadshow visited.

Stirling Audio 0171 624 6000.

MUSICA ELECTRONICA

f you're the electronic music festival type, you'll be pleased to hear that dates have been set for two 1995 festivals:

• The 1995 UK Electronica will be held on the 27th August in London. There's a full bill of entertainment, headed by sound innovators The White Noise. This 7-piece will be joined by acts including the Zanzi Project (ex-Tangerine Dream wind and synth player Steve Joliffe plus guest musicians); regular SOS contributor Paul Nagle; Mark Jenkins; Alquimia; Leaves Of Green, Morphogenesis; and the Invisible String Quartet. Several of the artists present will be releasing new CDs on the day,

and there will also be a special area at the show for Tangerine Dream collectors, and a wide range of specialist music retailers.

Tickets for the event cost £9.50 in advance from the address below; all come with £9.50 worth of discount vouchers for CDs, cassettes and videos. The venue is The Conway Hall, Red Lion Square, Holborn, London WC1 (close to Holborn tube, Piccadilly and Central lines). Doors are open from 1.30 to 11.30pm.

A FAME, Box 387, London N22 6SF. 1 0181 889 0616 (credit card booking and stand enquiries).

· Secondly, EMMA, the Electronic Music & Musicians Association, is holding its third EMMA Festival in Sheffield's Octagon Centre on Saturday. September 2nd. The all-day festival will include appearances by Ian Boddy, Andy Pickford, Ron Boots and Chuck Van Zyl.

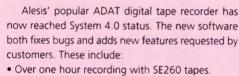
Tickets are £15, with cheques payable to 'EMMA'. Credit card ordering is available on 0114 286 4889 or 0114 286 4890 (6pm-8pm Monday to Thursday). The first 100 tickets will come with £5 worth of vouchers, exchangeable on the Neu Harmony trade stand.

Also in the EMMA pipeline is an exclusive live CD which features highlights of the first two EMMA Festivals. It will include the likes of John Dyson, lan Boddy, Synthetik, Paul Ward, TK and also part of the infamous concert performed by modular masters Node.

EMMA also produces a bi-monthly magazine which contains news, reviews, articles, gossip and comment on all aspects of Electronic Music. If you would like to receive the magazine, write to EMMA the service is free.

A EMMA, PO Box 592, Sheffield, S30 3FE. T 0114 286 4889/90.

ound Technology's range includes heavyweights such as Alesis, Emagic and Ensoniq, and significant new products or enhancements from each of these manufacturers were on display at the BMF. From Alesis, the expected enhanced Quadrasynth products are here, dubbed the Quadrasynth Plus Piano and the S4 Plus module. No prizes for guessing that the



- · One-button record.
- · Improved external synchronisation.

· Full compatibility with Digidesign's SMPTE Slave Driver.

The ADAT update to v4.02 from v3 or higher involves an EPROM change costing £34; contact Sound Technology if your machine is equipped with an earlier software version. BRC users will need an update to v2.03, which, since it involves an EPROM and microprocessor change, costs a hefty £156; Any Al-2s in your system will also need a £34 EPROM.

Emagic's Logic is also moving quickly down the upgrade path. Logic For Windows has now reached v2.0, and is a free update for existing users. Enhancements include full colour

support, MIDI groove templates, guitar tablature, automatic mapped drum notation, new score layout tool and more. Logic and Logic Audio for the Macintosh both now stand at v2.5; there are plenty of new features, and a new manual for each [for more detail on some of the new features, check out the interview with Emagic's energetic product demonstrator Mikail Graham, starting on page 40 of this month's issue]. Logic Audio's Digital Factory now includes the Audio Energizer and Silencer, a range of new Extensions, and a new Quantize Engine, which



Quadrasynth Piano Plus features a brand new super piano sample amongst its 24Mb of waveform ROM. The other exceptional addition to the range is Alesis' Sound Bridge, an Apple Mac utility that will allow the user to compile up to 8Mb of SampleCell or AIFF format samples and save them to a Quadrasynth Plus Piano or S4 Plus equipped with a PCMCIA Flash RAM card. Both instruments also feature 640 programs and 500 multimbral mixes, with a further 1664 programs and 1300 mixes accessible with Alesis' 8Mb QuadraCards.



SOCKS

Music, the Bristol-based music retailer established by high-volume hi-fi specialists Richer Sounds, is running an inauguration competition. Simply come up with an appropriate caption to accompany this photo of the ex-head of Yamaha's Pro Music division, John Booth, showing off his odd socks. The winner will receive a Yamaha MT50 four-track tape recorder, and there will be a booby prize for the worst entry. Entries should be sent to X Music, at the address below. X



Music have also announced the winners in their grand opening prize draw: Andrew Norton won the top prize of a Yamaha Pacifica 112 guitar; Markus McThompson won a Yamaha QY8; and Ezme Riley won a copy of Steinberg's Cubasis.

- A X Music, 20 Cotham Hill, Cotham, Bristol, BS6 6LF.
- 0117 973 4734.
- 0117 973 4800.

allows you to quantise an audio file using any MIDI quantisation template. A new variation of Hyper Edit, called Hyper Draw, lets you create volume and pan controller data for any track with the Arrange window. Long audio files can now be processed in the background, allowing you to carry on recording and editing MIDI data in the meantime. Power Mac users can look forward to native versions of Logic, Logic Audio and Micro Logic, due this summer.

New goodies from Ensoniq include the ASR88 workstation; the established ASR series sampling and sequencing features are now available with an 88-note weighted action keyboard. At £3999, it might seem like a pricey instrument, but the ASR88 comes equipped with a full 16Mb of RAM, digital recording capabilities, and built-in SCSI and CD-ROM drives supplied as standard — as well as a complimentary CD-ROM sound library. On a more affordable note, the DP/4+ has landed in the UK, and is available at your local dealer now, for £1299. The already successful true parallel multi-effects processor now comes with a wide range of enhancements, suggested by users, reviewers and dealers worldwide. These include:

- · Quarter-inch balanced ins and outs
- · Seamless switching of effects
- · Built-in guitar tuner.
- · Vocal remover algorithm.
- · Front-panel headphone jack.
- · Improved noise floor.

Not satisfied with recently adding Samson Audio to their range (the S11 cardioid mic, at £89, is the new product in this range, and is reviewed on page 26 of this issue), Sound Technology are now also the UK distributors for the Groove Tubes Audio range of valve-based mics, processors and amps, of which more very shortly in SOS — stay tuned!

- A Sound Technology plc, Letchworth Point, Letchworth, Herts SG6 1ND.
- 01462 480000.
- F 01462 480800.



Production Station Rack

Long-term K2000 user PAUL WARD gets to grips with the latest in Kurzweil's line of groundbreaking synths for just are very good indeed. Kurzweil have also long enough to produce this hands-on preview...

rom my first experience of Kurzweil's K2000, I knew I was in the presence of something special — it has that indefinable quality where all the elements work together to produce a truly 'musical' instrument. I've often wondered how Kurzweil would attempt to better such an instrument. Enter the K2500R.

A VAST IMPROVEMENT?

On the face of it, the K2500R represents a bigger and better K2000R. With a true

UPGRADE THE enables much fuller FLOPPY WAY arrangements to be accommodated; indeed, With the operating software held in Flash ROM, K2500R software upgrades can be made from floppy disk, rather than by opening up the machine and fitting new chips. to consider an upgrade. Kurzweil have certainly passed the The now familiar VAST test of time as far as software (Variable Architecture upgrades are concerned, continuing Synthesis Technology) to support the K2000 series through system provides the three major software levels, with a basic sound architecture, constant supply of enhancements and bug fixes in between - and offering 60 different the version 4 operating software is DSP functions arranged already at the planning stage, in 31 algorithms. Each according to the latest information. of the 48 voices can With this in mind, it is reassuring have its own DSP that I'll no longer have to take out treatment, if required. my screwdriver to upgrade! Indeed, Kurzweil are making software I have often found the releases available from an on-line K2000 to be somewhat service, which certainly goes a long sluggish in multitimbral way towards making the whole mode, and the process as painless as possible. K2500R's new 25MHz

NEW SOUNDS

A new soundset of 200 programs and 100 setups is available, including a whole new selection of custom drum samples, which taken the opportunity to tweak some of the original K2000 samples in the K2500R's ROM, with the result that many of them are supposed to sound subjectively better than those in the original K2000. Having played the two machines side by side, I can report that any differences are subtle, although the overall output of the K2500R does seem slightly cleaner and brighter. The programs and setups do the machine more justice than those which graced the K2000, and are certainly arranged in a much more logical

THE INS AND OUTS OF THE K2500R

As might be expected in a professional rack synth these days, the panels are awash with useful sockets, including a master stereo pair and a healthy complement of eight audio outputs (which can also double as inserts). A pair of SCSI connectors give access to external storage media, such as hard drives, CD ROMs or magneto-optical drives. The review machine came fitted with the optional sampling upgrade, which gives a choice of both analogue (via low-impedance XLRs or high-impedance stereo jack) and digital (optical or electrical RCA/SPDIF) recording. Promised future options include a more sophisticated digital effects processor and a digital multitrack interface to provide conversion of eight K2500R channels to Alesis ADAT or Tascam DA88 formats.

OPERATING WISELY

Rather than design a completely new operating system for users to get to grips with, Kurzweil have wisely chosen to stay with a winning formula. Consequently, anyone familiar with the K2000's working methods will be at home here. For those who have become used to the cryptic parameter access of some other synth manufacturers over the

> years, Kurzweil's operating system is a force 10 gale of fresh air. My own K2000 (keyboard version) is endowed with version 3 software, complete with

THANKS FOR THE MEMORY.

The K2500R holds a base ROM of 8Mb expandable to a maximum of 28Mb with Kurzweil's ROM SoundBlocks, including a new 4Mb Stereo Grand Piano. Up to 128Mb of sample RAM can be added in the form of Macintosh-type 30-pin SIMMs. User programs are held in 240K of battery-backed RAM, which is again expandable to 1.25Mb via the optional memory upgrade kit.

32-track sequencing, enhanced disk operations and an object management system to satisfy the most demanding of users. Happily, the K2500R incorporates all of these features, and one or two more.

SAMPLE FORMAT COMPATIBILITY

Compatibility with other manufacturers' sample libraries has become a must in today's sampler market, and the K2500R retains Kurzweil's commitment to providing access to Roland, Akai and Ensoniq libraries. It's also capable of reading AIFF and WAV sample files. Compatibility with existing K2000 libraries is assured, although this may involve one or two tweaks, due to changes in some keymaps and those new drum samples. Thankfully, Kurzweil supply a K2000 compatibility diskette to help in these instances. Standard MIDI song files can be both read and written in type zero format.

STAY TUNED!

Despite what you might have heard, fully working models of the K2500R have been in this country for such a short while that there hasn't been time to produce an indepth review of the K2500R before this issue of SOS goes to print. While everyone else is out soaking up the sun and dodging the North Sea sewage, I will do my duty as a committed reviewer and lock myself away to produce the full review for next month's SOS. It's a dirty job, but someone's got to do it... See you next month.

Thanks to the M Corporation (01425 470007) for loan of their K2500R.

FURTHER INFORMATION

- £ £2999 inc VAT.
- Mashburn UK, Amor Way, Letchworth, Herts SG6 1UG.
- 01462 482466.
- F 01462 482997.

this single feature alone might well justify some existing K2000 owners

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Samson S11

Dynamic Mic

PAUL WHITE puts his exotic mic collection back in the cupboard to try out Samson's budget dynamic vocal model.

amson are perhaps best known for their radio mic systems, and more latterly, their very competitive, high-quality mixers, but the S11 is a conventional wired vocal microphone aimed unashamedly at the budget marketplace. Like most vocal dynamic mics, the S11 has a very 'familiar' look to it, with its spherical basket and tapering handle. Packed in a foam-lined, semi-rigid plastic carry box, the mic comes complete with a stand clip, but as with most mics, you still have to buy your own XLR lead. There are no switches, and other than the legend printed around the band below the basket, the mic is as black and featureless as a Stealth bomber.

Since the S11 is primarily designed for hand-held vocal applications, its frequency response rolls off gradually below 500Hz to compensate for the bass boost caused by the proximity effect. Used close up, the mic has plenty of warmth and body, but when used further away, the sound can lack weight. While this characteristic is a deliberate feature of the design, allowing the mic to be used literally touching the singer's mouth, in some studio applications, this low-frequency 'thinning out' at a distance can be advantageous - for example, recording the acoustic guitar fairly close to the body without picking up too much boom.

At the top end, a broad presence peak extends from around 1kHz to 15kHz or



SAMSON S11 989

PROS

- Low cost.
- · Clear, detailed sound.

CONIC

- Rather low sensitivity.
- May sound bass light when used at a distance.

SUMMARY

One of the better budget mics, providing you are aware of its 'close vocals' response tailoring.

so, and the overall frequency response of the mic is quoted as being from 60Hz to 18kHz. However, on the graph provided, this corresponds to around -8dB, so not too much should be inferred from this figure.

To summarise, I'd say that the S11 was well suited to either live or studio

vocal applications where the singer works close to the mic, and due to the LF tailoring, working further from the mic may help to clarify muddy- or stifled-sounding vocalists. The HF response is reasonably well extended for a budget dynamic mic, resulting in a bright, almost airy tone, and because the presence peak is wide, there's no obvious HF coloration, just an overall impression of clarity.

You could make a passable stab at recording an acoustic guitar with this mic, though sensitivity might be a problem unless you work fairly close up. By the same token, the S11 is well suited to transient and percussive sounds, though the bass roll-off may mean it sounds rather thin when used on toms and bass drums, for example.

The S11 is a neat, affordable mic with no obvious tonal vices, and might be especially attractive to those who both gig and record. On the other hand, if you want a mic specifically for recording, you may be better off choosing a model with less of an LF roll-off.

SAMSON VS SHURE

When compared to the trusty Shure SM58 benchmark, the S11 sounded less weighty, but otherwise quite neutral and uncoloured.

Working closer to the mic restored a much more balanced tone underlining the fact that this mic is voiced specifically for close-up vocal applications. The S11 was several dB less sensitive than the SM58, but again it is adequately sensitive for close-up vocal work. Off axis, the mic retains a surprisingly even polar pattern, with the mid range being the most strongly suppressed.

FURTHER INFORMATION

- £89 inc VAT.
- A Sound Technology plc, Letchworth Point, Letchworth, Herts, SG6 1ND.
- 01462 480000.
- F 01462 480800.

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KCCM ReSample

Sample Format Conversion Software for PC

Whether you use a stand-alone sampler, or a 'PC plus soundcard' sampling setup, KCCM's ReSample Pro is designed to relieve you of all those irritating sample format incompatibility problems. PANICOS GEORGHIADES gets converted...

egular users of 'ready-made' samples will be only too aware of the huge choice of sampled sounds now available — and the problems of sample format incompatibility that can arise when using samples from different manufacturers' libraries. Although samplers from many manufacturers are capable of reading Akai-format disks, the sounds you're after may exist in another library — and they may be cheaper there, or of a better quality. In these fairly common situations, a sample format conversion program is required, and this is exactly what

REQUIREMENTS

ReSample Pro is a Windows program, and requires at least a 386 PC with 4Mb of RAM. This is not especially demanding given today's standards, but the program is RAM-dependent — you need about four times as much RAM as the largest sample you wish to edit. For example, with 4Mb of RAM, you can edit a 1Mb sample (about 12 mono seconds at 16-bit).

Furthermore, if you wish to audition the sounds, you'll need a 16-bit soundcard, and this should include a MIDI interface if you intend carrying out MIDI sample dumps. Installation of ReSample Pro is fully automatic and the program is very simple to use, as it offers a standard Windows interface with menus and an icon bar.

ReSample Pro is. All the sample formats shown in Figure 1 can be read and written by this software, with the exception of the Akai S2800, S3000, MOD and Roland S550 formats, which can only be read. The Akai S1000 format can be read and written.

IN USE

To convert a sample file, you simply load it and resave it in another format. Occasionally, further tweaks are required; sometimes some of the waveform characteristics have to be altered to match the requirements of the destination sample format, and while the program suggests the changes, it doesn't make them automatically. For instance, if you load an 8-bit WAV file and you wish to save it as a KRZ (Kurzweil K2000) file, ReSample Pro informs you that the

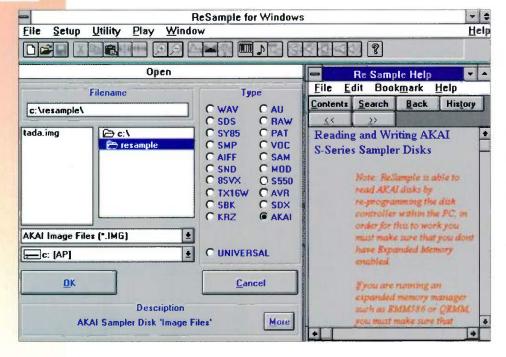
sample should be 16-bit, which means that you should resample it before trying to save. However, if you choose not to do so, the program goes on to save it anyway — more or less uselessly — as an 8-bit file with a KRZ extension.

ReSample Pro will also carry out batch conversions, where you can select a number of files in a directory to be converted from one file format to another (say WAV to AIFF). Unfortunately, this batch facility doesn't include other intermediate operations. You can't, for example, select a list of 8-bit WAV files to be loaded, resampled to 16 bits and then resaved in another format — which would be necessary if you were converting, say, 12-bit Yamaha TX16W files to any format for a sampler requiring 16-bit files. A macro recorder would have been useful in this case.

EDITING

ReSample Pro also acts as a sample editor, and a pretty good one in terms of the features it offers. Naturally, you can carry out sample rate conversions, and sample waveforms can be shaped using an envelope drawing facility. There's a crossfade looper, and you can delete, crop, or cut and copy sections, mute them, insert portions of silence, paste in new sections, and so on. The Paste facility includes Paste Over, Insert Paste and Merge Paste. There's also a straight crossfade function, and an automatic loop finder that attempts to find good loop points, although in many cases, as you might expect, the suggested options are not the best sounding ones. Fortunately, if you don't like anything you edit, you can employ the useful Undo facility.

Figure 1: The 'Type' panel shows the various sample formats supported by ReSample Pro.



Pro

RESAMPLE PRO £99

PROS

- · Good selection of convertible file formats.
- Many useful waveform editing features.
- Batch conversion mode.

CONS

- · Early release version tends to crash.
- No support for stereo samples.

SUMMARY

ReSample Pro will be excellent value for money — once the bugs are sorted out.

On top of all this, you can zoom to a single sample resolution — and ReSample Pro makes good use of hot keys like +, -, PgUp and PgDn to zoom and pan, so you don't have to resort to extensive work with the mouse and menu all the time.

You can audition an entire waveform, a selected part, or a looped section. Last but not least, there's an iconic piano for sending notes to your MIDI Out by using the mouse, which is very handy.

CONCLUSION

Resample Pro boasts some other very good features which space forbids me from mentioning in too much detail. There is an excellent on-line help facility (which makes up for the lack of a manual) with good background material on the different sample formats. The program is also (wisely) capable of reading Akai-format sample floppy disks from your PC's disk drive. Nevertheless, I have a couple of gripes. The review copy of ReSample Pro was unable to handle stereo waveforms (although this feature will no doubt be added in a later version), and, more seriously, the program crashed on a number of occasions while I was reviewing it. However, once the bugs are sorted out, I believe that Resample Pro will be a good investment for anyone heavily into sampling. 1505

FURTHER INFORMATION

- £99 inc VAT.
- A Et Cetera, Unit 17, Hardmans Business Centre, Rawtenstall, Lancs BB4 6HH.
- 01706 228039.
- 01706 222989.

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Kenton Pro Solo

MIDI-CV Converter

Kenton Electronics' new one-channel MIDI-CV converter is slightly more expensive than others of its kind — but there's a reason! Analogue synth lover STEVE HOWELL plugs in and goes solo...

enton were probably the first company to make a living out of retrofitting MIDI interfaces to pre-MIDI analogue synths, and very successful they have been too, offering retrofits to most of the popular models. More recently, they have moved into the world of MIDI-CV conversion, developing the Pro 2 (reviewed in August 1992's SOS by former Editor Paul Ireson), a stand-alone 2-channel MIDI-CV interface that can be hooked up to any synth sporting CV and gate inputs. More recently, we have seen the Pro 4 (reviewed by Derek Johnson in SOS, September 1994), a 4-channel, fully programmable converter so comprehensive that it includes all but the kitchen sync! [Groan — Ed]

However, what if you desire the far-reaching programmability of the Pro 4, but have only a single monosynth

to drive from your MIDI setup? With this in mind, Kenton have just released the Pro Solo MIDI-CV interface.

I have used many MIDI-CV converters in my time (although never a Kenton!), and have found every one to be lacking in some way. Few convert the movement of your MIDI keyboard's mod wheel into anything a pre-MIDI analogue monosynth can recognise and use - so bye-bye vibrato, or indeed modulation of any kind. Note triggering, also, has often been a problem, with many converters offering neither proper single or multiple triggering, and requiring a very precise playing technique for clean articulation of notes. Because most pre-MIDI synths' external CV/Gate inputs override the portamento (glide) function, you can't use glide on your MIDI keyboard and expect that to be converted and reproduced on your monosynth either! Finally, some converters offer little in the way of velocity control over tone and/or amplitude. In other words, most converters I have used simply turn a note on at a particular pitch and then turn it off again. Whizzy solos, funky vibrato, sensitive dynamic control? Not a chance!

GOING SOLO!

So what has all this to do with the Kenton Pro Solo? As it turns out, the answer is absolutely nothing, because the Pro Solo

KENTON PRO SOLO £120

DDOS

- Transmits pitch bend and glide faithfully.
- · Built-in LFO.
- Handy Auxiliary CV output for dynamics or filter control.
- Good range of parameters assignable to MIDI controllers.

CONS

- · Slightly fiddly to set up.
- · 2-digit display sometimes a bit inpenetrable.

SUMMARY

More like a quarter of the amazing Pro 4 than half a Pro 2 (and priced accordingly), this is the most well-specified one-channel MIDI-CV converter I've come across. The Pro Solo will not only give you MIDI control of all an old monosynth's features, it can actually open up some new possibilities as well.

overcomes all of these shortcomings, and offers much more into the bargain. The Pro Solo's pitch bend is mixed into the main CV output - so no problems reproducing pitch bend faithfully over MIDI. The Pro Solo also has its own internal LFO (with a choice of nine waveforms), and this too is mixed into the main CV output and governed from the mod wheel (or assignable to any other controller you want) for immediate control of vibrato. This alone justifies the purchase of the Pro Solo in my mind, as it allows the same performance control you would expect from the original synth (or, in the case of my Oberheim SEM, better control).

The fact that the Pro Solo has its own LFO for vibrato also means that your old synth's own internal LFO can be put to good use for filter, pulse width and sync sweeps — or even as another audio generator (if you have a MiniMoog, for example, you can free the third oscillator from its modulation duties to add some extra welly to your sounds). The Pro Solo's on-board LFO can also be triggered by MIDI clock, so that sweeps can be in sync with your sequencer. Furthermore, the LFO can be piped out through the Pro Solo's auxiliary CV output, so that it can control other devices you may own assuming these others have suitable CV inputs to receive the output. This can help if your own synth's LFO is a bit challenged in the waveform department - after all, some

older synths only offer triangle and square



waves. While we're on the subject of the Pro Solo's auxiliary CV output, this can also be used to route any MIDI controller to your synth's filter or VCA CV inputs (if it has these), allowing you, for example, velocity or aftertouch control of dynamics.

The Pro Solo also offers glide with a variable rate, and an assignable controller to switch it on or off, in addition to the option of single or multiple triggering. And lastly, if your vintage monosynth happens to be a Moog with an S-trigger input for note-on, or a Korg or Yamaha using the less common Hz/Volt oscillator tracking, no problem — all of these can be driven via the Pro Solo. All in all, most of my previous MIDI-CV converter gripes have been addressed.

IN USE

With just three buttons, operation is a tad fiddly — but at least the Pro Solo works on the basis that once you've set it up, you can forget about it! A menu on the front panel shows the 20 functions on offer, and a single button allows you to step through them. These functions include the ability to set the unit's MIDI channel, portamento time, LFO speed, waveform and MIDI sync, pitch bend range, VCO scaling, triggering options, note priority, gate type, transpose amount, and fine tuning. You also have a comprehensive range of functions that let you select which MIDI controller will activate LFO modulation or portamento, or control the auxiliary output. A pair of Up/Down buttons set the value for each parameter, and a simple 2-digit LED shows the value of the current menu item's parameter numerically. Given the restricted nature of this display, messages are sometimes a bit inscrutable, but well within the understanding of anyone even vaguely familiar with such practices. For all parameters, sensible defaults have been chosen, so not much work is needed to get the unit up and running.

CONCLUSION

In short, the Pro Solo is the MIDI-CV converter I've been awaiting for 10 or more years. It has breathed new life into my much-underused Oberheim SEM, which is now a key weapon in my noise-making armoury. Although I gave CP Technology's Missing

CONFUSED?

If you're unfamiliar with the subject of MIDI-CV conversion, and are a bit baffled by some of the terminology in this review (Hz/Volt, S-Trig, and so on), take a look at Tom Carpenter's thorough article on the subject in March '95's SOS. Back issues are available from: SOS Publications Ltd, Media House, Burrel Road, St Ives, Cambs PE17 4LE, priced at £2.50 each.

Link MIDI-CV converter a good review on the Widgets page of SOS last November, this was based on the fact that for under £100, it was the cheapest, cutest converter around at the time. However, I have to say now that I believe the extra £20 - £30 required for the Pro Solo will buy you a much better converter that will not only give you terrific performance control, but also actually expand your old synth's functionality. Basically, if you have an old analogue monosynth, place your order now! You won't regret it. And before anyone puts this down to a nice lunch courtesy of Kenton and a freebie unit to a highly respected reviewer, forget it! I saw their ad, bought one on spec (at full price!) and then reviewed it. Need I say more? 505

FURTHER INFORMATION

£119.85 inc VAT

(Power adaptor not included. This is available from Kenton for £7.05).

- Kenton Electronics, 12 Tolworth Rise South, Surbiton, Surrey KT5 9NN.
- 0181 337 0333.
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MIDI THRU

25

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MIDI In so doesn't need an externa gower supply

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Ashly PQX 572

Parametric Equaliser

PAUL WHITE tries his hand at tonal transformation using Ashly Audio's latest parametric equaliser.

shly Audio have been building high-quality outboard processing equipment for as long as I can remember, but they've recently redesigned their parametric equaliser, and it's now available in two formats: the single-channel PQX 571 and the dual-channel PQX 572. Both units are identical, apart from the number of channels, and feature electronically-balanced inputs and ground-lifted, unbalanced outputs on both XLR and stereo jacks, as well as on a terminal strip. The mains cable is fixed rather than in the form of a detachable lead.

CONTROLS

The PQX 572 is rather generous in the amount of EQ control provided; each channel has five independent parametric filters, plus two variable-frequency shelving filters (one high-pass and one low-pass). Each filter section has its own bypass button with status LED, and there's also a master level control and master EQ In/Out button at the right of the front panel. A practical touch is the inclusion of a clip LED next to the master Level control, which comes on if any of the filter sections are being driven close to the point of clipping.

The high- and low-pass sections appear to be 6dB/octave filters, and operate over the ranges 40Hz to 400Hz and 1.6kHz to 16kHz respectively. A dual concentric knob system is used where the inner knob alters the cut or boost (+/-15dB) and the outer knob adjusts

GOING (PARA)METRIC!

Parametric equalisers are the most flexible of all equaliser types, because they offer control over frequency, cut/boost and the chosen bandwidth. If you're not familiar with parametric equalisers, you can think of them as being similar to graphic equalisers, but instead of each slider being tied to a set frequency, you can adjust the frequency of each band independently, and set the frequency range (or bandwidth) over which that band operates. As with graphic equalisers, the more bands of EQ you can use at the same time, the more precise the adjustments you can make, but in practice three or four bands are usually enough to cope with most situations.

the shelving frequency. I'm actually a great fan of variable-frequency shelving filters, and find them useful in lots of situations where conventional EQ fails to hit the spot, although in this case, I feel 12dB/octave slopes would have been more useful.

All five parametric sections are identical, and all cover the frequency range 20Hz to 20kHz, though there is a x10 Range button which effectively provides two ranges: 20Hz to 2kHz and 200Hz to 20kHz. As with the shelving filters, a dual-concentric knob system is used, this time to control the frequency and the bandwidth. The Bandwidth control covers the range 0.05 octaves to 3.3 octaves, and is calibrated in octaves rather than Q values, which makes it more intuitive to use. A separate Level control is used to set the degree of cut or boost within a +/-15dB range. When an EQ section is switched in, a green LED comes on to provide visual confirmation.

Technically, the PQX 572 is pretty conventional, using state-variable filters

ASHLY POX 572 £704

PROS

- Excellent range of control.
- · High quality of design and construction.
- Includes shelving as well as parametric filters.

CONS

Unbalanced outputs.

SUMMARY

A very professional, no-frills parametric equaliser that does what it's supposed to, and does it well.

of the audio band that's already pretty hot.

Tonally, the equaliser is clean, precise and very quiet, and used with care, it can save the day in a number of situations ranging from mix sweetening to customising the sounds of individual instruments. However, Ashly don't claim that their EQ adds any mysterious psychoacoustic benefits, as is the case with certain tube EQs! A good description would be workmanlike—the PQX 572 just gets on with the job



based around the 4558 op-amp chip for each of the parametric sections. The same op-amp is used for the shelving filters and for the electronic input balancing. All the circuitry is run from 18V rather than the more usual 15V, presumably to make the best use of the available headroom, and the general standard of design is up to the quality you'd expect from Ashly.

IN USE

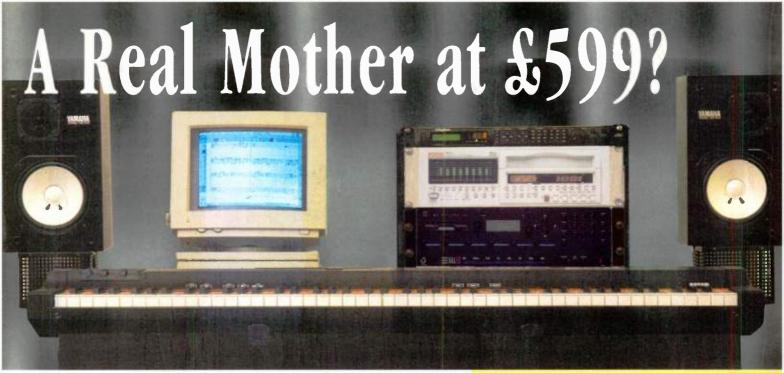
In practice, I found that I rarely needed to use all five parametric bands, especially with those very useful shelving controls to help me along, but it's always better to have power in hand than to run out halfway through a job. As a basic parametric EQ, the PQX 572 is pretty straightforward to use, and the circuitry has plenty of dynamic range, so you aren't likely to get the thing clipping unless you start to use improbable amounts of boost in a section

without fuss, and has sufficient range for notching out spot frequencies (such as hum), or for general tonal control using wider bandwidth settings.

Given the very realistic price of the PQX 572, and the fact that it has five bands of fully parametric EQ plus two bands of shelving EQ per channel, I have to give this equaliser an unqualified thumbs up. It's by no means the only good parametric around, but considering the facilities it offers and the pedigree of the Ashly brand name, it has to be considered good value.

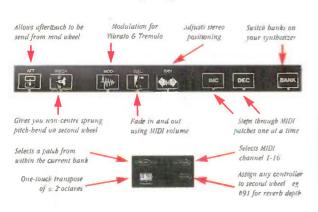
FURTHER INFORMATION

- £ £703.83 inc VAT.
- A Sound Dept, 33 Beaumont Street, Oxford, OX1 2NP.
- 01865 516800.
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34

Yamaha RY8

Portable Rhythm Programmer

The RY8 isn't just the latest in Yamaha's much-respected RY series of drum machines — the diminutive casing houses everything a mobile quitarist could need as a portable backing band, even a guitar synth! PAUL WARD has a look and decides to busk it...

he RY8 is tiny - not much bigger in surface area than a couple of 3.5-inch disks, in fact - but with 128 AWM (Advanced Wave Memory) drum sounds, 50 'normal' AWM sounds (such as piano, strings, brass, guitar, synth lead, etc), 250 patterns, and 100 songs under its command, this is a small fellow with big ideas. Power comes courtesy of batteries, or an external 9-Volt power supply (not supplied), and sound can be tapped from two standard quarter-inch jack outputs, or the walkman-style headphone output.

The 12 non-velocity-sensitive pads (drum sounds do respond to velocity over MIDI) can be switched between two Pad Banks to cover the 24 sounds available in a kit. Twelve preset kits are provided, covering a range of basic types including

Rock, Analogue, Techno, Brush and Latin, and a further four kits can be defined by the

user, where

level, accent level, pan and pitch are all programmable.

Fifty rhythm patterns are available for programming, either from scratch, or by making use of the 200 preset patterns as starting points. The presets are organised into 50 musical styles, with A, B, C and D sections representing main and fill type patterns, and alongside each pattern are a set of Bass, Chord I and Chord 2 accompaniment tracks. These accompaniments are non-programmable, but can be superimposed over other rhythms, including user-programmed patterns. Each track of the accompaniment is fully adjustable in volume, or, alternatively, the entire backing can be switched off. Both step and real-time methods of rhythm programming are catered for.

Yamaha provide 50 user-programmable songs and 50 pre-programmed songs, and it is here that you really get a feel for what the RY8 is all about. By careful use of the accompaniment tracks, and some careful programming of chord progressions, the RY8 would happily stand in for an entire backing band. Admittedly, some of the instrument sounds are a little on the cheesy side, but the bass is particularly full, and some of the electric pianos would not be shamed in the company of considerably more expensive sound modules.

SACK THAT BACKING BAND!

For anyone who is considering replacing an entire backing band, even more good news is on the way! By plugging a guitar into the RY8 you can jam along before anyone can say "is there another spare channel on the desk?". The input level is adjustable, and the RY8 can even be programmed to start a song on receipt of an audio trigger, which more than makes up for the lack of a start/stop footswitch socket. A guitar tuner is only a couple of button

pushes away, making this a home from home for the guitarist on the move. But the fun doesn't stop there. The RY8 also features a builtin guitar synthesizer, but let's not get carried away - it's monophonic lines only, I'm afraid. You also YAMAHA RY8 £239

- Portability. The battery option, headphone socket, and guitar input jack truly make this a 'band in your pocket'.
- Excellent 'mini' guitar synth that transmits over MIDI.

- The physical size may put some people off.
- Some of the backing sounds and styles are probably a bit cheesy for some tastes.
- Some operations can be fiddly.

SUMMARY

An excellent little machine that enables you to make music anywhere the mood takes you. I can see this being a big hit with the busking

playing style - bends are handled, but lack the smooth glide of a more sophisticated unit. Let's not carp too much though — the thing is limited, but it works. Any of the 50 'normal' AWM instrument voices can be played, and the result can either be mixed back in with the normal audio, or used on its own. Further options allow the addition of octaves and harmonies to the guitar synth line, or for triggering full chords based on the accompaniment.

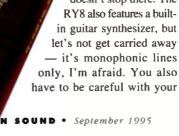
The RY8 will happily synchronise to incoming MIDI clocks, as well as generating its own, although there is no support for MTC, which is a shame. System exclusive is well catered for, allowing for the archiving of important data to a computer or MIDI-filer, and the notes generated by the guitar synthesiser can be transmitted on their own MIDI channel. The generated harmony parts can be output on their own MIDI channel too - brilliant! For those whose digits find it difficult to make the transition from strings to ivory, this provides a handy way of getting basic ideas into an external sequencer.

CONCLUSION

The RY8 is fun - there, I said it! Two hours after switching on, I was still having a whale of a 12-bar time. Anyone looking for sophisticated levels of editing, quantising, and oodles of MIDI-controllable parameters should look elsewhere, but for anyone requiring a cost-effective way of generating rhythmic and chordal backing for semi-pro use, or on-the-move song writing, this could be just the ticket!

FURTHER INFORMATION

- £ £239 inc VAT.
- Yamaka-Kemble Music (UK), Sherbourne Drive, Tilbrook, Milton Keynes, Bucks, MK7 8BL.
- 01908 366700.
- 01908 368872.



Roland

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Philips DCC170

Digital Recorder

PAUL WHITE tries out a deceptively small mastering recorder that's ideal for location recording and sample gathering.

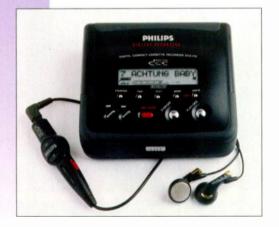
ollowing on from July's review of the new Philips DCC730, this month I'm taking a look at the diminutive DCC170.

The DCC170 is a Walkman-sized portable DCC recorder with both analogue and digital I/Os, a stereo mic input and the ability to play back analogue cassettes. In the basic package you get the machine itself, an internal nicad battery that provides up to three hours of recording time, a mains adaptor/battery charger and all the necessary leads, plus a blank tape and a pair of fair (but not terrific) mini earphones.

Technically, DCC machines shouldn't sound quite as good as DAT or CD, because they employ PASC data compression to reduce the amount of audio data roughly four-fold to make it fit on the tape, but in practice, there's very little, if any, subjective difference between DCC and a typical budget DAT machine. Unfortunately, the same unpopular SCMS anti-piracy copy management system is fitted to the DCC170 as is found on budget DAT recorders, which means that although you can make unlimited copies from a digital master, further digital backups cannot be made from your first-generation copies.

APPEARANCE AND CONTROLS

Philips' DCC 170 is no larger than a typical Walkman-type cassette player, and includes



an LCD window which can display the track names on ready-recorded DCC tapes, as well as other format, mode and metering information. Interestingly, the lid houses the head and pinch rollers, while the dual capstan drive is located in the main body.

On the right-hand side are the record controls, which include a three-position mic/line selector switch with two mic sensitivity settings. The record level is set using a thumbwheel pot in Manual mode, but there's also an automatic level control setting for use in difficult or unpredictable situations. A single mini-jack socket handles the stereo mic, line or digital input signal, and a Hold switch is provided to lock out all but the remote's controls, which could be useful if you have the recorder in your pocket.

On the back of the machine is the DC supply connector and the optical digital output, while on the left edge of the case are the controls relating to playback. Here you can select from four reverse modes in much the same way you can with an autoreverse cassette deck. There's also a Dolby B On/Off switch (relevant only when playing analogue cassettes), a control for switching in two levels of dynamic bass boost, and another little thumbwheel for controlling the overall volume. The purist in me suggests leaving the bass boost off, though this does only affect playback, and not the recording. The last feature in this section is the headphone jack, which also doubles as the remote control connection.

On the lid, we find the usual transport controls, but there's also an extra row of tiny buttons directly below the LCD which relate to the display mode and the writing of track markers. In text mode, you see the track titles on pre-recorded DCC tapes, but you can't name your own tracks on this machine as you can on the larger models. The counter works a little like that on a CD, allowing you to see the absolute time, the time elapsed per track, or the time remaining on the tape. Unlike the previously reviewed 730, the DCC170 has conventional bargraph record meters, and though they're absolutely minuscule, they're nevertheless very welcome.

IN USE

The main trouble with portable machines is that they tend to use non-standard audio connectors, but as leads are provided, this is forgivable. As a straightforward digital recorder, the DCC 170 is very easy to use and sounds every bit as good as its shelf-mounting counterpart. Though you

PHILIPS DCC170 £249

PROS

- Excellent sound quality.
- · Very attractive price.
- · Easy to use.

CONS

- SCMS is implemented.
- · Fiddly mini-jacks.

SUMMARY

A great value digital portable recorder with a host of applications.

can't name your own tunes using the text window, I feel this is more than compensated for by proper metering; the larger DCC730 merely shows you two numbers for peak level and headroom.

As with all digital recorders, DAT included, you have to avoid leaving unrecorded periods of blank tape between tracks, otherwise the automatic track numbering and renumbering systems won't work. The facility for searching individual tracks is useful, and in fast wind mode, you can spin through around one minute of recorded tape in about three seconds, which isn't bad.

Compared with a portable DAT, the DCC 170 is just as easy to use, and seems every bit as reliable. I tried shaking it quite vigorously, but couldn't persuade it to do other than play perfectly. One shortcoming of DCC in general is that you can't listen to your audio in a 'fast cue' mode. Technically, this is quite understandable, but it does make precise cueing up a little more tedious. Soundwise, I don't think there's much to choose between DCC and a budget DAT machine, but it is a drag that you have to turn the tape over half-way rather than everything being 'on one side' as it is with DAT. On balance though, the DCC 170 is less than half the price of a portable DAT machine, and given its very attractive price, I can't really fault it as a home studio mastering recorder or location/sample sound-gathering tool, particularly with the latest price cuts bringing DCC tape down to under a fiver. As for playing analogue cassettes (spit-barf-chiz!), I'd be reluctant to subject the digital head to wear for such an ignoble purpose!

FURTHER INFORMATION

- £ £249 inc VAT.
- A SRTL, Record House, Emsworth, PO10 7NS.
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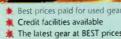
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Award-Session Sessionmaster JD10

Guitar DI Box/Preamp

PAUL WHITE checks out the new Sessionmaster JD10 recording preamp, which provides the perfect excuse for half-an-hour's guitar practice at the company's expense!

ou may remember the original rackmount Sessionmaster recording preamp (reviewed by Dave Lockwood in February 1992's SOS) — it was all-analogue, there was no programmability, and everything was controlled by knobs — just the way guitar players like it. MIDI didn't even get a look in!

The Sessionmaster JD10 sticks closely to this recipe for success, but this time the unit is packaged in a pedal format and features newly voiced circuitry designed in conjunction with top guitarist Jerry Donahue.

The JD10 may be powered from a 9V battery or from any AC or DC power adaptor, of any polarity rated at between, 9 and 30V DC or 6 and 20V AC.

GET PEDALLING!

Housed within the tough steel case is a single-channel guitar preamp complete with traditional, passive three-band EQ, and overdrive depth and output gain controls. Nothing too revolutionary there — but



things get more interesting when you check out the Rock/Classic button. In the Classic position, the Drive Depth control can be turned down to give a natural clean tone, or advanced to give a vintage blues tone, and the blues tone is one of the great strengths of this little box. Many of the more elaborate guitar preamps fall flat on their face when trying to emulate those 'inbetween', subtly-overdriven amp sounds, but the Sessionmaster JD10 comes very close to the real thing, and lets the original tone of the guitar shine through.

Switch to Rock and the tones range from R&B raunch and '70s rock through to the heavily-saturated overdrive sounds that have dominated the '90s. Hitting the footswitch puts the unit into bypass mode, but rather than simply routing the input directly to the output, an impedance buffer is left in circuit which means that you can drive long leads without losing tone. In the studio, this also allows you to DI your guitar for a super clean sound without losing all the edge.

For recording overdrive sounds, the Speaker Simulator button brings in a filter which takes out the high-frequency harmonics and adds extra bite at around 3kHz. This works well in practice, but may also be used in conjunction with a guitar amp to thicken up the sound of single coil pickups to make them sound more like humbuckers.

IN USE

Unlike many overdrive units, this one is very quiet. You still get hum from your guitar pickups if you sit too close to a source of interference, but the level of hiss is extremely low, even at quite high overdrive gain settings. It's also possible to coax a much wider tonal range out of this little box than you might at first think possible—the secret is to experiment with very small changes in the control positions rather than trying to crank everything fully up or fully down. For me, the Sessionmaster JD10 excels in the area of producing classic blues sounds. The more

SESSIONMASTER

PROS

- · Tonally flexible.
- · Very quiet.
- Robust construction.
- Great for blues and vintage rock.
- Bypass setting can be used for DI'ing clean guitar and bass.

CONS

 The heavily overdriven sounds aren't quite so exciting as those produced by some other units.

SUMMARY

A neatly-designed product that will earn its keep both on stage and in the studio.

heavily-saturated rock sounds are still OK, and the Sessionmaster JD10 provides a great deal of touch response, allowing you to use picking pressure to vary the tone.

IN SHORT

The bottom line is, I suppose, that the Sessionmaster JD10 is a very simple-to-use, no-fuss guitar preamp that can be used both live and in the studio for just about any application where programmability or channel switching is not required. Used with an amp, you don't really need channel switching because you can use the amp's tone as one sound with the Sessionmaster JD10 in bypass mode, and then create your second sound with the unit turned on. And in the studio, if you want two guitar sounds in one track, it's usually just as easy to record them separately. All this little box needs is a touch of reverb to bring it alive, and as mentioned earlier, its greatest strength is its ability to recreate subtly distorted, classic amp sounds. I feel it's a definite improvement on the original Sessionmaster — and that was pretty good! 505

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As well heading up
the USA arm of
Emagic, Mikail Graham is
a part of the Emagic
development team, and
the company's most
evangelical demonstrator.
PAUL WHITE caught up
with his rolling roadshow
at Birmingham's Musical
Exchange.

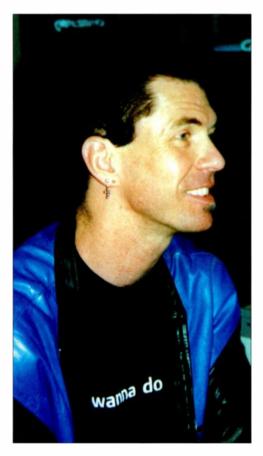
f you've ever been to a major international music trade show, the chances are that you've witnessed Mikail Graham demonstrating C-Lab's (or these days, Emagic's) music software, with the panache normally associated with a sideshow magician. He leaves you feeling that you've seen something spectacular, but you're never quite sure how he did it!

"People ask me why I still do the roadshows, but the reality is that they're a great way of getting user feedback. Every time we've done one, it's been very helpful in letting us know what people want, but at the same time, it also lets people know that we are human and that they can talk to us. Everyone at Emagic is also a musician, so we think about what we do in musical terms, and we also understand what it is the end-users are really asking for."

important — the fact that you can have 90 definable window combination layouts for instant recall, and if you have two monitors connected, you can use Screensets to define what you see on both of them at any one time. Unlike the basic Mac system, where only one window can be active at a time, we've made it so all the open windows stay active, and these windows can also be linked. If you make a change in one linked window, that change is immediately reflected in all the other linked windows. For example, if you select a bunch of notes in a score window, the same notes will be selected in the event list or the matrix edit window.

"The way we handle quantisation is very friendly — you can adjust any value of quantisation and hear it in real time — and it's all non-destructive. While you can do most of the same things in Opcode's Vision or MOTU's Performer, first of all you can't hear all the changes in real time, and secondly, if you make that edit, then go onto the next bit, that's a hard edit — you can't come back six months later and change it back to your original performance. Similarly, our tempo resolution is

NOW THAT'S WHAT I CALL



MAGIG

MIKAII GRAHAM OF FMAGIO

THE LOGIC APPROACH

Obviously Emagic's Logic is such an important part of what you do, that it must be very difficult for you to remain objective, but what do you feel are the main advantages of Logic over the other market leaders?

"I think the main point about Logic and Logic Audio is the user-definability. The stuff coming from Steinberg, MOTU, Opcode, Passport, Twelve Tone Systems and so on is really very strong, but where I feel we are unique is that users can

customise Logic to work the way they want it to. Creator and Notator really had only two windows, Arrange and Edit, and that's the way some people want it, because it's so simple to work with. Other people want to see different things as they work, so we thought about this, and came up with the idea of making Logic user-definable. In the early days, this scared people a bit, because it wasn't quite so obvious what to do — there was no defined way of working. Over the past couple of years, we've changed that, by including things like templates to get you going quickly.

"I think that the concept of Screensets is very

down to one ten thousandth of a beat; that might sound excessive, but when you're working with digital audio or samplers, precision is important.

"We're very fast at getting stuff out that people want - we did a big ad campaign in America under the line 'The Freshest Code On The Block' - and we're also very fast at taking action if there is a problem. Should a problem occur, new versions of the program are put up on CompuServe, Internet and America On Line, so people can download them free. The software is designed to be hardware- and platform-independent, which means that the framework we created Logic within can be transported between different machines quite easily. That's why we'll be one of the first companies to come out with a 100% native version of the program for the Apple Power Mac. It's up and running now, it's blindingly fast, and if all goes well, it'll be shipping around September. As soon as IBM ships Windows 95, it will only be a short time before we have a version available - most of the time is taken up in beta testing."

AUDIO WITH MIDI

For the benefit of those people considering the move from MIDI sequencing to integrated MIDI and audio, what benefits does *Logic Audio* offer?

"We offer the ability to record and edit digital

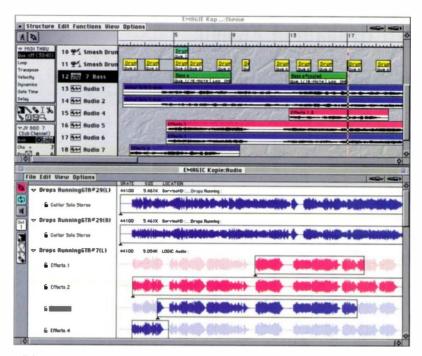
audio. A lot of other programs do this, but we differ in how much can be done on-board from within the one application. With many of the other programs, you need to use something like *Sound Designer*, or *Alchemy*, or some other kind of sample editor, but we have one within *Logic Audio*. We're currently the only people offering sequencing, desk-top score publishing, and digital audio, with an integrated stereo sample editor.

"Logic Audio allows you to work with digital audio in very much the same way as you do with MIDI; the audio and MIDI tracks reside right alongside each other in the Arrange window. You can edit their volumes and pans with Hyper Edit, or with the new Hyper Draw, and you can change things in real time without stopping playback."

For those unfamiliar with digital audio, would it be accurate to say that each section of digital audio can be thought of in the same way as firing a long sample from a conventional sampler?

"That's effectively how it is, the main difference being that once a sample has been triggered, there's no further sync. With *Logic Audio*, we look at the signal all the time to keep it in sync. If you're doing a film soundtrack an hour long, the audio will stay in sync, whereas with a sampler, if something changes a bit, the sample will drift out of sync. With the tempo resolution we have, even working alongside samples from a sampler becomes more accurate."

You mentioned that *Logic Audio* has a lot of built-in capability, whereas with other programs, you might have to buy these features in as extra software packages. Can you tell us



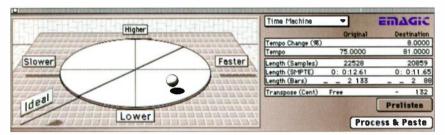
All the screenshots in this article show Emagic's Logic Audio 2.5 Mac. Here, we see what for most users is still the heart of Logic, the Arrange Window.

some of the things you can do to your audio once you've recorded it?

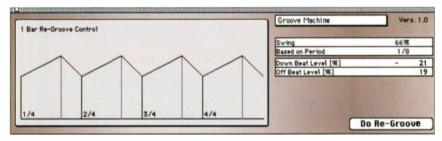
"Besides the usual things you'd expect to find in the Sample Editor, such as reversing, normalising, gain change, fade in and out, silencing and so on, we offer something called the Digital Factory. The Digital Factory is a collection of powerful utilities.



Mikail Graham of Emagic



The Time Machine.



The Groove Machine.

MANUAL SWITCHING

I'd like to ask you about the release of the new manual. My major criticism of Logic is that the first manual was pretty confusing, and this was followed up by several addendum manuals, which makes it hard to find what you're looking for.

"Absolutely. To be honest, the first manual was more like an in-depth brochure, and we've finally got around to rewriting the whole thing and putting it in a three-ring binder, so that any further update pages can easily be inserted. It is rewritten in very good English by Americans — if that makes sense — so it should be an excellent manual. The new manual is available with version 2.5."

▶ one of which is the Time and Pitch Machine. This allows you to do time expansion and compression and pitch-shifting, and unlike other programs, you can do them both at the same time, rather than as two separate processes. A German magazine recently did a blindfold test of the various time/pitch systems, and Time Machine from Logic Audio and Steinberg's Time Bandit came out top in the listening tests. I feel that we score highest with our process; it is faster than Time Bandit's — though I have no argument about the quality of Time Bandit's processing — and furthermore, we include this process at no extra charge.

"We also have the Groove Machine [only available in Logic Audio — Ed]. This enables you to impose 8th or 16th note swing quantise values onto digital audio. You can feed in a techno groove with straight 16ths and make it sound like hip hop, or you can take a rock beat and turn it into a house beat. You also have the ability to pull out the

downbeats or the offbeats, and it doesn't just work on percussive material. What you can get away with does depend on the material you're working with, but you can often successfully process a complete instrumental mix. It doesn't make as much sense when you try to process a vocal track, as you get some unnatural amplitude changes.

"Working the other way around, you can take any rhythmic audio and use it to create a groove template to use on your MIDI recordings, or load DNA grooves. From *Logic Audio* version 2.5, you can re-apply any of those grooves back on to digital audio. Obviously, you have to work within reasonable parameters, but you can do things like make your rhythm guitar lock-in with your hi-hats.

"Then we get onto still newer things, like the Audio Energizer, which is new in version 2.5. This will allow you to increase the energy of your audio file without changing the peak level, using a kind of intelligent compression/limiting algorithm. There are plug-ins for Sound Designer that do this already, but some of them cost nearly as much as Logic Audio itself. Other new features include The Silencer, a single-ended noise reduction system using spectral analysis, and comb filters to reduce the subjective background noise level without taking the top off the sound being processed. A spike remover is also included, which helps get rid of clicks from records or DAT glitches. The glitches are filled with material taken from either side of the area being processed, and an interesting trick is to abuse the parameters, so that whole chunks of audio get replaced — it gives you a kind of Max Headroom effect. The designers don't like me doing this, but I quite like the effect! The noise reduction isn't intended to replace something like Digidesign's DINR, but it can still be very effective in cleaning up sounds.

"The other feature some people will find useful is the Audio to Score Streamer, which can take any clean, monophonic information, extract the pitch, velocity and note length, and create a MIDI sequence from that data. For example, you could

'INTERNATIONAL PRODUCT COORDINATOR' — OR 'NEU MEDIA EXPLORER'?

Mikail's background is primarily as a musician, and he has worked with a number of top names, including Roger Hodgson from Supertramp, Michael Pinder from the Moody Blues, and minimalist composer Terry Riley. Mikail has also worked on musical scores for a number of films and plays, but when MIDI appeared on the scene, he was one of the first to realise the potential power to be had from putting MIDI and computers together. Right from the early days of MIDI, he acted as a consultant to several major companies, but eventually ended up working with Steinberg, C-Lab's — and now Emagic's — neighbour and main rival. At that time, Steinberg were producing Pro-24, but when C-Lab's Creator came on the scene, Mikail's curiosity was aroused.

"At the Chicago NAMM show in '85 or '86, I was standing on the Steinberg booth talking to Werner Kracht, one of the programmers behind *Pro-24*; we'd just created this thing called Logical Edit, to which I'd contributed some ideas. I asked him if he knew anything about this new C-Lab company, and he pointed out that

Gerhard Lengeling, C-Lab's founder, was actually looking around our booth at that very moment. I went over to talk to Gerhard, and he looked me over and said, 'You must be a thief, you are an American!'. Despite that less than ideal initial encounter, I became one of the first people in America to see Creator, and within two minutes, I knew this was the company I really wanted to work with. It amazed me how fast their program worked, so I pleaded with Gerhard's manager to get me a copy of the software to try out. They were dragging their feet a bit, so I called a shop in London and bought a copy, worked like crazy with it, and by the time C-Lab got around to sending me a copy, I'd already had it for a month. Within four days, I sent them about 20 pages of comments and suggestions — they thought I'd only had the program for four days, so they started to ask 'Who is this crazy guy'?

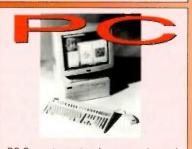
"C-Lab were keen to enter the American market, and I considered opening up the US distribution office myself, but at that time, I wasn't prepared to take on that much — I was still playing and performing, as well as doing consultancy for companies like Eventide and ART. I did, however, already own a distribution company in Australia, so I arranged for C-Lab's software to be issued from there, and in the meantime, negotiations were made with Digidesign to bring C-Lab over to the States.

"After about a year of working as a consultant, it became obvious that I should devote myself to the company, and I've been working with Gerhard and Chris Adam now since 1986. My official position is 'Coordinator of International Product Management' for Emagic GmbH. That titles one of my business cards, but on the other, I'm down as the company's 'Neu Media Explorer' — we've tried to get away from the heavy corporate thing, so Gerhard is known as the 'Code Father' and Chris, who does the score stuff, is known as the 'Code Meister' — it's all about making it more fun. My job is really to act as a diplomat when talking to other companies, and to provide input which will help us decide which way the software should develop."



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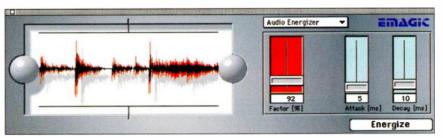
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Mikail Graham of Emagic



The Audio Energizer.

▶ play in a monophonic melody on a guitar and extract the MIDI information — it's pretty exciting, but it's just the beginning of what can be done."

AUDIO WITHOUT CARDS

For me, the other really exciting news is that from version 2.5, *Logic Audio* Mac runs without any external hardware or soundcards. How exactly does that work?

"This year we are introducing what we call the Logic Extension series of applications. Using these extensions, we can bring out new features as the demand arises, but if you don't need what a particular extension offers, then you don't need to buy it.

"For example, on the audio side, we have an AV extension actually included with version 2.5, and what this allows you to do is to use any Macintosh with Sound Manager 3.0 or greater to record and play back digital audio. If you're using an older Mac, then obviously this will only give you 8-bit sound, but if you have a Power Macintosh or an AV Mac [840 or 660 AV—Ed], or even a 520 or 540 PowerBook, you can get full 16-bit, CD-quality sound. Furthermore, if you have a Digidesign card, you can run your Digidesign audio tracks alongside your Mac audio tracks using the AV extension. If you want to add Digidesign tracks using Digidesign's Digital Audio Engine [DAE], this will take up some of the CPU power and reduce the number of tracks you can get from the Mac. I can't tell you yet exactly how many tracks you'll be able to use, because that will depend on which Mac you buy, and which other systems are running simultaneously. It also depends on volume

and panning, as these take up processing power, but I think it's safe to say that on a high-end machine like a Power Mac 8100, you'll be able to get around eight tracks of Mac digital audio, and perhaps from four to eight more using an AudioMedia II card or Session 8 hardware. On the lower-power machines, you should be able to get at least four tracks of digital audio.

"Even with the machines that only handle 8-bit sounds, if you have a way of getting the digital audio into your machine at 16-bit, you can work while monitoring at 8-bit, then when you come to finish a project, you can rent a studio with a

16-bit system to get the sound out at full resolution. The only shortcoming of the Mac at the moment is the audio input/output structure, which is where the AudioMedia II card has the advantage. Its analogue to digital converters are good, and it also has a digital input.

"We also have an extension for the Yamaha CBX D5, and the cheaper D3; the CBX D5 has on-board effects like parametric EQ, reverb, pan volume and so on, all fully automatable, while the D3 gives you four tracks but without the effects. Using our extensions, you could put together a system that includes Mac tracks, Digidesign tracks, and Yamaha CBX tracks."

I would imagine that for someone already using Digidesign hardware, the ability to record even further 8-bit tracks on a cheaper Mac would be useful, as there's a great deal of creative potential in gritty, 8-bit sounds.

"Definitely — and I've already noticed that by doing that you can get some very interesting sound colours."

TDM

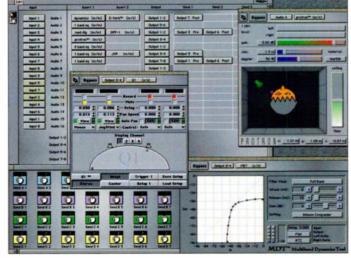
"The last of the extensions allows you to make use of Digidesign's TDM system, and the various TDM software plug-ins that are available from the likes of Waves, Jupiter Systems and Crystal River, as well as from Digidesign themselves. Using Pro Tools III, you can get up to 48 tracks of audio (16 per basic system), maybe another eight tracks directly from your Mac, and eight more from a couple of Yamaha CBX D5s or CBX D3s.

"Due to the way we've set it up, you can configure your system with as many plug-ins and Digidesign DSP farm cards as you can afford to have. Digidesign currently has a limit of five plugins used at the same time — but we don't have any limit. We also allow you to insert a plug-in effect over the overall stereo mix, which is useful for plug-ins like Apogee's UV-22, or the Waves L1, C1 or S1.

"Probably the most powerful part of the TDM extension is that it allows you to automate the



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TDM Extension Setup window.

How do you see the PC side of the market coming along in MIDI sequencing and MIDI/Audio?

"If you look at a 486 PC, it's a very fast machine, but the biggest problem has been the DOS/Windows overlay, which hopefully Windows 95 will put right. I think the PC has been problematic in the past because of the way the architecture is set up, but you get a lot of machine for your money. I think it is a viable alternative for those who find the price of the PC more attractive, but personally, I find the Mac a much more elegant and easy-to-use system. It's so much easier to install hardware and system extensions on the Mac—perhaps Windows 95 will resolve that too, but we'll have to wait and see." Will you be able to offer audio on the PC as well?

"That's the total game plan. When we designed *Logic*, we wanted it to be independent of platform, and *Logic Audio* follows that philosophy too. The Digital Factory will be available for PC users, the CBX extension will be available, and when Digidesign's DAE for the PC is finished, we'll support that too, which means you'll be able to use Session 8 PC hardware and the AudioMedia III PC audio card. With the PC, you will need to have a soundcard of some kind, because the basic PC doesn't have any provision for a DSP chip, but maybe the Pentiums and Power PCs will change that too. What we're looking at initially would be using the MME (the multimedia extension) for addressing the available soundcards, and that way everything should be virtually the same as on the Mac. Currently, the system is still in development, but the plan is to showcase it at the Winter NAMM show in January '96."

plug-ins. Digidesign has plans to do that too, but they don't have it out yet. For me, having plug-ins that you can't automate is pretty limiting — after all, that's the whole point of using a computer.

"In the final version of *Logic Audio 2.5*, we've actually redesigned the Audio Object (the sequencer's audio equivalent of a MIDI instrument), which can be resized to show your fader, monitor, meter level, sends, insert points and so on, all in a single Environment Object. This looks much the way it does in Pro Tools, so if you're moving over from Pro Tools, it will look very familiar."

TECHNICAL ADVANCES

Are there any up-and-coming advances in storage technology that you might make use of? For example, the new 270Mb SyQuest cartridges look pretty cost-effective.

"There are a lot of new things coming in the future, including drives and storage techniques that I really shouldn't talk about now, but we're really a software company, and for us to jump into hardware, we'd have to be able to offer something really powerful. The SyQuest drives are actually pretty good, and we've been able to get eight tracks of audio out of them with no problem."

Hard disk audio requires a tidy, defragmented drive. Have you thought of building a defragmentation routine into Logic Audio?

"For disk optimisation, we recommend programs like *Norton Utilities*, but if you're copying your *Logic Audio* files from your main drive onto a separate drive like a SyQuest 270, they are automatically copied in contiguous blocks, and any unused space is recovered. When you've copied the data, *Logic Audio* also asks if you'd like to change the reference for these files to the new location, so that program will know where to look for them."

As a *Logic* user, as well as member of the company, what would be your wish list for new features and facilities?

"I'd like to see a more integrated way of working between all aspects of multimedia, as well as more intuitive interfaces. CD-ROMs are a great idea, but they are far too slow — I'd like all these things to move closer towards real time. TDM is a fine system, but it's a bit expensive, so I'd like to see a way of offering users these kinds of facilities at a lower price point. What I'd like most of all is more time to use all these tools that we're creating — hopefully, one day we can retire and make use of them all!"

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ACCESSORIES.

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Out of the wilds of Germany comes an interesting attempt at addressing the key aspects of hard disk recording on the PC for the DAT-owning musician. BRIAN HEYWOOD reports. he TripleDAT system, from German company Creamware, is designed to bridge the gap between the costeffective but non-professional world of MPC Windows-based audio applications and the requirements of the audio professional. Based around an SP/DIF (Sony/Philips Digital InterFace) socket incorporated on to a standard ISA expansion card, it allows you to record or play back audio from any digital source — such as a DAT or a CD player — using either the optical or digital connection. Simply put, TripleDAT is a digital audio interface which allows PC users on a modest budget to tap into the quality required by the pro audio world.

However, it is more than just a piece of hardware for transferring audio in the digital domain, it also comes bundled with a sophisticated Windows-based, non-linear audio editing application and DOS software that gives you the ability to use any standard audio DAT recorder as a means of backing up the PC's hard disk drive. This last inclusion addresses one of the major bugbears of running a hard disk-based editor, namely what do you do when your hard disk becomes full?

HARDWARE

The hardware component of the TripleDAT system consists of a three-quarter length 16-bit ISA (or AT) expansion card. The external connections consist

the other with the S/PDIF electrical connectors, so I couldn't use both the digital interface and the MIDI connector at the same time. However, since a connection diagram is provided with the documentation, it would be easy enough to get a cable made up if you required both these facilities at the same time.

SOFTWARE

The software supplied actually falls into three categories: Windows drivers; Windows non-linear editing software; and a DOS backup application. The TripleDAT drivers allow any Windows application that is multimedia 'aware' to use the MIDI and digital interface facilities provided by the card. This is quite a useful feature, as it allows you to upgrade an existing MPC-based editing system to incorporate the digital interface. The benefit of this is that you can still use your current working environment while taking advantage of the improved audio quality.

A MIDI driver is also supplied that allows you to 'internally' synchronise a sequencer with the bundled editing software.

TRIPLEMAGIC!

The non-linear editing software is called *TripleMAGIC!* and conforms to the 'multitrack tape recorder' user interface that is common amongst professional hard disk recording systems.

CREAMWARE

DIGITAL AUDIO INTERFACE FOR THE IBM PC

of a pair of optical digital audio connectors, a stereo analogue output, a feature connector for MIDI and S/PDIF signals, and a remote controller. The last item is essentially a couple of infra-red light emitting diodes (IR-LEDs) on the end of a long wire, which allows the backup software to directly control the DAT via its infra-red remote control facilities.

The card has three digital inputs — one optical and two S/PDIF — any one of which can be selected

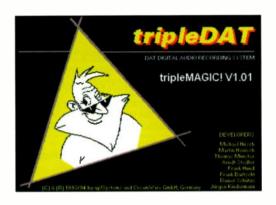
via the software interface. The digital output appears on both the optical and S/PDIF connector, and there is an S/PDIF 'through' signal available that should allow you to daisy chain several units. While the card is primarily a digital interface, it also features an analogue audio output via a standard (ie. 'Walkman' style) stereo mini-jack connection, designed to be used for monitoring purposes. The MIDI department consists of one In and one Out, with a 'Thru' (or MIDI echo) being available under software control.

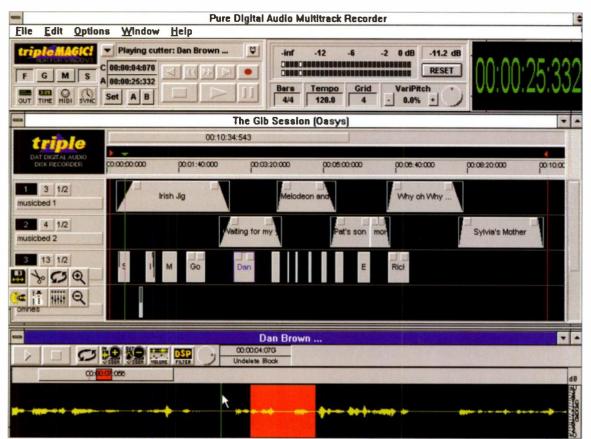
Most of the electrical connections are made via a 25-way D-type feature connector on the back plane of the expansion card. I was provided with two cables for this; one with MIDI plugs and

This means that the screen is divided into horizontal bands — or tracks — with the audio appearing as blocks. The audio data is stored on the PC's internal disk and the edits are performed non-destructively in real time. The software offers a number of advanced features such as real-time crossfades, a multitrack editing interface, and modular filters and effects. One particularly nice feature is that the software will let you use any existing PC soundcards installed in the system, giving the possibility of multiple analogue outputs.

The number of usable tracks is dependant upon a number of factors, the most important being the power of your PC. My DX4 PC (with a VESA hard disk controller) could only reliably replay four tracks, and this was only when the software wasn't trying to synchronise to MIDI Time Code (MTC). The reason you need a powerful machine is that the software calculates the audio segment fades 'on the fly', which gives the quickest response when editing but means that the processor is doing a lot of work when the sound is being replayed. The software seems pretty robust and — as long as you ignore the rather alarming error messages --- you can usually get around any performance problems by tweaking the arrangement.

TripleMAGIC! has two basic operational areas:





The TripleMAGIC! software gives you various methods of manipulating the audio data once its on disk.

TRIPLEDAT

the Arranger and the Cutter windows. The Arranger allows you to sequence the digital audio, specifying crossfades and performing simple edits. The window has an associated mixer that allows

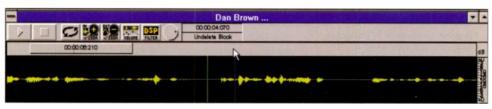
you to control the overall volume and pan setting of a 'track', as well as control the overall output level of the mix. Each channel also has a mute and solo control and the channels can be grouped, to give combined level control of a number of tracks. The Arranger audio segments must all have the same sample rate (ie. 44.1 or 48kHz) and are grouped together in 'projects', though any samples which have the 'wrong' sampling frequency can easily be converted.

For more precise control of the edits, the Cutter window provides a graphical display of the audio data to be manipulated. The two primary functions of this window is to define the regions (or segments) of the audio

to be replayed and to create a volume curve; the latter can then act as a segment-based form of level automation for the audio. All edits are non-destructive (ie. they don't harm the original audio sources), and because they are saved as separate files (.CUT) they can be used within a number of arrangements. The volume curve feature is particularly flexible, as t allows you to position a

number of level changes within a single segment.

The Cutter window also incorporates a number of DSP (digital signal processing) effects, including a dynamics module (stereo compressor/expander/gate),



The 'Cutter' can be used to edit the nitty-gritty of your audio data; here, the blue shows where a section of audio has been skipped.



The control panels give an overview as to the state of the current project.

4-band parametric equalisation, pitch shifter, delay and room simulator (echo and reverb). These effects are calculated 'off-line' with the newly processed data being written to disk, but a certain amount of real-time control can be achieved by using the Arranger window's mixer to combine a 'dry' (i.e. the original) sample with a 'wet' (or processed) sample. The inclusion of the DSP effects means that you can

CREAMWARE TRIPLEDAT



The Arrange window has an extensive 'point and click' interface, though the 'floating toolbar' can get in the way.

 perform a complete stereo mixdown entirely in the digital domain, thus maintaining the highest possible sound quality.

SYNCHRONISATION

The *TripleMAGIC!* software can synchronise with MIDI Time Code (MTC), either to external devices — such as tape machines — or to a Windows MIDI sequencer using the supplied MIDI driver. The manual suggests that you need a minimum of 16Mb

of RAM if you want to synchronise the software with a MIDI sequencer running on the same PC, though the software also provides the facility to replay a pre-prepared MIDI file, which should give you tighter synchronisation as well as tempo-related functions, such as an audible metronome.

The synchronisation is supposed to resynchronise continuously and does, in fact, follow speed variations. However, I found that when connected to a sound source that was being altered using a 'varispeed' control, the software exhibited synchronisation errors. This would make the system unsuitable for situations where tight synchronisation would need to be maintained, such as use with a multitrack tape or video machine. Therefore, I would only recommend synchronising this package with a device that doesn't exhibit any wow and flutter, such as a software or hardware sequencer.

BACKING UP TO DAT

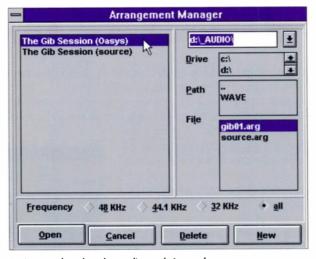
The final aspect of TripleDAT is the DAT backup software. This is DOS-based and invoked from the command line, using your DAT machine's built-in remote control — normally infra-red (IR) optical, but electrical in the case of the Tascam DA30 — to control the DAT transport. Many common DAT recorders are supported by the system,

though one surprising omission was the Sony DTC-1000ES (later Sony models are supported). Since I use a Sony DTC-1000ES in my studio, I couldn't actually test the remote control option. I had to use the manual control method instead, which was an incredibly tedious task.

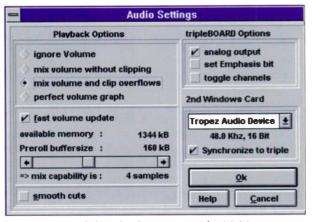
The backup application appears to work very much like a normal tape streamer, requiring that the DAT be initialised (placing a directory on the start of the DAT) and providing a number of different options for saving, verifying, and restoring files. The software is very flexible — you are provided with a basic set of operations with which to perform any task you wish. The down side of this is that you will have to create your own DOS 'batch' files to perform any useful tasks, which is not difficult but a somewhat timeconsuming business nonetheless. The manual is not much help here, since its combination of a jocular style and an incomplete understanding of the English language can make it very difficult to follow and an unpleasant chore to wade through.

PROBLEMS

I had a surprising amount of trouble getting the TripleDAT system to work properly. I originally tried to use it on a 486SX/33 PC with 8Mb of RAM, which simply turned out to be not powerful enough to



Projects can be selected according to their sample rate.



The audio settings dialogue box lets you tune TripleMAGIC!'s performance.

TRIPLEDAT £1174

PROS

- Optical and electrical S/PDIF DAT interface.
- Feature-rich, non-linear editing application bundled.
- Can be used as a high capacity tape streaming system for all your hard disk data.
- Built-in MIDI Time Code (MTC) synchronisation.
- Supports most popular DAT machines.
- Integrates with existing PC soundcards to give additional analogue outputs/inputs.
- MPC compliant drivers can be used with any Windows audio software.

CONS

- Requires a powerful PC to get the best out of the editor.
- Doesn't support Sony DTC-1000ES DAT.
- Software has reliability problems.
- You need to be technically orientated to sort the system configuration.

SUMMARY

TripleDAT is worth looking at if you need digital audio editing facilities along with a high capacity tape streamer. The editing software is admirably suited to compiling DAT masters, 'stand-alone' audio mastering and synchronising audio to a sequencer, but not for synchronising to a video tape machine or a multitrack audio tape recorder.

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CREAMWARE TRIPLEDAT



TripleMAGIC! offers extensive synchronisation facilities, though not all operate as expected.



The Punch In function lets you record 'in sync'.



TripleMAGIC! allows you to integrate an MPC soundcard in with the non-linear editor for extra analogue inputs and outputs.



Crossfades are performed in real time and so take up no extra hard disk space.

▶ handle the load. This somewhat surprised me, since the TripleDAT system's packaging proclaimed that it only required a 386DX/33 with 4Mb of RAM. So I reinstalled the system on a 486DX4/100 with 8Mb of RAM and — when I finally got it to work — it proved to be pretty reliable, though I did have one unexplained crash that caused me to lose some work.

I have to admit that the installation procedure is of the type that causes me intense aggravation, since it makes alterations to your computer's Windows setup without asking permission. In this case it 'lost' one of the synthesizer drivers for the Tropez soundcard already installed in my machine. This problem is not unique to this particular software, but annoying nonetheless. The upshot of all this is that you may find that you have to hack about with your Windows setup before you get back all your previous sound and MIDI drivers, if — like me — you have a PC with a fairly high powered MIDI and audio specification.

VERDICT

Priced at over £1000, the TripleDAT system is not a startlingly cheap option for turning a PC into a digital audio workstation. If you simply need a way of dumping digital audio from your hard disk on to DAT, then there are cheaper options available. However, if you consider that one of the main problems with any hard disk-based recording system is how to safely archive the audio material once the hard disk is full, then the TripleDAT looks a far more cost-effective proposition.

My feeling is that the *TripleMAGIC!* software is still somewhat rough around the edges, which is a shame really, since it offers quite an advanced specification. You will certainly need a pretty powerful PC and a supported DAT to be able to take full advantage of the facilities provided. To make best use of the system, you also need to be pretty familiar with both Windows and the DOS batch file mechanism.

TRIPLEDAT SYSTEM REQUIREMENTS

- DX2/66MHz PC with at least 8Mb of RAM (for 2-track operation).
- Windows 3.1 or Windows For Workgroups 3.11.
- A supported audio DAT recorder with \$/PDIF interface and remote control facility.

FURTHER INFORMATION

- E TripleDAT £1173.83 inc VAT.
- A Koch Media, East Street, Farnham, Surrey, GU9 7XX.
- 01252 714340.
- F 01252 711121.



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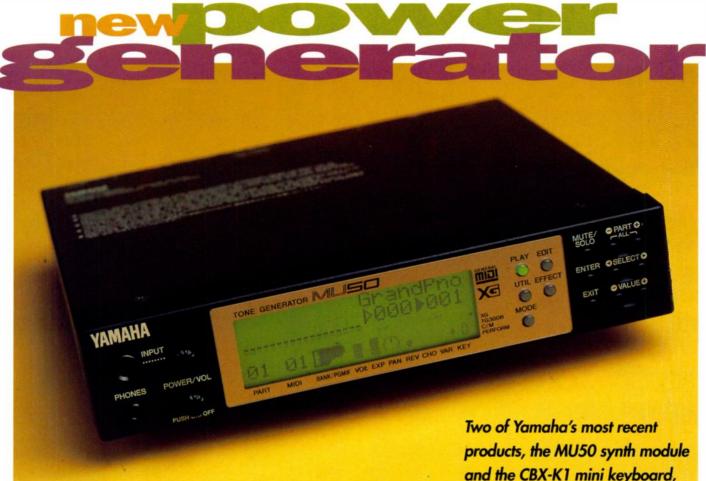
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YAMAHA MU50

Nice display.

Audio input.

- · Not much editing power.
- Can't access effects from audio input.

SUMMARY

This shrewdly-priced GM module has a few extras in the effects department, great MIDI control, and an external audio input. Although Yamaha don't break radically new ground, the additional XG voices do at least add some much-needed variation to the tired standard GM selection, whilst still retaining full compatibility.

ou may be forgiven for viewing a new General MIDI synth in the same light as the latest TV series about a tough; New York cop who plays by his own rules --- you just know you've seen it all before. However, Yamaha's latest module, the MU50, has a few original touches which aren't found in the average GM instrument. Featuring Yamaha's new breed of General MIDI, XG (eXtended General MIDI — of which more later), the MU50 is 32-note polyphonic, has three simultaneous effects, a stereo audio input, 737 voices (according to the manual — I didn't count!) and 22 drum kits. Even taking into account that many of the percussion voices are repeated across kits, and that many of the additional sounds are variations on existing ones or require a switch into a different mode, there's still an awful lot to wade through.

FIRST IMPRESSIONS

The MU50 is packed into one of those small square boxes which seem designed to litter an otherwise neat studio. A rackmounting kit, the RK101, is available as an optional extra. allowing you to fit two 0.5U modules into your studio rack if you insist on keeping things tidy. The large, friendly LCD, complete with graphical representations of each instrument, is a welcome window to the edit menus. These are accessed

and the CBX-K1 mini keyboard, are designed to compliment each other as the nucleus of a budget, GM-compatible music-making setup. PAUL NAGLE evaluates the pair, and considers the potentially confusing role of Yamaha's XG MIDI format...

via tiny buttons — there's no data entry knob or slider. In defiance of the constant moans of SOS reviewers and readers over the years, the MU50 is powered by an external PSU, which is about as large (and as welcome) as a modest-sized rat nestling amongst your leads.

Like Yamaha's MU80 (reviewed in SOS April '95), the MU50 boasts an external audio input -- but unlike the MU80, the signal passing through the input cannot be processed via the internal effects, and is merely merged at the stereo ouput stage with the MU50 signal. A shame, as this would have really set it a notch above the competition. In addition to the standard MIDI sockets, the MU50 is blessed with a direct link to either a PC or a Mac. which is handy if you're on the move, or don't have sufficient free MIDI channels in your computer.

BEYOND THE CASING...

The edit pages give access to a series of simple menus, including that for the resonant filter. This is not accompanied by a dedicated envelope generator, but using Yamaha's XG MIDI controllers,



Yamaha MU50 CBX-K1

THE CBX-K1: COMPACT AND BIJOU?

Brian Heywood has already mentioned this velocity-sensitive controller in July 95's PC Notes, as the CBX-K1 is clearly designed for computer users who wish to enter notes into a sequencer in step time. However, the CBX-K1 is also aimed at those with budget modules such as the Yamaha MU5, or even the MU50.

Physically tiny at just 20 inches long, the CBX-K1 keyboard boasts a mere 37 mini

keys, and may be operated via battery or a bulky external power supply. It doesn't have a sustain pedal input, but then you'll hardly be hammering out piano imitations on it anyway. On the plus side, the CBX-K1 is capable of sending a whole host of MIDI controllers via an assignable wheel (including both mono and poly aftertouch) — although any



assignments you make are reset on power-off. More useful is the MIDI input, which allows you to merge the MIDI output of a 'proper' keyboard with the data generated by the CBX-K1. However, this does beg the question: why not just cut out the CBX-K1 middle man? At this price, I think

there are far better controllers available.

YAMAHA CBX-K1

- · Small.
- · Lots of assignable controllers.

- · Probably too small.
- Assignments reset on power off.
- · 'Wall wart' power supply

SUMMARY

Unless size is your number one concern, there are plenty of better options than this, even for step time data input.

▶ you can make pretty dramatic sweeps and twangs without a lot of tedious messing about with SysEx. In fact, the MIDI spec is quite impressive, with pretty much everything you might want to change available for tweaking by MIDI controller information. When you do need to enter SysEx, there's no need to look in the manual - just double-click on the enter key from wherever you happen to be and the appropriate codes appear as if by magic. If only all synths worked this way!

As with Roland's Sound Canvas synths, edits made are to the complete part. As a result, if you change patches afterwards, this does not reset any tweaks to filter or envelope -- something to be aware of.

SOUNDS

The Sounds are everything you would expect from a module in this price range, with a few outstanding instruments (pizzicato strings, vibes, organs, and some of the brass) and only one real dog (you guessed it - the baggines). For the most part, the rest are all quite usable and decent. There's an odd rasp in the loop of the Shakuhachi that didn't work for me, and the tubular bells have a strange Far Eastern feel, but on the whole, as a typical GM range of instruments, everything is as you'd expect. Unfortunately, this is the problem with the MU50 - there's just nothing to get excited about. I guess I hoped for more from XG — the various 'new' sounds accessed by MIDI bank select messages are, in many cases, not very adventurous variations on what's already there, and unless your sequencer knows about this 'standard', you'll need the manual to remind you which bank select and program changes are required

to find the new sounds. Admittedly, there are some new samples (most notably the new special effects) that will be of use to the creators of multimedia applications, but on the whole, I think it's a shame that Yamaha have recognised the limitations of GM, decided to boldly deliver an enhanced version — and then wimped out like this. Future XG instruments may include more sounds, but the MU50 hardly pushes the barriers much further than Roland's GS - where are all the Alpine horns, digeridoos, nose flutes, and even vintage synth sounds? If there's room for two accordions in there, why not have some Moog and Mellotron samples?

EFFECTS

Probably the most interesting area of the MU50 is its effects section, which offers up to three simultaneous processes. These are reverbs, chorus and a variation effect, which can itself be anything from a selection of reverbs, delays, chorus, phasers,

WHEN IS A STANDARD NOT A STANDARD? - GM, GS, AND XG

The General MIDI standard was agreed in 1991 by the Japanese MIDI Standards Committee (JMSC) and the American MIDI Manufacturers Association (MMA) so that MIDI data would play back correctly on any GM instrument, regardless of manufacturer. General MIDI System Level 1 requires a minimum polyphony of 24 notes spread over 16 MIDI channels. The drumkit mapping and the 128 instrument program changes ranging from piano through to gunshot were all defined, as were the MIDI controllers to which the instrument would respond. However, pretty soon it became apparent that this did not go far enough — there were too few instruments, too few drums, certainly not enough synthesis power, insufficient polyphony, and no specification for effects. Times have changed, but GM has stayed put. You might have expected everyone to get round the table again and hammer out a spec for GM Level 2, but sadly, this has yet to occur.

Roland's attempt to improve on GM is GS or General Standard. Cunningly compliant with GM, GS offers extra sounds, accessible via the newly adopted MIDI bank select command, to get around the 128 patch limit set in the days when MIDI was young. GS synths (most notably the Sound Canvas range) offer additional drumkits (including a fine TR808 set), effects, and access to some of the more useful editing parameters via MIDI Non Registered Parameter Numbers (NRPNs). GS-only song files do play back on a GM module, but the extra sounds and subtle variations of filters, effects and envelopes are just invisible to poor, dull GM.

Most recently, Yamaha have also 'expanded the GM sound set' with their Extended General MIDI or XG. Pretty similar to GS, there are new banks of sounds, new drum kits (though the analogue kit isn't a patch on the Sound Canvas), a more open-ended architecture, at

least three types of effects, a low-pass filter, and audio inputs. Yamaha also specify 32 notes as the minimum polyphony. A big improvement on NRPNs is the adoption of specific MIDI controllers for many of the editing functions. However, this is bad news for MIDI song file producers, as any song file wanting to cleverly 'wang' the filter now needs to incorporate both GS and XG standards.

• THE FUTURE

Whether XG marks the end of the breakaway movement, or whether there will be future new (and conflicting) 'standards' from other manufacturers, only time will tell. By not defining XG fully at this stage (see the 'Scalability' box elsewhere in this review), Yamaha have options to add new features at any time while maintaining downward compatibility. It's a shame you can't make polyphony downwardly compatible too if future versions of XG allow 64 simultaneous notes, how will poor old 24-note GM cope with that?

overdrives and the like. I'm happy to report that the reverbs are not blessed with that metallic ringing quality which I have always associated with the built-in processors on Yamaha synths. Effects levels can be set for each instrument and routed very flexibly indeed, giving a much wider range of assignments than any other GM instrument in the MU50's class. The variation effect is particularly useful for additional treatment of a solo instrument whilst not affecting the rest of the mix.

You can switch the MU50 between various modes to maintain compatibility with several other instruments, ranging from the Yamaha TG300 to the Clavinova. The most useful of these is the performance mode, which allows you to stack up to four sounds on a single MIDI channel, modify the filter, envelope and effects settings, and create a wide range of split, layered and velocity-switched patches. Here was where I missed the filter envelope the most, since it would have greatly increased the available sonic palette. 32 preset and 128 user programmable performances can be stored, using any of the sound banks as a starting point.

CONCLUSION

If you're hell-bent on owning a GM synth but still haven't managed to find one, the Yamaha MU50 offers better effects than most, a useful performance mode, and an audio input, all at a pretty attractive.

direct

XG 'SCALABILITY': CONFUSED? YOU WILL BE...

According to the manual, the MU50's external input is a part of XG that allows external signals to be added for real-time participation. The manual goes on to give an example of an XG module which would 'allow you to create karaoke data that can automatically set the microphone echo used for playback'. Hold on a minute, though — the MU50 can't actually process external audio via its effects, so what gives? This could be where Yamahu's concept of 'scalability' comes in. Apparently, XG synths may differ in specification, for example with more voices filling up the holes in various banks, or totally new effects. Future expansion may result in

considerable variations in machines bearing the XG label — so you may need to judge each individual XG instrument rather than merely relying on the XG stamp.

Of course, this means you can't actually describe the boundaries for the XG spec. Yamaha neatly circumvent the problem in the XG literature by using phrases like 'it significantly expands the number of voices supported', 'all XG machines are not required to support the full range of functions' and 'each XG machine will replay XG data in accordance with the machine's level of sophistication'. Er, right...

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price. Although not revolutionary, it does deliver enough in addition to the basic General MIDI spec to make it an attractive proposition in many situations.

FURTHER INFORMATION

- E MU50 £429; CBX-K1 £129; RK101 1U rackmount kit £27. Prices include VAT.
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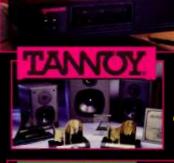
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PAUL WHITE turns
green with envy...

Voice Channel reviewed here. Whereas the dual-channel Joe Meek Compressor is priced to appeal mainly to professionals, the Voice Channel is aimed more at the discerning project studio owner, and combines a very low-noise, transformer-coupled mic amp (sporting switchable phantom power and lots of headroom) with a single-channel Joe Meek Compressor and a harmonic enhancer not dissimilar in principle to an Aphex Exciter. The Voice Channel also boasts a line input, enabling the compressor and enhancer to be used on signals that have already been recorded. Unlike the strictly pro Joe Meek Stereo Compressor, the Voice Channel has unbalanced jack outputs optimised for -10dBV operation.

GREEN AS (GR)ASS...

After you've taken on board that the Voice Channel is greener than Kermit's bottom, the second thing you tend to notice is that it isn't rackmounting.



FLETCHER ELECTROACOUSTICS JOE MEEK VOICE CHANNEL MIC AMP/COMPRESSOR/ENHANCER

erhaps best remembered for his contribution to the Tornadoes' hit 'Telstar' back in the 1960s, the late Joe Meek was a powerful creative force in British record production, often turning his back on convention to create new sounds and styles. Less well-known is the fact that Joe also built much of his own equipment, and the idea for a new range of processors bearing his name started out when Ted Fletcher, who worked with Joe in the '60s, recreated Joe's original compressor for his own use.

Ted decided that the original compressor design was far too unpredictable in operation to be acceptable in the '90s marketplace, but remained convinced that the photocell-based gain element of the original compressor gave it a unique and attractive characteristic — so he set about updating the design with the benefit of modern, low-noise components. He also devised a feedback circuit around the photocell and lamp to speed up the attack time, and modified the controls to make the unit behave more predictably.

At recent trade shows, the Joe Meek Compressor has attracted a lot of attention, not least because of its striking green casework, but at the recent APRS show, I noticed that it had been joined by the smaller

The surprisingly heavy unit is powered via an IEC mains cable, and all the connectors are on the rear, along with a subsonic filter switch which obviously arrived too late to find a parking space on the front panel. A balanced XLR provides the mic input, while unbalanced jacks are used for the line input, the mix input (which enables two or more Voice Channels to be mixed together), and two identical but separate line outputs. A TRS jack is used to provide an insert point after the mic amp stage.

The control system is pretty simple, and can be divided into three sections: the mic amp, the compressor and the enhancer. Bright red switches are provided for Mic/Line input selection and to activate the phantom power, while a large black knob sets the mic amp gain. A red LED shows when the phantom power is active.

COMPRESS TO PLAY

In the compressor section, a switch selects between compression types 1 and 2. Type 2 compression is less assertive than Type 1, which can be attractively fierce, though both settings work on the progressive soft knee principle, where the actual compression ratio increases as the signal approaches the threshold level. In this circuit, the

JOE MEEK VOICE CHANNEL £588

PROS

- Easy to set up.
- · Great vintage sound.
- Good quality mic amp and enhancer circuitry.

CONS

- No bypass controls.
- · No make-up gain control.

SUMMARY

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JOE MEEK VOICE CHANNEL

QUICK QUIBBLES

I have to say that I would have preferred bypass

switches on the Voice Channel's compressor and

enhancer sections, as this would have avoided the

need to turn the respective 'amount' controls up and down in order to evaluate the effect being created. I

would also have felt more comfortable with an output

gain control for those occasions when I wanted to

plug the Voice Channel directly into a tape machine.

Apparently the adopted system is optimised for ADAT

levels — but, of course, not everybody uses ADATs...

▶ threshold is varied by using the Compression control to increase or decrease the gain of the side-chain signal path, and the amount of gain reduction achieved may be shown on a moving coil meter. Separate controls allow the attack and release times of the compressor to be independently adjusted, while an orange LED flickers to show the depth of compression. Because the compressor works on a photocell arrangement, it is possible to create quite dramatic pumping effects, especially using the Type 1 setting. It's the creative use of these pumping effects that gives the compressor much of its attractive character.

GETTING EXCITING...

The enhancer section works fairly conventionally, by taking upper mid and high frequency signals,

distorting and compressing them, then adding them back to the original signal in very small amounts. Perversely, adding this kind of distortion increases the subjective clarity of the material being processed, but like any enhancer, you have to use it subtly or it can sound harsh and scratchy. A Drive control optimises the signal level feeding the harmonics generator, and a dual-colour LED changes colour to show that the drive level is correct. The degree of enhancement is regulated by the Enhance knob, and a further Resonance control causes the high-pass filter to

'ring', in effect stretching out the enhanced transients. Finally, a button below the meter switches it from gain reduction to VU operation.

IN USE

Initial tests with a selection of capacitor microphones confirmed the manufacturer's assertion that the noise performance limit of the preamp is determined almost entirely by the self-noise of the microphone being used; obviously, the Voice Channel's transformer coupling, combined with its split gain topography, helps to keep the noise down, and is doubtless also a contributing factor to the circuit's generous headroom. At no time did I manage to overload the mic amp in normal use — though I'm sure you could do so quite easily by turning the gain up full and then putting the mic inside a bass drum or in front of a guitar stack — and the 48V phantom power seemed to agree with even my fussiest mics.

The compressor section is nothing if not assertive, especially when the Type 1 setting is used in combination with a lot of gain reduction — so if you're after a simple way to get that heavily-compressed Phil Collins or Kate Bush vocal sound, this would be a good box to try out. At less vicious settings, the compressor adds evenness and confidence to a vocal track without taking away the detail or making the level pump objectionably. Type 2 compression produces a noticeably warmer, smoother sound in comparison

with the almost aggressive character of Type 1.

In addition to live vocal sounds, I also checked out the compressor on various test CDs, including the excellent Lexicon in-store demo CD (which includes some dry Thomas Dolby vocal tracks), as well as a selection of female vocals. The Alan Parsons Soundcheck CD was also invaluable in conducting these tests. In each case, I was easily able to set up a compression type to tighten up the vocals and achieve what is known in some enlightened circles as 'a nicely produced' sound. So, no complaints about the compressor.

The enhancer is equally easy to set up, and, used sparingly, it adds the familiar magic sizzle and clarity to just about any type of sound. The effect of increasing the resonance setting is interesting; it helps create the illusion of adding even more air to the top end, but you do have to keep the enhancement level fairly low, as the sound soon becomes sibilant, and then, at more extreme settings, extremely nasty. To be fair, the handbook warns of this, and it's true that any enhancer used in excess can completely ruin a sound. The manual also wisely suggests that you record *without* the enhancer, and add it at the mixing stage, on the basis that enhancement is easy to add, but quite impossible to remove.

SUMMARY

The Joe Meek Voice Processor is definitely one of those products that you buy for its character rather than simply to do a basic task, and the compressor section works brilliantly on both vocal and instrumental sounds where you want to add power and weight. At more modest compressor settings, the device handles routine compression quite happily, without stripping all the life out of a sound. Here, the choice of two compression settings offers the option of warm and rich or tight and punchy. The mic amp behaves much as you'd expect a good one to behave, and would appear to have a noise level below that of the mics being plugged into it. That just leaves the enhancer section, which sounds great if used sparingly.

My only criticisms are of the lack of bypass switching on the compressor and enhancer sections, and the lack of an output level control. It's also likely that a box that sounds this nice will be popular with the professional market, who may then be frustrated by the lack of a balanced output. Those aspects aside, the Joe Meek Voice Processor is a very worthwhile audio tool, and even though it costs a little more than the average single-channel compressor, I think that a lot of people will consider it to be a very worthwhile investment.

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confidence. **GENERAL POINTS** Capacitor mics capture the sounds of acoustic instruments most accurately, working much more effectively at the high end of the audio spectrum. Excellent results can also be obtained using backelectret mics or PZMs (boundary mics). Dynamic mics can be used to make acceptable recordings, but their lack of sensitivity may cause noise problems with weaker-sounding instruments. All the techniques described here are based on cardioid pattern mics, but whichever microphones you use, give the following techniques a try — you'll still learn a great deal, and in most cases, the results will be quite good enough for demo work.

With MIDI playing an even greater part in music production, there's a danger that the art of using microphones will be lost. PAUL WHITE describes the valuable techniques of miking acoustic instruments — something he recommends every studio user should learn.

The Art Of Miking Acoustic Instruments

couple of decades ago, even the most junior studio engineer would know which mics to use for any given job, and how to arrange them in the best possible recording positions, but now that so much music is sequenced or sampled, some of the newer engineers get very nervous when confronted by a 'real' sound source. Perhaps this is understandable — after all, a drum kit bristling with mics is a pretty awesome sight — but there are still basic rules which, if followed, will enable you tackle most miking jobs with miked it successfully from above, over the player's shoulder, working on the theory that if it sounds good to the player, it should also sound good to the mic!

BASS GUITAR

Most people now record the bass guitar using a DI box or recording preamp, but I've yet to come across one that produces the authority and punch of the real thing. Before you tell me that the bass guitar isn't an acoustic instrument, which is undeniably true, the guitar's amplifier can be

To achieve the best results, not only should the instrument you are miking be properly maintained and tuned, it should also be played in a sympathetic acoustic environment. If the instrument sounds good, then there is no reason why a good mic placed correctly in the same room shouldn't capture the sound quality for you. If the acoustics turn out to be unsuitable, use a long lead and try another room!

How far away should the microphone be placed from the instrument? There are standard distances and positions for most instruments, but it must be stressed that these are just starting points — the longer you are prepared to experiment, the more successful your recording is likely to be. For example, the acoustic guitar is normally recorded from the front, but I've also



considered in exactly the same way as any other acoustic instrument — the fact that the energy behind the sound comes from burning coal or splitting atoms rather than from chip butties isn't really important!

The best miked bass sounds are usually achieved by putting a good dynamic mic 200 or 300mm from the speaker grille and playing normally. If the cabinet has more than one speaker, listen to them all and if one is better than the others, put the mic close to that speaker. The choice of mic can have a big effect on the sound, and if you want a really deep bass sound, try using a bass drum mic rather than a vocal one. A tip when recording either bass or electric guitar

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The Art Of Miking Acoustic Instruments

is to put the amp and mic in a separate room, so that you can hear the resulting recorded sound over the studio monitors.

ELECTRIC GUITAR

At one time, no serious engineer would record the electric guitar any other way than with a mic, but now guitar preamps seem to be just as popular. Even so, there is a real difference in the resulting timbre, and miking the amp usually produces the best rock sounds.

When you mike an amp, you'll notice the sound changes as you move the microphone around the speakers. For rock sounds, put a dynamic mic right up against the grille, or for a more mellow sound, move it away from the centre of the speakers. Try to record without additional EQ so that your options are still open when you come to mix, and, as with recording the bass, try to monitor the to-tape sound in the control

room, because you'll invariably find that the miked sound is a lot brighter than the perceived sound of the amp. I'd recommend you adjust the tone controls on the amp prior to recording so that the monitored sound is correct, rather than simply accepting what you get and then trying to EO it afterwards.

ACOUSTIC GUITARS AND OTHER STRINGED INSTRUMENTS

Acoustic guitars, especially steel-string models, cover a very wide frequency range, so you need to use a fairly sensitive mic, with a good high-frequency response, if you're to do them justice. You can produce usable results from a good dynamic mic, but a capacitor or back-electret model is far preferable. I always used to mike my acoustic guitars in stereo, but the image seemed to lack solidarity. I've now come to the conclusion that if you're going to add stereo reverb anyway, then you might as well record the guitar with a single mic and relay on the reverb to give it space.

Position the mic around 400mm from the guitar, and aim it either at the point where the neck joins the body, or at the bridge. Some people aim the mic



BEAT IT - MIKING UP DRUMS

GETTING YOUR SOUND

"Most commercial

pop recordings

are made

the drums

by miking all

separately..."

A good drum sound starts with a decent-sounding kit and a competent drummer. This means having a drummer who knows how get a happening sound, and a kit fitted with good quality heads that have been properly tuned. If the room is too acoustically dead, you might get better results by putting hardboard sheets beneath the kit and around the walls.

If a drum rings too much, or if the toms resonate every time you hit the bass drum, the sound can be dampened by using pads of folded Jaycloth taped to the edges of the heads using Gaffer tape. Be careful not to completely kill the sound — what might seem like a lot of ring in isolation may be completely hidden in a full mix.

A 'LIVE' SOUND

It is possible to get a good drum sound by setting up a pair of mics a few feet in front of the kit, and because this produces a very live sound, it has become a very fashionable alternative to the close-miked drum sound of the '80s, and the clinical precision of drum machines. Position the two mics (known in the trade as overheads) between one and two metres from the kit (either in front or above) depending on the acoustic of the room, and space the mics about one to one and a half metres apart. As a rule, the more reflective the room, the more exciting the sound will be. Capacitor or back-electret mics are good for this simple approach, and you can also get a good sound from the budget Tandy PZMs by taping them to the wall behind the kit or by placing them on the floor in front of it. If the kick drum and snare drum seem to be getting lost, use additional close dynamic mics and bring their level up underneath the stereo mics until you hear a good balance.

BASS DRUM

Mic the bass drum through a hole cut in the front head, and place a folded blanket or feather pillow inside the

shell to provide some damping. The mic should be about 200mm from the beater, suspended inside the drum shell on a boom stand that isn't physically touching any part of the shell. You can also try laying the bass drum mic directly on top of the damping material inside the drum. Pan the kick and snare drums to the centre when mixing.

THE SNARE

For the snare, use a dynamic mic around 50mm from the edge of the drum, and about 50mm above the head. Try to arrange it so the mic is pointing away from the hi-hat, otherwise you might find the hi-hat

overpowers everything. Some engineers like to add a second mic to the snare, pointing at the snare head from underneath. I've never had great results doing this, but if you want to give it a try, I suggest you switch the bottom mic out of phase with the top, otherwise the two mics will be trying to cancel each other out.

CLOSE MIKING

Most commercial pop recordings are made by miking all the drums separately, in which case the toms may be miked in exactly the same way as the snare drum, using a single dynamic mic close above the head. If the hi-hat needs more prominence, a capacitor or backelectret mic can be set up around 200mm above (or below), and a little to one side. Take care not to angle directly at the hi-hat's edge, otherwise you risk picking up the wind noise as the cymbals close. Whichever way you set up the mics, try to make sure they're where the drummer isn't likely to hit them!

DRUM MIC MIXING

If you're short of tape tracks, at least try to keep the overhead mics on separate tracks. The way these are mixed in with the close mics has a profound effect on the final drum sound. For example, to get a tight, close-miked drum sound, you first get the drums balanced using the close mics, then bring in just a little of the overheads to add air and definition to the cymbals. For a more live sound, on the other hand, you usually start off with the stereo overheads and then use just a little of the close-miked sounds to fine-tune the balance between the various drums.

A WORD ON EQ

Close-miked drums may need some EQ to get the sound just right, and if you have to mix some of the drums as you record, you may have to EQ during recording. If you have the luxury of keeping the drum sounds separate, however, try to save the EQ until your final mix.

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at the soundhole, because that's where most of the noise comes from, but in practice, this usually results in a boomy or boxy recording that needs a lot of EQ to salvage it. The only exception is if you're working with a small-scale guitar or one with a

very thin sound, in which case working closer to the soundhole may help to fatten up the sound. If you want to try recording in stereo, try a second mic pointing at the centre of the neck from 300 or 400mm away. It is usually vital that the two mics are identical when recording stereo, but as the method described isn't a very accurate one, the fact that the mics may be of different types is not so important.

A live acoustic environment is essential for a good acoustic guitar sound, so if your studio is too dead, place a piece of hardboard on the

floor or against the wall to reflect some of the sound, as suggested in the box on recording drums.

KEYBOARDS

Keyboards, drum machines and samplers may be recorded by plugging them directly into the line inputs of your mixer, but miking an amp can sometimes produce a warmer sound that can be useful to take the edge off these digital instruments. In general, keyboard amps are miked a little further back than guitar amps, so that the sound from the tweeter is also captured. If it's raunchy rock sounds you're after, you can use a guitar amp to add overdrive to the sound, and then mic the amp up in exactly the same way as for the guitar.

Miking up a keyboard is now the exception rather than the rule, though if you're using a Leslie cabinet, you'll need to use mics to capture the sound. There are many documented ways of miking Leslie cabinets, but the trick seems to be to work in stereo with one mic either side of the cabinet, facing the speaker grilles. It is important not to set the mics too close, otherwise wind noise may be picked up from the rotors, and the benefit of the room reflections will be lost. An

initial distance of 300 to 400mm should get you in the right area.

WIND INSTRUMENTS

Most wind instruments can be recorded successfully if the microphone is positioned around half a metre in front, and angled down from above, so that it isn't pointing directly down the bell or mouth of the instrument.

If you're not sure as to the best position for the mic, refer to my universal mic rule and start from there (see 'General Mic Theory' box). I've used this simple rule to make successful recordings of many different instruments, including accordions (best use a mic on each side of these), Irish pipes and even (you guessed it) a digeridoo.

Powerful instruments, such as the saxophone, respond well to both capacitor and dynamic mics, while flutes seem to sound more open and natural when recorded with a capacitor or backelectret mic. In a pop context, you may find the more punchy, less toppy sound produced by a dynamic mic cuts through the mix better than the more accurate sound of a capacitor mic, so once again, it's a matter of picking what works best on a subjective level.

AND FINALLY...

No amount of written material will turn you into a recording expert overnight, but at the same time, following a few sensible quidelines can produce

very reasonable results. If you play a musical instrument, you probably practise on a regular basis, and the same should be true of your recording techniques.

Don't wait until you have a record to make to try out mic techniques — set aside an hour or two and experiment for a while. Try to assess the effect of changing the mic type and distance, for example, and monitor the results via enclosed headphones as you physically move the mic. With just a little persistence, you can maintain the more traditional recording skills, as well as

making the most of what modern synth and sampler technology has to offer.

GENERAL MIC THEORY

While physicists have struggled to come to terms with a general theory of relativity, I've tried to come up with a general theory of miking, and though it doesn't take into account the gravitational effects of black holes or the high-xfrequency transmission characteristics of a methane atmosphere [I used to know a drummer like that — Assistant Ed], it does seem to work in most real-life situations.

A real instrument is not a point source of sound — what we hear is a blend of an infinite number of sounds emanating from all parts of the instrument. This means that if the mic is too close to the instrument, you only

capture part of the sound, but on the other hand, if you put the mic too far away, not only will you be struggling for level, you'll also pick up more reflected room sound than you do direct sound. In some rooms, this can sound good, but in most cases, you end up with a boxy, distant sound that is lacking in detail and presence.

A good compromise is to space the mic away from the instrument by a distance similar to the longest dimension of the instrument. In the case of a guitar, you can say that the sound-producing part of the instrument is just the body (not strictly true) and put the mic around 400mm from the body, or you could accept that some

sound comes directly from the strings and neck and put the mic at up to 800mm from the guitar. If you're working on a drum kit or other collection of percussion instruments and you want to record them with a single mic or stereo pair, then again treat the whole thing as one instrument and space the mic accordingly. In the case of a typical drum kit, the mics would be placed 1500mm or so in front of the kit. Though this rule isn't perfect, it will usually get you into the right ball park very quickly, and it's come in very handy when I've been asked to record unusual instruments for which no textbook method exists.

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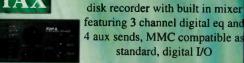
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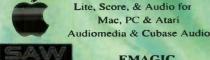












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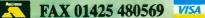
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Two's 3-way, full-range design. Measuring a chunky 355 x 355 x 510mm, the cabinets, which are built as a mirrored pair, are once again fabricated from what appears to be MDF covered in a thin, slightly rubbery grey veneer. The cabinet corners are protected by simple corner mouldings, and as with the Monitor Ones, the drivers are recessed, so as to be flush with the front baffle. The bass and mid drivers have radiused rubber surrounds which cover the speaker rim, and provide a smooth acoustic transition between the cone and the cabinet. Connection to the cabinets is via conventional screw terminals, which also accept standard banana plugs.

SPEAKER DESIGN

Life must be very difficult for loudspeaker designers, because they're all faced with the same set of design parameters, and all designs involve some sort of compromise. In one direction, you can go all out for acoustic efficiency, but high-efficiency designs can suffer resonance problems, making them sound more coloured than their less efficient counterparts. At the other end of the

ALESIS MONITOR TWO LOUDSPEAKERS

PAUL WHITE subjects his studio to yet more upheaval as the monitors are changed yet again, all in the cause of research.

hen it was first announced that Alesis were producing the Monitor One nearfield monitor, there was no shortage of people asking what an earth they were up to after all, why should a company with a history built on effects units and digital recorders suddenly start messing about with loudspeakers? Loudspeaker design seems to demand both engineering expertise and more than a modicum of inspired intuition, but what the doubters didn't know was that Alesis had taken on the services of a loudspeaker design team with a view to setting up a live sound division. The Monitor One was really a toe-in-the-water test of their design and manufacturing capability, and the end product was an affordable, great-sounding nearfield monitor.

A couple of trade shows back, I sneaked a preview of the Monitor Twos, a pair of full-range monitors which were then still under development. Finally, the production Monitor Twos have landed in the UK, only to fall straight into the my expectant clutches for review.

OUTWARD APPEARANCE

The Monitor One is a two-way nearfield design, and it appears that the same design principles and concepts have been extended to the Monitor

scale, you have the ATC approach, where immensely expensive engineering combined with highly damped materials produces an extremely accurate, uncoloured sound, but apart from the high cost of the speakers, you also need plenty of amplifier power to drive them.

Most studio monitors take the middle ground, offering reasonable efficiency combined with a sound that's as accurate as possible, especially in the mid-range, where most of the critical audio detail resides.

IN SERIOUS TREBLE

At the treble end, Alesis have chosen to go with a soft-dome tweeter, and from my experience, it's always been the monitors with soft-dome tweeters that have the sweetest sound. In the case of the Monitor Twos, the tweeter uses a 1-inch diameter, treated silk dome diaphragm driven by a ferrofluid-cooled magnetic system, and, as far as I can see, it's the same tweeter as used in the Monitor Ones. A passive 2nd and 3rd order crossover with a nominal 4Ω input impedance brings the tweeter into play at 6kHz. This is rather higher than in the Monitor One design, because of the inclusion of a mid-range driver. This means that the Monitor Two tweeter handles a narrower part of the audio spectrum than the Monitor One tweeter. One result of this is that the overall system power handling can be increased significantly without overtaxing the Monitor Two tweeter.

ROUND THE MIDDLE

Handling the mid-range is a 5-inch cone driver based around a mineral-filled polypropylene cone in a soft rubber roll surround. This driver appears to be very highly damped, which would help account for the crisp mid-range and pinpoint accurate stereo imaging — on recordings made with RSS or Q Sound 3D processing, you really can pick out those 'off-stage' sounds as well as those hanging between the speakers. Because the mid-range driver only handles frequencies between 1.5kHz and 6kHz, it has a relatively stress-free life, and avoids the high cone excursions that the bass/mid drivers in two-way systems are subjected to.

AT THE DEEP END

At the bass end is a substantial 10-inch driver using the same mineral-filled polypropylene cone construction as the mid driver, and powered by a three-inch voice coil. This is loaded by a ported cabinet, and as with the Monitor One, the port is rear-facing. Another feature carried over from the Monitor One is the Superport technology, which blend seamlessly, and another advantage of the three-way design is that the upper crossover

frequency is kept well away from the vital speech area of the frequency spectrum. The outcome is a highly detailed sound, and the tonality is also very smooth, which means that you can listen for long periods without having to reach for the aspirin.

SUMMARY

No loudspeaker system ever built has been perfect, regardless of price, and in a direct shoot-out, the Monitor Twos do fall short of the standards set by the likes of ATC and Genelec — they exhibit a slight clouding of fine detail in the midrange combined with a hint of plumminess in the bass — but then it's a testament to the quality of the

Monitor Twos that they even stand comparison with such top-end products. Putting their

ALESIS MONITOR TWOS

PROS

- Well balanced sound.
- Good bass extension.
- · Excellent stereo imaging.

CONS

 The sharp cabinet corners skinned my shin as I was getting them out of the box!

SUMMARY

If there was a 'best in their class' award for monitors, these would definitely make it to the finals.

Reshuffle

involves using a large-diameter, folded pipe to avoid port turbulence and to maintain consistent port loading at high sound levels. With narrow, short ports, turbulence can change the effective port size at high sound levels, so that the loading on the speaker changes. The result of all this advanced design is that the Monitor Twos can reproduce frequencies from 40Hz to 18kHz, yet they're efficient enough at 90dB/Watt@1m to sound good with amplifers rated from around 75 Watts per channel up to the rated maximum of 200 Watts (peak). I have heard these monitors running with an Alesis Matica amplifier, and they sound really tight. For my own tests at home. I used my venerable Yamaha 2075, and although the results were still excellent, there was a trace of ragginess that using a better and more powerful amplifier would have overcome. There is a moral here - don't simply assume that one power amplifier is much like another! It pays to spend a bit extra on something that's going to do the job properly.

THE SOUND

One of the benefits of a three-way design is that each driver can concentrate on getting its own part of the audio spectrum right, and in the case of the Monitor Twos, that results in a deep, well-controlled bass end that hasn't been tuned to hell just to make it sound impressive. Instead, you get a bass you can really feel, but it doesn't overpower or get in the way of mid-range detail.

The mid-range and high-frequency drivers

performance into perspective with their price and physical size, I have to reach the same conclusion as I did with the Monitor Ones, which is that Alesis have once again come up with what is probably the best monitor loudspeaker in its price bracket. Until now, it's been quite difficult to recommend anything serious for under £800 or so, and for those prepared to do the work, I still think the Home Studio Monitor kit from Wilmslow Audio (reviewed in SOS July 1993) takes a lot of beating, but when it comes to ready-built speakers, I can't really point to anything that wins out over the Monitor Twos for the price. The overall tonal balance of the Twos is good, and the bass extension is better than you'd expect from speakers which are still relatively small as full-range models go. The tonality also manages to get the detail across without sounding peaky or strident.

The final word is that if the Alesis Monitor Twos happen to fit your budget, and you want a full-range monitor system as opposed to a good pair of nearfields, don't buy anything else until you have compared them with these.

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the Sound of The Young Gods

SWISS TECHNOLOGY

here aren't that many bands who originate from Switzerland, but those that do, like Yello (and does anyone remember Kleenex?), have a character all their own. An eccentric leaning that more often than not verges towards the experimental and 'odd-ball' avant garde variety. Although now more European than Swiss, The Young Gods are still part of that legacy, with their distinctive hard-edged sound uniting a variety of musical elements.

The band first hit the international scene in 1986 with their individual version of Gary Glitter's 'Did You Miss Me?'. It highlighted their interest in using sampling as a tool to further creativity. Their self-penned debut album of 1987 featured a disorientating blend of samples taken from classical and pop sources; a new sonic configuration which has persisted and become a trademark TYG sound.

Further albums followed: L'Eau Rouge in 1989, and a compilation of Kurt Weill compositions recorded at a Swiss arts festival in Geneva. 1992's TV Sky represented a new departure — an album full of the dynamics of classical music but utilising the power and urgency of thrash metal. Vocalist and founder member Franz Treichler also broke with tradition on this album, by singing in English rather than his native French. This he justified as both a desire to have more direct contact with audiences, as well as a result of him beginning to think through his ideas in English. It was also a stab at the American market, where The Young Gods were still regarded as an 'exotic' rock band.

For the latest album, *Only Heaven*, The Young Gods have assimilated and re-presented all their eclectic influences. Similarly, the vocals are multilingual. The album was conceived and created entirely in the USA, where the band, along with long-time producer/collaborator Roli Mosimann, lived and worked in a rented New York loft kitted out with the latest in digital hardware/software for sample manipulation. I spoke via telephone to both Roli Mosimann in New York and Franz Treichler in Belgium.

WORKING METHODS

This is the first time that The Young Gods have recorded and worked solely in the United States,

despite Mosimann living in New York. Live recording of drums and some guitars was carried out at Eastside Studios, New York, whilst the majority of time was spent at the loft — programming, sampling, editing, and arranging the material. As Treichler explained, he was involved more with the creative rather than technical approach to the project.

Treichler: "I worked more with smaller equipment, in parallel, while Roli (Mosimann) was trying to figure out how to run the big Pro Tools system. I was working with an Atari and Cubase, two Akai samplers, and a small mixing desk — and that's the way I normally work.

"We worked both there (the loft) and in a regular studio, where we recorded drums and guitars. Then we went back and edited everything together on the Pro Tools Macintosh system. So we took our own samples as the basis for the new songs. We chose sections from the ADAT takes, sampled and looped them, then used *Cubase* to trigger all the loops and samples."

With the drums (played by Uze Hiesteand), for instance, did you take individual sounds and sample them or was it a case of looping sections of the drum patterns you had recorded?

Treichler: "Yeah, we took sections and looped them. On certain songs we re-programmed parts on top of it, sometimes, but the basis was always the live loops."

Although a classically trained guitarist, Treichler's preference is to make Young Gods guitar parts sound as unlike a guitar as possible. How did he go about achieving the range of textures?

"Each song has a different history, but I like to detune strings. If you take, for instance, the end of the long song 'Moon Revolutions', there is a huge tom-tom section where you get this huge guitar glissando. What I did was to detune the strings and 'layer' the guitar on at least six tracks of the ADAT. I use very large gauge strings with a .58 for the 'E' string.

"I work with delay effects a lot and use the Lexicon Jam Man. I like the sound of it and the fact that you can tap in your delay tempo; I like to play with delays on dotted quarter notes, which gives a more complicated rhythmical pattern. There's quite a few songs where I use this effect — like on the French song, 'Lointaine'. All those bubbling, watery sounds are guitars treated with delays and wah-wah."

The distinctive hard-edged sound of The Young Gods owes much to current sampling technology.

NIGEL HUMBERSTONE investigates.

"I like to utilise mistakes, because very often they can give happy results. Whenever there is an external element over which you have no control, it is always very RECORDING GUITARS

the young gods

'DREAMHOUSE'

The mention of water prompts me to enquire about the sounds I heard at the beginning of another track, 'Dreamhouse'.

Treichler: "Those are water drops — all of them. I was renting a little flat in New York and the guy had an aquarium, so I just recorded it one day whilst I was feeding the fishes. I then worked on the sound in the sampler — copying it, editing start points, detuning, and generally creating weird stereo effects. There's a lot of strange effects on the album — like breathing or distortions that I created by messing around with the radio.

"At one time the whole Digidesign system was suddenly playing up, so I recorded it on DAT and had all these crazy digital noises. I like to utilise mistakes, because very often they can give happy results. Whenever there is an external element over which you have no control, it is always very exciting."

Getting back to the equipment you use; advances in new technology — and especially the Pro Tools direct to hard disk system that you've been using — are important to The Young Gods sound, but the final result is not cold or severe. How do you manage this?

Treichler: "We like to balance the digital sounds with old Pultechs and valve equalisers, to bring more of an edge and warmth to the sound. We also always print to 48-track analogue tape when mixing

and don't mix direct from the samplers or from SampleCell. Even after mixing to DAT we will master onto analogue half-inch tape, in order to balance the whole digital thing. It's important to find a balance, but I think that technology opens doors and makes you able to get closer to the kind of vision you have in your head."

So if this technology wasn't available, how would you envisage your music today?

Treichler: "I think it would be based more on jamming but still trying to be experimental, like old German bands. And if we had bigger budgets, then maybe we would sometimes rent some string players and still do this sort of sound collage — but basically, I think The Young Gods sound is a result of the technology that we use, for sure.

"We try to keep an organic approach, although we use kind of non-organic equipment. Creativity is a never-ending story — it depends on what people have inside themselves more then anything else. Some people can do great things on an acoustic guitar, whilst others can do it

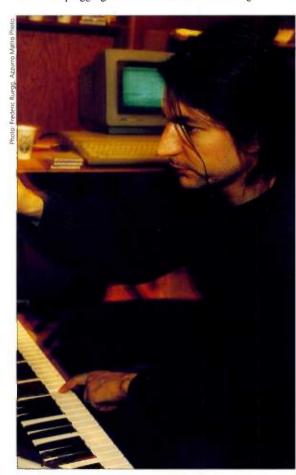
great on a BassStation. Music is just a language and technology helps."

APPLYING TECHNOLOGY

Roli Mosimann has been a long-time collaborator with The Young Gods. A former member of The

Swans, he has since undertaken production work with the likes of The The, New Order, and That Petrol Emotion. Having worked before with The Young Gods on a number of occasions, I wondered if this time around there were any different briefs or technical requests, especially considering the new digital equipment that they were using?

Mosimann: "The project began around April 1994, when Franz was just starting to write songs and I was plugging in the Macintosh and watching



Franz Treichler in Eastside Studios, New York.

it crash," announces Roli with some amusement. "I decided then that I had to learn all about how the Mac's extensions work, little things here, little things there, so that I would understand when someone said 'Oh, you need to have this digital audio version 2.2 to run that, not 2.1'.

"I wanted to have a system where I could load up the different software and then transfer between them. If I had a track on Pro Tools and I wanted to do something in *Hyperprism*, say, I just wanted to go 'tap' and be there, do it, and come back.

"I would say that we really had the system tested and made all the mistakes that slow you down by the end of August. We got really into it after that — I had prepared drums and sound libraries for about 20 songs. Some of those didn't get used, because they weren't working lyrically with Franz.

"We had worked before with numerous \$900 and \$1000 samplers and an Atari computer

Franz Treichler recorded most of his guitar parts straight to stereo DAT, via a Sansamp guitar preamp, or onto ADAT.

Mosimann: "Franz recorded to DAT and then sampled the guitar into the Akais or ADAT. I then constructed these huge banks of possible guitar sounds in SampleCell, but the big amp stuff we mainly recorded onto ADAT. Sometimes we would thicken up the guitar parts by playing them eight times at slightly different speeds, and then I mixed them and took a stereo sample of that.

"Franz used a lot of the filter modulation section on the \$3200 to treat his guitar sounds. He'd also recorded a lot of things on DAT which he sampled, made into a loop, listened to on a ghettoblaster and played along to with guitar.

"I actually used the Sansamp quite a bit during the mix, especially on drums to add some distortion. I just ran it from a buss in the mixing desk to add some 'oomph'.

What I like on guitars is this BBE 462 thing [Sonic Maximiser], which works well — it's difficult to explain, but it delays the high frequencies so that they arrive at your ears together with the bottom end, making the sound more compact."



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the young gods

running Cubase. But for the new album we used Digidesign hardware and a lot of different software in order to manipulate the sounds."

How did you go about evaluating and choosing the various software programs?

Mosimann: "I chose Cubase Audio because I already knew the program and didn't want to learn

first time that we've used hard disk recording."

Did the choice of recording system affect the way you worked?

"Well, in the beginning it slowed us down a bit, because there are so many different possibilities; you have to chart out the way to do certain things and approach it from many different angles. Once

we got a few problems out of the way, it all went pretty fast and we recorded all the vocals straight to hard disk. I had to learn the whole Mac system, which took a while to get into because we had all these software extensions, and it would crash a lot in the beginning. But now the system is sorted out and it's running very smoothly."

I believe you were also running an Alesis ADAT with the Pro Tools system?

Mosimann: "Yes, we used an ADAT for the live drums, although they were first recorded onto analogue because I like the sound, and then we transferred them onto ADAT. We recorded a lot of drums — maybe a dozen 40 minute tapes — then I imported it all into the Pro Tools system and, using track separation,

took bits out. That way I could have separate drums or mixed stereo loops, which I then loaded into the Akai samplers."

ANALOGUE LOVE

I find it very interesting that, throughout the recording process, you chose to record many instruments on analogue tape but utilised the access and transfer facilities of digital formats. Even at the mixing stage I believe you mastered onto DAT and then copied it once again to half-inch analogue?

Mosimann: "That's right. We mixed onto a DAT and then ran all the mixes back into the computer, to be compiled. We transferred that digitally onto a DAT and then went to Harvey's place at Masterdisk, where he slammed it onto half-inch analogue, full blast, with the tape running at 30ips. It just seems to add some sort of compression, which is desirable for our type of music.



THE YOUNG GODS — LIVE

In the studio and when playing live, Franz Treichler is augmented by Uze Hiesteand on drums and Alan Comet on keyboards. They are a compact and interdependent trio who, surprisingly, use no sequencers.

Treichler: "Live, we use an Akai MX1000 keyboard. Alan (Comet) is the keyboard guy and everything is played live. He hits the keys and triggers loops ar samples, but we don't use any sequencers or backing tracks. So it can be pretty fragile at times. If you miss the key, you miss the beat — there's no net under the acrobat."

Two Akai \$3200 samplers are utilised for live work (one as a spare), fitted with an internal 128Mb magneto optical drive. Treichler does not play guitar live but rather chooses to have the treated sounds played back via keyboard and sampler.

Treichler: "Uze (Heisteand) is the drummer and it can all get very intense, because with only three people, everyone has to play a very important role."

another. I checked a few others out, like *Vision* and *Notator Logic*, which were both good programs, but I didn't want to go through the whole learning process having used *Cubase* before.

"We also got the 8-channel Pro Tools system and various programs to manipulate sounds — *Time Bandit* for timestretching; *Sound Designer*; and we used a very good company called Waves, who design plug-ins for the Digidesign system. They produce very good digital sound processing software, so that you can take a file and compress certain frequencies, for instance."

What experience had you had previously with digital recording?

"I had done digital recordings on big digital tape machines like the Mitsubishi, on The The project, but that was more the classic approach of recording regular instruments onto tape. This is the

THE YOUNG GODS ON SOFTWARE

TURBOSYNTH

Mosimann: "You have a page with controls, like a modular synth, and you can use LFOs, filters, and actually connect them with cables on the screen. You can make FM synths or analogue synths or take a sample and then mess with it. It's very, very good software."

Treichler: "İt's all virtual — you can take, for example, a filter and then filter the filter as many times as you want. You just take a little cable and plug it in. It's like patching a modular synth only it's all on one screen, and it can remember all the patch settings. It's pretty exciting."

RECYCLE

Mosimann: "ReCycle is from the same company that makes Cubase and basically what you can do, if you have a drum loop for example, is use a slider and find all the 'hit'

points. It then automatically slices up the loop and creates a MIDI File, where it saves the individual bass drum, snare and hi-hat samples, but still within a loop. You can then maybe send just the snares to a separate output, for different effects."

HYPERPRISM

Mosimann: "Another good software program is Hyperprism, where you can load in a sample or any digitally recorded sound. You have a big screen where you can actually draw different effects with the mouse, like flanging and crazy stereo stuff. With the latest version, which I've just got, you can now record those mouse moves on a MIDI sequencer and then apply them to different samples. So you can have like a flanger effect that moves from left to right, say, and control all these on the screen in real time."



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the young gods

"The basis of the whole project was to get everything into the computer, arrange it, and then print onto analogue tape and mix from there, so that we had a good warm sound. But since we did the vocals last and were working with the valve compressor and then straight into the computer. If we had any unwanted pops, then we could go from *Cubase* to *Sound Designer* with the vocal line and I could just take the 'p' sound and apply a gain change of -10dB, say. Sometimes when

Franz sings, he forgets to sound the 's' at the endings of some words, because English is not his mother language, so sometimes I had to paste in an 's'!

"On some songs I also used compressor software, like on 'Moon Revolutions', the long 16 minute song. Because it had so many parts I was running out of outboard stuff at the mix. During the second section, where they use tom-tom drums, I had run out of de-essers and compressors, so I used the Waves software instead."

So how do you rate these software programs against the equivalent outboard equipment?

Mosimann: "I think they are very good but you have to approach it differently. I'm used to plugging in a compressor and knowing what

will come out of it. Here, you don't know what might come out and so you have to make more decisions, because it can go really drastic. Say if you use the digital EQ from the Waves Q10 software; if you cut something off below 200Hz, then it's off — it's completely gone. So you have to be very prudent about how you are using it, but if you want to use it to create special effects, then you can really go for it."

Are there any special effects that you employed which you are proud of, or any that you would like people to notice?

Mosimann: "Well, we did so many things over the course of the year that I don't even remember what I did! I liked what we achieved, though — there are a lot of guitar sounds on the album that don't sound like guitars anymore, and the treatments don't make them sound like just effects, because I didn't want that. I remember 10 years ago when everybody was listening to records and the snare sound was great, but what's the point? The song still has to be great!

"Some sounds went round the block a few times, which is part of the nature of learning the system. The possibilities of a system like this are endless, so you have to have a plan and know how far you want to go in each situation. Like making sure you don't mix a track when you record it — I always kept backup copies so that I could always go back a step. If you work with a digital recording system, it's very important to back things up. We use a big optical drive — but with a hard disk recording system, backing up is just a discipline that you have to learn, otherwise you end up in big trouble."

The album Only Heaven (Play It Again Sam Records) was released on 12th June 1995.



Franz Treichler during the sessions for 'Only Heaven'.

arrangements till the very end, we kept everything on hard disk — so on a lot of songs, we ended up using digital things live in the mix."

CUBASE AUDIO

How did you go about recording Franz's vocals with the computer?

Mosimann: "I used *Cubase Audio* and what I did was to get a rough mix up and have Franz sing along to it a few times, until he was happy. Then I recorded the mix onto two audio tracks on *Cubase Audio* and recorded the vocals straight into the computer, whereby I could have certain sections in cycle. We recorded lots of different versions, then I edited the whole thing in Pro Tools and touched up certain bits."

What sort of manipulation did you use on Franz's voice once it was in the computer?

"For the recording we had an old Telefunken valve microphone, which passed through a Pultech



"...technology

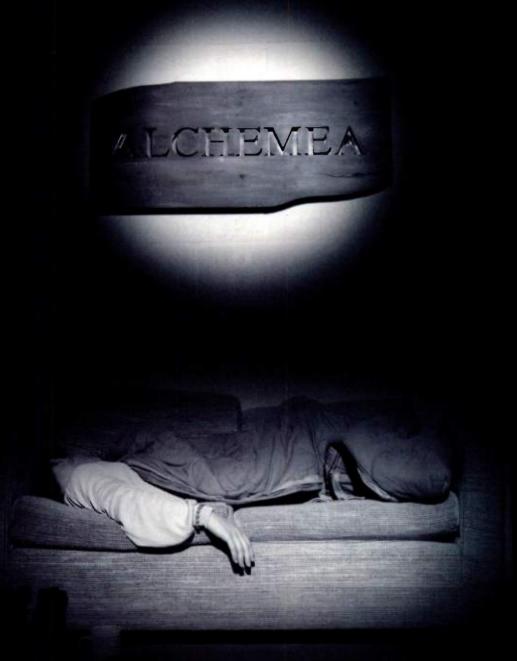
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The Young Gods' Pro Tools setup.

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Ashley Sheinwald, Alchemea student. 2 hours sleep between two recording sessions and digital editing session.

Total duration: 49 hours (not including the two hours sleep).

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1993

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00 SNAP FORMAT 00 QUANT. **WARNING!** The features described in this series are those found on the latest Atari version of Cubase Score, but most of what is mentioned is also available on the latest PC and Mac versions. However, please note that there will be superficial variations in the examples given in this series for users of the PC and Mac versions.

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efore I begin this series in earnest, I think it's worthwhile to establish some ground rules, and consider some of the problems involved in the use of a MIDI-based sequencer.

Even experienced MIDI musicians may become too preoccupied with the technical details of their MIDI system, and forget that the object of the exercise is to create some music! Many will have witnessed the scene in the recording studio when the musicians wait for hours on end while the

recorded in the Arrange window, it may be looked at in fine detail in one of the Editors. Each Editor has been styled to present the data (usually notes) in its own particular way. Key Edit shows notes displayed on a grid where the horizontal axis represents time (displayed as bars, beats and fractions of a beat) and the vertical axis represents pitch (displayed as a piano keyboard). List Edit shows notes (and any other MIDI events) displayed as a written list of data accompanied by a time-based graphic representation of events. Drum Edit,

Getting to Grips with JBJASE

PART 1: THE STRUCTURE OF *CUBASE* ● THE ARRANGE WINDOW

SIMON MILLWARD kicks off a new series designed to give beginners a solid grounding in the use of Steinberg's flagship software package.

programmer grapples with all kinds of obscure parameters in the quest for musical perfection. Rule Number 1 in this series is quite philosophical: musical perfection does not exist, and even if it did, a MIDI sequencer is not what you should use in order to search for it! As we shall see, some level of technical involvement is inevitable, but the secret is to know the limits of the software, and to be properly equipped before taking the plunge. Luckily, with Steinberg's *Cubase*, you can to some extent choose how deeply you wish to go, as the user interface can be adapted to each individual's needs.

THE UNIVERSE ACCORDING TO CUBASE

Figure 1 shows a graphic overview of the *Cubase* universe. At the heart of the matter is the Arrange window, the 'sun' of the system. This is the default page which appears when *Cubase* is first loaded, and most users travel back and forth from here to other parts of the program. The Arrange window is where recorded data can be viewed in the form of graphic blocks, and re-arranged, copied, deleted, and so on.

Moving outwards from the Arrange window 'sun' we find the Key, List, Drum and Score Editors. These are accessible via the Edit Menu or with keyboard commands. Once data has been

as the name implies, has been specifically designed to represent drum-style events on a grid where the horizontal axis represents time and the vertical axis the names of the separate instruments of a drum kit or percussion set-up. Lastly, Score Edit represents all note data as musical notation.

Travelling further out from the centre, we come to Logical Edit. Although somewhat frightening to many *Cubase* users, Logical Edit provides an extremely useful interface whereby mathematical operations can be performed on musical and other data. Used correctly, this feature can save enormous amounts of time — for some examples, see the detailed series on Logical Edit which ran in *SOS* from March to May this year.

Travelling on the same orbit, we come to the Notebook, which is, as you would imagine, a simple facility for keeping reminders. Moving round further, we find the Mastertrack, a tempo and time signature manager, and the File Selector, which is an updated interface for disk operations on the latest Atari version of *Cubase Score*.

The File Selector is actually classed as a 'Module', and this leads us on to the next group of features; the outer planetary ring of Modules. As implied by their name, these parts of the program can be 'hooked on', when required, or 'jettisoned' when not in use, freeing up precious RAM memory. Strictly speaking, Score Edit, too, is a Module, and need only be loaded by those users requiring score facilities. Other Modules include: the MIDI Mixer, a facility where custom-designed MIDI processing tools can be assembled; the IPS (Interactive Phrase Synthesizer), a kind of re-processing plant for musical sequences; the MIDI Processor, which can produce MIDI delays and echo effects; the selfexplanatory Arpeggiator Module; the Studio Module, for the editing of sounds and the detailed

management of the MIDI system in use; the Cue Tracks Module, a luxury version of *Cubase's* Mastertrack; the General MIDI Menu Module, for the selection of GM sounds by name rather than program number; and the StyleTrax Module, an autoaccompaniment program.

In the outer reaches of the planetary system, we find Satellite, a free accessory with earlier Atari versions of *Cubase* which provides bank loading, saving and sound editing functions. On the same orbit, there is the SysEx Editor, an offshoot of the List Editor, where manufacturer-specific data can be viewed and edited. The SysEx Editor is, in fact, another Module, but is only accessible from within List Edit.

Figure 1 also displays the principle routes of travel between the different parts of the system. The user may leave the Arrange window and view the music in any one of the four main Editors, in one Editor after the other, or in all at the same time, if the need arises. When involved in the recording and editing of a piece of music, the most popular routes of travel tend to be from the Arrange window to any one of the Editors, or between Editors.

Note that you don't have to record music exclusively in the Arrange window; recording can also be implemented while in any one of the Editors. The Notepad and File Selector functions are accessible from

almost anywhere (as are most of the Menu items). Other parts of the system, such as the Modules, are equally accessible once they have been made active, but may seem somewhat obscure since they are often for specialist processing or manipulation of data other than the music itself.

If you wondering why I've chosen to employ a solar system analogy, I just thought it might help musicians and programmers to understand *Cubase* more easily if they had a clear idea of how the whole system is put together. I won't be covering the entire range of features in this series, but I will provide enough detail so that anybody will be able to find their way around the system and go on to create music using the bits most suited to them.

Having looked at some of the main constituents of *Cubase*, let's take some time to understand the ways of manipulating the system on the surface rather than dive straight into the technicalities of recording some music. As already mentioned, many users have a tendency to plunge into *Cubase* too deeply, too soon, and given that even experienced users often come across features which they did not know were there, it's worth getting some basic points across at the start.

THE KEY TO SPEED

One problem is that it's easy to become totally 'mouse-bound' on *Cubase*. But there are a substantial number of keyboard

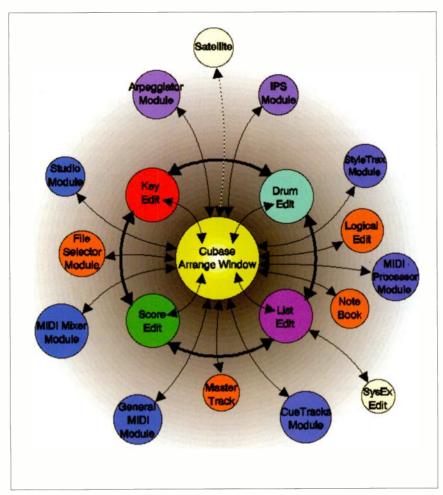
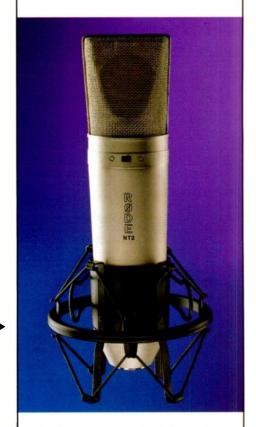


Figure 1: The Universe according to Steinberg's Cubase.

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GETTING TO GRIPS WITH CUBASE

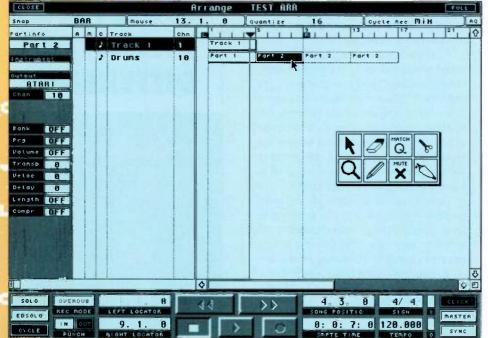


Figure 3: The Arrange Window.

commands which make using Cubase much faster and easier (see Table 2, on page 90).

'Parts' are graphic blocks which appear on the Arrange window, in the working area to the right of the Track list. As you can see from Table 2, [Control] and P creates a new Part, and this appears between the Left and Right Locators (two small boxes in the bar display marked 'L' and 'R' — see Figure 3).

As is also apparant from Table 2, the keyboard shortcuts are useful for navagating between the Arrange Window and the Editors — for example, Control and E followed by Control and L will normally open up Key Edit followed by Logical Edit. Using the Escape key will exit from each editor,

for soloing the selected track and the + and - keys of the Numeric Keypad to change the tempo.

The Numeric Keypad may be viewed as a kind of tape recorder remote control. Although all the controls are obviously available via the mouse, the Keypad provides a handy alternative, and is indispensable after having used the 'Hide Transport' option in the Windows Menu.

CONTROL MENUS AND ARRANGE WINDOW

Naturally, you can't do everything from the keyboard. The mouse is most useful for all the graphic elements of the system, such as dragging objects around the screen, using tools and fine-tuning in the Editors. But it's also, of course, essential to open up what are effectively the contents pages of the system, the Menus. These are found under various headings at the top of the computer screen.

Figure 4 shows some of the Menu contents at once. It is immediately apparent from here that *Cubase* is extremely comprehensive. Some of the most important elements for the beginner include the 'Metronome', and 'MIDI Setup' options, the various Editors, the Quantise functions, the copy, repeat and transposition functions and, of course, the File Save and Load Functions. Most of the important Menu items will be dealt with during the course of this series.

Those who have read the manual thoroughly will know that *Cubase* appears on the screen after having auto-loaded any 'DEF' files found on the disk (DEF.ALL, DEF.ARR, DEF.SET etc.). Definition files contain the user preferences for the setup and general handling of the system, including the appearance and contents of the Arrange window

and Editors. But before any meaningful Definition files can be created, the user must have at least a basic understanding of the Arrange window and some of the Menu items. The Arrange window (see Figure 3) is divided into two sections by a moveable split point, which can be pulled to the left or right using the mouse. Pulling the curtain as far as possible to the left maximises the Arrangement area. This features time on the horizontal axis (represented as bars), and Tracks on the vertical axis (which are usually named in the Track column).

Pulling the curtain fully to the right reveals a number of columns showing

the various settings which govern each Track (see Figure 5). These include the Activity column (marked A), which shows the current MIDI activity of each Track in real time, the Mute column (marked M), where any number of Tracks may be muted, and the Classification column (marked C), where Tracks can be designated as MIDI Tracks, Drum Tracks, Mix Tracks, and so on. There is also



- 5

..

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Figure 4: Some of Cubase's many menus.

and take you back to the Arrange window. Note that Escape can be used to exit most of the Editors and dialogue boxes without making any changes to the recorded data. Other immediately useful key commands include the G and H keys, which zoom in or out of the Arrange and Edit windows, the C key for turning the guide click on and off, the S key

SOUND ON SOUND . September 1995



GETTING TO GRIPS WITH CUBASE

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TO

▶ the Track column, where Tracks are named, the MIDI channel column (marked Chn), where the MIDI channel for each Track may be chosen, the Output column, where the MIDI port may be chosen, the Instrument column, where any combination of the MIDI channel and Output columns may be named, and the 'T' column where Tracks may be Time Locked. Different combinations of the columns will be available depending on your version of *Cubase* and the platform you are using.

Astute readers will have already noticed that there is also a separate mini-window to the left of the

columns. This is known as the 'Inspector' and is used to select sounds and change various parameters such as Velocity, Volume, Delay and Transposition. The Inspector displays the parameters of the currently selected Track or Part in the Arrange window (the Track or Part which appears in black). The Inspector can be

Tool, which is used to join two or more Parts to make one longer Part.

The Transport Bar, at the bottom of the screen, features a number of functions which have not yet been described. Apart from the obvious tape recorder-style controls there are the following: the Solo button (for soloing the currently selected Track), the Cycle button (which will cycle between the Left and Right Locator positions), and the Punch In and Out buttons, for automatically dropping in and out of record mode at the Left and Right Locator positions. Finally, there is the Master button, for activating or disactivating tempo and time signature changes, and the Sync button, to synchronize the sequencer to an external device such as a tape recorder.

Other features include the display of the current position in Bars, Beats and fractions of a Beat (or ticks as they are known), a SMPTE time display, the Left and Right Locator positions and a tempo display. All features may be updated or

Si	nap		BAR		Mouse			Quantize	16
A	m	С	Track	Chn	Instrument	Output	т		
		1	Guide	1		ATARI			
		1	Highbell2	1		ATARI			
		1	Bestbass	2		ATARI			EL Bes
		1	TH802 perf	16		ATABI			
		¥†	THEO2 Edit			FE802			
		1	Percussion	9		ATARI			
		D	BD	10		ATARI			BD BD BD B
	П	1	нн	10		ATARI		нн нн	нн нн нн н
		1	Snare	10		ATARI		SNEN	SN SN SN S
		1	HHOP	10		ATARI		нн нн	нн нн нн н
		1	ShuffleA	10		ATARI			sn sn sn s
		1	Blip	10		ATARI			sf sf
		8	SnareF	10		ATARI			sn sn sn s
		1	voice fx	6		ATARI			
		1	SFH	10		ATARI	<u></u>		3
		1	Piano	3		ATARI			
		1	Testbass	2		ATARI			

Figure 5: The Track settings columns.

shown or hidden by clicking on the small square-shaped icon underneath it.

By clicking on the Right mouse button, the user may open the Toolbox (see open Toolbox in Arrange window, Figure 3). This is for general use within the working area of the Arrange window, particularly with Parts. The Pointer is the default tool for general selection and editing functions anywhere on the screen. The Eraser is for deleting Parts, and the Match Q (Match Quantize) Tool is used to impose the timing characteristics of one Part upon another. The Scissors are for cutting Parts into smaller portions, and the Magnifying Glass can be used to monitor the contents of Parts by holding it over any given Part with the Left mouse button, Finally, there are the Pencil (for lengthening and shortening Parts), the selfexplanatory Mute Tool, and the Glue

manipulated in some way using either the mouse or various computer keyboard commands. Remember that the Left mouse button will decrease a selected value, while the Right mouse button will increase it.

SUMMING UP

Looking back at Figure 1 reveals that we haven't travelled very far within the *Cubase* Universe in the first part of this series — but then, that wasn't the idea. We have simply armed ourselves with some of the essential tools and commands with which we can go on to more musically meaningful pursuits, rather like looking at a road map before embarking on a journey. *Cubase* is a complex program, and the potential user must take things one step at a time. Patience is the name of the game.

In the next Issue we will be looking at making a recording from the Arrange Window, and then venturing out into the worlds of Key, List and Drum Edit.

TABLE 2: KEYBOARD SHORTCUTS NUMERIC KEYPAD Play / Continue [Enter] O or [Spacebar] 1st time - Stop, 2nd time — Go to Left Locator. 3rd time - Go to bar 1.1.0 Rewind Fast Forward Go to Left Locator 2 Go to Right Locator Cycle On/Off Increase Tempo Decrease Tempo TYPEWRITER KEYBOARD [Control] and O Open [Control] and S Save [Control] and Q Quit [Control] and G List Edit [Control] and D Drum Edit [Control] and E Key Edit or Open the Editor corresponding to the current Track type [Control] and R Score Edit [Control] and F MIDI Mixer [Control] and L Logical Edit [Control] and B Notebook Transpose/Velocity [Control] and H [Control] and I Open/Close the Inspector [Control] and M Open/Close the Master Track [Control] and T Create a new Track [Control] and P Create a new Part [Control] and K Repeat [Control] and X Cut [Control] and C Сору [Control] and V Paste [Alternate] and P Move Locators to start and end points of the selected Part [Alternate] and N Open name entry box of the currently selected Track Horizontal Zoom In Horizontal Zoom Out [Shift] and G Vertical Zoom In (Shift) and H Vertical Zoom Out Click On/Off M Master Track On/Off Solo On/Off [Clr/Home] Move Song Pos. Pointer to the Leftmost position of the current window [Esc] Cancel (or Leave a Dialogue Box)

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With Roland and Korg already in the soundcard market, this Yamaha offering has been a long time coming. Was it worth the wait? PANICOS GEORGHIADES reports.

Yamaha soundcard — at last! Since the beginning of PC soundcard history, almost every soundcard manufactured (including the marketdominating SoundBlaster range) has been using a Yamaha sound chip to provide internal synth capabilities — the OPL2, a 2-operator FM chip, later updated to the 4-operator OPL3.

Although these chips are still used on basic models, because they're cheap, and on sophisticated models in order to provide compatibility with existing DOS-based games, most soundcards nowadays use wavetable synthesis chips for the purpose of providing good quality MIDI sounds. The OPL2 and OPL3 FM chips dominated for about 10 years and created some kind of a standard, but no particular manufacturer has yet dominated the market with wavetable synthesis chips. The only standard that

HARDWARE SPECS

The OPL4 provides 24-note polyphony using the AWM wavetable synthesis (available on many Yamaha synthesizers) and an additional 20-note polyphony using FM synthesis. There are 128 instrument sounds on board (16-part multitimbral) and eight drum sets, all stored in a 2Mb ROM. This is double the capacity of the SoundBlaster AWE32 but half that of the Media Vision 3D card. which uses a chip by Korg. Like most other PC soundcards, the Sound Edge is designed for the multimedia market; however, there is a huge bias towards musical applications.

The card's multimedia facilities include a joystick and MIDI interface (cable and connectors are extra), digital audio recording and playback, an onboard sound mixer, and three types of CD-ROM drive





software written for any of these standards should play on the card with no problems. A desk

interface: Sony, Mitsumi, and Panasonic/Creative. The MIDI interface is provided by an Opti chip and is compatible with the Roland MPU-401 interface. The sound mixer is rather basic but offers stereo line in, mic in and audio out mini-jacks. There's also an

internal audio connector to the CD-ROM drive. The Sound Edge card satisfies three multimedia

compatibility standards: MPC Level 2, SoundBlaster

Pro. and Windows Sound System. This means that

A SOUND SENSATION?

microphone is also provided.

The sounds from the OPL4 chip are no better or worse than those of most other middle of the road wavetable-based soundcards. They compare favourably with the SoundBlaster AWE32 and with most of the other cards manufactured by computer companies, but they're not as substantial in terms of depth and reality as those based on chips by Korg or Kurzweil. In addition, the 24-note polyphony may be a limitation with some types of scores --- many cards today offer 32-note polyphony. And although the Sound Edge offers digital effects, these are on a separate chip and are not MIDI controllable — in other words, the OPL4 is GM compatible but not GS. The OPL4's MIDI implementation includes modulation, volume, pan, expression and pitch bend, but there's no aftertouch.

Yamaha is renowned in the music world as one of the pioneering manufacturers of digital audio and digital sound processing effects equipment. They were the first to produce affordable digital mixers such as the DMP7, the predecessor of today's ProMix 01, and digital effects such as the

prevails amongst PC soundcards is that they're all General MIDI (and some are GS) compatible.

This brings us to the new Yamaha OPL4 chip, which uses a combination of wavetable and FM synthesis, and is therefore compatible with both the old and the new standards. This chip isn't brand new - it's already available on another card manufactured by Logitec — but it is used on the new Yamaha Sound Edge card, reviewed here.

SPX90, going back 10 years. They have developed these technologies to a fine art, and the Yamaha experience does make its presence felt in this card.

Before looking at the results of that experience, it's worth noting that the digital audio facility on the Sound Edge is paradoxically *not* performed by a Yamaha chip, but by a chip from a company just as good in this field: Analog Devices. The AD1848 chip is used by a number of other soundcards on the market (including the Microsoft Sound System card) and provides 8-bit and 16-bit resolutions, with a variable sampling rate between 5 and 48kHz, and a dynamic range of over 85dB.

The rest, however, is all Yamaha, and very good it is too. Indeed, no other card on the market offers anything like it. An additional chip — the YSS205-F — provides the remaining features, namely real-time digital effects processing. Any one or a combination of the external or internal signals can be processed, and there are 'normal' effects like echo, surround sound, pitch change, as well as strange (but exceedingly useful) ones like Voice Cancel — a facility that attenuates vocals on ordinary CDs or other recordings and creates Karaoke-style backings. Incidentally, a professional piece of equipment to do this can cost about £200. In addition, all of these DSP effects are editable.

Finally, the card includes a very small amount of SRAM (Static Read-Only Memory) which can be used to download Wave files as samples. These can then be played as musical instruments; in other words, they can be pitched on a scale. Although the implementation here is very simple compared to the SoundBlaster AWE32 (which offers up to 28Mb of RAM) or some of the Turtle Beach cards, at least the facility is provided. Shame the RAM can't be expanded, though...

BUNDLED SOFTWARE

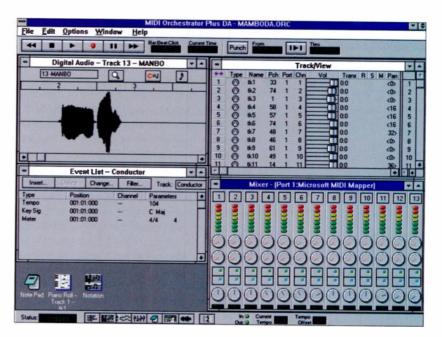
The package offers a veritable treasure chest of software bundled with it. This includes some from Yamaha and some from Voyetra, the US music software company best known for its top-of-the-range Sequencer Plus program.

AudioStation is a program which controls all the different operations of the card — in the guise of a home hi-fi rack unit — and includes a sound mixer with effects.

EffectGear provides real-time effects for the line, mic and synth inputs. You can alter the effect feedback and depth levels using sliders, while a pull-down menu brings up the list of available effects. The presets number 32 types including everything from the usual reverbs, delays and choruses, to unique offerings like Alien Voice and Devil. There are also some enhancer effects. Two other functions of this utility are Voice Cancel, which reduces the volume of vocals from an audio signal, and Pitch Shift, which can tune the incoming signal up/down by four semitones (400 cents).

All the effects provided by EffectGear can be edited in EffectEdit, and saved as new ones. The EffectEdit utility gives you control over the card's internal Digital Signal Processor (DSP), so you can edit and reconfigure it at will.

The DSP provides three input sources (covering all the sounds handled by the card), and has four types of sound processing configurations, each



one presented as a block diagram. The blocks on the diagram represent sound routings as well as sound transformations. The transformations include echo, pitch shift, surround 1 and surround 2. By rearranging these blocks, using the mouse, and changing certain parameters, you can edit effects and create your own. Then you can save them for use with *EffectGear*. Four sample effect files are provided for you to study; they include reverb, delay, 3-voice harmony, and karaoke.

EffectEdit is a very worthy facility, and I wish that more professional effects units worked this way, giving users as much control as this one. Apart from learning to understand how various sound effects work, the results are very usable indeed.

The next piece of bundled software is VoiceMorph. Unfortunately, despite what the name implies, this doesn't gradually alter one sound to another, but simply applies effects (by selecting them from icons in a window) to any of the incoming signals. The word 'morph' probably applies to the types of effects included, which significantly alter the incoming signal. There are 16 types including Female, Old Man, Kids, Vibratos, Saw, and Pan. You can alter some of the

effect parameters in real time — such as the effect gain, and LFO (Low Frequency Oscillator) depth and speed.

Next up is SampleEdit, which enables you to import Wave files, edit them, and use them as instrument sounds by downloading them to the SRAM on the card. Although the memory isn't very large (just 128K, with a limit of 64K for a single sound), the program does provide loop and envelope facilities, tune and fine-tune controls, as well as LFO, vibrato, tremolo, and pan. Editing features include normalise, reverse, inverse, and the normal cut, paste, and zoom facilities. A MIDI keyboard

icon, playable with the mouse, is provided for auditioning sounds during editing.

As with the Turtle Beach Maui card, but unlike

YAMAHA Sound Edge £175

PROS

- Excellent real-time effects.
- · Low price.

CONS

- Effects can't be switched or controlled by MIDI.
- · No Aftertouch.
- RAM can't be expanded.

SUMMARY

Reasonable sound quality with some unique selling points. Excellent value for money. This card deserves success.



Yamaha Sound Edge PC Soundcard

► the SoundBlaster AWE32, downloaded sounds in the Sound Edge temporarily replace those of the internal synth. Samples can be saved to disk individually or in downloadable configurations. Some 32 sample files and six configurations are provided in the package.

As well as all the above, Sound Edge includes a selection of software from respected US music software manufacturer, Voyetra. WinDAT is a simple digital audio recording and editing program. SayIt is an OLE sound recorder for placing annotations and other comments/messages into Windows applications. SoundScript is a multimedia authoring tool which lets you combine animation, bit-mapped graphics, digital audio, MIDI files, and CD audio tracks into screen presentations. SoundEvents is a handy tool for assigning sounds to computer keyboard and mouse operations, as well as certain Windows events.

On top of all this you also obtain the rather interesting Audio Calendar, a daily appointments accessory with text, voice messages and sound alarms facilities, plus an audio screen-saver enhancer that enables you to add audio (Standard MIDI Files) to ordinary Windows 3.1 screen-savers.

Last but not least is MIDI Orchestrator Plus, a capable 16-track sequencer program with notation facilities [full review in SOS February 1995]. According to Voyetra, the version bundled here has been specifically enhanced to include the following additional facilities:

- Digital audio recording and playback (mono only).
- Volume scaling of digital audio tracks (cannot be changed during playback).
- Drag-and-drop digital audio editing.
- Track looping.
- Play range looping.
- Real-time diatonic transpose.
- · Real-time velocity offset.
- · File merge.

SUMMARY

The Yamaha Sound Edge took a long time to come, although it won't change the world of multimedia PC soundcards. It does, however, provide some unique features which others will surely copy - if they can deliver them, that is.

It has to be said that this card is not a professional tool (you'll not be using it to make CDs) but it wasn't designed as such. It's a standard multimedia card with a large bias towards music, and as such is an excellent card for beginners, since it introduces all the different aspects of sound and music in one compact product. It is very competitively priced, too -- note that if you were to buy MIDI Orchestrator Plus (which has fewer features than the version supplied here) on its own, it would cost around £120. In this light, Sound Edge must be viewed as a real bargain.

SYSTEM REQUIREMENTS

As with the

Turtle Beach Maui

card, but unlike the

downloaded sounds

in the Sound Edge

temporarily replace

those of the

internal synth."

SoundBlaster AWE32.

The Sound Edge card needs a 16-bit PC slot and fairly high minimum system requirements, compared with what other manufacturers quote for their cards. You need at least a 25MHz 486 machine with 8Mb RAM. Not that we're complaining about these requirements. In fact, we praise Yamaha for being honest. Personally, for use with sound and/or multimedia, I wouldn't recommend anything less than a 486 machine with 8Mb RAM running at 66MHz.

FURTHER INFORMATION

- £ £175 inc VAT.
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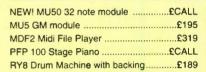
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After a lengthy wait, Behringer's 48/24 dual input recording mixer is finally here. PAUL WHITE takes the wraps off this seductively priced 8-buss console.

udging by the number of phone calls we have received about this desk since it was first announced at the Frankfurt Musik Messe some 18 months ago, it is possibly the most eagerly-awaited new recording product since the Alesis ADAT. Why? Doesn't the world already have enough mixers, especially ones without automation or MIDI muting? Perhaps it's because the music shops have been advertising Eurodesks for months, even though stocks have only just arrived, but what does seem to really intrigue the potential buyer is the fact that the Eurodesk is styled to look almost exactly like a Mackie 8-buss console. Eurodesk's control layout differs from Mackie's in a couple of key areas, but the overall feature set, styling, colour scheme and layout is disturbingly similar — I don't think desk via a substantial, locking connector. Though the fan was reasonably quiet, the transformer in the review model was rather noisy which, although it doesn't affect the audio quality in any way, does constitute an irritating source of acoustic hum.

CHANNEL DESIGN

The Eurodesk channel has three input sources: Mic, Line, and Mix B — the latter referring to the secondary channel path, sometimes called the Monitor channel on other desks. Mix B is normally connected to the corresponding multitrack output for monitoring while track-laying, but at mixdown it may be used as an additional line input for sequenced instruments and such-like.

Unlike the Mackie 8-Buss console, which has

EUROPEAN UNION

BEHRINGER EURODESK 8-BUSS RECORDING CONSOLE

that even an infinite number of monkeys armed with an infinite number of CAD machines could have come up with two such similar designs without making a conscious decision to copy.

Currently, the Eurodesk is available in a 24:8:2 format with the usual in-line monitoring and split grouping arrangement that has become the norm for small studio consoles. All the audio connections, other than the mic inputs, are on jacks, and all the main line inputs, group outputs, and stereo mix outputs are electronically balanced. The remaining aux send/return and insert connections are unbalanced — as is the control room monitor feed, the channel direct outs, and the studio outputs. Insert points are fitted to all the main channels, groups, and the main stereo output.

The Eurodesk is non-modular in construction and the entire front panel is fabricated from a single piece of heavy sheet steel. Plastic end-cheeks help soften the utilitarian styling while the familiar 'non-stick pan' metallic paintwork, grey buttons, and Mackie-like knobs lend the desk a cool, purposeful air. All 24 channels have balanced mic inputs on XLRs and these may be phantom-powered in blocks of eight, via switches on the top panel, though no phantom power warning LEDs are provided, which I find just a touch unsettling.

No channel expander is currently available, though connections are provided which, apparently, enable the Eurodesk to be used with expanders from other manufacturers or, indeed, with a second Eurodesk. There's no meter bridge available as yet either, but meter bridge connectors are installed in readiness. Now I wonder where you might find a meter bridge that would fit? *Hmm!*

Like most multitrack consoles, the Eurodesk is powered from an external PSU; in this case, a generous 3U, fan-cooled unit connected to the one fully parametric EQ section, Behringer has taken the more conventional route of providing a 4-band EQ with sweep mids, but they've also fitted a basic 2-band EQ to the Mix B channel path, so you don't have the hassle of splitting the EQ when you undertake a complex mix. Still, you do have to share the aux sends between the Main and Mix B channel paths which is, I feel, one of the major limitations of the in-line concept in general. Even so, you get four physical aux send controls, which are routable to six aux send busses, and the second pair of sends may be switched into either the Main or Mix B channel paths.

An input Flip switch means that the Main and Mix B inputs may be swapped without the need to repatch, and an additional neat twist is that if you don't need the Mix B channels to provide additional inputs at mixdown, you can switch them to accept a post-fade feed from the Main channel. This enables them to function instead as additional, EQ'able effects sends. A switch in the master section disconnects the Mix B outputs from the stereo buss, allowing the signal to be taken to the outside world via the Mix B output jacks. Both the Main channel and Mix B paths are fitted with Mute buttons, though only the main channel has a Solo facility.

The rest of the channel is pretty conventional with a standard Pan and routing button system for directing the channel signal to either the stereo buss or to the groups. Both the Mute and Solo buttons have warning LEDs, but since these are located to the extreme right of the channel strip, I found myself mentally associating them with the buttons in the next channel along — very confusing.

Long-throw, 100mm, carbon faders control the channel signal level with the routing buttons spaced down the right-hand side of the fader. As

BEHRINGER EURODESK

PROS

- Attractive price.
- · Sensible range of facilities.
- Generally good audio performance.

CONS

- Physically noisy PSU.
- No phase switches.
- Only one format available.

SUMMARY

An eagerty awaited multitrack console that delivers at least as much as you could reasonably expect for the asking price.



usual, there is almost no visual distinction between a routing button that's up and one that's down, so you spend the first few minutes of every session with your head on one side sighting down the mixer to check the routing. The Main channels are clearly numbered 1-24 while the Mix B sections are numbered 25-48. A small thing, but very helpful nevertheless.

Top panel jack sockets handle the Mic, Line, Direct Channel Out and Inserts, while the rear panel provides the Input B Tape Return jacks. There are also two BNC sockets fitted, which accept standard goose-neck lights. The tape return levels may be switched from -10dBv to +4dBu in

blocks of eight, by means of rear panel buttons, but notable by its absence from this desk is a channel phase switch.

MASTER SECTION

Like most recording consoles, the Master section is pretty busy, but everything is split into neatly boxed-off areas to make navigation simple. For example, all six Aux Send Master level controls are grouped together above the Mix B level control and the associated button that assigns Mix B to the main stereo mix. All six sends have Solo buttons but there is only one Solo LED for the whole section, rather than one per switch.

"...the Eurodesk
incorporates many
really good features
and the audio
performance compares
well with other 8-buss
consoles..."

BEHRINGER EURODESK

The Eurodesk also has six stereo returns, the first two of which have both level and balance controls as well as full routing to either the main mix or groups.

The second pair of returns have only a level control and may be routed to either of the two headphone outputs or to the main mix. This arrangement provides an easy way of placing effects in the performer's headphone mix without having to record the effects to tape. The third and final pair of returns route only to the stereo buss and have only level controls. All six stereo returns have Solo buttons but there are only two Solo LEDs, one for all the odd-numbered returns and one for all the even-numbered returns.

Unusually for a desk of this size, there are two independent headphone outputs, each of which may be fed from a different source or mix of sources. The possible sources in each case are: Control Room, Mix B, Aux 3-4, Aux 5-6, and External. There's also a Solo button to help you check what's going to the headphones if you happen not to be the one wearing them, and each headphone outlet has its own level control.

The main studio monitor outputs may also be fed from a choice of sources: Main Mix, Mix B, 2-Track Return or External (which could be another 2track return or indeed any other stereo line source). There's also a Mono button for checking that the mix sounds fine in mono, without affecting the main stereo mix outputs. If a Solo button is pressed, the solo'd signal overrides the control room source selection: in PFL mode, the pre-fade solo'd signal level is shown on the main stereo meters. Separate level controls are provided for feeding the control room and studio; as with the headphones, several source buttons may be selected simultaneously.

I've already mentioned that the console can work in PFL or Solo mode, the difference being that in Solo mode all non-solo'd signals are muted in the control room mix, leaving the solo'd signal in isolation at its original level and pan position. In PFL mode, however, the solo'd signal is monitored before the channel fader (so the channel fader has no effect on its level), and the signal is heard in mono. This can be useful for checking the quality of a signal prior to switching it into the main mix, but is more

commonly used to optimise the input mic and line levels. A Solo Level control is provided, with a centre detent at the unity gain position, and a main Solo LED indicates that one or more Solo buttons is pressed down somewhere on the console.

Unless you're operating a one-room studio, you'll need talkback, and the Eurodesk includes a

built-in mic capsule that can be used to talk directly into the Aux 1, Aux 2, Groups, or Studio and Phones output. You wouldn't normally use talkback during a mix, but it can be useful to record the song title or other notes on the multitrack tape prior to the song start, hence the inclusion of Group talkback amongst the destination options. Engaging the Talkback button dims the control room monitors by 20dB to minimise the risk of feedback, and as usual the Talkback buttons have a momentary action, preventing you from leaving them on by mistake.

The Eurodesk has 10 bargraph meters mounted behind a single perspex panel, eight for the group outputs and two for the main stereo output levels. Directly below these are the group faders and the single stereo mix fader. Above each group fader is a button to route it into the stereo mix, the nominal system being that odd groups are routed left while even groups are routed right. However, a further Mono button allows any group to be positioned centrally in a mix which, short of going the whole hog and fitting Pan pots, is a pretty good compromise. All eight groups have Solo buttons, but again, these all share one Solo LED.

EURO PERFORMANCE

A glance through the spec sheet shows noise and distortion figures that compare well with other mid-priced 8-buss consoles, and indeed noise was never a problem during use provided that the input gains were set up properly — something that some users still neglect to do, regardless of what mixer they own. Even the mic inputs are very quiet unless the gain is turned fully up, in which case a little noise is in evidence if you listen for it.

I found the signal path to be generally clean with no subjective difference in sound quality whether the EQ was set to neutral or switched out, and if the signal is routed to the stereo buss via a group rather than directly, the sound again remains consistent. It's worth noting that the Eurodesk has a very wide frequency response, which is now generally accepted as helping maintain a transparent sound.

One highly subjective area of any mixer is the EQ, and here I'm glad to say that you get both quality and quantity. The Eurodesk's shelving controls behave much like any well designed shelving filters, and the frequencies chosen are typical of those used on many other desks. However, the mid controls have far more range than you'd expect from a non-splittable EQ, which leads me to believe that the original design was intended to be part of a split system. Because the high mid can be tuned up to 20kHz, it's quite possible to add a hump between 12 and 18kHz to crispen up a mix without making it sound edgy — a nice alternative to using the shelving High control sometimes. Both the low and lower mid EQ sections also work perfectly well and the bass end has a nice, warm, rounded feel to it while still remaining reasonably tight. Having a lower mid control that goes right down to 50Hz is, however, a real bonus and provides far more control over the bass end than a lower mid that stops at



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E-Magic add CBX-D5 support: Logic Audio 2.5, the latest version of this stunning software for the Mac, not only supports all Digidesign hardware and stand-alone PowerPC audio circuitry but also provides the first stable MIDI/Audio sequencer for this excellent Yamaha hard disk recorder on the Macintosh.

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BEHRINGER EURODESK



around 250Hz (which some do).

Functionally, the Eurodesk is pretty conventional and the fact that the aux sends are centre-detented at unity gain, with 15dB of extra gain in hand, can be useful on some occasions — though the idea of centre-detented gain pots is not exactly original. Being able to use Mix B as an additional stereo aux send is a nice option, as is the provision of two separately-sourced headphone outputs, but I rather miss not having a Mute LED on the Mix B channels, and the lack of a phase invert switch can be an irritation if you're trying to sort out a multi-mic setup or would like to experiment with

M&S mic techniques.

Plus points include the six stereo aux returns, which takes the total number of available inputs up to 54. Since expander inputs are provided for everything bar the Solo buss, you can use a submixer with the Eurodesk without having to give up any of your channel inputs or aux returns - you can even have the aux busses linked so that both mixers can make use of the same effects units without complications.

VOTE OF CONFIDENCE?

It would appear that very few corners have been cut to bring this console to market at such an attractive price and the Eurodesk incorporates many really good features. The audio performance compares well with other 8-buss consoles, most

of which cost rather more, but I really can't understand why the manufacturers felt the need to take the controversial step of hi-jacking another manufacturer's styling. I know that in the world of guitars it happens all the time, but when it comes to mixers, it just seems out of place and may even engender mistrust amongst some potential buyers.

That said, the build quality seems fine; the EQ facilities haven't been compromised to provide enough aux sends, or vice versa; and the EQ really sounds very good indeed. So, what's the bottom line for all those viewers at home awaiting a verdict?

At the asking price (£2299), the Eurodesk has better facilities than you might reasonably expect, the audio path is clean with plenty of headroom, the EQ is good both tonally and in range, and you get plenty aux sends, all of which can be switched to post-fade for use as effects sends. The facilities provided are in the main sensible rather than gratuitous 'bells and whistles', and the styling is excellent (if not entirely original). Though there is plenty of competition in this price range, the Eurodesk would seem to have been worth the long wait. I take my hat off to the designers — whoever they are.

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RIEF SPECIFICATION

EURO EQUALISATION

Each Main channel of the Eurodesk has a 4-band equaliser, with shelving high and low sections plus two sweep mids. The high equaliser shelves at 12kHz while the low is set at 80Hz, but the two mids have a really wide frequency range enabling them to cover all the audio spectrum between them, if need

The upper mid covers the range 300Hz to 20kHz while the lower mid goes from 50Hz right up to 3kHz. All four equaliser sections have a +/-15dB range and the Mix B channels utilise the same high and low equaliser sections but without the mid controls.

All EQ pots are centre-detented, even the frequency pots, and a switchable 12dB/octave 100Hz low cut filter is provided in the Main mix path, along with a Bypass switch.

FURTHER

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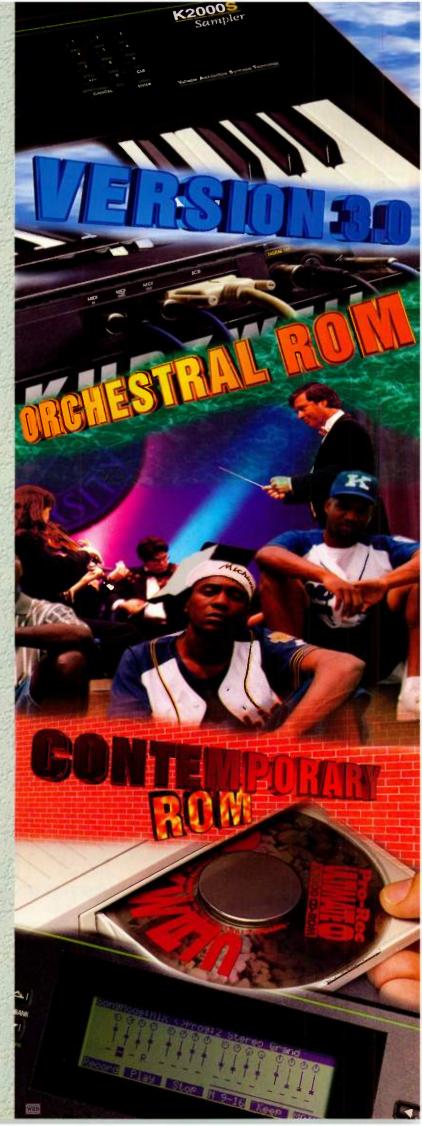
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Sound On

Ever wondered whether you are a 'typical' SOS reader? Editor PAUL WHITE lets you in on a few secrets gleaned from our 1995 Reader Survey... 1995

ust in case you've ever wondered if you're a typical SOS reader, we've put together some of the figures from our latest Reader Survey that you might find interesting. But first, thanks to all 1734 of you who took the time to fill out the survey — the response was most encouraging! Here's a summary of the salient points...

THE TYPICAL READER?

If you happen to have lost track of your birthdays, you might like to know that your average age is around 35 and that a third of you regularly play live gigs as well as record. Your fellow readers cover all ages, from being just about old enough to read to those awaiting their telegram from the Queen; roughly half our readers are over 30. Sadly, the vast majority of readers are male, so those of you who requested a 'lonely hearts' page will probably do better looking elsewhere.

We didn't ask how much you earned precisely, but your accountant might like to know that you spent an average of £2,100 on new gear last year, with a significant number of big spenders topping the £10,000 mark (they're obviously not music magazine editors!). In fact, if we count only the 1734 readers who filled in our survey, you spent between £2.7 and £4.3 million pounds last year between you.

SOUND ON SOUND .

September 1995

PCs outstripping the Mac by around two to one. Most of you seem to prefer computer-based sequencers to hardware sequencers, but one surprise is that only 42% of readers own a sampler. Sampling is fun, guys — what are you waiting for? Get out those credit cards! Of those who do own samplers, only around one third buy sample CDs, even though almost 20% of you own a CD-ROM drive. But most surprising is that around 70% of you own either an electric guitar, an acoustic guitar, or both.

YOUR VIEWS

I'm pleased to say that over 95% of you say that SOS reviews help you make your purchasing decisions, and considering how few of you have

OO STATE OF THE ST	£4.3 million pounds last year between you. While you are nearly 87% certain to already own a computer, about half of you are still hanging onto your old Atari STs, with take-up of

EQUIPMENT PURCHASES Here is a breakdown of what the 1734 respondents bought, new and secondhand, in the last year. Keyboard synthesizer 21.8% 22.0% Synth expander/tone module 26.4% 14.0% Home/Portable keyboard 3.1% 2.1% Dedicated sampler 11.7% 3.5% Drum machine 12.2% 8.9% Reel-to-reel multitrack 2.7% 3.3% Digital multitrack 4.8% 0.8% Hard disk recorder 4.5% 0.2% **DAT** recorder 14.4% 3.3% Cassette multitracker 8.6% 1.9% Mixing desk 20.8% 6.9% Microphone 25.1% 8.2% Multi-effects unit 26.1% 9.7% Compressor/limiter 13.4% 3.6% Noise gate 5.9% 2.0% Guitar 14.0% 6.2% Guitar FX pedal 4.0% 7.7% Power amp 11.4% 4.5% PA system 5.4% 2.7% Other amp/backline 7.2% 3.4% Computer 24.2% 10.3% Software sequencer 22.0% 4.4% Hardware sequencer 2.0% 2.0% PC sound card 10.7% 1.0% External storage device 9.3% 1.2%

Sound Reader Survey

come around to threaten us with physical harm, I guess that we're getting the reviews pretty much right. 57% rated our reviews as 'highly informative', 27% deemed them 'OK as they are', but 16% felt our reviews were 'not critical enough'.

As expected, the majority of you would like even more practical 'how to' and 'hints and tips' articles, so it's obvious you want to get the best out of the equipment you already own, although fewer than 30% of you have attended any kind of training course in electronic music or recording. One thing our survey didn't say is how many of you have bought my *Recording & Production Techniques* book, but for those who haven't got a copy yet — order now!

When asked what you'd like to see more of in SOS, most of you wrote 'everything', but then you also thought we had the editorial mix and approach about right, which can only mean you want an even bigger magazine. That's fine, but you don't have to write it! Judging by the vast number of you who rate our Readers Ads service very highly, it would appear that you also spend a lot on used equipment, though nowhere near as much as you do on new gear. Presumably, the readers who sold it to you use the cash to buy even more new toys? I know I do.

Just to prove that we do take your comments seriously, virtually all of you would prefer to see the space we devoted to the SOS Readers Tape Exchange given over to more practical articles. In response, we will shortly be abolishing this service and replacing it with other things.

Although 62% of you do not share your copy

AGE PROFILE Under 15 0.3% 15-20 5.1% 21-30 38.6% 31-40 34.8% 41-50 16.9% Over 50 4.3%

COMPETITION WINNERS

Thanks to all of you who filled in the Reader Survey, but sadly only a handful can be the winners of our superb prizes. The lucky blighters are as follows:

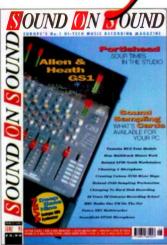
- Fostex XR7 Multitracker Yves Altana, Manchester.
- Behringer Ultrafex II
- T. Carter-Ingram, Swansea.
- Autopia Terakat 4U rack Mark Peters, Warminster.
- D-Zone Sample CDs
 A. Jaama, Tallinn, Estonia.
- CP Technology MIDI-CV Converter Mark Mills, Sutton, Surrey.
- 1-Year SOS Subscriptions
 A. White, Bangor, N. Ireland.
 Ally Dunlop, Auchtermuchty, Fife.
 Jane Woodley, Westcliff, Essex.
 Ben Armstrong, Horsemonden, Kent.
 A. Shipway, Birmingham

of SOS with anyone else, 38% of you pass it on to between 1 and 5 other people [c'mon guys, buy your own copy instead! - Publisher].

IT'S YOUR MAGAZINE

Of course, you don't have to wait until we publish a Reader Survey to tell us what you think about SOS — you can write, email, or even pick up the phone if you have any comments or suggestions. I'm on the phone to readers every day and it's the questions that arise in day-to-day conversation that provide the inspiration for many of our future articles. So, if you think we could do something better, if you have a suggestion for an article, or if you feel that some area has been neglected, please get in touch because we really do like to know what you think.











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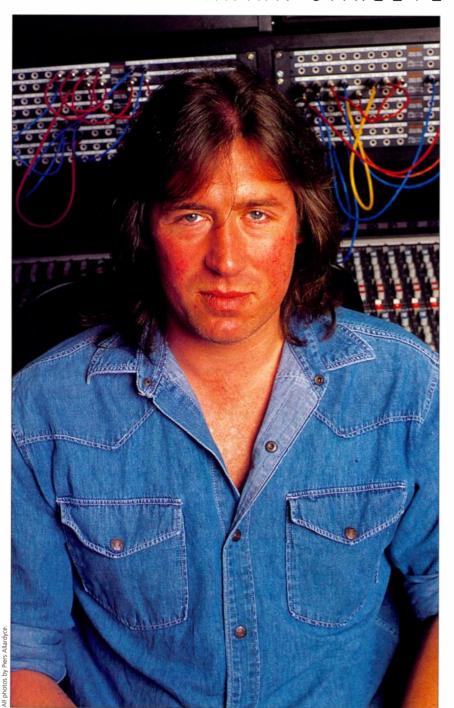
Having nearly made it in the '80s with an awesome sound on a par with Trevor Horn's productions, UK electronic music stalwart Mark Shreeve is back, with his sights set on Hollywood. JONATHAN MILLER discusses vintage gear, multi-million pound albums, and Samantha Fox.

he age-old adage 'never judge a book by its cover' certainly rings true in the case of Mark Shreeve. Standing before me at a recent London music trade show, my first impression of Mark, both resplendent and menacing in head-to-toe bikers' leather, bore little resemblance to the man within.

Our second meeting took place in more sedate

Metal Machine Music

MARK SHREEVE



surroundings — in Mark's unassuming semidetached house, whose exterior, perhaps intentionally, does little justice to the wellequipped recording studio it contains. Inside, no fewer than 17 synthesizers and sound modules of varying vintage are ergonomically arranged around a central Allen and Heath Saber Plus 28:24:2 mixing console, and various ancillary recording equipment lines the walls, including three synchronised Alesis ADAT digital 8-tracks and extensive outboard effects.

A LITTLE BACKGROUND...

Of course, Mark's gear wasn't always this impressive. In 1973, when he first embarked on recording his own electronic music after hearing Tangerine Dream on John Peel's Radio One show, Mark's equipment comprised a solitary Yamaha CS30 analogue monosynth (which he retains and uses to this day), a string machine, and some crude effects and recording facilities. He sent his first demo tape to the now defunct electronic music cassette label Mirage, who subsequently released his first three albums on cassette. In 1981, Mark's professional music career began with *Thoughts Of War*, his debut vinyl album for the Uniton label.

Extending his setup to include a Sequential Circuits Pro One monosynth, Roland Juno 6 polysynth and Roland TR808 drum machine, Mark recorded his much-acclaimed Assassin album for Uniton in June 1983. This featured an excellent interpretation of 'Assault On Precinct 13', director John Carpenter's classic theme to the film of the same name.

JIVE TALKING

Following a very well-received performance of Assassin at the first UK Electronica festival in Milton Keynes, Mark won a major recording contract with world-wide distribution, care of the newly-formed London-based Jive Electro label — a big breakthrough for a relatively unknown musician. Jive's intention was to bring electronic music to the masses, with an impressive international roster headed by Germany's mighty Tangerine Dream. Assassin was subsequently re-issued to coincide with Mark's appearance at the 1984 UK Electronica.

As a result of the Jive deal, Mark was given access to the company's Battery Studios in northwest London, as well as all of the then state-of-the-

art instrumentation the studio contained, such as the Fairlight CMI music computer, and PPG Wave 2.3, Yamaha DX7, Roland Jupiter 8, and Oberheim Xpander synthesizers. These were employed to devastating effect on Mark's 1985 album Legion, whose recording costs reputedly soared into seven-figure territory!

Even by today's standards, Legion sounds both impressive and contemporary. The title track was released as a single, and featured regularly on the soundtrack of Channel 4's popular American Football programme. As far as Mark's 'legions' of fans were concerned, life was looking very rosy indeed for their hero.

CRASHING IN

Despite Legion reaching Hollywood ears (via the soundtrack to the motion picture Jewel In The Nile, it would be another three years until Mark's next opus, Crash Head, would see the light of day, at a further cost of around £50,000. All was not well in the Jive camp, and events between the two albums make for fascinating reading.

"At that time, lots of people were made to leave Jive. We were going to do a kind of big concept album with me writing all the music and



employing people like Phil Collins and Def Leppard, but the guy whose idea it was to get all these musicians involved was sacked.

"Jive Electro was stopped, because they suddenly

FRANKE-LY SPEAKING

Mark has fond memories of the Legion sessions, not least because the fortuitous Jive Electro association led to him working alongside one of his heroes -Chris Franke of Tangerine Dream. Given that Chris is often referred to as 'Mr Sequencer', I was somewhat taken aback to learn of the melodic nature of his involvement with the album, as Mark recalled: "I got to the stage with Legion where I had one more track to do, which I'd already demo'd at home. We eventually did a backing track in the studio and I was scratching my head thinking, 'What else can I do with it?'

"I was talking with Jive's A&R guy, and just as a joke, I said 'wouldn't it be great if we could get one of the guys from Tangerine Dream in to do the rest?' Before I'd even finished the sentence, he was on the phone to Chris Franke. Three days later, the man himself was there in the studio!

"A Jupiter 8 was hired in for Chris to play the melody line, and that was the only bit of near sequencing that he did. It was all sort of against the beat and written into a Linn 9000 left in Open Record Mode as he was playing - I would never have thought of that.

"He's also responsible for the Jupiter 8 hard sync lead sound with loads of pitch bend at the end of the track. He played it live, but I recorded it into my Roland MSQ700 sequencer without him knowing.

"I've never seen anybody get such great sounds so quickly from synths. The other two guys involved with Legion - programmer/producer Pete Harris and Battery's engineer — had been working in studios for years, and were just in awe of this guy and the way he used the equipment. He knew how to use it as a musician, rather than as a technician."

discovered that Tangerine Dream weren't quite the pull they once were - at least in the UK. It didn't matter to Tangerine Dream so much, because they were like a self-contained unit, whereas I was involved with projects other than my own music and

> became part of the furniture at Battery Studios, doing pop music and soundtracks.

> "But Jive still wanted an album from me, so I was trying to put Crash Head together at the same time. I thought one or two of the tracks we did initially were not really me, and too influenced by the pop stuff. I wanted to do some extra tracks, so it was put off for another year. By that time, Jive Electro had been sold, and I was on the straight Jive label. In the end, it was like they'd spent all this money and felt obliged to release the album. The first I knew about it was when someone rang up and said he'd just bought my new album!"

Crash Head is an incredibly powerful and polished recording — almost heavy metal on synths, in effect — featuring the talents of respected rock guitarists of the day. I suggested that Mark must be

MARK SHREEVE'S GEAR

SYNTHS

- ARP 2600
- · Korg M1
- Korg Wavestation
- Moog IIIC modular
- Oberheim Xpander Oberheim Matrix 1000
- PPG Wave 2.3 (with Waveterm A sequencer/sampling unit).
- · Roland VP330 Vocoder Plus (with Kenton Electronics MIDI retrofit)
- Roland Juno 60 (with Kenton **Electronics MIDI retrofit)**
- Roland D550 (with PG1000 programmer)
- Studio Electronics MidiMini

- Yamaha CS30
- Yamaha DX7 MkII

SAMPLER

Akai \$1000

"AND ON DRUMS..."

- Emu Procussion
- Roland DR660

SEQUENCERS

- Akai MPC60
- Analogue Systems TH48
- Atari 1040STE (4Mb) running Emagic Notator SL software

RECORDING

- Alesis ADAT digital 8-track recorder x 3 (with BRC remote controller and Al-1 digital interface)
- Allen & Heath Saber Plus 28:24:2 desk
- . Sony DTC1000 DAT
- Tascam DA30 MkII DAT

OUTBOARD

- · Behringer stereo compressor
- Behringer stereo noise reduction
- Behringer stereo noise gate
- Ensoniq DP/4 digital multi-effects
- Korg Stage Echo
- Lexicon PCM60 digital reverb

- Lexicon PCM70 digital reverb
- Roland RSP550 digital multi-effects
- SPL Vitalizer
- Yamaha REX50 digital effects
- Urei 7110 compressor

MISCELLANEOUS

- Audio Architecture Function Junction Plus 16 x 16 programmable MIDI patchbay
- DAC removable hard drive
- Diki Devices CD-ROM/removable hard drive
- Kenton Electronics Pro2 MIDI/CV converter

Mark Shreeve

■ a 'closet metaller' at heart. "Well, it struck me that when heavy metal bands used to book into Jive's studios they always came with an entourage of beautiful women, so I thought, 'I'll have some of that!', because when I looked around at the synthesizer players, they never had any! No,

seriously, I would have been a Richie Blackmore or Eddie Van Halen if I could — but I can't play the guitar well enough!"



Oberheim Xpander, Korg Wavestation, and Akai MPC60 (right). An ARP 2600 module can be seen in the background.

MUSIC FOR THE MASSES

Although Mark's time at Battery Studios proved quite fruitful, I couldn't help but wonder if he was saddened that Jive Electro never really fulfilled their promise of bringing electronic music to the masses: "Compared with what I'd been doing up to the point of signing the deal, Jive Electro was just a dream come true. At the time I thought that even if it didn't work out, at least I could no longer

use the excuse that I didn't have the right equipment
— because Battery was one of the top studios in
the country.

"Like many other people, I hoped that electronic music would catch on with the boost from Jive. When I signed up, they told me they thought there was a market for it that had yet to be tapped. They placed large adverts in the music press — not just for my music, but for Tangerine Dream's stuff as well.

"However, you have to get some kind of airplay.



Vintage synths galore, including a Roland Juno 60, PPG Wave 2.3, and the PPG Waveterm (on the floor).

That's how Tangerine Dream became big in the first place — because of John Peel and Radio One. Klaus Schulze also used to get a lot of airplay — not necessarily over here, but certainly in mainland Europe. People don't generally buy a record just because of an advert — and why should they? I wouldn't buy something I hadn't heard. In the end, it doesn't matter what a record company or an artist does. If no-one hears it, no-one can form an

THE FOXY LADY: SHREEVE ON SAMANTHA

Not a lot of people know that Mark Shreeve was responsible for co-writing former Page 3 model Samatha Fox's biggest hit single, 'Touch Me (1 Want Your Body)' peaked at No. 3 in the UK charts in March 1986 — yet it was a fluke of the grandest order that the song ever made it onto vinyl, as Mark explained: "I'm really tight with cassettes, so when I was doing demos for the Legion album I recorded two tracks on a used cassette at home which I then took in to Roddy McKenna, Jive Electro's A&R man, to see if they were worth pursuing any further for my album. A couple of days later he rang back raving about a third track which he thought had a really commercial bassline and chord structure. It turned out he'd listened past the two tracks I'd given him and latched onto the end of an old track that I'd recorded over!

"It was originally a 13-minute piece of 'cosmic' music dating from 1982, knocked up on a Pro One, CS30 and a Dr Rhythm drum machine — the chords, bassline and some of the phrases eventually became the basis of 'Touch Me (I Want Your Body)', although the original was probably about 10 bpm slower than the finished track.

"I didn't know anything about the structure of pop music at all. Most of my compositions back then were about 15 minutes long. I don't get going until after about two minutes, by which time a pop

song's nearly over!

"Then, when I was doing the Legion album, we started working up this track with all the others, but with the idea that we'd have some vocals on it. Roddy said I had to write some lyrics — and my lyrics were pretty much like my music. I think it was originally called 'And Still They Scream', a sort of blood and torture type of thing over this bouncy rhythm!

"They called in John Astrop, a producer and writer who had also been in a pop band. He went downstairs and came back with the 'Touch Me (I Want Your Body)' words. I thought to myself, 'Noone is going to buy this stuff in a million years' — boy, was I wrong!

"The female guide vocalist that John hired in had been in the Eurovision Song Contest band Bardot. She had an amazing voice, but in the end, the record company agreed with me that it was not quite in keeping with everything else on the Legion album.

"Over the next six months Jive were just looking for singers. About 60 or 70 were auditioned, both over here and in New York. Finally, they heard Sam Fox was into singing, and must have thought what better song could she ask for than 'Touch Me (I Want Your Body)'! The whole thing really came about through a series of chances."



One of Mark's gear racks, housing kit including the Studio Electronics MIDIMini, Roland D550, Akai \$1000, Emu Procussion, Oberheim Matrix 1000, Audio Architecture Function Junction Patchbay, and DAC and Diki Devices removable hard drives.

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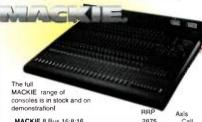
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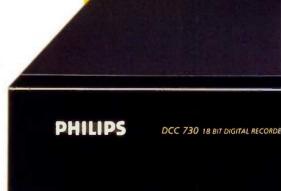
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Mark Shreeve

opinion as to whether they like it or not."

Obviously electronic music is not alone in facing this perennial problem, yet here in the UK there is currently only *one* weekly radio show devoted to the genre — BBC Radio Derby's *Soundscapes*.

THE POWER OF LIBRARY MUSIC

To all intents and purposes, Mark dropped out of the musical limelight following *Crash Head* and his subsequent departure from the Jive organisation. So how did he end up in the enviable position of owning his own state-of-the-art home-based studio several years later? In a nutshell, this can be attributed to a successful sideline in library music, with several CDs currently available.

Mark pointed out that this can be traced back to 1984, and the *Oracle* album for Bruton Music, with whom he continued to work until 1991: "A representative of Bruton came to me and said that he'd listened to *Legion* and that apart from all the 'weird shit' all over it, they'd like to remix it as a library album. They



Roland VP330 Vocoder Plus, Yamaha DX7 Mk II, and Korg M1.

took off all the jet planes, the atom bombs and the babies being murdered, and stripped the tracks down to the bare essentials.

"Having already recorded all the main tracks for *Legion*, I had no input whatsoever into my first library album. That was a one-off at the time, and became one of Bruton's most successful library music albums, with pieces ending up all over the BBC and elsewhere."

As Mark explains, by the time of Crash Head, there had been a complete reversal, with all the tracks being written for library music and then 'worked up' for the album. Nevertheless, this method of working proved no less fruitful. Mark notes that "library music worked quite well for me for a long time" -and the contents of his studio bear witness to this statement. A glance around reveals a mouth-watering selection of electronic instrumentation, including an Akai \$1000 sampler and many synths, among them an ARP 2600 modular, Korg Wavestation, Kurzweil K2000, Oberheim Xpander, PPG Wave 2.3, Roland Juno 60, Studio Electronics MidiMini, and a Moog IIIC modular system (see the 'Getting a Moog On' box elsewhere in this article) to name but several 'classic' synthesizers. A Roland Jupiter 8 has recently been sold due to space limitations!

GOING NOCTURNAL

1995 sees Mark's career coming a full circle, thanks to a new recording deal with Chris Franke's Sonic Images label. Chris has not fared too badly either since parting ways with both Jive Electro and Tangerine Dream back in 1987. Now residing in Los Angeles as a successful soundtrack composer and musician in his own right, Franke's company production offices and recording facilities command an

ROLL UP YOUR SHREEVES: DISCOGRAPHY

TITLE	LABEL	YEAR
Ursa Major	Mirage	1980
Embryo	Mirage	1980
Phantom	Mirage	1981
Fire Music	Agitastjon	1981
Thoughts Of War	Uniton	1981
Care	Y Records	1983
Assassin	Uniton	1983
Assassin	Jive Electro	1984
Oracle *	Bruton Music	1984
Legion	Jive Electro	1985
Energy Fountain *	Bruton Music	1986
Oracle *	Bruton Music	1987
Energy Fountain *	Bruton Music	1987
Crash Head	Jive	1988
Riding The Edge *	Bruton Music	1989
Power House *	Bruton Music	1990
Pulsar *	Bruton Music	1991
Assassin	Centaur Discs	1994
Legion	Centaur Discs	1994
Crash Head	Centaur Discs	1994
Nocturne	Sonic Images	1995

NOTES

The Mirage, Agitastjon and Y Records cassettealbums are long since deleted, as are the *Thoughts* Of War, Assassin (both Uniton and Jive Electro versions), Legion and Crash Head vinyl albums and cassettes. All have become collectors items.

Albums marked with an asterisk denote library music CDs, Oracle and Energy Fountain having first been released as vinyl albums and later reissued on CD in 1987. Although these library albums were never intended for public consumption, they can be obtained through C&D Compact Disc Services of Dundee, a specialist importer/distributor of electronic music, whose Centaur Discs label is responsible for re-issuing the Jive Electro albums on CD format in 1994.

impressive view of the surrounding Hollywood hillside — check out Ashok Prema's May '94 SOS feature for photographic evidence. For Mark, the Hollywood connection is no accident, as his new album, Nocturne, is unashamedly aimed at America. But the deal itself came about by pure chance, as he explains: "Just by chance, Ash Prema mentioned to his good friend Chris Franke that I had finished a new album. I then got a call from Chris, who told me about his new label. Funnily enough, I already had a Sonic Images sampling CD-ROM without having any idea that it was anything to do with Chris Franke.

"I thought it would be nice to try something from a different angle. Sonic Images might have another way of getting this music more widely distributed — it's certainly a different setup over there, and that's partly why I got involved with them.

"Chris Franke has turned out to be a very good businessman, and he's also very well-known in the soundtrack world — both the film industry and the Los Angeles-based TV industry — so I'm hoping there may be a break there. He's got so much work that he'll have to give me some of it!

"I've already done three soundtracks, but only one of them was 'Hollywood', so to speak. The



Mark's ARP 2600 modular.

other two were laughingly-titled 'budget films' — in other words, they came in at under £10 million, which is ridiculous! Although it used American actors, the first one was Norwegian-based and was a horror movie, even though it wasn't particularly frightening! The second was a comedy that wasn't that funny, and the third one a thriller that wasn't that thrilling!"

HOLLYWOOD OR BUST

As to the inspiration behind *Nocturne*: "I like electronic stuff, and a little bit of classical music, and all these things are evident on *Nocturne* — more so than on my previous two. At the time, I was really getting into bands like Nirvana to listen to for pleasure, and I've always loved bands like Talk Talk, Simple Minds and the Sex Pistols. I like a wall of sound — anything that is stupendously over-the-top with everything but the kitchen sink thrown in. I also admire people like Portishead who

can really reduce everything. I wish I could do that, but it just doesn't seem to be my style."

That said, Mark does appear to be mellowing at the ripe old age of 'thirty-something', as reflected by *Nocturne's* uplifting title track. Amused by my comparisons with Mike Oldfield's *Tubular Bells II* and Pink Floyd, Mark admits that he played the track's guitarist 'Shine On You Crazy Diamond' for inspiration. But then, comparisons with Floyd are no bad thing, given their recent smash live album success. On the strength of *Nocturne*, Mark Shreeve deserves a slice of the pie, too. The Hans Zimmers of the world should watch their backs — there may soon be a new face to contend with in Tinsel Town!

Those wishing to catch Mark in action may do so at KLEMdag '95, Europe's largest electronic music festival, on October 7th in Nijmegen, Holland.



Another wealth of gear, including the Kenton Pro 2 MIDI-CV converter, Analogue Systems TH48 sequencer, Tascam DA30 Mk II DAT, Alesis AI-1 digital interface, three Alesis ADATs, and the Sony DTC1000.

GETTING A MOOG ON: THE BACK TO ANALOGUE MOVEMENT

Recently, Mark has been able to indulge his love of analogue equipment. One of his latest purchases was Analogue Systems' 3-channel TH48 analogue sequencer (reviewed in April '95's SO5). In a quick demo, he proved he had already mastered the device, using it to control his ARP 2600's pitch, filter and envelopes so that it generated a rendition of the riff from Jean-Michel Jarre's Equinoxe V.

The jewel in the crown of his collection, however, has to be the recently-acquired (and much-sort-after) Moog IIIC modular system — the same model used by Klaus Schulze on his 1978 album X — which Mark had sourced from the United States at the overdraft-battering price of £10,000! Despite the cost, Mark is keen to stress that such purchases are not a result of collector's lust: "I wanted the Moog simply because it's got a sound I love. I'm not a collector, and although I understand why people do collect them, it's annoying for people like me who want to use them when they've

gone up so much in price. The problem with the Moog modulars is that not many were made. I heard that Japanese collectors were starting to buy them all up, so I thought I'd better get one now, before it was too late.

"In a way, I guess the collectors have increased the interest in these old synths. Even a lot of the young dance bands are interested in them — although I can't fathom why someone would want to pay a grand for something like a Roland TB303. They've got such a weak sound compared to the Moog."

I mentioned Tangerine Dream's Edgar Froese, who believes that the currently fashionable warm analogue sound is not really down to the sound source of analogue synths, but the sound of their analogue filters. Froese has gone so far as to suggest that "if you give up analogue, you give up a big portion of your musical ability". Mark expanded on this theme, with his own viewpoint: "It's like vintage cars — it comes back to this business of collectors and users. Collectors are the ones

who unwittingly put up prices by trading in them. As far as the users are concerned, I agree with what Edgar says, except to add that the instability of the oscillators is also appealing. On something like a Korg M1, even if you treat the basic sampled waveform, it will always replay in exactly the same way. It's like a sonic photograph. If you program a sound on a MiniMoog or an ARP 2600 — anything that's truly analogue — you're fighting for control most of the time, and it's this 'danger' part of the sound that turns people on. It's the detuning, whether you want it or not, that gives movement to the sound. It's as near to a living sound as you can get, and I think human beings react better to something that sounds less than perfect."

Drawing upon Mark's classic car analogy, the analogue market will hopefully bottom out one day. Nevertheless, it's reassuring to find at least one Moog modular system being put to use, as opposed to festering in a museum somewhere.



MAKING MORE OF YOUR first of a short

In the first of a short series, PAUL FARRER offers some hints and tips for improving the sounds you can coax from Emu's popular Proteus range.

t's astonishing to realise that Emu's original Proteus/1 has been around for over six years now. Of course, one of the reasons for its continuing success is that it can utilise up to 8Mb of very high-quality ROM samples, which are sourced from the legendary Emulator sample series. These samples still sound just as fresh and exciting today, which is why you find relatively few Proteus modules on the used gear market.

The success of the Proteus/1 led to the development of the Proteus/2 (Orchestral) and Proteus/3 (World) modules, as well as spawning a host of other incarnations, such as the Proteus MPS keyboard, Proformance piano modules, Emu Morpheus Z-Plane synth, and, more recently, the Emu Classic Keys and Vintage Keys. Two 'best of' modules have recently joined the series, in the form of the Proteus FX and UltraProteus, the latter boasting a massive 16Mb of ready-to-use, high-quality samples, as well as the Z-plane filters from the Morpheus.

One of the greatest endearments of the Proteus family is that the original design is alive and well, and has remained virtually unchanged from the first module, so much so that the owner's manual is exactly the same for all of the first three Proteuses (or should that be Protei?). As a result, anyone familiar with the operational

aspects of one Proteus can easily navigate their way around any of the others. Even more complex machines like the Morpheus follow the same basic menu structure.

A brief flick through the SOS Reader Ads shows just how well these modules hold their value. This can be partially explained by the vast editing potential that lies within the entire Proteus range, for despite the simple operating system and the lack of resonant filters in the basic Proteus modules, the machines are surprisingly flexible when it comes to both preset tweaking and original sound construction.

PROTEUS SOUND BASICS

All Proteus presets can be made up of a single sample or two individual samples playing at the same time, and Emu refer to these as Primary and Secondary instruments. In most respects, the edit pages treat them as two distinct samples, each with its own ADSR envelope parameters, start and end points, volume and pan settings, and so on. Of course, many of the ROM samples sound great in their 'natural' state (such as the acoustic guitar, piano and hammond organ) and don't need additional work to enhance them, but the ability to layer sounds is very useful for creating either non-imitative sounds, or for thickening ensemble sounds like strings or brass.

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Pitch shifting is another side to sample treatment that can easily be overlooked. The Proteus's internal samples often take on a new life when they are dropped by a few octaves and start to rattle around the grainy sub-bass range. Sample '042 Bass Synth 1' is a good example of a such a sound. Start by dropping the pitch by 24 points (to two octaves below normal), then try trimming the 'sound start' time. A setting of 025 will be just enough to take the edge off the front, giving the sample a much smoother, almost Moog-ish feel. Alternatively, trimming the start point by 050 and using the Key/Velocity tone control level evokes a much more 'analogue sub-bass' sound. Likewise, the percussive attack to the Proteus/2 Glockenspiel sample can be used to emulate your favourite Javanese Gamelan orchestra simply by tuning the whole sample down by 36 semitones!

MAKING MORE OF YOUR EMU Proteus

FATTENING THAT SAMPLE

Chorus is the only true effect that is readily usable within the first three Proteus modules, but creating 'virtual effects' within a preset is possible to a limited degree. On the Proteus/1, the chorus can only be set to either 'on' or 'off', whereas in subsequent models you can specify a level of chorus effect between 1 and 15. This effect certainly helps to fatten a sample, and is very effective with synth sounds, but can make some instruments sound a little unnatural (particularly when used with guitar sounds).

One way to avoid this is to simulate a stereo ADT (Automatic Double Tracking) effect by setting both Primary and Secondary instruments to the same sample (such as 032 Ac.Guit). By panning the two samples left and right, and adding a little detuning, say -02 for the Primary and +02 for the Secondary, the illusion starts to take shape. Now all that remains is to add a hint of delay to the secondary instrument — a setting of about 002 is quite sufficient. This patch creates a wide stereo image, and may be used as a template for other ADT-type patches simply by changing the samples. Try using it with '057 Snare Drums', or even better, in the Proteus/2, '015 Solo Cello'. Remember, though, that any doubling up of sounds also reduces your available polyphony.

Despite having no internal reverb, factory preset '001 Hall Strings' gives the impression of ambience. Two identical string samples run alongside each other, and as with the ADT effect, the secondary instrument is very slightly delayed, but here, it is given a longer release time and effected further by applying top-cut via the Tone parameter. The Tone filter is accessed via the Keyboard and Velocity Modulation Control Page. Try setting your Primary instrument as follows, and you'll notice a considerable warming of the sound:

KEY/VELOCITY CTL 1 K>ToneP + 127

This is especially effective when used in conjunction with the chorus effect to thicken the bottom end of bass samples, or add depth to some of the brass sounds.

		rk	IMA	K I		SECONDART							
Instrument	(012	Synth	Flut	e	009 Voices							
Pan			+02			-02							
Delay			000			019							
Alt Env			ON					ON					
	A	ш	0	c	D	A	ш	-	e	D			

PROTEUS MORPHING TEMPLATE

	Α	Н	D	5	R	A	Н	D	5	R
	A 08	00 61 00	32	56	00	56	99	65		
Xfade Mode					Xfa	de			1	
Xfade Direction				Prin	nary >	Secondo	згу			
Xfade Balance					06	4				
Xfade Amount					25	5				

MORPH FOR YOUR MONEY

While the Morpheus is capable of seriously mangling audio with its 14-pole filters, the process of 'morphing' one sound into another by means of careful crossfading is something that you shouldn't be afraid to attempt in the first three Proteus modules. Indeed, the Proteus World includes a preset entitled 'Flute Transform' in which the 'Nev flute' sample gently crossfades into a waterphone harmonic. This is achieved quite simply by delaying the start time of the Secondary instrument to coincide with the apparent ending of the Primary. It then remains to adjust the fade out of the first sound and the fade in of the second to achieve a smooth transition. Again, your finished patch can serve as a template for almost any two-sample crossfade preset; see the 'Morphing Template' box for an example. The two samples can also be panned, so that the sound sweeps across the audio image as it changes.

Strictly speaking, of course, this is crossfading rather than true morphing, but nevertheless, the transition can be made to feel very smooth and natural. However, some sounds 'morph' in this way more convincingly than others — I find that reeds turn into voices, and strings into choirs extremely convincingly.

BE A REAL-TIME CONTROL FREAK!

The MIDIPatch System is the Proteus's sophisticated way of allowing continuous controllers such as pitch bend, modulation, aftertouch and so on to be assigned to do a number of different, specific jobs. The practical result of this is that you can control things like crossfade amounts with the modulation wheel, or lengthen the release time of the samples using aftertouch. One very effective application is to assign a controller to the LFO amounts and rates. The Proteus/1 factory preset '009 B3 Mod>Lesl' uses the modulation wheel to trigger a stereo Leslie effect in this way, but it's equally simple to use the pitch wheel as an 'expression' controller, by adjusting the settings as follows:

REALTIME CTL 1 PWhl > Volume

This is great for adding realism, particularly when playing string parts, or any other instruments that need to swell and diminish over the course of a single note.

DATA DUMPING

Hidden away in the upper ranges of the 'Master Menu' pages is the 'Send MIDI Data' page. This is the Proteus's way of talking to the rest of the world, via SysEx dumps. The design of the Proteus is such that instead of having a number of song 'patches' in which you can store setup data, the Proteus has, in effect, only one setup patch which runs continuously. Whenever we select a preset or change a MIDI channel volume level, this setup

patch is altered. In real life, each song you compose on your sequencer is likely to require a completely different set of presets, pan settings and so on, so 'Master Settings' is the Proteus's way of reminding itself what it was doing the last time you used it.

To store the Master Settings for any given song in your sequencer, connect the MIDI Out of your Proteus into your sequencer's MIDI In, and select a spare sequencer recording track, preferably right at the beginning of the song. Place the Proteus cursor under 'Master Settings', put your sequencer into record, and press Enter on the Proteus. The setup data is stored on the sequencer as a short burst of SysEx information. When played back into the Proteus, this causes the master settings to revert instantly back to the state they were in when the SysEx data dump was sent.

The 'Send MIDI Data' page can also be used for storing banks of presets in an external MIDI device, so you can make backups of your edited sounds. You can send the entire bank or individual presets this way, and as with the Master Settings, playing back the data into the Proteus is a destructive process, insofar as it instantly overwrites the preset information previously stored in those memory locations. Dumping onto your sequencer is a great way of building up banks of preset data onto floppy disks, which you can then swap with your

MORE SIMPLE TWEAKS

Even though the Proteus range is stocked with (on the whole) recognisable instrument samples, you can still produce a broad spectrum of abstract sounds, simply by using and combining familiar sounds in an unfamiliar way. For example, take the percussive attack off a piano sample by setting up a longish attack, and you end up a bowed sound most unlike a piano, which can be used as it is, or layered with something else. Take the attack of a bass guitar and crossfade that into the decay of a piano, and you have a new bass sound. On the other hand, put a slow attack on a tubular bell, and you obtain the haunting church bell-like timbre reminiscent of so many horror films. There are literally thousands of sounds you can create using this simple technique, and if you take the time to set up a couple of basic template patches, you can run through a lot of possibilities in just a few minutes, simply by switching samples.

Another trick you can use to add movement to a

sound is to use the LFO to modulate the level of the two samples, but set a negative modulation amount on one of the samples. What this does is make the LFO modulate the balance of the two sounds — as one goes down in level the other comes up. By choosing something like two different string or pad sounds as your basic samples, you can introduce a useful degree of tonal movement without making the sound unnatural

The Proteus does allow you to reverse samples. but once they're reversed, they become one-shot sounds — the loops no longer work. Even so, a reversed percussive sound can make an interesting contribution to the attack portion of otherwise familiar sounds.

As is so often said in these pages, the key to creativity is experimentation, and fortunately, the Proteus is a very friendly instrument to edit which can only encourage you to experiment further.

friends for digeridoo construction tips. Once you get into the habit of storing 'Master' data at the start of each song, you'll wonder how you managed for so long without it.

Next month, I'll be providing a few tips on convincing orchestration with your Proteus.

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AMBIENCE

ack in the '60s and '70s, when the sum total of guitar effects came to spring reverb, tape echo and the newly-emerging fuzz boxes and wahwah pedals, any serious player would have gnawed off his own back legs for a unit like this, but in the 'instant gratification' 1990s, the immediate eye-opener about Zoom's new 1010 Player is not the features, but the amazingly low price. Guitar digital multi-effects in pedalboard format have been around for a number of years now, and many of them are truly excellent, but for the amateur guitarist just wanting to add a bit of spice to his live sound or bedroom recordings, price has often been a barrier.

Zoom have done more than most to democratise good-sounding guitar effects, and have built units in all forms, from floor- and rackmounts to effects you can actually wear. But it's not the shape that matters, it's the sound, and while some other designers have tried to recreate the classic tube amp sounds using digital technology, Zoom have always kept their overdrive stages analogue, which no doubt explains the warm, exciting overdrive sounds for which their boxes are renowned.

PLAYER IT AGAIN, ZOOM

The concept behind the 1010, the latest in the Zoom Player range, is obviously to combine a good

range of sounds with an easy operating system for as low a selling price as possible, and as with all low-cost versions of things that should cost more, some compromises have been made. In this case, the whole unit works in mono, even the reverb, and listening to the effects in isolation makes it quite clear that whatever circuitry is in there is working to its limit. In a studio effects unit, this might be bad news, but when it comes to recreating classic guitar sounds, it sometimes actually helps — the reverb sounds much like the spring reverb in an old combo, while the delay has a slightly dull, slightly crunchy quality which reminds me of the old tape loop echo boxes I used to own.

Physically little longer than this magazine, and about as wide and thick as a typical paperback novel, the 'carpet carbuncle'-powered Zoom Player can produce up to 25 basic effects types — up to six of these simultaneously. All the effects are arranged in series, and the chain itself comprises five effects modules, each of which can be set to produce one or more effects types (see the 'Chain Gang' box for a full rundown). Each of the effects blocks has up to four parameters that can be adjusted.

Patch levels may be adjusted, and the way the effects are arranged provides 30 factory presets and 12 user locations. You also get a very handy guitar tuner built into this unit, something a lot of

ZOOM 1010 PLAYER E170

PROS

- Great overdrive sounds.
- Dead easy to use.
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CONS

- Effects are in mono only.
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SUMMARY

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ZOOM

→ '60s bands could have done with — I know, I played in one of them!

Four pedal-type non-latching footswitches are used to navigate through the effects, which are arranged as 16 banks, each containing three patches. The switch on the left selects the bank, then the other three switches provides direct access to patches one to three. The same switches put you into tuner mode when you need it.

THOSE EFFECTS BLOCKS IN FULL

At the front end of the effects chain is the Comp/Wah module, which is capable of compressing the input signal and handling wahwah filtering at the same time — which is how you can get six effects out of five modules. In fact, this section also includes a basic tone equaliser, which can be adjusted to emphasise either the bass or treble end of the guitar spectrum. If you want to use the wah-wah effect with a pedal, a rear panel socket allows a Zoom FP01 to be plugged in (which may also be used to control volume).

The Distortion block has the most options, and for me, it's the best part of this little box by far. There are eight basic guitar voicings to choose from, ranging from strictly clean to ear-shredding filth, and these voicings may be selected with or without the amp simulation. Normally, you have to use amp simulation, because a full-bandwidth overdrive sound fed into a full-range monitoring system invariably sounds like a bee in a coke can, but with this little unit, that isn't the case. Though they sound different, the settings both with and without amp simulation sound smooth enough to record. I have a feeling — although this isn't explained in the manual — that the digital effects operate at a very low bandwidth, to match that of the electric guitar. Because of this, the analogue distortion is filtered via the digital converters. More tone control is included in the Distortion section, and you can also switch in Zoom's own ZNR noise reduction circuitry to remove the hiss and hum that inevitably fills the gaps between notes when you're using very high overdrive levels.

The equaliser block is configured as a 4-band EQ comprising Low, Mid, High and Presence parameters, and cut and boost is provided in all ranges. Following close on the heels of the EQ is a chorus/flanger which can be set to work as a chorus unit, a flanger or a doubler for producing slapback, ADT-like sounds. Here, control is provided over rate, depth and feedback.

The final module is dedicated to reverb and delay, though you can only choose one or the other. At

maximum, you have 420ms of delay at your disposal, and this setting produces a sound much like a classic spring reverb — except, of course, that it doesn't go 'thwongggg' when you kick it.

THE SOUNDS

If you've used a Zoom processor before, the overdrive sounds are immediately recognisable, and there are plenty to choose from, including vintage fuzz and metal stack sounds. On the more subtle front, there are also one or two bluesy sounds, but this box works best when it's screaming.

After being used to top-end effects, the digital section of this unit was, I felt, initially disappointing, and I think that's mainly because of the reduced bandwidth. Even so, when you listen to the effects in context, I have to admit that they sound quite authentic. It's also odd hearing effects in mono, but you could soon spice up the output by adding a little stereo reverb of your own from an external processor. The maximum reverb time is actually rather short, but as I mentioned earlier, it sounds very much like a spring, which is no bad thing for guitar use. I rather liked the soft and crunchy delay too, but I felt the chorus effect was too flaccid to help the sound along much.

SUMMARY

Like the proverbial curate's egg, this product is good in parts — and given the attractive price, it shouldn't be criticised too harshly. My main gripes aren't aimed at the quality of the effects, but at the large disparities in level between some of the factory presets, and at the kinds of clean sounds you can get. Again, I suspect this is all down to effects bandwidth, but I found all the clean sounds rather too dull for my liking — and they don't come close to those available on the mid-priced Zoom boxes. On their own, the effects sound rather lifeless and strained, and the fact that they are in mono means you get none of that wonderful sense of space and movement you'd expect from a stereo chorus or reverb unit.

But while some of the effects may be lacklustre, the palette of powerful-sounding overdrive voicings more than makes up for it. If the effects are used to add a gloss to the basic sounds rather than to form an integral part of what you hear, they're fine, and for most classic guitar sounds, this is exactly what you want. If you're working on a budget and your main need is to create rock or blues sounds, then you won't go far wrong with this little box of tricks — it's an ideal companion for a Portastudio or similar setup. On the other hand, if you demand something more, and you like your effects spread thickly, buy the next Zoom up in the range.

THE (EFFECTS) CHAIN GANG: 1010 EFFECTS BLOCKS

• COMP/WAH

Pedal input may be assigned to wah-wah.

• DISTORTION

Rhythm, Classic OD, Valve OD, Vintage Drive, Drive Master, Fuzz, Power Lead, Metal T. All are available with or without amp simulator. Also Tone and ZNR (noise reduction) facilities.

• EQUALISER

Low, Mid, High and Presence; pedal input may be assigned to control volume.

- CHO/FLG Chorus, Flange or Doubler.
- REV/DLY Hall, Room or Delay.

PROGRAMMING

All the available parameter names are displayed in a printed matrix on the top panel, while the parameter values are shown in the two-digit LED window which normally provides patch and bank information. Cursor buttons steer LED markers along the bottom of the rows and up the side, so

you can get a fix on the parameter you're changing, and simple up/down buttons do the rest. Because the number of parameters is relatively small, programming and editing is very fast and simple, but you may find that having only 12 user memories is a touch limiting.

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PART 2 OCISICS

PAUL WHITE's absolute
beginners' guide to
MIDI continues.
This month, he
explains the concept
of MIDI sequencing.

o anyone used to playing and recording using traditional methods and skills, the MIDI sequencer is sometimes viewed as little short of cheating, but to the sequencer user, MIDI and sequencing are seen as practical tools that make complex multi-part composition and performance a reality. Before MIDI appeared, few people could compose a symphony (or pop song, for that matter) and ever expect to hear it performed; now almost anyone can turn their musical ideas into a performance using affordable technology.

Before exploring the mechanics of sequencing, however, I'd like to tackle the idea that sequencing is somehow 'cheating' by looking at how things were done before the introduction of MIDI.

WHAT DID WE DO BEFORE MIDI?

Having never personally written a symphony, I can't detail the exact stages involved, but I expect it goes something like this...

The composer sits at his or her chosen instrument testing musical ideas, and the ones that make it are then written down on manuscript paper for the various sections of the orchestra to play. The composer visualises (or should it be auralises?) the parts already written down while adding new sections, harmonies and so forth. Then, when the music is nominally finished, the score will be scrutinised and any required alterations or adjustments will be made.

Once the score is complete, an orchestra will be hired and given copies of the score, and the music will be played back as written by the composer. The composer, who may not even be able to perform to an acceptable standard on even one instrument, has conceived a piece of music and

then written a list of instructions in the form of a musical score in order that a musically proficient orchestra can perform it. But has anyone ever accused Stravinski or Beethoven of being cheats, because they couldn't play all the orchestral instruments themselves? I think not.

In contrast, let's see how the MIDI composer writes. As with the orchestral composer, the work usually starts at the keyboard, but this time the keyboard is a MIDI instrument connected to a MIDI sequencer. Instead of writing down a score, the composer will record sections of the music into the sequencer against an electronic metronome set to the desired tempo. Instead of scanning a score to verify what's been done, it's a simple matter to play back the MIDI sequence to hear exactly what has been recorded. Best of all, you don't have to hire in an orchestra — a relatively inexpensive multitimbral synthesizer will provide all the sounds for you; each 'part' of the multitimbral synth plays one line of your electronic score.

In some ways, the sequencer is better than the written score, because it can play back a part exactly as you played it in the first place — it doesn't necessarily have to 'quantise' everything to equal subdivisions of a musical bar, as the written score does. And, just like the written score, if you're unhappy with something you've done, you don't have to start from scratch; you just erase the unwanted notes and 'write' in new ones.

When you summarise the way a musician composes using a sequencer, it isn't really too different from the way a traditional composer works. Both types of composer are likely to edit their compositions to some degree before they're entirely happy with them, and both bring in performers to play the finished composition. It doesn't really matter whether the finished piece is played by a bank of synths or by a hired orchestra whose role is simply to reproduce the composer's original work as faithfully as possible. My verdict, then is that electronic composition is as legitimate as any other form of composition. Note that I have no intention of fuelling the 'synths versus real instruments' debate at this point. If you have the talent to write a major symphonic work using synths, you can always get your computer to print out the score and have a real orchestra play it for you later!

Having covered the philosophical groundwork, it's now time to look more closely at the MIDI sequencer.

MIDI AND SEQUENCING

What exactly is a **sequencer**? It's often convenient to visualise **a** sequencer as being analogous to a multitrack tape recorder, and indeed, the 'layers' or parts of a sequence are recorded onto tracks, but it is vitally important to understand that what is being recorded is *not* the sound itself, but the electronic equivalent of a musical score. Just as a musical score is a series of instructions to the musicians, a MIDI sequence holds a series of instructions which tell your synths what to play. In some ways, a better analogy might be the player piano or pianola, where

MIDI AND SYNCHRONISATION

MIDI sync was covered in some depth in Part 1 of this series, but it is useful to recap here on the main points.

Sequencers with integral hard disk recording facilities offer a great way of combining audio with MIDI, but they still tend to be expensive and there's also the problem of backing up very large audio data files. Because of this, most people still use multitrack tape, but there's no advantage in recording your sequenced material to tape if you can find a way of making the sequencer run in sync with your multitrack.

The easy answer is to record some form of MIDI sync code onto tape. This means you give up one

tape track to record the necessary sync code, but you gain as many 'virtual tracks' as your sequencer and synth/sound module collection can provide. The simplest way to achieve this is to use a 'Smart FSK' MIDI-to-tape sync box which you can buy for as little as £100. These use both MIDI Clock and MIDI Song Position Pointers to ensure that your sequencer starts at the right time and remains in perfect synchronisation with your multitrack, regardless of whether you play the tape from the start of the song or from half way through. For more on MIDI sync, FSK, and Song Position Pointers, take a look at the article 'Synchronisation Explained', starting on page 186 of July '94's SOS.

a punched paper roll holds the instructions that make the piano play, except in the case of MIDI, you have a multitrack, a virtual 'paper roll' capable of controlling many instruments at the same time.

In a typical setup, a MIDI instrument (usually, but not invariably, a keyboard) is connected to a sequencer via a MIDI cable, and when the sequencer is set to record, any notes played on the keyboard are recorded as MIDI data into whichever sequencer track has been selected for recording. In a simple system, you might have 16 MIDI tracks set up so that each is on a different MIDI channel, and if you feed the MIDI output of the sequencer to a 16-part multitimbral sound module, you can play back all 16 tracks at once. If you only have an 8-part multitimbral module, then you can only play back eight different sounds at once, in the same way that a real-life string quartet can only play four lines of music at the same time.

To avoid having to switch the MIDI send channel on your keyboard every time you want to record onto a new sequencer track, modern sequencers convert the incoming MIDI data to the appropriate channel for the track you're recording on. This makes life very easy, because once you've completed one track, all you need do is select the next one and carry on playing.

The remaining capabilities of a MIDI sequencer

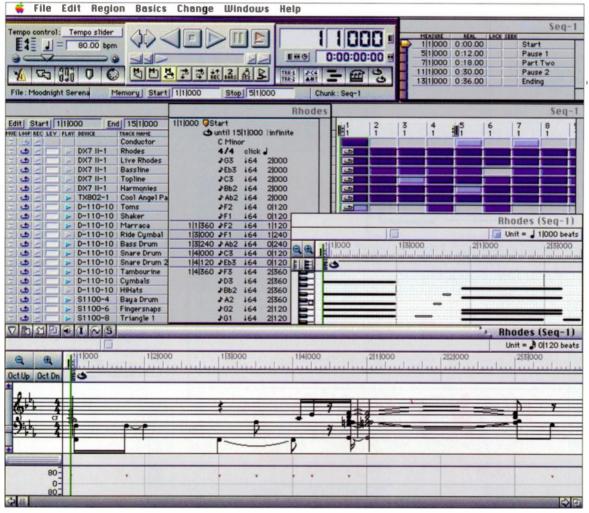
bear more resemblance to a word processor than anything else. Like a word processor, you can delete or replace wrong characters (in this case, musical notes) and if you want to use the same phrase more than once, you can copy it and paste copies into new locations to save having to do the same thing lots of times. For example, if a song has the same structure for each chorus, you only need play the chorus once, then copy it to any place in the sequence where you'd like another chorus to appear.

Of course, there's more to MIDI data than notes, and a sequencer will record just about any MIDI data you throw at it, with the exception of MIDI clock — a sequencer has its own timing clock. Nevertheless, you can synchronise a sequencer to an external source if you wish, such as a tape machine (via a suitable sync box) or to a MIDI drum machine.

Unless you deliberately filter out certain types of MIDI data, you'll find that your sequencer captures Note On/Off, Pitch, Velocity, Aftertouch and Controller information as well as MIDI Program Changes and even System Exclusive (SysEx) data. If these terms are unfamiliar, fear not — we'll be looking at Controllers and Program Change information next month. There's even *less* need to worry about the concept of SysEx data at this point, but it is useful to know that it is possible to

"Has anyone ever accused Stravinski or Beethoven of being cheats, because they couldn't play all the orchestral instruments themselves?

I think not."



MOTU Performer 5.0 main screen.



record a SysEx dump of all your synth sounds at the start of a song, so that when you first play the sequence, your synths are automatically loaded up with the appropriate set of new sounds to play that particular musical sequence.

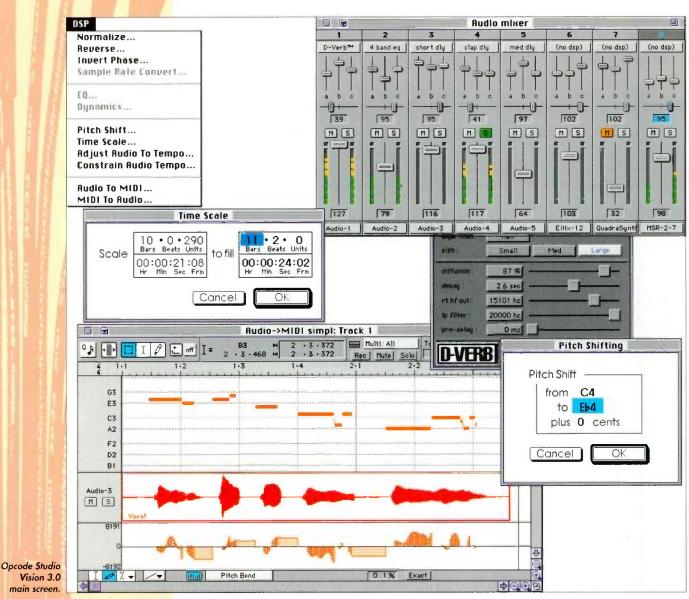
A MIDI Program Change command recorded during the count-in period of a track will ensure that the connected synth switches to the correct sound patch before playback commences, but you can also insert Program Changes part way through a track (as many times as you like) if you want the sound to change for, say, a solo. This is the orchestral equivalent of writing a note on the score at a certain bar number to tell a violin player to put down his violin and play the next part on a flute! This isn't something you'd usually do in real life, but a MIDI sound module is equally proficient on all instruments and, as yet, MIDI modules don't have trade unions!

When your sequence is played back, the sequencer transmits the MIDI information to the receiving synth(s) — or sampler, drum machine, and so on — in exactly the same order, and with the same timing as you originally played it. If you so wish, you can change the tempo after recording without affecting the pitch (unlike a tape recorder, where you're dealing with sound rather than MIDI data). If you're still not sure why the pitch doesn't increase as the tempo goes up, think back to the orchestra and score analogy; if the conductor asks for a piece to be played faster, the orchestral instruments don't change in pitch. Similarly, if you pedal a pianola faster, the paper roll will be played faster but the piano's tuning will remain the same.

In reality, MIDI does has a finite timing resolution, because the sequencer or computer sending the MIDI information has to work to an internal timing routine based on an electronic clock. However, in practice. MIDI is far more accurate than a typical human performer, and is capable of resolving a bar of music into at least 960 time divisions, and frequently more.

SEQUENCER TYPES

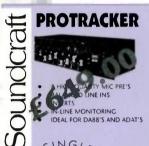
All MIDI sequencers are based on computer technology, but you have a choice of buying a sequencer system that runs on an existing computer



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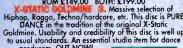
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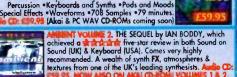
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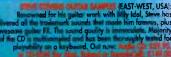


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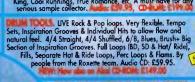


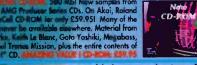


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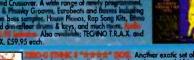


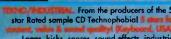






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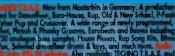














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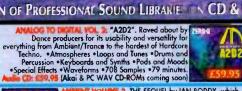










































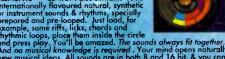


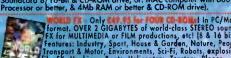


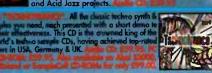














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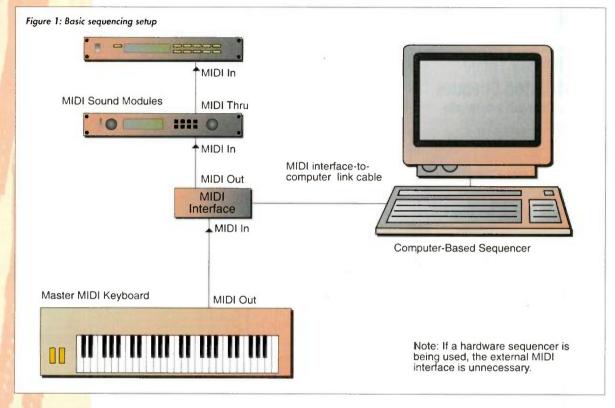




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or printer ports on the machine, while PC users need an interface card which goes inside the computer. A basic sequencing setup is shown in Figure 1, and to keep things simple, I've depicted a 'dumb' master MIDI keyboard; if you have a MIDI keyboard that includes a sound generation handles the basic 'recording' and arranging, plus a number of further pages which address various aspects of editing and, where applicable, scoring. The record and playback controls are designed to look something like a tape recorder's transport control, and the edit pages usually allow you to



section, simply select Local Off and connect it up like any other synth module.

The majority of the leading software sequencing packages have adopted the style of user interface pioneered by Steinberg in their *Cubase* software. This typically comprises a main screen page, which

examine (and change) the recorded data in several ways: (i) as a list of MIDI events; (ii) graphically, in the guise of a 'piano roll' display; or (iii) in the case of 'score' versions, in the form of a conventional musical score.

Some software sequencers include sophisticated scorewriting facilities which enable you to print out sheet music for your compositions, in which case you'll need a printer that is compatible both with your computer and the software package. However, some musical literacy is useful, because the computer doesn't always interpret what you play in the same way that a trained scorewriter would.

QUANTISATION

One important feature common to both hardware and software sequencers is the ability to quantise data after recording - a useful feature for those musicians not possessed of a perfect sense of timing. Essentially, when you choose to quantise something, the timing is changed so as to push each note you've recorded to the nearest exact subdivision of a bar. For example, if you are working in 4/4 time, and you select 16 as your quantise value, all the notes becomes locked to an invisible grid which in effect divides the bar into 16 equal time slots. Quantise must be used carefully as it can strip all the feel from some types of music; however, if you're doing dance music where precise timing is essential, the quantise feature is indispensible.

The most recent computer-based sequencers allow you to unquantise data as well as to quantise it, but be aware that some less advanced software sequencers and a number of hardware sequencers perform what is known as destructive quantise. So

if you think you might need to go back to the original version, it's vital that you keep a copy of the sequence.

Another feature which I find really valuable is what is usually referred to as percentage quantise. Using this, you don't have to make all your notes snap to the quantise grid; instead, by setting a quantise value of say 50%, you can have your notes moved to a position that's half way between where you originally played them and the nearest time slot in the quantise grid. This is great for tightening up your playing without losing all the feel.

Yet another quantise-related function is swing, where the quantise grid is moved away from regular slots to alternating longer and shorter slots. This can be used subtly to add feel or used more aggressively to turn a 4/4 track into a 2/4 track, say. It's now even possible to load in third-party groove templates (such as DNA Grooves) created from the timing of real players.

EDITING

From the editing pages of a typical sequencer, you can change the value, timing, and velocity of any of the notes you've played. Alternatively, you can build up compositions manually, by placing new notes onto the quantise grid in non-real-time, rather like writing out a manuscript. The non-real-time entry of note information may also be referred to as **step-time entry**.

A number of related non-destructive (ie. the operation is not permanent and can be reversed) editing options are sometimes available, including the ability to transpose your music, either as you play or after recording. You also usually have the

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you can even compress the dynamic range of your MIDI data to even out the difference between your loudest notes and the quietest ones, as well as delay or advance tracks relative to each other (to make timing adjustments). This is frequently achieved by recalculating the note data during playback, but the real data isn't changed, so you can always revert to your original performance data.

HARD OR SOFT?

Software sequencers have several obvious advantages over hardware sequencers, but that doesn't mean that they're better — it all depends on what facilities you need and whether you want your sequencer to be portable. SOFT OPTION

The main pros of software sequencers are as follows:

- · A good visual interface.
- More comprehensive editing facilities.
- You can still use the computer for other purposes.
- You're not fied to one manufacturer for software upgrades — if somebody comes out with a better program, you can always move over to it.
- Most computer sequencers support multiple MIDI output ports via a special multi-port MIDI interface.
 This means you are not restricted to 16 MIDI channels and a typical system will provide six output ports, giving you up to 96 MIDI channels to work with.
- The most popular sequencer software packages now allow you to transfer song data from one computer platform to another and, in some cases, even from one manufacturer's software sequencer to another's.
- Professional standard score printing is available from many sequencing packages, using either an inexpensive ink-jet printer or a laser printer.

HARD OPTION

Hardware sequencers have their advantages too, the main ones being listed below:

- · One-box solution to sequencing.
- Generally more reliable than computers in live situations or when being moved from studio to studio.
- Although they may have fewer editing options than a software sequencer, they also tend to be easier to use.
- You don't have to learn to use a computer before you can begin to learn your sequencer software.

MIDI DRUMS

It is possible to sequence the sounds from your drum machine just as you can any other type of MIDI sound module, but remember to turn off the drum machine's external MIDI sync first, otherwise every time you start your sequencer, the drum machine's internal patterns will start to play. Unlike a conventional instrument, where each note on the keyboard plays a different pitch of the same sound, drum machines place different sounds on different keys, allowing access to many varied drum sounds. Because it's difficult to play a complete drum part in one go via a keyboard, it is common practice to spread the drum part over several sequencer tracks — enabling you to record, say, your bass and snare first, your hi-hats next and finally your fills. This method of working makes it easy to edit your drum tracks later,

without having to work out what note corresponds to what drum sound. And once the drum part is completed, of course, you can always merge the drum tracks into one for convenience. Most sequencers offer a suitable track merge function these days.

SUMMARY

MIDI sequencers are very powerful tools both for music composition and recording, and because they have grown so sophisticated, there are still a great many features that I haven't discussed. For example, MIDI allows you to remotely control the volume of your instruments, so by recording MIDI Volume information (Controller 7) in your sequences, you can create automated mixes.

Wonderful though sequencers are, they are still far from perfect. Aside from the inevitable software bugs that creep in, they tend to force you to work in a way that you probably wouldn't adopt if you were playing and composing conventionally. Most insidious is the metronome or tempo click that you have to play along to, and although you can turn this off and record 'freestyle' regardless of bar positions, you won't be able to quantise your data (for an explanation of quantisation, see the box elsewhere in this article), and you won't be able to print out a meaningful score. This means that tempo changes have to be planned ahead rather than being intuitive. Although software designers are now including features to help you in this area (such as re-barring), it takes a lot of determination to move away from the fixed tempo, four-to-thebar, music that we've all become so accustomed to.

Despite the pitfalls mentioned, MIDI sequencing still offers far more advantages than disadvantages, and used creatively, it makes many things possible that would have been far too impractical or expensive in the pre-MIDI era. And finally, don't think that sequencing is difficult — once you've made a start and seen how easy it is to handle the basics, you'll wonder why the manuals ever needed to be so thick!

AVOIDING MIDI PROBLEMS

A basic MIDI sequencing setup starts at your keyboard—it's here that the MIDI information to be recorded originates. The master keyboard is connected via its MIDI Out socket to the MIDI in of your MIDI interface, or directly to the MIDI in of your hardware sequencer or Atari ST. As mentioned earlier, if your keyboard includes a synth section (in other words, if it makes sounds), then turn Local Off and patch a MIDI cable from the sequencer's MIDI Out to the keyboard's MIDI in.

If you have other MIDI modules in the system, you can daisy-chain them in any order by feeding the MIDI Thru of one piece of gear to the MIDI In of the next, as described last month. Up to three modules can normally be chained in this way without problems, but longer chains may cause stuck or missed notes (due to corruption of the MIDI signal), in which case you should use a multiple output MIDI Thru box connected to the output of your sequencer and then feed each module (or short chain of two or three modules) from separate outputs on this Thru box. MIDI Thru boxes were explained in Part 1 of this series, last month.

If you've connected up your system as described but

no sound comes out, here are a few things you might want to check before you get into serious panic mode.

- Check that everything is switched on and that your synth modules are set to Multi or Sequencer mode (assuming you want to use them multitimbrally).
- Check your MIDI cable connections and don't rule out the
 possibility a faulty MIDI lead. Some modules have a
 combined MIDI Out/Thru socket; if so, ensure MIDI Thru
 is enabled (see handbook for that piece of equipment).
 To help narrow the problem down, most sequencers
 have some form of indication that they're receiving MIDI
 data and many modules have a MIDI light or other
 indicator that blinks when data is being received.
- Check that you've set the MIDI channels correctly on your modules and that Omni mode is switched off on all modules. If two or more instruments try to play the same part, the chances are you've either got more than one module set to the same MIDI channel or something's been left set to Omni. If your master keyboard plays its own sounds when you're trying to record using the sound of another module, check that Local Off is really set to Off.
- If playing a single note results in a burst of sound, rather like machine gun fire, or if you get stuck notes or apparently reduced polyphony, the chances are you have a MIDI loop. In a MIDI loop, MIDI data generated by the master keyboard passes through the sequencer and somehow finds its way back to the input of the master keyboard, where it starts its round trip all over again, rather like acoustic feedback. This usually happens when you are using a keyboard synth as your master keyboard and have forgotten to select Local Off.

If you have one of those rare instruments with no Local Off facility, you'll probably find that your sequencer allows you to disable the MIDI Thru on whatever channel your master keyboard is sending on (most people leave it set to channel 1).

If you are unfortunate enough to have neither facility, then all you can do is record with the MIDI In disconnected from your master keyboard and use the sounds from external modules. When you've finished recording, you can reconnect the master keyboard's MIDI In, if you wish, and use it to play back one of the recorded parts or to layer with an existing synth voice.

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3G's new 4-buss Mynah
Plus is not just a mixer
— it also features
built-in single-ended
noise reduction. But
does this lift it above the
competition?
PAUL WHITE finds out.

nce again I'm confronted by another small, 4-buss mixer trying to carve its niche in an increasingly competitive marketplace, but this particular model is distinguished by the inclusion of Rocktron's patented Hush single-ended noise reduction system (more of which later).

Ruggedly built from sheet steel, the Mynah Plus is designed for rackmounting; all the controls and connectors are positioned on the front panel. All the line and group inputs are balanced, while the tape inputs and outputs are on phonos, with a nominal -10dBV operating level. Power is provided via a captive mains lead, and unlike many of the newer mixers, whose pots are supported

external line inputs, simply by switching the Bus/Mon switch in the corresponding group section. This is a sensible idea for home 4-track recording applications. Each group has its own pre- and post-fade aux sends, plus a pan pot, which positions the group signal within the stereo soundstage during mixing. Separate solo buttons are provided for all four groups.

As you might expect, the master section is pretty straightforward, with the main console L-R outputs on balanced XLRs, and a third mono output, also on XLR. The L-R master outs have insert points on TRS jacks, so you can put a compressor or EQ across your final stereo mix should you want to. There are four separate aux returns, which can be used as either two stereo pairs, or switched to mono, in which case the signal appears centre stage. Rotary level controls are fitted to each return, and directly above these are the two aux send master output level controls. Metering is via a pair of 7-section bargraphs, the right of which doubles as a solo meter when any solo button is depressed. A large green solo LED positioned over the meter provides

meter when any solo button is depressed. A large green solo LED positioned over the meter provides

3G MYNAH PLUS 16:4:3 MIXER

almost entirely by the circuit board, the Mynah's are firmly secured to the front panel using nuts.

LAYOUT

As a console, the Mynah Plus is determinedly conventional, with four mono mic/line input channels (with insert points), and six further channels offering stereo line-level operation, or mono mic operation (without insert points). Mono

line operation is also possible by plugging only into the Left input jack. Phantom power is available globally, and a green LED in the master section shows that phantom powering is active.

The Input Gain Trim control is followed by a three-band, fixedfrequency EQ, operating at 12kHz +/- 15dB, 550Hz +/-12dB and 50Hz +/- 19dB. There is no EQ bypass, and there are just two aux sends, one factoryset pre-fade for foldback use, and one post-fade for use as an effects send. Each send can be configured as either pre- or post-fade by moving jumpers inside the mixer itself. Each channel has a solo button and peak warning LED, but no mute, and routing is via the conventional combination of pan pot, and L-R, 1-2 and 3-4 routing buttons. The faders are short-throw types, and above each is a small scribble area.

Each of the four groups has its own output jack, but there are also four group input jacks, which allow the groups to be used as tape monitor or a firm reminder that solo is in use. In solo mode, the PFL signal level is shown on the meters to allow you to set the input gain trims, and the solo'd signal appears in the headphone mix without affecting the main console outputs.

Tape inputs are provided on phonos for use with a cassette deck or DAT machine, and a single headphone output is fitted, along with its own level control. Adjacent faders handle the master stereo output level, and a rotary control is used for the mono output. The Hush controls are located to the left of the group faders, and are described in the 'Hush Now' box.

USABILITY

On a practical level, I feel that while two aux sends might be fine for live applications, PA, and installation work, the home studio owner is more likely to expect a minimum of four sends on a console of this price. I also found the lack of EQ bypass switches and channel mutes mildly irritating.

When it comes to subjective testing, the desk itself sounds very clean, although the EQ isn't as tightly focused and transparent as on some other small consoles I've used; in particular, the treble control is rather unsubtle, and can be very brash when used more than sparingly. Even so, for sensible tonal tweaking, rather than radical tonal redesigning, the EQ is perfectly adequate and the frequencies seem well chosen.

I've left the Hush until last, because it's the most unusual feature of this little mixer. I deliberately played a sequence through my noisiest synth module at very low MIDI velocities, so as to produce a poor signal-to-noise ratio, and

	ONS
MIC INPUT	
Impedance:	1.2kΩ
Max Gain:	70dB
EIN:	-126dB
LINE INPUT	
Impedance:	47kΩ
Max Gain:	22dB
Equalisation:	+/- 15dB at 12 kHz,
	+/- 12dB at 550Hz,
	+/- 19dB at 50Hz
Frequency Response:	20Hz to 30kHz
	(+0dB/-3dB)
Nominal Output Level:	
THD:	Better than 0.09%
	(+4dBm at master outs)
Crosstalk:	-55dB between channels,
	-75dB between masters
Tape Level:	-10dBV nominal
Phantom Power:	48 volts DC @ 100mA per mixer
Power:	220/240 volts AC @ 500m A max

discovered that by carefully setting the Filter control, it was possible to significantly reduce the level of hiss. However, as I suspected, if the threshold is pushed too far, the overall sound starts to become dull. Up to the point where the wanted signal was suffering no unacceptable tonal changes, the degree of hiss reduction was quite worthwhile, though it was impossible to get rid of the noise altogether. In this respect, the Hush circuit works much like any other dynamic noise-filtering single-ended noise reduction system.

The expander gate operates very smoothly to clean up pauses, and seems to have a sensibly long release time, so that decaying sounds are not chopped off too abruptly. The threshold control also has enough range to act as a conventional gate, which could be useful when recording individual signals via groups 3-4.

CONCLUSION

Aside from the Hush section, the Mynah Plus is an absolutely conventional desk, and comes across as workmanlike and competent, but without being in any way outstanding. As previously mentioned though, I must question the wisdom of a design brief that includes only two aux sends.

As expected, the Hush system works very well within the limitations of any dynamic filter-type system, and can help turn a good-sounding recording into an exceptionally clean and noise-free one. What it won't do, however, is allow you to clean up very noisy sound sources completely without introducing some audible side effects.

Ultimately, the success of this particular mixer depends on how much value you place on the

HUSH NOW!

Hush is designed to reduce the subjective level of any noise that happens to get fed into the mixer along with the input signals — for example, noise from budget digital synths or electric guitars that dispense both hiss and hum with equal generosity. The system works by monitoring the audio signal, and reducing the audio bandwidth when no high-level, high-frequency signal components are present. To increase its effectiveness, an expander/gate is used to pull down the gain during silences.

The two hush circuits in the Mynah Plus can be

individually switched into either the main stereo output signal path, or into groups 3/4. Each Hush circuit has one control for the expander/gate threshold and another for the dynamic filter threshold, and it seems easiest to set up the filter first so that low-level noise is reduced during quiet sections, then adjust the gate threshold so as to completely silence the output during pauses in the material. You have to be particularly careful not to affect the decay of sounds, particularly reverb tales, and invariably it's better to live with a little noise, rather than choke your sound.

Hush system. If you have a few noisy synths, or you record guitar, and you only need fairly basic mixing facilities, then the Mynah Plus will help you produce clean results, and could work out less costly than buying a conventional mixer plus a stereo Hush unit, or similar single-ended noise reduction system. Judged purely as a mixer though, I don't think the Mynah has what it takes to outshine the best of its very tough competition.

FURTHER INFORMATION

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PROS

- Straightforward layout.
- Effective Hush noise reduction.
- No external mains PSU.

CONS

- Only two effects sends.
- No EQ bypass or Mute buttons.
- EQ a little unsubtle.

SUMMARY

The Hush system provides an effective means of cleaning up noisy sound sources, as long as the noise contamination isn't too serious.



"By carefully setting the Filter control, it was possible to significantly reduce the level of hiss..."

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HINTS ON CREATIVE LOOP CONSTRUCTION

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never-ending world of
sample loops and how
best to use them in
your music.

hy use loops at all, why not simply play everything yourself? Using a fragment of somebody else's playing (or even programming) in your composition can quickly inject a feel that is either beyond your own musical or technical resources, or may simply be something that you wouldn't have thought up on your own. For example, if you choose a classic breakbeat, you will probably be accessing sound quality and fidelity from another era, a unique-sounding drum kit, and perhaps one of the top drummers in history playing at their best. It really can give you a head start when composing or reworking a composition.

Barely a dance track goes by without looped samples being employed somewhere and in some form, whether overtly (as in 1-bar or 2-bar patterns) or discreetly (in the form of smaller, less easily distinguished cut-up fragments). DJs with sampling mixers can capture and hold down a loop on-the-fly for mixing into a set, but most musicians use MIDI sequencers and samplers to trigger and repeat loops. Hence samples need not be looped within the sampler itself.

ACQUIRING THE LOOPS

Without a doubt, the easiest way to get your hands on a decent collection of loops is to choose from the many sample CDs available. If you know a DJ with a decent record collection, you could trawl through that. Otherwise, tune into a dance FM radio station and grab whatever takes your fancy, but keep in mind that you'll have to pay for the use of copyright material if it comes to a commercial release.

TRIMMING THE LOOP

Once you've sampled a loop, the next stage is to prepare it for sequencing. If your source was a sample CD, the loop will probably already have



been topped and tailed for you. Otherwise, you will need to choose a good start and finish point. This is easiest to do if you can play the loop whilst editing it, and if you have a visual waveform display, this can help too. If your sampler has a 'zoom' function, use it to view the sample start point in more detail for accurate truncating.

Although loops are often trimmed so that they play from the bar start, it is quite common for other positions to be chosen. For example, a pattern with a pick-up can be truncated to trigger prior to the bar start.

<1...2...3...4.^.>

A loop that's to be used for mainly snare detail may be trimmed to the first snare beat.

<1...^...3...4...>

There are several useful options when it comes to percussion loops. Trimming the end point is not as critical as for the start if you set up your sampler so that loops respond to note length, rather than always play to the sample end. This way you can stop a loop playing simply by lifting your finger off the keyboard, which is useful when a fill or break is coming up.

A constantly looping pattern will need note triggers which pretty much butt join Note-Offs to succeeding Note-Ons. To accommodate the vagaries of MIDI, it is worth reducing the full legato value of these by a few ticks.

TIP: Keep one beat more than you actually want to play when trimming the end of your loop sample. This will make tempo adjustment much easier later on.

TUNING THE LOOP

The obvious thing to do is either (1) write your song at the original tempo of the loop, or (2) tune the loop until it fits the tempo of your song. (There is a third method, which I'll come to in a moment.) Whichever approach you choose, the method is similar: repeatedly trigger the loop in question with a note corresponding to its required play length (1 bar, 2 bars etc). I'd recommend that you use a long sequence to play the loop, since the 'loop' on a sequencer (jumping between two locators) can introduce timing errors. In the case of (1) you will need to tweak the tempo of your track until the loop repeats without a glitch.

pattern sounds coincide with the programmed beat. You can do this one of two ways: (i) either use your sequencer's track or pattern delay to shift the loop sequence relative to the click track, or (ii) move the note trigger away from its current pattern snap value.

USABLE PITCH RANGE

Just because a sample was taken at 90bpm doesn't mean it can't be used at 140bpm. Where do you think all those super-fast junglist breakbeats came from — sub-miniature drum kits played by trained mice? Suck it and see. If you want to retain the original pitch of a loop, but want it to play at a different tempo, then time-stretching the sampled loop might seem to be the way forward. Be cautious — the digital interpolation involved is not particularly good with rhythmic patterns, because of the way the sound is broken down into



If you choose method (2), you'll need to use your sampler's coarse and fine tune functions to tweak the speed at which the sample plays. In either case you can tell when the sequence tempo is running slightly faster than the loop, because you will hear the extra beat at the end of your loop (see above 'tip') flamming with the start of the next loop. Just tune out this flam and you should be spot on.

I mentioned method (3) earlier, which is my preferred way of working. Well, if you force all your loops to play at 120bpm (beats per minute), and map them 50 or so to a keyboard, then a single adjustment (ie. altering the tuning of the entire Patch) will bring them into line with any tempo.

ADVANCE AND RETARD

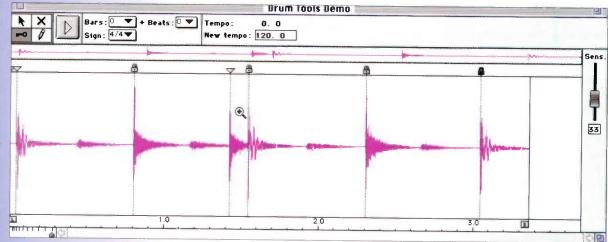
Now that you've got the loop tuned to run at the desired tempo, it's time to see if it sits nicely on top of a programmed click or kick drum. Run the loop sequence in parallel with a (usually 4/4) metronome. If you are lucky, the pre-trimmed loop start will lie on a snap value. Otherwise you might find that the loop and metronome are slightly out of alignment. Since you have trimmed the sample to sound right, there's little point in editing the sample start further. Instead, nudge the note trigger backwards or forwards until the

tiny sections and then reassembled with either some sections repeated or some discarded. Every join is essentially a sample loop point, and the smoothing/zero-point crossover searching algorithm employed by most samplers works on a join-by-join basis. It doesn't understand about long-range modulation, such as a 4/4 rhythm, so as well as getting a gritty sound, you may also encounter timing problems.

CUT AND PASTE IT

New loops can be created from old ones, simply by re-ordering elements from the loop sample. For example, you might choose to cut a 1-bar sample into eight 1/8th bar segments. Once each segment has been trimmed and mapped onto a keyboard patch ready to play at the original pitch, a MIDI sequencer can be used to recreate the loop. Why bother? Well, once you have sliced up the loop, you can re-order the segments to create entirely new (ie. original) patterns. I'd recommend using a sequencer rather than a sampler/sampling program's native paste routine for this, as it is generally faster, much more flexible, and tighter. You might find the sequenced segments sound better if the tempo is raised slightly above the original, particularly if they have been re-ordered. "Mix engineers
employ various
methods to disguise
their sources, either
by heavy layering
of loops, application
of effects, or by
embedding the loop
in the background of
a heavily sequenced
rhythm track."

HINTS ON CREATIVE LOOP CONSTRUCTION



Steinberg's ReCycle can take a loop, cut it up into fragments for you, map these fragments onto a patch, and generate a MIDI File which can recreate the original from the segments.

► This tends to eliminate flams between segment start and end points.

There are now programs designed to take a loop, cut it up into fragments for you, map these fragments onto a patch, and generate a MIDI File which can recreate the original from the segments. I understand Steinberg's *ReCycle* will do this very nicely for Mac users, but unfortunately I have only an Atari and a PC!

PROGRAMMING OVER THE LOOP

Train-spotters can always spot a tried and trusted loop in the mix. For this reason (and others) mix engineers employ various methods to disguise their sources, either by heavy layering of loops, application of effects, or by embedding the loop in the background of a heavily sequenced rhythm track. The latter is probably the best approach to loop customisation, and if it is done well, the feel of the original can be retained while greatly enhancing the sound quality and penetration of the rhythm track.

The most straightforward method, though often the most time-consuming, is to attempt to recreate the loop pattern using single hits or small loop fragments. If you intend to keep the original loop playing in the background (usually a good idea, as it helps gel the individual hits together), then your quantising template and the loop feel must exactly coincide. This is not so important if the loop is supplying a rhythm that runs across (rather than with) the sequenced drums, where the coincidence of programmed and loop beats is reduced. For example, a hip-hop loop on a 4/4 programmed beat:

LOOP>> K..KS.K...K.S.K.
PROG>> K...K...K...K...

In the above example, the programmed kick drum and the loop kick drum coincide only on the first beat of the bar. Using a 4/4 loop instead would probably generate kick drum phasing or even flamming problems on the 2nd, 3rd and 4th beats. High-pass filtering those loops supported by programmed beats helps to reduce low frequency phase cancellation effects. However, where timing

differences are causing flams, either the programmed beats will have to be skewed away from a rigid quantise value in favour of the natural loop feel, or the loop will have to be cut into smaller segments and snapped onto the programming.

GROOVE TEMPLATES AND FEEL

One way to get around the problem of matching the feel of a sample loop to your programmed sounds is to create a quantise 'groove template' for your sequencer, based on the loop timing.

TIP: For this kind of work, choose the highest resolution available to your sequencer.

After getting the loop to run perfectly at the required tempo with no glitches, the next step is to map out a quantise template, usually comprising 16 points to a bar, corresponding to the feel of the loop. This template indicates where programmed beats should be placed to exactly match the feel of the loop. You can actually do this by ear using hard-edged sounds to help pick out the groove - you can always replace these with more appropriate sounds later. Start by picking out the kick drums with a programmed kick — nudge and tweak them until they feel right. Move onto the snare, then finally the other drum voices. Once you have a programmed pattern that matches the loop, create a groove template using the groove facility in your MIDI sequencer.

Other ways of identifying loop accent positions include playing the loop through a signal-to-MIDI converter, such as an electronic percussion 'brain', or suitable MIDI drum pad with an audio input. You have to be careful with the sensitivity of the audio-to-MIDI trigger (or loop playback level), since the dynamic range of a loop is far, far less than these units were ever designed to handle. The idea is to play the loop through the device while simultaneously recording the MIDI data into your sequencer. Ideally, this should give you an instant quantise template complete with relative note dynamics, but in real life the MIDI output will be a bit messy, and require manual tidying up.

If you have a sophisticated waveform editing program, you may be able to mark the leading

STYLE TIPS

Techno and hardfloor derivatives rely on persistent and metronomic rhythms. Single oscillator (for example, TB303) filter-swept 'thips' sound great when fed into an accurately tuned digital delay, which can create complex and exciting rhythms from simple patterns. Often the hard-edged, ultra-precise nature of the programming renders the use of 'human feel' loops pretty much redundant.

Soul, jungle, garage and rave, on the other hand, make liberal use of loops which involve real drummers playing real drum kits. Often grungy vinyl sources prove to be the best basis for a dance production. The tempo of such a pattern will seldom be absolutely constant, even within a single bar. 'Feel' is all about timing inaccuracies, as well as relative dynamics and sound character.

edge of individual beats and have them translated into MIDI notes. Programs like Steinberg's *ReCycle* can automatically do this for you.

If you want to have the advantages of strict tempo quantising (pin-sharp digital delay patterns, etc), but also want to capture some of the feel and most of the sound of a lively drum loop, you could take a segmented and sequenced recreation of the original loop and simply quantise the MIDI note triggers. As with re-ordering, you might have to tweak the sequencer's tempo a little higher to lose start/end beat flams.

TIP: In order to prevent overlap between segments (ie. two parts playing at once while the 'baton' is handed over, so to speak), apply legate to the sequencer part to butt-join the segments (you might want to reduce note lengths by a tiny amount also, to accommodate some of the vagaries of MIDI), and set your sampler's keyboard patch to play monophonically. It helps also to keep sample release times as short as possible — when you release a key you usually want an instant reaction: silence.

CUSTOMISING LOOPS

Once you have a matching loop and quantise template, adding in extra beats over the basic pattern should be fairly straightforward. TIP: When adding extra beats, it is sometimes important that the sound of these beats matches that of the loop, so use individual beats copied from the main loop. It won't matter if the hits are not too clean (for example, a hi-hat snippet on top of a kick or snare drum), since these sounds are not going to be asked to stand up on their own, merely to play a supporting roll. Also, it's surprising how low in the mix a programmed variation can be used without losing its contribution to the overall feel.

Other tricks include stopping playback of the main loop altogether to make space for a fill, which can be either programmed or consist of a different sample loop (possibly a sample of a real drum fill), or be a variation of the main loop, or any combination of these. If you have followed my preference for loop tuning, and set all loops in your library initially to play at 120bpm, then it is a simple matter to pull up a keyboard patch of fills, tune the patch to your current bpm rate, and toggle through the fills to see which ones fit best.

ONWARDS AND OUTWARDS

Remember: loops need not consist of just drums or percussion — piano breaks, bass lines, guitar parts, vocal acapellas, can all serve to propel a track along. Trimming and tuning techniques are much the same for such loops, although vocals and turntable scratches in particular will seldom trim to an exact snap value, unless you use a MIDI trigger to initiate the sampling process. If you do work this way, you should keep the portion of (hopefully) silence that will be recorded before the wanted signal, and only trim the sample tail.

Time-stretching is only recommended for samples with few or no sharp transients. Some bass lines and most vocals can take it, at least over a few semitones, before the sound breaks up. Rhythmic samples tend to suffer quite badly after time-stretching. Otherwise, choose a tempo or key where the key of the loop fits in with that of the music! This limitation has had a distinctive influence on the development of dance music — have you noticed how often musical parts seem to bear only scant harmonic relation to each other? In fact, the decidedly non-western nature of some of the scales generated by superimposing parts originally from different keys is gradually opening up our perceptions about what sounds 'right' in popular music, to the extent that compositions nowadays often deliberately try to create the effect of a sampled chord being riffed, or of two or more melodies playing simultaneously in different keys. Sometimes art imitates life...





ne of the many interesting points raised in SOS's 1995 Reader Survey (see pages 106-7 this month for a full analysis) was that you'd like to see people like yourselves in print more often. In many ways, Rick Cordes fits this brief admirably — he has a 'normal' job, loves spending his spare time in his home studio, and was a gigging

THE STUDIO

When Rick invited me to visit his studio, I'd really no idea what to expect, and even though he'd called me in the past for advice on acoustic treatment, I was very pleasantly surprised by his handywork. He's built a very smart, well-equipped studio in his basement, complete with acoustic treatment, and although space constraints mean that virtually everything has to be done in the control room, he has managed to build a tiny vocal booth into a corner alcove.

"It started off as a personal project for my own benefit, but due to the cost of setting up the studio, I've also started taking in some paying clients. Working in the studio gives me great pleasure, and I spend a lot of time trying to perfect various techniques, such as getting a perfect vocal sound, or using effects creatively. I've found SOS's practical articles very helpful — the use of compressors and so forth — and I've also bought all the Paul White Creative Recording books which have provided a lot of useful information, not least on studio design and acoustic treatment." [See the 'Better by Design' box for more information.]

There's obviously a lot of DIY work gone into building this room. It must have taken you a long time to finish it.

"I did it all except for the wiring, so I've become
a bit of a dab hand with a saw and a
hammer. The woodwork side of things
took a long time, but I'm very pleased
with the way it turned out. The next

At home

It's clear from our reader survey that while you like to read about those on the professional side of the recording industry, you'd also like to hear more from fellow mortals! In the first of this occasional series, PAUL WHITE talks to Rick Cordes, an SOS reader who's built himself a very tidy basement studio...

musician before he got hooked on recording. Perhaps not so usual is the fact the Rick's everyday job is as a passenger jet pilot for a private company — but because the hours are somewhat irregular, he often gets to be home several days at a time, and that often means several days in the studio. Fortunately, he has a very understanding wife!

Like many SOS readers, Rick started out as a guitarist, and he still maintains and plays a nice collection of guitars, including a customised Squier Strat (to which he fitted EMG active pickups) and a lovely old Gibson 335. His first taste of recording came when he played on session for someone back in 1978, and although it was only a 4-track studio in Wimbledon, he was bitten immediately. Shortly afterwards, he bought his own Teac 4-track open-reel machine, and the inevitable process of continual upgrading began.

SOUND ON SOUND

RICK CORDES

step, though, is to look at air conditioning, because it can get quite warm down here in the summer."

I can confirm first-hand that one of the least enjoyable things about setting up a home studio is doing all the wiring. How did you handle it?

"I neatly avoided that, by paying someone to do it for me! I'd read that so many people have problems with wiring and ground loops that I felt it would be false economy to have professional





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Rick Cordes

equipment let down by an amateur wiring job. I used Rob Andrews from Systems People, and I'm very pleased with the result. Mogami cable was used throughout for the signal connections and the patchbays are by P&R. The cable was very expensive, but there have been no wiring-related problems at all.

"With the relatively small size of the room, which precludes crawling round the back of racks to reconnect things. I decided to put in five P&R patchbays with most of the regularly used things, such as the MIDI modules and main effects units. These were normalised so as to be active without the need to patch. The mic inputs are connected via a wall-box at the back of the studio, and this also carries several line-level ties back to the mixer to cope with DI'd instruments and suchlike."

THE QUEST FOR QUALITY: EQUIPMENT

How did you approach buying the equipment for the studio once it was complete?

"I've been a recording enthusiast long enough to know that what seems a good buy one week can seem very limiting the next, so I made it my policy CLEANING UP

When I arrived at the studio, Rick said he'd been having problems keeping the beginnings of mixes completely clean; as he mixes to DAT, there's no way to clean up the start afterwards without going via a digital editing system. There are no MIDI mutes on the master outputs of the Megas desk, and if you try to unmute all the channels at once, you can usually hear it. I suggested we try a low-tech solution which used to work for me in my pre-ADAT days.

The idea is to put the tape machine into edit mode so that the reels can be moved by hand, with the tape still touching the heads. The sound can be monitored normally. The tape is then moved until the first note of the song is located and then backed up a further couple of inches, and then stopped. Switching back to normal mode, you hit Play and the song starts right from the top—so there's no track noise preceding it. The reason the tape is backed up a couple of inches is to give the machine time to get up to speed before the music starts, and this will vary from model to model, so a little experimentation is in order. Narrow-format multitracks tend to get up to speed quite quickly, and after a couple of trials, Rick decided this was worth doing.

to buy only what I thought I wouldn't outgrow in the foreseeable future. I've been disappointed many times by buying the fad of the moment and then discovering it's not really what I wanted, so I'm now going only for industry-standard, solid pieces of studio equipment that will, hopefully, remain in the rack for the next five or 10 years. For example, rather than make do with only budget reverbs, I bought a Lexicon PCM70, which is excellent. I think anyone else who's bought one would agree with that — it's a serious piece of equipment that's found in a lot of major studios. There's a very noticeable difference in sound between that and other reverb units. For example, I have an Alesis Quadraverb which produces some great effects combinations, but when you compare the straight reverb sounds, you're talking about different worlds. Having said that, I also have a Boss SE50 multi-effects unit which is really very good, and

The Soundtracs
Megas desk
is at the
heart of
Rick's
setup.



MIXING & MONITORING

Rick, like myself, doesn't use the monitor section of his mixer for setting up a monitor mix, but instead prefers to use his mixer as an all-input console, by routing the tape machine outputs back through the first 16 channels of the desk. This reduces the number of channels available for putting signals onto tape, but given that most people working at home overdub their recordings, it's not really a problem. The benefit is that you're building up your mix as you go along, so you're almost ready to do the final mix as soon as you've finished recording.

Due to the small size of the studio, Rick doesn't set up a separate musicians' foldback mix, but instead feeds them the same mix as he's hearing over the monitors. This makes the pre-fade sends redundant, so Rick uses these as additional effects sends. Of course, being pre-fade, the effects level isn't controlled by the channel fader, which can make life difficult, and if Rick

has a criticism of the desk, it's that it can't be switched or easily modified to give all post-fade sends.

"I've really run out of desk inputs now — every available input is in use, including the groups which double as effects returns when I'm mixing. There are so many outputs on the MIDI equipment, such as the JV990 and the Proteus units, that a 28:16 desk just can't handle all the instruments plus effects returns. I'm thinking about adding a submixer for the MIDI equipment, and one of the obvious choices seems to be the new Mackie LM3204.

"I was initially worried as to how I'd share my effects between the main mixer and a submixer, but your suggestion of feeding the two inputs of a reverb unit from, say, Aux I on the Soundtracs and Aux I on the submixer, sounds as though it should simplify matters. Most stereo reverbs mix the two inputs into mono before feeding them into the reverb processor, so

this should work fine."

Monitoring is handled by the ubiquitous Yamaha NS10s and a pair of JBL 4412s which work very well in the room, apart from being a touch harsh when played at loud volumes. However, Rick is careful to monitor at sensible levels, as his pilot's job demands that his hearing is checked regularly as part of the required medical.

"It's tempting to go for different monitors, and I really like the idea of ATCs, but I've got used to the JBLs, and they work OK at sensible levels. I invariably check my mixes in the car and on other systems, but I also found your tip about listening to the mix from outside the studio door to be invaluable. If anything is wrong with the balance, you hear it straight away. I also keep a selection of known CDs in the studio for reference while mixing. The hardest thing is evaluating the right level of bass."

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At home with...

► I'll sometimes use the reverbs in that in preference to the Lexicon, depending on what I'm doing.

"Another classic piece of gear is the TC2290 delay unit, which is fitted with eight seconds of sampling memory and a trigger facility. It's mainly used for guitar and vocals and is incredibly clean — and I particularly like the tap tempo facility for entering delay times."

Your quest for quality obviously starts with your microphones; it's unusual to see such prestigious mics in a home studio.

"Yes, but to make a good recording, you have to get the sound right at source — to get a good vocal sound, you have to have a good microphone. I usually record vocals with a Neumann U87, but I also have a Beyer MC740 and an Audio Technica 4033. All three are superb, but they all sound different, so it's down to picking which one works best with a particular singer.

"My work takes me abroad from time to time, so I also pick up bits and pieces on my travels if the price is right. For example, I bought an Electrovoice RE20 dynamic mic when I was out in the States, which has turned out to be very flexible when used on things like guitars and drums, and has proved to be a very good investment."

The heart of any studio must be the mixer and the multitrack. How did you decide on those?

"The multitrack is a Fostex G16S which has Dolby S. It's all a matter of what fits the budget at the time, so I did some shopping around and read the reviews, and it seemed the G16S offered the best sound quality for the price. I bought it from Don Larking as part of a package including the Soundtracs

Megas Studio desk, and with the SMPTE board installed in the G16S, I can lock up *Cubase*, which still runs on my trusty Atari. That's very old, but at least it's now expanded to 4Mb.

"Mastering is to a Panasonic SV3700 DAT recorder. The sound quality is excellent, and I find the shuttle wheel on this model very useful. The only problem is editing the material once it's on DAT, and for now I'll have to rely on outside editing facilities."

You still tend to record your sequenced MIDI parts to multitrack rather than mixing directly from the virtual tracks.

"I don't know whether it's just me but I find tape an easier format to use, and once you've got it down on tape it's safe. If you work directly from the computer, you can end up losing things — the power gets switched off at the wrong moment or there's a glitch on the mains, but with tape, once it's there, you know it's not going to change."

The Soundtracs Megas has the benefit of MIDI muting. Do you find that you make a lot of use of it?

"Yes. When it's locked to *Cubase*, I use it mainly for the obvious things, like cutting out noise on tracks when nothing is playing, but it's very reliable. I had to put in a Philip Rees MIDI switching box to save repatching, but other than that, it's very straightforward."

MIDI GEAR

Has your policy of only buying really good gear extended to your MIDI setup?

"Absolutely. For drums and percussion I use an Alesis D4, which I bought largely on the strength of the SOS review. It produces some very usable sounds, and it's probably the drum unit that I use most, although I also have a Roland R8M with nearly all the available cards, including the Dance and Jazz Brush sets.

"The Roland JD990 is extremely useful for pad sounds and bass sounds, while the Proteus Plus provides me with excellent orchestral sounds. All the piano sounds come from a Proformance, again a superb little box, and a Peavey Spectrum Bass



BETTER BY DESIGN: STUDIO ACOUSTICS AND CONSTRUCTION

"I started with just four bare walls in a basement room — which was fortunate insomuch as the very thick walls meant that sound leakage wasn't really a problem. After reading up on acoustic treatment, I decided to put in an apex-shaped rear wall trap, comprising a depth of Rockwool with a roofing felt membrane over the top — I took the cheap way out and used roofing felt instead of the more expensive deadsheet. This wall has a cosmetic fabric covering, and is finished with a layer of spaced wooden slats to provide diffusion. I haven't had the room measured, but it seems to work very well.

"I've tried to break up parallel surfaces where possible, and the front of the room is covered with Illsonic acoustic tiles, which soak up most of the early reflections from the monitors, and provide very tight imaging. These were quite expensive, but they are very effective at mid and high frequencies, and they

also look good. I think that a pleasant working environment is very important, so I've used acoustic treatment plus natural wood to create a tidy but comfortable feel. Most of the cabling is boxed-in along the side wall which keeps it out of sight. Using your book as a reference, I just went ahead and did what I felt was the right thing, and I've been fortunate in that everything worked out very well.

"The vocal booth is quite small and is only deadened with fairly thin foam tiles, which means there's little or no bass absorption. This becomes evident if you stand in the booth with the monitors turned up loud, as there's a pronounced bass boom in there. In practice, I have to record vocals with the studio monitors turned down very low which avoids this low frequency leakage problem, but because the boominess is below the normal vocal frequency range, the booth doesn't seem to colour the vocal sound unduly."

gives me a good range of dedicated bass sounds. I first heard the Spectrum Bass when a friend bought one, and I was very impressed with both the number and quality of the bass sounds. It's reasonably cheap at just over £250 or so, easy to use, and it frees up the polyphony on the other units.

"My main keyboard is still a Korg M1, although a full-size, weighted keyboard would be useful for those clients who've been brought up on an acoustic piano keyboard. Some of the M1 sounds are really good, even though the machine is getting quite old now. I don't have any General MIDI modules at all at the moment, and everything is running from just one MIDI port.

"I've had my Atari for eight or nine years, and although I keep thinking about switching platforms, I'm reluctant to change from a system I'm comfortable with unless I really have to. I grew up with Steinberg's *Pro 24*, and I'm now running the latest version of *Cubase* which works very well alongside the tape machine."

ONE SLIGHTLY MIDI'D GUITARIST

"I was in at the outset with guitar-to-MIDI systems, with an early Roland MIDI guitar, but because of tracking problems and delay, I felt that I had to get to grips with the keyboard if I was to be able to take advantage of MIDI instruments. I tend to cheat, as I guess most guitar players do on keyboards, by slowing things down or by overdubbing.

"I've always been interested in dance music, which is why I have an S1000 sampler in the rack, but I also enjoy various kinds of pop music and even some types of jazz. Most of the things I do tend to be in the dance vein, because the studio isn't really suitable for recording live drums.

"The guitar is usually recorded via a rack Sansamp, but I also have a Peavey ProFex which is nice for certain sounds, although it can be rather gimmicky. The Sansamp takes a while to set up, so it's worth writing down the settings, but with just a touch of reverb, it brings the whole thing to life.

"I've recently put EMG pickups on my Squier Strat — the pickups cost me nearly as much as the guitar — but I felt that with the DI work I do, it was worth it. The sound is very clean and flexible, and the EMGs seem less susceptible to buzz pickup from the monitor than the original pickups. I play at the opposite side of the room to the monitor, and find absolutely no problem."

OUTBOARD

"For compression, I use a Drawmer 1960 valve compressor and a Drawmer 241. I've also got a couple of Drawmer DS201 gates and a Drawmer M500, though I've still to explore the M500 fully.

"The 1960 is used almost exclusively on vocals or guitar and sounds excellent — very transparent. The 241 is great for rhythm guitar and bass, and the expander gate facility is nice for keeping things clean. The DS201s are obviously great for use as regular 'housekeeping' gates, but they're also very flexible because of the side-chain filters. The trick of using the key-listen mode as an EQ filter is useful,



especially in removing the rasp from DI'd guitar parts or for smoothing out gritty synth sounds. The DS201 is also very easy to set up for use as a ducker — far easier than using a compressor to do the same thing — and you can set the two channels to create a triggered autopan effect by setting one channel to gate and the other to duck. It really is a versatile audio tool, and I think most studios have at least one DS201 in their rack.

"The other major piece of outboard gear is an Eventide HD3000 Harmonizer, which can create some very powerful effects, but it's also useful for tweaking the odd out-of-tune vocal. I haven't had it long enough to get to know it fully yet."

Now that you have everything you could possibly want — what do you want to buy next?

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"There are all kinds of things that you can get to enhance the quality of your recordings, and though I have a BBE Sonic Maximizer, I'd like to get a really good outboard tube EQ, and the two on the shortlist at the moment are the TLA and the Drawmer 1961. Then there's the seductive world of hard disk — and I'm bound to need a new computer some day — and ATC monitors would be nice — and . . ."

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RECORDING PRACTICE

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ARBITER MUSIC TECHNOLOGY NEWS

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Software	:		MIDIQ	uest
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HOT PRODUCTS FOR SUMMER 1995

li voo'd like our resident specialist JOHN HARRIS TO review vour demo tage, funt send it on cassette op DAT, with recording details and a photograph, to: Demo Doctor, Sound On Sound, PO Box 30, St. Ives. Camineidnesidee PE17 4XO.

DAN MCB

Recording Venue: Home.

Recording Equipment: Fostex Model 80 8-track, Soundcraft 200B 8:4:2 mixer, Alesis MIDIverb II effects unit, Micro limiter and micro gate, Sony DTC690 DAT, Arcam 60 amp, Shure SM58 and B&K microphones.

Saxophonist, whistle player, programmer and engineer, Dan McB has come up with a very professional 4-track CD of jazz/funk/soul. All the musicians involved sound accomplished, and, as usual, this aids the recording process

recording proces enormously.

Vocalist Rudo, for example, is reminiscent of Wendy and Lisa when tracked up. Although I liked the hard panning of the backing vocals for the chorus sections on the opening song, 'Lovelight Shining', I found the balance a little heavier on the right, which leads me to suspect that a delay of

some sort was used to spread the vocals on the mix, and this could easily have robbed a little weight from the sound on one side. The lead vocal itself has been well recorded, presumably using the B&K microphone, but with a voice as good as this, even the SM58 would have come up trumps. Overall, the vocal treatment on the tracks has been handled with taste, with the exception of the ballad 'Falling', where I feel there is too much ADT on the vocal mix.

Brass and guitar have been panned to

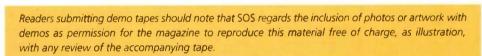
compliment each other, with the brass tracked to the left and the guitar to the right. The guitar sound is heavily processed with lots of compression and a harmoniser — probably using a preamp of some sort. On headphones, you can clearly hear the compressor thumping every now and again as the attack is set too fast, but on speakers, this is hidden by the other instruments. On balance, a more natural guitar sound would have complimented the sax, but Chris Newland is such a fine guitar player

that we can forgive him such a minor niggle.

As usual with this kind of material, the bass needs to be mixed loud, as it carries the energy of the rhythm section. A solid sound from Mark Anderson on the first track proves that you can get some bottom end from a quarter-inch tape format. Sadly, he is replaced by a synth for the other tracks, which, although well

programmed, never swings quite as convincingly. Having said that, the combination of programmed drums and real percussion for most of the tracks grooves very well indeed! Rob Anderson on percussion pulls the feel around a bit, and in places it's hard to tell where the programming ends and the real playing begins.

With only a few minor criticisms, this is a superbly recorded and compiled CD, with fine playing from Dan himself on sax, and chord voicings from Chris on guitar.



HARTZONE

Recording Venue: Home.

Recording Equipment: Studiomaster Studio 4 mixer, Tascam 22 2 tape machine, Drawmer DL241 compressor, Accessit reverb unit, Alesis Quadraverb effects unit, Shure SM58, 57 and 96 microphones, Tannoy Saturn speakers.

At last someone has sent me some recording information! Nick Stubbs even sent me the track sheets for his recording, which give a useful insight into how he works. This appears to involve quite a lot of stereo track bouncing to the Tascam 2-track, and adding of instruments live on the bounce. It's surprising how much you can get on a 4-track machine using this method, but care must be taken not to compromise the sound quality.

The basic vocal sound and

performance were real good on this first track, and any potential noise has been kept at bay. I noticed a touch of sibilance on the vocal line sounds, which is probably more the result of using a reverb with too much treble than a problem with bouncing. The reverb is also rather long on the vocal, and consequently rather distracting — the high frequencies interfere with the clarity of the crash cymbals. Other sonic improvements could be made by adding more bass to the guitar sound, which is not really sitting with the track, and possibly by increasing the level of the bass itself.

Nick delivers the goods again on the second song — he has a warm and relaxed style of singing that suits his electric piano and sax backing perfectly. There's a good choice of room reverb for the sax too, with a nice pre-delay on it that helps give the instrument a really fat sound. In terms of arrangement, this strong composition resists the temptation to plunge into a full backing.

Something seems to have gone awry with the mix on the third track, entitled 'Heart of England', where the snare completely dominates. This open sample would have worked really well lower in the mix, as on Elvis Costello's earlier productions, but on Nick's track, the snare's level throws the rhythm, and makes the vocal difficult to hear. It seems a shame to end on a critical note, but this is one of the dangers of bouncing



tracks, isn't it? Nevertheless, all Nick's other mixes were good, and he writes that he's upgraded to 8-track now, so this should be less of a problem in the future.

VITAL ESCAPE

Recording Venue: Home.

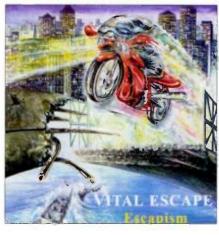
Recording Equipment: TEAC A3440 4-track tape machine with RX9 DBX noise reduction, Studiomaster Diamond 16:2 mixer, Alesis MIDIverb II, Microverb effects units, 3630 compressor and MEQ230 graphic, Yamaha SPX90 effects unit, Zoom 9030 effects unit, Shure SMS8 and 57 microphones.

Vital Escape prove that if the playing is good and the material strong, you can make a fine recording using a good quality 4-track machine — even if the A3440 is getting on a bit now. This rock trio from Cambridge have consistently produced good-sounding demos, but this time, they've had the result turned into a CD, in the hope that this will make the music industry take them more seriously. It probably won't make that much difference to A&R, but as Vital Escape are a gigging band, the CDs should go like hot cakes at the live shows, and hopefully more than repay the blood, sweat and tears that went into the CDs' production.



With comparatively little equipment, Vital Escape have carefully managed to record the backing live in stereo to two tracks of the TEAC, and then overdubbed the vocals onto the other two tracks before mixing. The drum sound was achieved by sending the kick and snare through the graphic equaliser (as the desk EQ was too basic for the task), and then feeding the signals back to the desk. The snare was also treated with additional compression and gating (to cut peaks and reduce hat spill) prior to treatment with reverb on the desk auxiliary. All the other kit mics were on independent channels, and apart from some noticeable over-compression of the snare, the sound is great, with a fine choice of room reverb for the kit.

The bass was DI'd, and compressed with the



Alesis 3630 before being treated to some EQ and cab simulation from the Zoom 9030. Again, the sound is energetic and punchy. Likewise, the guitar sound is excellent, and after treatment with chorus and delay, the cab was miked by the

Shure SM57. It was then split on the desk (panned left), with an SPX90 adding very slight delay. The SPX90-treated signal was then panned to the right of

stereo to give a spread to the guitar sound.

The drummer played to a click track, so that the keyboard could be run live, and both were DI'd. All of the signals were then mixed live to two tracks of the TEAC. Not only must this have been a daunting task, but also an organisational nightmare!

There is very little advice that I can give to the lads about their recording or songwriting abilities — the CD is testimony to the hard work and skill of the band. I think that now they should really try and target the companies, producers and management that they are interested in, and who have a proven track record in the rock scene. Interviews are more important to these people than unsolicited tapes and CDs. Good luck. \square

THE LOVE ASYLUM

Recording Venues Home.

Recording Equipment: Fostex R8 8-track, Seck 12:8:2 mixer, Casio FZ1 sampler, Roland D50, Yamaha SY85, and DX27 synths, Atari ST computer running Cubase software, 2 Alesis Quadraverb effects units, Shure SM58 microphone, Sony portable DAT.

David Nevard (keyboards) and Kevin Scott (vocals) make up The Love Asylum — a self-styled 'synth glam' duo. Isn't it strange how duos always seem to have one person who appears to do everything, and one who just sings? Anyway, on with the review...

Surprisingly, the first track kicks in with heavy wah-wah guitar. There also seems to be clean guitar elsewhere in the track, and I particularly liked the tremolo chords in the middle eight. As no one is credited for the guitar, I'll have to assume both parts are in fact fine samples, adding a great deal to a sound that is in danger of being digitally sterile. The synths could be improved on this track, and looking at the list of equipment by Yamaha and Roland, it's not hard to see why—they're all hard digital sound sources. A warmer bass sound could be achieved with less open filter, and the brass is definitely late on the choruses, as the attack is too slow. This lets down what is otherwise quite a punchy track.

'Ginger Tom' is the title of the second track, and shows singer Kevin giving his best Bryan Ferry lounge lizard vocal impersonation. This time, the vocal is successfully treated with a slapback delay, and there is more experimentation with effects on the drum track as well. A sixteenth note delay is added to some snare and hand claps in the breaks, and this, if an old production favourite, is still very simple and effective. More guitar licks have been added, and there is one really old-fashioned, slightly out-of-tune '60s sound which I loved. Reminiscent of T Rex, it gives the band a certain sleazy quality, which suits their lyrical style and overall concept. Excellent.

SLBC

Recording Venue: Home.
Recording Equipment: Tascam 8-track, Atari computer,
Casio FZ10 sampler.

Although this recording is not technically brilliant, the songs have a certain charm to them, and this really makes it a decent demo.

From the opening picked guitar chords (which are heavily modulated and echoed), you have no idea that this first song is going to break into a really good drum groove. I liked SLBC's arrangements — changing the atmosphere without losing the

rhythm through dub sections, and never content

to rely on the endless loop of one drum break.

The trumpet player, Andy Hassell, has a famous trumpet-playing father. So where does that leave guitarist, Nile Manilow, and bass player Jelly (no surname) one wonders? Actually, the trumpet playing is a touch out of tune, but it lends a soulful

dreariness to the music, which I think is actually quite appropriate, rather like Split Enz in their early days.

Humour is another weapon in SLBC's armoury — the tape features some recorded television channel changes, and the band have merged the trumpet theme of Coronation Street into their own

trumpet groove. They add their own musical mayhem to a manic drum loop (which I recognised from a certain sample CD), creating a frantic dance groove. All good stuff.



As an incentive to send in your best demos, 3M are kindly providing prizes for the best tape submitted each month. The lucky wilnner has a choice of: 20 Scotch XSII-S high-bas C60 cassettes, 10 3M DAT 90 digital cassettes, five reels of 3M 996 quarter-inch tape, three reels of 3M 996 half-inch tape or two reels of 3M 996 one-inch tape. Designed to accept very high recording levels without distortion, 3M 996 tape is packed on precision NAB reels and comes in tough, attractive library cases.

demo DOCTOR

08

Recording Venue: Home.

Recording Equipment: Atari ST computer running Steinberg
Pro 24 software, Spirit Folio mixer, Alesis Quadraverb
effects unit, Casio DA7 DAT.

Yellow Demo is Os' second tape submission—so perhaps Return of Os would be more appropriate [Aaaarrgh!— Joke Ed]. Once again, the programming and sounds are well chosen and carefully thought out, proving that there is warmth in some digital sound sources—you just have to look for it.

'Loop Net' (which was featured on the



Readers' Tape
Exchange phone
lines from March
to May this year,
as one of the
tracks on the
Antenna Techno
compilation) is
the title of the
first piece, and it
runs, as do the
others, for nearly
seven minutes.
You may wonder
if there is enough

to maintain the interest, but Os seems to have the ability to weave a repetitive theme, and build on it very well. His music is always in trance dance or ambient territory, and from a tape loop-style beginning, this first composition drops into an unexpectedly fine drum groove. After the drums, a very elastic-sounding, pulsing synth appears, which either changes attack time or has some cunningly mixed drum sounds to add a percussive slap to to the front end of the synth sound.

'Best Friend' also begins promisingly, with sliding echoed strings and echoed single bass notes, before, surprisingly, we have some vocals. These are heavily treated with delay and modulation, and recessed in the mix, so that they become a sound texture rather than a focus. Towards the end of the track, there is a return to the sliding strings theme, which is mixed with some fine synth percussion sounds. Os could be accused of loading his percussive sounds with too much short reverb, but it works in context with the panned, heavily-echoed swirling synth textures that are his trademark.

quickies

The Whitehouse Studio in Weston Super-Mare witnessed a thoroughly professional recording of South-West duo THE FOBIA PROJECT,

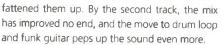
which has given rise to an excellent demo. The nice, weighty bass end from the 2-inch Soundcraft 16-track would make most home studio engineers weep with envy. There is some great singing from Joy Russell, who sounds really good tracked up, weaving in and out of the warm



and groovy-sounding backing.

Weighing in with another well-recorded demo, **SHAMELESS** have their eye on publishing and recording contracts. This time, the band produced the demo themselves, but unfortunately failed to send any recording details. The four

on-the-floor dance tunes are given a bit of edge by the nifty guitar work and well-arranged synth brass. The kick drum mix was a bit light, and could have been softened with a lower mid cut, but that's being fussy. The vocals sounded small, and a better mic, or some lower mid lift would have



Another band that would have made it into the

larger review section had their demo been recorded by themselves instead of professionally, MUMBO JUMBO's tight funk sound is rather good, but I would have liked to hear more prominence given to the percussion in the mix — restraining it makes the overall sound a bit controlled. The live recording to DAT



Mumbo Jumbo.

has a lot more character about it, even if it isn't as good technically.

More heavy sounds abound from VIRAL TECHNOLOGY, also regulars on the Readers' Tape Exchange phone lines. The Virals



successfully mix synth technology with thrashy rock guitar and growled vocals. Their drums are programmed, but apart from the high level of the hi-hats, the lads have 'done good' with some nifty complex rock fills, and a heavy backbeat that ideally

suits the music. The synths come to the fore for a techno thrash workout on the second track, and the guitars add some useful echoed drop-note textures alongside the power chords. The third and final song on the tape moves to a more industrial sound, illustrating the Virals' ability to change the sound emphasis while successfully keeping the energy.

You may be able to catch THE RACKETEERS

busking in Canterbury, shaded from the heat of the noonday sun by their quiffs! This budget recording was made in an old oast house, and is technically a bit ropey — over-compressed and occasionally distorting. However, the music is good, and this tape should get them a few gigs. Best track — 'Give Me A Little Bit More'.



Basically a rock group comprising musicians from all round the globe, **DRAMA** don't apparantly manage to get together that often! Rafe Pomeroy turns in a good vocal performance, but as his vocals sound a bit thin and overequalised, I'd add some more bass to give weight to his gravelly tones. Rob Thomson's guitar is also pretty good, but he's fighting against a wall of fat pad keyboard sounds on the first track. While this does improve later on, I'd definitely up the guitar and bass in the mix for most of the tracks.

I knew **BROKEN CLOCKS**' demo had to be a rock tape, as it said 'Play Loud' on it — well, anything to oblige. The balance is actually very good at whatever volume it is played, and there's plenty of energy at the bass end without the mix suffering from LF rumble. As for the rest of the instruments, I suggest that the players are as much to blame for the over-use of effects as the engineer! The guitarist really should ditch some of the modulation effect, and the vocals have got rather too much short reverb on them. All this leads to a lack of clarity in the mids, and

takes away the attack of the guitar sound. A short reverb with pre-delay, a slapback delay, or



some longer echo effects would work with the vocals. Musically, the band have some good ideas, and I particularly like the heavy funk of I'll Dream Of You Tonight'.



f your resources are limited, you can take these steps as far apart or close together as your ongoing budget allows. So you could choose the Falcon MKI at £799 for MIDI sequencing and then six months later add the 270Mb SyQuest and upgrade to *Cubase Audio* to add audio tracks to your system. If you are in a position to take all three steps at once, there is a bundle price of £1999 available from the following retailers, where you can also see the system in operation: AT Music, Carlsbro, Digital Village, EMIS, Music Village, Project, Sound Control, Soundivision, Sutekina, Turnkey.

However, by completing the following questions you could win the C-Lab Falcon MKI, C-Lab 270Mb SyQuest drive and Steinberg Cubase Audio 16. All three steps to the complete MIDI/Digital Audio Workstation have been donated by C-Lab, their UK distributor Digital Awareness and Harman, the UK Steinberg distributor for this exclusive Sound On Sound competition.

Closing date: Friday 20 October 1995.

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- I. Which is the only family of computers that has ever been supplied with MIDI built-in as standard?
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- 3. Which is the only version of Steinberg's Cubase Audio which offers 16 tracks of digital audio and 16 channels of MIDI without any third-party hardware being added to the computer?

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Address

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Our regular look at the hottest new sample CDs and CD-ROMs.



TEKNO/INDUSTRIAL (SAMPLE CD)



Track 1/1 is a mish-mash of digital feedback tones, followed by the start-up command, 'activate', delivered in robo-speak. Thereafter we're treated to a number of long loops, seldom short on effects, which are pretty much full productions leaving precious little room for manoeuvre. Later, I found some single hits following certain loops, which certainly invites at least a little rudimentary creative drum programming over the top. Why weren't all the loops presented in this way?

The 'karaoke' factor and extremely heavy FX aside, the loops themselves show a certain amount of inventiveness on the part of the progenitors, common themes being quirky synth percussion, synth bleeps and tones, and/or resonant FX creating a background rush. Tempos and beats are modern (fast and slow), fidelity is fine (distortion is only in evidence where it's deliberate) and pretty much all samples are stereo.

Almost 100 samples (mostly 4-bar loops) later, there follows 185 kicks and 157 snares. The kicks seem mostly effected with hall and room reverbs. The source is unclear (possibly live samples?), but whatever, they're largely redundant. Snares are for the most part 16-bit drum machine-esque, the most interesting being the high-tuned and occasional electro samples that stand out above the mediocre majority. The reversed snare was worth including, though.

The sound effects are mostly high-fidelity, any blemishes being due to sources uncomfortable metallic rasps and scrapes, synth burbles, digital filtered noise, Hi-Q thips, submarine sonar soundalikes, and random sample and hold loops. This is far and away my favourite section so far. Remixers looking for a new twist should start here. Odds and sods include a few vocoder FX and 3-note (one per octave) analogue bass synth multi-samples (114 of them!). Nothing shocking, though.

Last up are more drum loops, from 108 to 145bpm (sensible tempos). The busy, effected, layered beats could

once again have done without the kick drum, which is sure to get in the way. Some bars are quite chunky, but not worth repeating eight times! Once again, it's the top-end percussive stuff that catches the ear.

Conclusion: If you want an instant beat for a metal tekno composition, there are plenty of viable shortcuts here. I can see the backdrops from the first (major) section being welcomed by advertisement and TV programme producers looking for instant access to atmospheric machine music. However, if you'd rather build a track up from a good solid, simple beat, and then create your own rhythmic overlays and add a significant amount of your own drum

programming, be warned. Most beats on Tekno/Industrial are simply too full, too produced, and not well 'ard enough to perform credibly on the club floor. However, the sound effects in section 4 are very good and current. I'd like to have heard a whole library of electronic percussion loops (there are a few), because this is where these boys excel, and there would be room to programme the drums underneath. As it is, I'll be reaching for the old hi-pass filter again and again... Wilf Smarties

- £59.95 inc VAT.
- A Time & Space, PO Box 306, Berkhamsted, Herts HP4 3EP.
- 01442 870681.
- F 01442 877266.

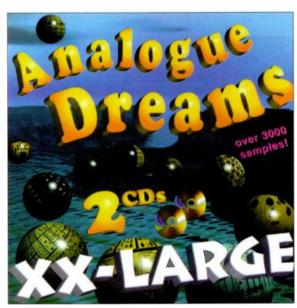
ANALOGUE DREAMS (DOUBLE SAMPLE CD)



The cheesiness of the demo piece that introduces this 2-CD set can't disguise the fact that the sounds used are top class. What follows is a synth-by-synth account of classic analogue patches. In fact, the first section is called 'Classics', and is not instrument-specific. Single pad tones (long enough to evolve, short enough to fit a couple into 2Mb) are presented in stereo, with length and loop points given. I found an annoying glitch: tracks 3 and 5 stopped around 55 seconds in. A few more suffered the same fate later on. [Dodgy pressing? - Ed.]

Multi-samples start on Track 9 with Prophet 10 pads and tones in mono, and like all other multis, these are supplied in half-octave intervals at C and F#. No reverb, as you'd expect and desire. At first, I was absolutely convinced I was listening to the original instrument. Then I noticed that some sounds were looping samples. Modulation speeding up as we climb the keyboard is a dead giveaway — tut tut! All we really want are the root samples in their original keys, so why waste time and memory sampling the same sound at different pitches? The sampling is of a pretty high standard, and generally the looping is good, though I did hear the occasional HF break-up on the right channel. Possibly a minor mastering flaw?

Other instruments copiously covered include: Oberheim Matrix 12, Matrix 6 and OB8; Roland MKS30, MKS80; Yamaha CS80;



Memorymoog; and Korg Mini-700. Also (in no particular order of obscurity) you'll find a Synton Syrinx, Braintec Transistor Bass 3,

Doepfer MS404, Deep Bass 9, Elka Rhapsody and Synthex, and Studio Electronics SE1. Analogue drum machines include Rhythm Ace; Roland/Boss CR8000, TR606, DR55; Eko CompuRhythm; Hammond drum machine; Hohner Rhythm 80; Korg KPR77; Maestro Rhythm King and Soundmaster SR88.

Conclusion: I'd give this product five stars for sheer value for money and decent sound quality, were it not for the fact that I don't think you should buy it at all — at least, not in this format. Most sample formats are supported by a CD-ROM version, which I suspect was father to this CD. What I mean by this is that the CD-ROM probably represents 'first generation' sampling of the original instruments, and judging by the effort required to resample and put the 3000+ sounds of this massive collection

into a playable format, the CD-ROM (at £149) looks like being the sensible buy. Unless you value your time at less than £1 an hour, that is. Watch this space. *Wilf Smarties*

Analogue Dreams audio CD £59.95 inc VAT.
CD-ROM £149 inc VAT.

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01442 877266.

LA RIOT 3 (DOUBLE AUDIO CD)



From East West comes *LA Riot 3*, a comprehensive collection of sampling construction kits in laid-back hip-hop, funk and new jack swing styles, presented across two audio CDs. The sounds are provided first as 'Dope Trax' — full tracks of about a minute in length, comprising drums, bass, Rhodes, guitar, brass, saxes, and occasionally vocal snatches. These are then deconstructed into their separate parts, which follow after the complete track. Each part is given a separate ID number just in case your CD player can handle IDs.

This format has been extremely well thought out, and provides an ideal platform for immediate access to tons of sampler-friendly musical options. The 'Dope Trax' are mainly

listed in groups of five, each group holding the same tempo (82 to 97bpm) so it's really easy to mix and match samples, grooves, and

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loops from one track into another. This flexible approach works very well, and encourages you to explore more unusual combinations of instruments within the groove.

One of the many things that makes this release so appealing is the sheer authenticity and attitude of the samples. You are left in no doubt that these sounds come straight from the streets of LA, and the overall feeling is a distinctly dark and sinister one. There's plenty of vinyl warmth to all of the riffs and the presence of a skilfully-played double bass and Rhodes combination gives the whole release a mellow, and sometimes experimental, '70s feel. The drum loops cut through well, and pack more than enough groove for even the

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hungriest of funksters, but it's the guitar, organ, and brass riffs that will almost certainly have you reaching for your sampler.

Most of the instrument samples come with effects (such as chorus, delay and flange) already added, but this never seems to cause a major problem within a song, as all effects are used sensibly, and serve only to enhance the samples.

The second part of CD two is given over to exploring the individual sections of instruments in more detail. It begins with 40 original and exciting drum loops, followed by a massive collection of nearly 140 acoustic bass riffs in a selection of usable key signatures. We then move on to a wide selection of trombone, trumpet and sax riffs, all played in a wonderfully laid-back jazz and swing style that could sit nicely over the top of almost any track.

Next come the multi-samples of Rhodes, organ, and synth, followed by over 110 kick/snare drum samples and 73 different hi-hats and cymbals,

all as heard in the preceding drum loops. In case you still want more, tucked away at the end of the CD are some very effective subbass and upright bass multi-samples, rounded off with 18 psychedelic guitar riffs (Pink Floyd fans take note!).

Conclusion: LA Riot 3 is a hard act to follow — the sheer amount of usable and inspired sounds create an all-American urban soundscape of immense realism. The recording quality is good throughout, even in the places where distortion and low bandwidth effects are created intentionally. Don't expect any thrashing guitar breaks or state-of-the-art synth patches; this double CD is an unashamed tribute to the power of '70s jazz-funk fused with a liberal sprinkling of post hip-hop attitude. The original and deceptively clever programming techniques will add just the right amount of groove to your music, and leave you wondering if the '80s happened at all. I have just one wish — amongst the wealth of great drum and instrument samples I would have loved to have seen a few more vocal samples (either rapped or sung). This aside, within its field, L.A. Riot 3 is quite simply a classic. Paul Farrer

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vidgets concise reviews of essential accessories

KEYFAX SOFTWARE TWIDDLY BITS AND TWIDDLY BEATS

If you've never come across Twiddly Bits, you're missing a real treat [and you obviously haven't seen the previous mention in June 94's Widgets]. Twiddly Bits are short MIDI files, available in either PC/Atari or Mac format, and contain musical extracts, drum patterns, drum fills and percussion lines which can be cut and pasted into your own compositions This might not sound mega-exciting, and may even have overtones of cheating, but when you look at the list of credits for the musicians who originally played these examples via a combination of MIDI wind instruments, MIDI guitars, drums and percussion controllers (unquantised, of course), it starts to look like a who's who of top session players.

For example, on one of the most recent of the series, Volume 3 (entitled *Drums and Percussion*), contributors include Bill Bruford, Dave Spiers, Hugo Degenhardt and Gavin Harrison. Unsurprisingly, the standard of playing is really outstanding. Electronic drum patterns and fills, brush-work, congas, and parts for both tambourine and triangle are represented. Most examples open up with several tracks, each containing a



variation on the fill or pattern style — so don't make the mistake of playing these all at once, or you'll end up with a busier drum track than you bargained for! Both patterns and fills exist in straight four time, 3/4 time, 5/4 time, 7/8 time and just about every other practical time signature you might ever wish to use. All are presented at 120bpm, but of course they can be altered once they're loaded. So, if you're fed up with unimaginative 'dum thwock, dum thwock' drum beats, then this disk is a must!

Volume 3, Acoustic and Electric Guitar, is packed full of everything from bluegrass-style banjos and blues quitar, to strums of all types ranging



from funky to folk. There are also rock riffs and strurns, blues bends, and a smattering of jazz with both sing e chords and short repeating patterns (which you have to copy or loop). With just a little imagination, and some help from the transpose section of your sequencer, you could put together some first-rate guitar parts. Everything on this disk is good, but the banjo and finger-picking examples really make you sit up and take notice.

Brazilian rhythms feature on Volume 1 of the new *Twiddly Beats* series, which will differ from the original *Bits* series by featuring files of percussion from all around the world, rather than just the world of rawk n'roll. I didn't think I'd have a lot of



use for Brazilian fills in my own music, but once again, the performance quality is so full of life that they almost invite you to sit down and write something. Many of these are based on familiar Latin-style rhythms, and the accompanying booklet includes useful background information on the various musical styles.

All the files on these disks include SysEx setups for the Roland Sound Canvas series of GM synths, so if you use one of these instruments, you can just load and play. If you're a non-GM user, full drum mapping details are provided so you can assign your own sounds.

In a brief review such as this, it's impossible to do justice to the almost overwhelming list of examples provided, and even if you make use of only 10% of what's available, you still have a real bargain. As software goes, Twiddly Bits are ludicrously cheap, but I can almost guarantee that once you've used one of their disks, you'll want to buy several of the others, if not the full set. It's great to come across such a well-conceived product that delivers both value and quality. I can hardly wait to see what they come up with next. How about of a selection of New Age chords and ethnic drones, or more ethnic percussion in the Twiddly Beats series? Maybe even a special hippy edition in a paisley sleeve...?

VACUUM STATE ELECTRONICS TUBE PREAMP COOKBOOK



The Tube Preamp CookBook

Allen Wright

Front Edit

VACUUM STATE ELECTRONICS

The author of this book, Allen Wright, obviously takes his tube audio very seriously indeed, but don't expect this work to tell you how to build a tube compressor or a Boogie soundalike guitar amp. This well-written book is as entertaining as it is informative, and much of what is discussed is directly relevant to tube mic preamps, and the upgrading of tube equipment in general.

The first section of *The Tube Preamp Cookbook* is devoted to design philosophies, and includes several interesting anecdotes which illustrate the limits of conventional wisdom when it comes to audio. There's a thorough discussion as to what types of component work best, and even a section on what type of wire to use to build various circuits. Those sceptical about hi-fi

tweaking may view some of the concepts discussed with suspicion, but at least this guy has tried them, and made his decisions based on what he believes to sound best.

The book then continues with a look at basic tube circuit configurations, including a few upgrading suggestions, lavishly illustrated by hand-drawn circuits. These are followed by a detailed look at the evolution of a couple of very special preamp designs, complete with tales of how they were hurled at the workshop walls on more than one occasion as payment for their intransigence in refusing to respond to treatment for a persistent 'motorboating' problem. If you have any interest in the practical aspects of tube circuitry at all, I think you'll find this book a valuable addition to your collection — it's also a lot of fun to read!

FURTHER INFORMATION

- The Tube Preamp Cookbook £20 (includes delivery)
- A Vacuum State Electronics (UK), PO Box 4016, Pangbourne, Reading, RG8 8UA.
- Orders are not taken by phone please fax the number or email to the address shown below.
- 01734 845933
- CompuServe 100117,3434
 (100117.3434@compuserve.com from Internet)

FURTHER INFORMATION

- I widdly Bits Vols 3 & 4 and
 Twiddly Beats Vol. 1 £19.95 each.
 Prices include VAT.
- A Keyfax Software, PO Box 4408, Henley-On-Thames, Oxon RG9 1FS.
- Sales line 01491 681382, technical line 01734 471382.

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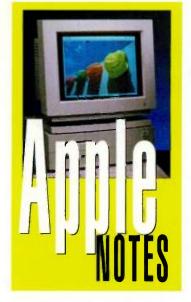
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MARTIN RUSS serves up the latest Apple news.

fter QuickTime, QuickTime VR, and QuickTime MIDI, the latest product preview from Apple's busy R&D facilities is QuickDraw 3D, a cross-platform application program interface designed for creating and rendering high quality 3D graphics in real-time. It consists of several toolkits, including those for high-level modelling and rendering. Also included with the package are details of the platform-independent file format, because the intention is to make it an open graphics architecture.

As with most software these days, QuickDraw 3D has been available to developers for a while, and demos have been seen on the Internet. Because QuickDraw is such an integral part of the Mac's Operating System Toolkit, anything which extends its functionality could drastically affect the way the screen looks and feels — which is why user interface guidelines are included. Zooming in and out of 3D objects is good fun, but without rules users could be completely lost.

For musical Mac users, QuickDraw 3D is yet

another indication that multimedia is not just a fad. Just as text-only screens looked very old-fashioned when the Lisa and Macintosh came out, so today's flat 2D windowing systems, with crude video and distorted, choppy audio, will soon

look antiquated to the next generation. Musicians need to be aware of what is happening to computers, because the cosy world of selling music on a CD is beginning to look increasingly uncertain. Sales of video games now make more money than feature films, and more computers were sold last year than TVs in the States. CD-ROMs have seen huge increases in new releases, and MIDI file publishers are upping their percentages as they realise that printed music is being joined by electronic media as viable sources of music publishing. These are increasingly chaotic days, and there are no forseeable calm spots ahead.

TIP OF THE MONTH

Having suffered a nasty computer virus infection which crept past my detection systems and forced a reformat of my drive, now is probably a good time for me to recommend these two essentials:

 Get protected against viruses. Disinfectant is excellent freeware, whilst Symantec's SAM 4.0 offers a subscription service to ensure

APPLE NEWS IN BRIEF

. GET THE MAX

The Max mailing list on the Internet has been buzzing recently with the news that Opcode have finally released Max version 3.0. As previously mentioned in Apple Notes, this graphical MIDI processing & control toolkit now has all sorts of extra goodies (IAC, bug-fixes and new objects) plus the ability to make stand-alone applications. Contact MCMXCIX on 0171 723 7221 for more information.

. HTML TODAY, JAVA TOMORROW

Just as DIY information publishers have got the hang of HTML, along comes the next raft of WWW newbies. Heading a pack of new and powerful object-oriented programming languages is Sun Microsystem's Java. At the moment, to make forms and other interactive elements of HTML work as you want, you need to write cgi-bin files using C. Java replaces this with object-oriented features. This will enable any text or picture object to be manipulated in a way which will make multimedia WWW pages much more powerful (and probably even harder to produce, too!). For more details, try the Sun WWW pages at:

http://java.sun.com

ZIPPY NEW DRIVES

Let's face it, floppy disks just don't hold enough information any longer. When most Macs come with hundreds of Megabytes of hard disk, a mere 1.4Mb on a floppy seems a little small. This may be about to change, because the lomega Zip drive is the first of several new removable disk formats that offer storage sizes of about 100 Mb on a floppy-sized disk, with a cost of about 10p per Mb — cheaper than floppies! The cotch with any really good idea like this is that supply may not match demand initially, and that you are never sure which of the formats will eventually win...

QUADRA EXPANSIONS

The Alesis QuadraSynth Plus Piano and S4 Plus sound module now come equipped with free Sound Bridge software for the Mac. The software takes up to 8Mb of SampleCell or AIFF format sounds, and allows them to be transferred to the QuadraSynth Plus Piano or S4 Plus sound module. They can also be stored on an 8Mb Alesis QuadraCard PCMCIA Flash RAM Card. For more details, contact Sound Technology on 01462 480000.

up-to-date protection against viruses.

Make a backup of your hard disk now! Mirroring
it is still a cheap option, with prices of a few
hundred quid per Gb, but see the News section for
a removable alternative to look out for.

QuickDraw 3D

ON THE NET

Last month's Apple Notes mentioned the WWW address of my own pages, but the gremlins crept in and it was slightly incorrect. Here's the information again: http://www.dungeon.com/~midi/

You'll find lots of links to information sources on the Internet, and these cover many topics other than music and MIDI!

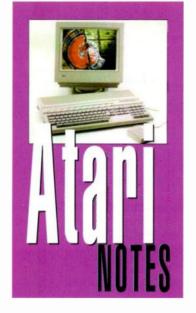
One of the most valuable resources is a selection of good search utilities: trying to find things on the 'net can be a slow and frustrating process. Archie, Veronica, Yahoo, WebCrawler and more can all be found in the 'Searcher' section, and can produce more links than you expected. It is said that there is already so much material available on the World Wide Web that you could spend the rest of your life just reading it continuously, at one page per second!

MAC AUDIO CAPABILITIES — PAST AND PRESENT

After covering the audio provision in Macs last month, the table below gives additional information on the audio capabilities of past models:

Name	Туре	NuBus Slots	Sound	Apple Sound Chip	Mic. Input	Audio Bits	Output Jack	Speaker	Plays Audio CDs	Built-In CD-ROM	Notes
XL	Mac	No	Output	No	No	8	Mono	Mono	No	No	
128K	Mac	No	Output	No	No	8	Mono	Mono	No	No	
512Ke	Mac	No	Output	No	No	8	Mono	Mono	No	No	
Plus	Mac	No	Output	No	No	8	Mono	Mono	No	No	
SE	Mac	No	Output	No	No	8	Mono	Mono	No	No	
SE/30	Mac	No	1/0	Yes	Yes	8	Pseudo Stereo	Mix of L&R	No	No	
Portable	Mac	No	Output	Yes	No	8	Stereo	Left Channel Only	No	No	
Classic	Mac	No	Output	No	No	8	Mono	Mono	No	N	
Classic #	Mac	No	1/0	Yes	Mono	8	Pseudo Stereo	Mix of L&R	No	No	
Colour Classic	Mac	No	VO	Yes	Mono	8	Pseudo Stereo	Mix of L&R	No	No	Built-In A

Name	Туре	NuBus Slots	Sound	Apple Sound Chip	Mic. Input	Audio Bits	Output Jack	Speaker	Plays Audio CDs	Built-In CD-ROM	Notes
LC	Mac	No	1/0	Yes	Yes	8	Pseudo Stereo	Left Channel Only	No	No	
LCII	Mac	No	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
LÇIII	Moc	No	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
C475	Moc	No	1/0	Yes	Yes	8	Stereo Stereo	Mix of L&R Mix of L&R	No No	No Yes	
LC550 LC575	Mac	No No	1/0	Yes Yes	Yes Yes	8	Stereo	Mix of L&R	No	Yes	
LC580	Mac	No	1/0	Yes	Yes	8	Stereo	Mix of L&R	No	Optional	
LC630	Mac	Adapter	1/0	Yes	Yes	8/16	Stereo	Mix of L&R	Yes	Optional	
200	Performa	No	1/0	Yes	Yes	8	Pseuda-Stereo	Mix of L&R	No	No	
400	Performa	No	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
410	Performa	No	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
450	Performa	No	1/0	Yes	Yes	8	Pseudo-Stereo Pseudo-Stereo	Left Channel Only Left Channel Only	No No	No No	
460 466	Performa Performa	No No	1/0	Yes Yes	Yes Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
467	Performa	No	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	No	No	
475	Performa	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		No	
476	Performa	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
550	Performa	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
575	Performa	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
600	Performa	3	1/0	Yes	Yes	8	Stereo	Mix of L&R	Yes	Optional	
630	Performa	Adapter	1/0	Yes	Yes	8/16	Stereo	Mix of L&R	Yes	Optional	
si	Mac II	Adapter 6	I/O Output	Yes Yes	Yes No	8	Stereo Stereo	Mix of L&R Left Channel Only		No No	
x	Mac II	6	Output	Yes	No	8	Stereo	Left Channel Only		No	
CX	Mac II	3	Output	Yes	No	8	Stereo	Left Channel Only		No	
fx	Mac II	6	Output	Yes	No	8	Stereo	Left Channel Only		No	
vi	Mac II	3	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	Yes	Optional	
ΥX	Mac II	3	1/0	Yes	Yes	8	Pseudo-Stereo	Left Channel Only	Yes	Optional	
ci	Mac II	3	Output	Yes	No	8	Stereo	Left Channel Only		No	
100	PowerBook	No	Output	Yes	No	8	Mono	Mono		No	
140	PowerBook	No	1/0	Yes	Yes	8	Stereo	Mix of L&R Mix of L&R		No No	
145B	PowerBook	No	1/0	Yes	Yes No	8	Stereo	Mix of L&R		No.	
150	PowerBook PowerBook	NoNo No	Output I/O	Yes	Yes	8	Stereo Stereo	Mix of L&R		No	Built-In Mie
165c	PowerBook	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		No	Built-In Mi
170	PowerBook	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		No	
180	PowerBook	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		No	Built-In Mi
180c	PowerBook	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		No	Built-In Mi
520	PowerBook	No	1/0	Yes	Stereo	8	Stereo	Left Channel Only		No	Built-In Mi
520c	PowerBook	No	1/0	Yes	Stereo	8	Stereo	Left Channel Only		No	Built-In Mi
540	PowerBook	No	1/0	Yes	Stereo	8	Stereo	Left Channel Only		No	Built-In Mi
540c	PowerBook	No.	1/0	Yes	Stereo	8	Stereo	Left Channel Only		No	Built-In Mi Built-In Mi
Duo 210	PowerBook PowerBook	No No	1/0	Yes	Via Dock Via Dock	8	Via Dock Via Dock			No No	Built-In Mi
Duo 250	PowerBook	No	1/0	Yes	Vio Dock	8	Via Dock			No	Built-In Mi
Duo 270c	PowerBook	No	1/0	Yes	Via Dock	8	Via Dock			No	Built-In Mi
Duo 280	PowerBook	No	1/0	Yes	Via Dock	8	Via Dock			No	Built-In Mi
Duo 280c	PowerBook	No	1/0	Yes	Via Dock	8	Via Dock			No	Built-In Mi
Duo MiniDock	PowerBook	No	1/0	No	Mono	8	Mono	Left Channel Only		No	
Duo Dock	Dock	2	1/0	No	Mono	8	Mono	Left Channel Only		No	
Duo Dock II	Dock	2	1/0	No	Mono	8	Mono	Left Channel Only		No	
Duo Dock Plus	Dock	2 Adaptes	1/0	No	Mono	8	Mono	Left Channel Only Mix of L&R	Yas	No Optional	
610	Centris	Adapter 3	1/0	Yes Yes	Yes Yes	8	Stereo Stereo	Mix of L&R	Yes Yes	Optional	
650 660AV	Centris Centris	Adapter	1/0	Yes	Stereo	16	Stereo	Mix of L&R	Yes	Optional	
605	Quadra	No	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
610	Quadra	1	1/0	Yes	Yes	8	Stereo	Mix of L&R	Yes	Optional	
610 DOS	Quadra	1	1/0	Yes	Yes	8	Stereo	Mix of L&R	Yes	Optional	
630	Quadra	Adapter	1/0	Yes	Yes	16	Stereo	Mix of L&R	Yes	Optional	
650	Quadra	3	1/0	Yes	Yes	8	Sterea	Mix of L&R	Yes	Optional	
800	Quadra	3	1/0	Yes	Yes	8	Stereo	Mix of L&R	Yes	Optional	
950	Quadra	5	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
700	Quadra	2	1/0	Yes	Yes	8	Stereo	Mix of L&R Mix of L&R	Yes	No No	
900 840AV	Quadra	3	1/0	Yes	Yes Yes	16	Stereo Stereo	Mix of L&R	Yes	Yes	
840AV 60	Quadra Server	Adapter	1/0	Yes Yes	Yes	8	Stereo	Mix of L&R	100	Optional	
80	Server	3	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
95	Server	5	1/0	Yes	Yes	8	Stereo	Mix of L&R		Optional	
6100	PowerMac	Adapter	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	-
7100	PowerMac	3	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	
8100	PowerMac	3	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	
6150	PowerServer	Adapter	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	
8150	PowerServer	3	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	
9150	PowerServer	4	1/0	Yes	Yes	16	Stereo	Mix of L&R		Optional	1



Vic Lennard bids a fond adieu with 10 top tips for Atari owners...

ny readers who also peruse Atari World magazine will appreciate that I have had to give up the editorship due to poor health. Unfortunately, after 20 issues, my regular Sound On Sound column has had to follow suit. So, all the best for your Atari future, and although I may be departing from this section of Sound On Sound, chances are that I'll still be writing the occasional article...

DOWN TO BUSINESS

It's fair to conclude that most of you who are reading this are Atari owners and users — but why? Is it because you really like the machine in front of you, or because you don't have the necessary finances to move on to a PC or Mac?

The Atari ST is 10 years old, and is certainly showing its age. If you're working on a basic machine, where little has changed since you removed it from its box, then I'm not surprised that you feel a little aggrieved when your pal fires

up his Superdoopa 684XD. But there are various things you can do to improve the situation — and here's 10 of them...

1 • UPDATE THE TOS

The ST's operating system has gone through a variety of enhancements, culminating in the present version, TOS 2.06. This has numerous hidden improvements, including a nifty new desktop on which you can physically place files and applications, and which also supports keyboard shortcuts. For instance, you can show a file's information simply by pressing the letter 's' on the keyboard, and even change the name of a folder — something that earlier versions of TOS prevented. Objects on the desktop can now have different icons, and Function keys can be used to call up your favourite programs.

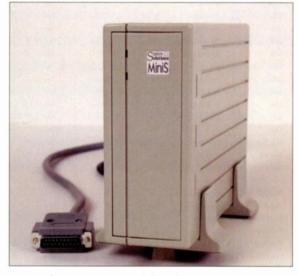
Disadvantages? None really, except that the NEWDESK.INF file that keeps an account of the visual side of your desktop arrangement can overflow and become corrupted. The answer is simple though — use a shareware product called SHBUFFER.PRG to set the size to 8Kb or so. The only other problem may be that some of your ancient software won't run. The answer here is to buy a switchable version of TOS 2.06 so that you can always access your original TOS for such software.

2 • INCREASE YOUR MEMORY

No, we're not talking about a brain power improvement course, though with the number of floppy disks most of us have lying around this might be a good idea! An ST can handle up to 4Mb of RAM, the Random Access Memory that your computer relies on to carry out every

function. Why would you need more RAM? For starters, most modern sequencing packages require more than 1Mb for some of the heavyweight features — *Cubase Score 2*, for example, needs 2Mb of available memory if you want to access the scoring module.

Another good reason is speed, especially if you do not own a hard drive. Many programs have an auto-save function that saves your work to disk every few minutes, but this is almost unuseable if you're working with floppy disks. With extra memory, you can set up *RAMDisk*, a software utility that uses a section of memory and treats it as though it were a disk. You can then set your program to auto-save to this — and be amazed when it's completed in the blink of an eye. Choose a rest-proof variant, so that if your program crashes and you have to press the black, warm reset button on the back, the data will still be safe. Also, save to a *real* floppy disk every half hour or so for safety.



System Solutions' MiniS is a good choice for a single unit hard drive.

3 • INVEST IN A HARD DISK

The advantages of having such a device are many. For starters, that huge pile of unreliable floppy disks can be replaced by a huge lump of unreliable metal! Seriously though, around £250 will buy you a 365Mb hard disk with all the necessary software and connection hardware — that's the equivalent of some 500 full standard floppy disks. Hard disks can be partitioned so that a logical problem on one area of the disk will not necessarily damage data elsewhere. Keep a couple of megabytes for the boot partition, about four megs for a 'dogsbody' area, and then divide up the rest of the disk into a number of equal sections. Dogsbody? Well every time you overwrite an existing file, you fragment the data on your disk, so keep an area where you can copy, say,

ABOUT THE AUTHOR

Vic Lennard has been an Atari enthusiast since 1987. He is currently editor of Mac Action magazine, runs Club Cubase UK along with Ofir Gal, and is also author of MIDI Survival Guide (available from the SOS Bookshop), and co-author of The Music Technology Reference Book.



ICD's The Link will connect whichever hard drive you buy to your ST.

your favourite ST mag's Reader Disks, or the latest set of MIDI files, before deciding where to find them a permanent home.

If such an investment is too much for you, then consider a replacement high-density floppy drive. Less than £60 will buy you a unit capable of using HD disks and formatting them to 1.44Mb — double the capacity of a standard floppy. Whatever you do, don't format a normal floppy to a capacity beyond 800Kb, as the reliability falls away dramatically, and *never* use an HD disk in a standard floppy drive.

4 • BACK UP YOUR DATA

I've run a data recovery service for some years now, and have rescued quite a few famous artists' albums courtesy of bringing data on a floppy back from the dead, where no back-up existed. The frustration of working on a project for a period of time and then losing that work is indescribable, until it happens to *you*.

Whether you work with a hard drive or floppy disks, keep your master disks in a safe place and religiously back up any data, be it from a sequencer, word processor or whatever. That way, your files are likely to be reasonably small in size. Don't bother with a fancy back-up application, just copy the files directly to floppies, and keep a record of what is where.

5 • GET A BOOT MANAGER

If you own a hard drive, how often do you go to the boot partition and change programs' extensions from .PRG to .PRX, and desk accessories from .ACC to .ACX? Why not let a boot manager do the work for you? One of these will allow you to keep 'sets' of data for your different ST configurations — one for sequencing, one for DTP, and so on.

6 • EXPAND YOUR MIDI PORTS

Improve the timing of your sequencer by buying an add-on MIDI Out expander. Check if one is available for your particular sequencer, or whether one of the third-party units will do the job. Thirty quid will buy you an extra MIDI Out — that's 32 simultaneous MIDI channels.

7 • DITCH THE TV

Don't work in colour on a standard ST with a sequencing package. There's a very good reason why the big boys don't support medium resolution, and that's because there simply aren't enough pixels on the screen. Medium res gives you

640 pixels wide by 200 high, whereas high res doubles the number of vertical pixels. The result is a display that is far more friendly to your eyes. Look out for a second-hand SM124 or 125 for around £80.

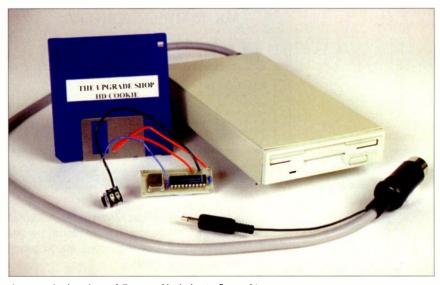
8 • CONSIDER OVERSCANNING

There's a large black area around the outside of your screen that cannot be accessed, and so is being wasted. The

overscan hardware modification makes use of this area, and so gives you an increased number of pixels on-screen. However, it doesn't work on an STe, and some software won't function correctly. Check with Compo Software, or your local Atari specialist.

9 • BUY NVDI

If I had to choose one piece of essential software, it would have to be *NVDI*, the software screen accelerator. This replaces the inefficient Atari screen redraw code with an optimised version. The resulting screen redraws are generally around three times faster, so you don't spend as much time staring into a blank space on your monitor. If you're working with a high-end word processor or DTP package, you may want to consider *NVDI 3*, which handles Speedo and TrueType fonts; otherwise go for *NVDI 2.5*.

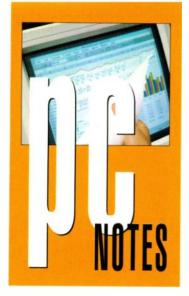


The Upgrade Shop does a full range of high-density floppy drives.

10 • BUY A DECENT WORD PROCESSOR

Even if you only use your Atari for sequencing, you're bound to be writing the odd begging letter to the bank. I used 1st Word Plus for almost four years when I started out as a journalist, and having now worked with Papyrus, I wonder how I coped!

In conclusion, make your machine a pleasure to work with and you're more likely to want to work — productivity improves if you make positive changes to your working environment.



BRIAN HEYWOOD looks back at the BMF show, and considers the various ways of making music on your PC. didn't see very much new PC software or hardware at the BMF this month. On the Yamaha stand, Nick Howes was demonstrating the new DB50XG daughter board for MPC soundcards fitted with a WaveBlaster-style connector. The card sounded pretty good, which is not surprising, since it is basically an Yamaha MU80 [see full review starting page 52 of this issue — Ed]. Apparently, the card will be SysEx-compatible with various Yamaha synths, so users should have a pretty wide choice of sounds and software to choose from, even without taking the bundled software into account. I also managed to pick up a demo of the new Visual Arranger package, which seems to have an interesting 'object-oriented' graphical interface.

Roland were also showing their PC products, including an entry-level sequencer with built-in support for the GI-10 Guitar MIDI interface. Priced at around £20, it should shake up the low end of the sequencer market. Also on display was the PCMCIA-based Sound Canvas card, which allows notebook computer users to have a high-quality synth attached to their portable PC. As well as containing a GM/GS synth, the card is capable of digital recording and playback of 16- or 8-bit stereo WAV files, and can connect to external MIDI devices via the MCB3 connector box. Certainly worth looking at if you have a

Certainly worth looking at if you have a

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Location: http://www.evolution.co.uk/pages/mk10.htm

MK-10 MIDI KEYBOARD

49 Mini Keys = 4 Octaves

Standard MIDI connection and lead provided

Plugs directly in to sound card

Status LED to indicate MIDI data and power on

Battery Holder and external power socket (9 volts DC 15mA)

Bundled with Evolution Key West MIDI software

Email Barry Nicolasfor more details now!

OEM & "Evolution" branded packages available

The Evolution Web site lets you browse through the company's product range.

notebook PC — contact Roland 01792 702701 for more info. I'll be saying more about the new Yamaha and Roland sequencers when I get my hands on some copies.

CYBERSPACE CORNER

Leyton Buzzard-based Evolution — probably best-known for their Samplitude and Procyon music software — now have a set of pages on the World Wide Web. The pages give information about the company's various PC and computer music products, including demo software for downloading and a 'Boogaloo' bargain basement (don't get carried away, chaps!). If you want to find out more, point your Web browser at: http://www.evolution.co.uk/

CAKEWALK FOR GUITARISTS

Twelve Tone Systems will be bundling the G-Vox Bridge MIDI driver (see June '95's PC Notes) with some versions of the popular *Cakewalk* Windows sequencer. Twelve Tone are obviously trying to tap into the guitar players' market, particularly those who haven't taken too much notice of MIDI yet. While guitarists will still need to buy the G-Vox hardware separately, I suppose anything that encourages players to move away from the restrictions of a piano-style keyboard is a good thing.

While we're on the subject of guitar-based software, *PowerChords* now has improved support

for guitar MIDI controllers such as the Lyrrus G-Vox and stand-alone units like the Roland GI-10. *PowerChords* now supports multiple MIDI channels (one per string), which makes it a lot easier to enter 'picking patterns' amongst other things. *Cakewalk* is distributed in the UK by Et Cetera (01706 228039) and *PowerChords* is available from Koch Media (01252 714340).

SOUNDCARD NOTES

There are any number of soundcards available for the IBM PC (or ISA) family of personal computers that conform to the MPC (Multimedia PC) audio standard. However, this has led to much confusion. The table in the 'Sound Of Music' box gives a concise definition of what the various bits of a PC-based music making setup do, and represents a pocket guide to making music on the PC.

One of the most commonly-used audio production techniques is to add 'ambience' to the audio output of a sound module or tape track. This usually takes the form of reverb, but echo and 'early reflections' can also be used to simulate the aural environment in which you would normally hear the sound. Lack of this facility can make even a good-quality soundcard sound 'flat' and lifeless. Obviously, it's simple enough to get an external reverb unit and use it to process the sound before it goes to tape or your amplifier. but using a soundcard with on-board effects can make your existing effects units go further. If you already have a card that doesn't have any effects. note that Yamaha, Boss and Alesis all produce budget reverb units. Take a look through the classified and free adverts at the back of the magazine — you just might find a bargain!

Finally, one problem that doesn't get a lot of coverage. One of the most powerful ways of using a MPC-equipped PC is to combine the MIDI and audio facilities to produce a hybrid system that gives you the best of both worlds. With software like Cubasis Audio from Steinberg, you can use MIDI to provide a backing track, and then add a vocal or guitar part using the digital audio recorder. You can do this with virtually any soundcard (unlike pure direct-to-disk mentioned in the 'Sound Of Music' box) since you can only record one audio track at any point in the song. This process relies on the MIDI and audio tracks remaining in sync during playback, and this is no problem — provided you only play the music back on the system that it was recorded on. This is because the speed of the digital audio playback is determined by the speed of the crystal on the soundcard, which can vary from card to card. A variation of 0.5% will mean that after a couple of minutes, the audio will be over a second out of sync (two beats at 120bpm). The same thing can happen if you change your soundcard, for example when upgrading. You can reduce the problem by chopping up your audio into smaller chunks, which means that your audio is resynchronised more often, but this only reduces the problem, it doesn't eliminate it. This problem is due to the fact that the MIDI and audio are 'implicitly' synchronised — once they are started, they just play on, with no attempt to remain sync'ed to one another. On professional systems, the audio and MIDI are 'explicitly' synchronised to

HADDIWADE	COTTWARE	DRODUCTION TIPE
HARDWARE	SOFTWARE	PRODUCTION TIPS
OPL3 FM-based synth (aka SB Pro)	MIDI sequencer	There's not a lot you can do with this except make semi-musical noises. Ideal if you want your music to sound like it has been created on a Stylophone.
ROM-based wavetable synth	MIDI sequencer	Useful for producing orchestrations or demos using 'standard' instruments.
RAM-based wavetable synth	MIDI sequencer, sample editor	This type of card can be used for creating personalised sounds to give your music a unique flavour. You can also sample short segments of music and use the sequencer to loop the sample, giving you a breakbeat.
8-bit digital	MOD file editor	A MOD file uses short samples to produce sounds, transposing them on the fly to generate tunes. Some of these
audio replay	and player	are very impressive, but the editing interface for creating them is usually pretty primitive — more suited to a train-spotter than a musician.
16-bit digital audio replay Session- tracks	Direct-to-disk recording (D2D)	Use your hard disk as a sound storage medium, and effectively turn your PC into a tape recorder. The number of tracks will depend on the power of your PC/soundcard combination (some cards have independent processing power) and the software you use, unless you use specialist HD recording hardware like the Session 8 or Soundscape SSDHR1. With a Pentium, you could expect to get up to 8 tracks. To record multiple successfully, your soundcard needs to be able to record and playback simultaneously. Some software allows you to use two soundcards.
External MIDI	MIDI sequencer, synth voice editors, sample editors	With this setup, you can use your PC to run a MIDI studio, acting as a control centre and network hub. As well as making music, you can use the system to design synth and sampler sounds, downloading the sounds to external modules via MIDI or SCSI.
Dedicated hard disk recorder	Proprietary software supplied with hardware	Use your PC as a high-spec digital multitrack recorder. The use of additional hardware gets around any PC data throughput limitations. The facilities offered are limited only by the hardware chosen — and your budget. These systems invariably require you to buy dedicated disk storage for your audio data.
Laser printer	Scoring software	Create musical scores with quality ranging from a simple lead sheet to a full orchestral score printed to music engraving standards — though again, the quality depends on the price of the software.
SCSI port	CD-ROM and CD-A, sample editors	Use external 'gold disk' recorder to create your own audio and data CDs from data stored on your PC's hard disk. Also, some external MIDI-controlled samplers allow you to transfer audio data to and from the PC using the SCSI bus.

a common timebase (say SMPTE timecode). The replay software then constantly makes tiny changes to the playback speed to ensure the audio and MIDI remain in sync.

MAKIN MUSIK

A few months ago, I mentioned the Turnkey CD-ROM as a way of navigating the maze of buying PC MIDI software. CD-Exchange have now brought out a CD-ROM too, entitled Makin Musik. Available for both PCs and Apple Macs, this is a compendium of software and 'clip audio' that covers a broad range of PC-based musical applications. The contents fall into three broad categories; demonstration software, utilities, and audio resources. Almost all of the material is freely available from other sources — CD-Exchange simply compile the material and provide a nifty browser. This helps you select and install the demonstration software, as well as audition the WAV and MIDI files. I feel the browser could usefully have described the MIDI and sample files, and maybe categorised the utilities and demo programs, but at least you can trawl through the data and find what you want.

The CD is useful to anyone seeking a way through the minefield of buying a music software package. The demo software provides the best way of working out what kind of package is best suited to you, and is quite extensive, with packages ranging from Big Noize Software's entry-level SegMax to Passport's high-quality, top-end

scoring package Encore.

For users who are satisified with their current software, there are loads of working utilities, mainly concerned with converting between digital audio file formats and a large number of MIDI,

wave and MOD files. Some of the MIDI files are useful, as they not only give you a ready-made library of material to add to your multimedia productions, but also enable you to get 'inside' the music and find out how it is put together. However, they do tend to be of variable quality.

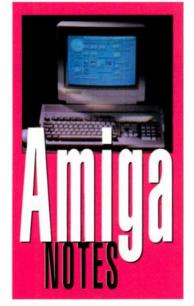
On the digital audio side, the CD comes with a large amount of WAV data from the Akai sample library. The

Akai samples have all been converted into Windows WAV format, and will be of interest to the owners of Turtle Beach Tropez, Gravis UltraSound, and Creative Labs AWE32 soundcards, since there are a large number of multi-sampled musical instruments on the CD suitable for creating new wavetable programs. Other soundcard users can also take advantage of the sound effects, but could find it a bit of a chore to find the useful sounds, as the data files aren't indexed in any way.

The CD is available direct from CD-Exchange (01603 261060), and costs £24.99 (including VAT and postage).



The Visual Arranger application from Yamaha shows the restraint typical of one of the world's major musical instrument manufacturers.



This month,
PAUL OVERAA
devotes the whole
of his column to a
roundup of the
current Amiga
sequencing scene.

ith the Amiga about to be effectively 'reborn' during the coming months, there are likely to be plenty of musicians wondering how this computer fits into the music scene. Essentially, there are two types of sequencer available for the Amiga — tracker sequencers and MIDI sequencers. As the two types of software are so fundamentally dissimilar (in both use and purpose), it's worth spelling out the differences right from the start.

Trackers are programs used to compose and

create sound sample-based songs for playing via the Amiga's sound chips. Most musicians would not, in the strict sense, regard these programs as sequencers at all, but since the Amiga world seems to have adopted the terms 'tracker sequencer' or 'sample sequencer' for these types of programs, who are the rest of us to argue?

Over the years, tracker programs have gone from strength to strength, and nowadays the programs themselves are both powerful and user-friendly. As well as using the Amiga's keyboard to enter note data, a few, such as OctaMED Professional, let you link up a MIDI synthesizer so that riffs, bass patterns and the like can be played in a more conventional way — easier for a musician than bashing away on the musically meaningless QWERTY keyboard.

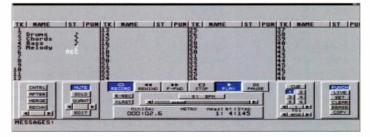
True MIDI sequencers have a somewhat different brief, and, as you'll doubtless know, are designed primarily to record, edit and playback MIDI data. Even though most Amiga MIDI sequencers do allow you to play back songs using the Amiga's sound chips, the real software emphasis is still on recording from, and playing back to, MIDI equipment.

So what sort of choice is there as far as real Amiga MIDI sequencers go? Well, over the years, quite a few packages have appeared, including Passport's Master Tracks Pro and Steinberg's Pro 24 Amiga. Unfortunately Passport pulled the plug on Amiga software development to concentrate on other things, and Steinberg's offering, for a number of

reasons, has created little interest amongst the Amiga community. About half a dozen lesser sequencers have also appeared, and disappeared, along the way. There are, however, a number of sequencer packages which really have stood the test of time...

KCS

The current Dr T's offering, known as the KCS Level II, provides the KCS sequencer, PVG, a Master Editor, Tiger (a graphics editor), QuickScore, and AutoMix. All of these components are integrated into Dr T's multi-program environment (MPE). The



Dr T's KCS was one of the first Amiga sequencers to appear, and the fact that it has stood the test of time with its reputation intact should tell you something!

track editing facilities are quite sophisticated — there is fully implemented cut and paste editing, pitch transposition, track shifting, track splitting, note duration and velocity correction functions, track rearrangement, multiple cue points, measure-location, automatic new track muting (helpful when doing multiple takes), and some interesting note and controller splitting facilities. Other goodies include remote MIDI control of start/stop/record functions, support for the phantom SMPTE interface, controller chasing, time reversal, rechannelling, auto-correction, real-time and steptime editing, inversion, and the ability to protect drum parts from transposition. In short, there's little you can't do!

QuickScore is a module that analyses the data held in the KCS, and displays it in notation form. It just provides basic score/transcription and printing facilities, not proper score editing. One point that is worth mentioning, for those who need more sophisticated score notation and score editing facilities, is that Copyist DTP, Dr T's heavyweight notation program, is also MPE-compatible, so a professional user can easily link both packages.

At its current price, the KCS package represents some of the best, and most cost-effective, music software seen on the Amiga to date. Nevertheless, in terms of equivalent modern Atari ST/Falcon and Apple Mac offerings, the Amiga KCS package still looks pretty archaic, and it is not the Amiga's answer to Cubase by any stretch of the imagination. It is, however, very reliable, and still probably one of the most favoured 'work-horse' sequencers available to the Amiga-based musician.

MUSIC-X & NOTATOR-X

One of the hottest Amiga products to arrive last year was an updated version of Microlllusion's *Music-X* sequencer, coupled to a score notation program called *Notator-X*. With version 2.0, many of the original *Music X* facilities were improved, and ARexx control was provided, along with support for multiple serial port card use.



Notator-X has helped win a lot of support for the new Music-X.

Notator-X allows you to write, edit and print music scores using a maximum of 18 staves (by linking two tracks to each stave, the program can actually deal with 36 tracks — track 1 linked to track 19, track 2 linked to track 20, and so on). Repeat symbols, 1st/2nd and 3rd time endings, Segno, Dal Segno, Coda and To Coda, tuplets, signs, dynamics, accidentals, beams, trills, pedals, octaves and so on, are all allowed, and the score editing and printing facilities are, in the main, quite good. The program, incidentally, is easier to use than the (admittedly powerful) Dr T's Copyist program.

Both Music-X and Notator-X can run as standalone programs, but if your Amiga has more than 1.5Mb of memory, you'll be able to run both programs together, and move music data between them. You can also use Notator-X in conjunction with any other sequencer package that supports MIDI file import/export.

BARS & PIPES PROFESSIONAL

Blue Ribbon's Bars&Pipes Professional is as much a creative tool as a conventional sequencer, and the general sequence editing facilities are brilliant. There are also some very powerful song parameter options which let you define lyric lines, chords, keys/scales, rhythm data, global dynamics, and so on. The list of features just goes on; automated mixing via a MixMaestro utility, MIDI file, SysEx and internal sound support, timeline scoring (for video/film work), SMPTE facilities...

Bars&Pipes Pro is a terrific piece of software which, in practice, suffers from only one real snag—the amount of memory needed to run it. The package is massive, and although just about loadable on a 1Mb machine, a realistic setup for serious work would be a fast machine with around 2-4 megs of memory, along with a hard disk—especially important if you intend using the multimedia facilities.

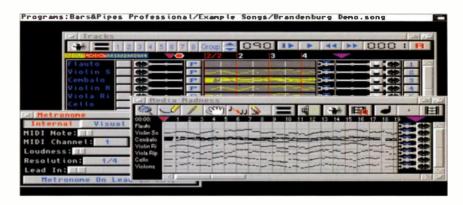
SEQUENCER ONE PLUS

Software Technology's Sequencer One Plus is one of the few UK-developed sequencers that has found a safe niche for itself amidst the rather awesome heavyweight Stateside competition. Sequencer One Plus offers all the basic functions needed for MIDI sequencing, and supports the use of internal sounds as well as MIDI-orientated output.

Two editors are available, including a highlevel Bar Editor, which shows the arrangement of the song graphically, indicating the bars which contain data for each track. The main use of this editor is for viewing and creating arrangements, and carrying out block editing operations. More detailed editing is performed using the Step Editor, which provides a piano roll-type display.

When Sequencer One was upgraded to Sequencer One Plus, one of the enhancements was the Juke Box screen. This allows song sets of up to 32 songs to be created and played using CD-style controls. You can skip back and forth between songs, play in random order, pause, mute selections, and alter the delay between songs. Given sufficient memory, you can also have the sequencer load the next song as the current one is playing.

Sequencer One Plus has a proven track record as a robust and well-supported product. For a middle-



Bars&Pipes — an established heavyweight Amiga sequencer.

of-the-range sequencer, it offers a surprising number of MIDI 'goodies', although it does of course lack many of the refinements found with packages like Dr T's KCS, and Blue Ribbon's Bars&Pipes. You'll find no harmony generators, score printing, or the more esoteric options like SMPTE or MIDI Time Code support, but it is nevertheless capable of, and suitable for, all but the most demanding uses. Best of all, it has a price that is not going to frighten your bank manager. In short, instead of trying to offer an all-singing, all-dancing package, Software Technology have concentrated on creating and supporting a 'workhorse' sequencer that offers the user just the basic facilities needed for serious use. The philosophy, needless to say, has paid off!

THE BOTTOM LINE

Both Dr T's KCS and Blue Ribbon's Bars&Pipes sequencers are now firmly established amongst Amiga musicians, and these companies do, incidentally, also offer dozens of other Amiga music packages... patch editors, notation software, librarians and the like. The excellent music composition program SuperJAM (also from Blue Ribbon), is another program that has helped make Amiga-based musicians feel slightly more comfortable when confronting their Atari. Mac and PC counterparts. Music-X/Notator-X is also good. and, although it doesn't seem to have tempted many Bars&Pipes or KCS users away from their camps, it is worth recommending due to the notation facilities provided. At the lower end of the marketplace, Software Technology's Sequencer One Plus is clearly worthy of consideration — it is a well-supported, useful, and very reasonably priced, entry-level product, which now has quite a large user base.

As far as music sequencing applications are concerned, Amiga software still falls far short of that available for the Mac and the ST, and this is especially noticeable when it comes to things like notation software. The Amiga is slowly catching up, but most users would agree that there is still a long way to go.

In fact, given the current state of Amiga MIDI software, Atari ST, Mac and PC users are not, by any stretch of the imagination, likely to be tempted away from their machines onto an Amiga MIDI system. If, however, you have chosen an Amiga for other uses, whether playing games, Desktop Publishing, or video and graphics work, then opting for an Amiga-based sequencer could make a lot of sense, since it would enable you to make maximum use of the hardware that you've ploughed your hard-earned cash into!



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Voices from the Past

ROLAND VP330 VOCODER PLUS

Vocoders aren't just about tinny robot voices from awful '70s records some could generate lush choir sounds and opulent strings too. RICHARD CLEWS explains why the Roland VP330 Vocoder Plus will always say more to him than Battlestar Galactica...

hanks to the 1970s, when vocoders were used liberally on songs closer to pap than pop, the vocoder has come to be viewed by many as a gimmick to fall back on when ideas evaporate. But despite the appearance of 'robotic' vocoder voices on ballads, novelty songs, and terrible science-fiction programmes of the day (anyone remember the Cylons on *Battlestar Galactica?*), a few artists, like Wendy Carlos and Kraftwerk, showed that vocoders could be the perfect partners for synthesizers. In the late '70s, Roland almost closed the gap between these two instruments when they released a keyboard vocoder — the VP330 Vocoder Plus.

TO SET MATTERS IN CONTEXT...

As the name Vocoder Plus implies, the VP330 boasted features other than a keyboard to

broaden its appeal. It was in fact two instruments in one (marketing clichés ahoy!) — a vocoder and a string/human voice ensemble. While ensemble keyboards were generally regarded as naff accessories for electronic organs (with one or two exceptions, such as the brilliant ARP Solina), the VP330's voice and string tones were of high quality, and those lucky enough to afford the £1,100 needed for a VP330 could totally lose themselves in glorious swathes of sound.

The mere presence of a conventional keyboard on the VP330 put it ahead of its contemporaries, the most prominent of which was the EMS 5000. This used only the tiny minikeyboard from the company's Synthi models, and the VP330's other competition, such as Moog's 16-channel vocoder, and units from Synton and Sennheiser, were rackmounting devices with no keyboard. Coming from Roland, the VP330 had the additional advantage of wider distribution.

VOCODING THE NIGHT AWAY

A user of the VP330 has only to plug in a microphone (via standard quarter-inch or XLR connectors) and their voice can be transformed into a robot choir. Admittedly, this is not something budding Barry Whites would consider indispensable, but for New Romantics and Numanoids, it was ideal. The VP330's 4-octave keyboard gives scope for male or female tones, and the light action facilitates high-speed soloing (imagine reciting a Shakespeare soliloquy while playing the riff from 'Layla' — you get the idea!) Some singers used the VP330 in a more subtle way, mixing it just under the sound of their natural voice.

For example, John Anderson used one to great effect on 'The Friends of Mr Cairo', and Genesis pressed one into service on 'Duchess'.

The rich overtones which the VP330 layers onto vocals come courtesy of the ensemble circuit. Like a chorus unit, this gives a stereo spread to the sound, but with no hint of flanging. Without the ensemble effect, the VP330 sounds rather weedy — more like other vocoders, in fact. Roland were obviously aware of this fact, as they made Ensemble a non-switchable option on the VP330's string sound! Layered on top of the ensemble effect, further outboard processing can produce over-the-top modulation, although with practice, the VP330 can be enhanced by delays, phasers and so on.

The relative output levels of the vocoder, string and human voice sections can be adjusted in a mixer section on the keyboard's top panel, and when all three sections are carefully balanced, the VP330 yields a huge sound which can easily fill out a track, lessening the need for synth pads. The Vocoder Plus is a capable solo instrument, thanks to its vibrato controls and the pitch-shifting fader to the left

MORE ABOUT VOCODERS

If you'd like to know more about the theory behind vocoders, and some of the fantastic, lush effects that can be created with them — or even if you just fancy sounding like a Cylon off Battlestar Galactica — check out the article on Power Vocoding, starting on page 80 of the January 1994 issue of SOS. Back issues are available, priced £2.50 each, from: Sound On Sound Limited, Media House, Burrel Road, St Ives, Cambridge, PE17 4LE.



SECOND OPINION: "TINNY, HORRIBLY FRUSTRATING, TERRIBLE VALUE..."

Here is a sad story — a personal experience I'm sure many readers will recognise. I once heard an amazing snippet from an obscure, long-deleted record, which I carried around in my head for years. Eventually, I saw the album, hanging temptingly — and expensively on the wall of a local shop. Naturally, I bought it, and, as you can imagine, I couldn't wait to get home and listen to it - but of course, it turned out that the snippet I'd heard before was the only good bit on the album. Here is a warning, then, to anyone contemplating paying a high price for a VP330. Like my record (It'll All Work Out In Boomland by T2, in case you're wondering), this instrument is rare, expensive, much sought after by foolish collectors, and not very good.

If you ignore the hype and look at this instrument dispassionately, you'll see it for what it really is — a 1970's string machine with a built-in vocoder. The vocoder itself is very nice, although not uniquely so, the strings are quite pleasant-sounding, if a little tinny, and as long as you make sure the ensemble effect is on, the human voice is excellent — a

remarkable and unique sound. This is all very well, but the instrument is completely scuppered by its single envelope generator, which is shared by all of the notes you play. For many modern readers, the effect of this limitation, common to many '70s instruments, may be difficult to imagine. Suffice it to say that for anything other than monophonic lines or the simplest of chordal parts, the VP330 is horribly frustrating to play, and if you program a long release time, it's just about impossible to come up with anything musical at all.

This would be bearable if VP330s were cheap, but of course they aren't. You'd be lucky to pick one up for less than £500, and even at that price, they're terrible value for money. The Boss SE70 effects unit has an excellent vocoder among its algorithms, and you might well find one for half the price you'd pay for a VP330. Furthermore, the choir and string sounds are easy to sample what you lose in authenticity you will more than gain in playability and versatility. Don't waste your money! Hire a VP330, sample its sounds, and spend the money you've saved on something better. Norman Fay

of the keyboard. Although the pitch shift has a limited range, it is possible to coax expressive lines out of the beast. The 4' male and female voice presets are the best to work with — they're perfect for eerie vocal melodies, and much more useful in my opinion than the koto and flute sounds often over-used in adverts.

STRINGS ATTACHED

The VP330's string preset is worthy of a special mention. Roland have always been respected for the quality of their string patches, and very few keyboards have a string sound as indispensible as the VP330's. Whereas most keyboards from the DX7 onwards have copied the sound of bowed strings, the VP330 emulated the sustain portion of orchestral strings. Naturally, being analogue, the VP330 can only give an impression of this sound, but in this case, the impression is enough — it creates a lush sound that few other keyboards can capture.

THE MODERN VIEW

What place does the VP330 have on today's musical battlefield? If you can find one of these beauties, and lay hands on the exorbitant fees they command (between £500 and £600), you might bypass the human voice and strings sections altogether, and play sampled drum loops through the vocoder part of the keyboard. In the production of sound effects, a vocoder is a fantastic tool for merging one sound into another, as demonstrated by Pink Floyd on the sound of barking dogs for their Animals album. If pads are your thing, you can take a leaf out of Vangelis' book and use a VP330 for strings, as he did on albums such as Blade Runner and Mask. Alternatively, you could use one for 'shadowing' a vocalist in real time, or for lead lines where something unusual is required. The VP330 can provide both a blast from the past and a much-needed breath of fresh air to '90s musicians, and will no doubt continue to be highly useful in the next millennium. sos

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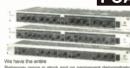
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C-LAB UNITOR 2 sync box/expander for Atari # Mike 01395 514904

CRUMAR/CHASE Bit one synth must be in good working order/cond. Casro CZ1000 carts, wanted and Korg Poly 61M Manual/copy req. © Lee 0161 792 6824

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Jon 01736 68253

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01273 694894 or 690231
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□ Dave 0181 902 9784 (NW London). □ PRG200 PROGRAMMER for JX3P

synthesizer PRoland 01243 830697.

PINK FLOYD 'High Hopes' CD single Must be in clean condition. Cash waiting Clive 01752 674205 (Plymouth)

ROLAND A80 MIDI Controller or Yamaha Piano equivalent, will swap for my Ensoniq EPS sampling keyboard. Will otherwise sell for £500 © 0926 435056 anytime ROLAND JD800 Cash waiting © 01274

ROLAND SH101 for £200; TR808, £300, TR909, £600; TB303, £400; MC202, £180, Only in good condition ≠ 01049 5152 61676 (Germany).

ROLAND SH101 (red) Steinberg Cubase v3 2 + dongle C-Lab Notator v3 + dongle All software for Atan ST. © Garry 0560 484787 after 6pm.

ROLAND TB303 wanted Cash waiting Must be in good condition. Willing to collect. #John 01579 343174 (Cornwall). ROLAND TB303 wanted desperately. Up to £400 cash waiting. #Andy 0117 975 4107 (Bristol).

ROLAND TR909 drum machine £600 cash Will collect # Martin C1522 545427 (Lincoln)

ROLAND U20, Yamaha SY55, or Roland JV30, will swap my Kawai K4, in excellent nick, cards, manual; Also sell MC50 MkII, £400, immaculate, boxed, manuals, etc, will sell K4, £400 # 01472 267665

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John 01452 830018 (SW England).

SOUNDTRACS MRX PC or similar promixing console, must be good condi, up to £4000 paid Matt 0121 550 7077 or 0121 200 2202 ext 7027

SYNTHWORKS for Korg 01W, maybe library too? = 0181 429 3732

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mixer. # Stephen 01508 538745.

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YAMAHA DX21 MANUAL (good photocopies accepted) will pay £20. Please help me!!! = 01736 871674 or Write - 4 Rossrter House, Jennen, Lands End TR19

YAMAHA 5Y99 or Ensoniq TS10 Will swap Roland Juno 6, Roland JX3P, RE201 Space Echo, Alesis MIDIverb 2, Ibanez DN1000 digital delay, Simmons Portakit ₱ Jan 01539 723631 (Cumbria)

YAMAHA SY99 wanted Swap my Roland Juno 6, JX3P, RE201 space echo, Alesis MIDIverb II, Ibanez DM1000 digital delay and Simmons part kit. @ Ian 01539 723631.

YAMAHA TX81Z in good condition, wanted, straight swap for my Yamaha EMT-10 piano module, manual etc. You deliver/collect please if possible @ Jeremy 01222 567175 (Cardiff).

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IT'S ONLY MONEY by The Fosters. Debut cassette single 'It's Only Money' c/w 'It's A Heartache' CrO2 tape, available by mail order only £2 50 (+ £1 p&p) payable to: Quadriga Music Ltd, 79 Wharfedale Gardens, Thorntay Heath, Surrey, CR7 6LE



WAITING EP by All Living Fear. Exeter-based gothic stylists now release their first studiorecorded 4-track EP 20 mins, cassette £2 95 to: Fetish Records, PO Box 29, Exmouth, EX8 2YU.

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by Noctern. Innovative ambient music, 2 tracks, 37 mins, CrO2 tape —5 Cheques to: Andrew Gooding, 95 Hambro Road, London SW16 6JP.

HANGOVER by Hangover. Nice boy punk rock, 3 songs of home recording in the vein of Green Day and Superchunk. 6ish mins on cassette for a breathtaking

£1.50 (inc p&p). Cheques to: L Bodnarchuk, Flat 3, 102 Fitzroy Avenue, Belfast BT7 1GX



CURVES AND JARS

by Barry Lewis Fractal Dice Music". A series of fractal studies. containing melodies generated randomly by dice algorithm.

Computer music with a friendly face 20-track CD, £11.75 (inc p&p) from MPS Music and Video, Rosegarth, Hetton Road, Houghton-le-Spring, Tyne & Wear DH5 8JN

MEMORY LOSS EP by Prole Synthesis. Hard underground dance music. 5 heavy-duty acid and industrial-strength techno tracks. 25 mins, on 12-inch vinyl, £3.50 (inc p&p) to R Anderson. 7 Nunnington Terrace, Armley, Leeds,

WEB OF DECEIT by Jimmi Cranch. 8 songs, all live takes, recorded live to DAT. Blues/rock and roll ballads, 30 mins. Great for driving - get one in

your car today! Send POs for £2 (or blank tape of your choice plus postage return) to: Jimmi Cranch, 67 Hunts Drive, Writtle, Essex, CM1 3HQ.

THIRD EYE by Third Eye. Positive, potential trance, ambient and experimental. The future now. 37 mins, 6 tracks, CrO2 tape, £3.50 (inc p&p). Cheques to: D Appledore, Rotor Studio, 7 Pendennis Close, West Byfleet, Surrey



CONTRASTS by Carey Nutman. A mix of contrasting electronic studies. some serious, some not, composed between 1989 and 1993. 11-track CD.

£11.75 (inc p&p) from MPS Music and Video, Rosegarth, Hetton Road, Houghton-le-Spring, Tyne & Wear DH5

IN THE LAP OF THE GODS by Merge. Progressive techno with heavy-riffing synths in the style of Tangerine Dream, Schulze, Kraftwerk, The Orb, Pink Floyd.

Now you can listen to selected entries to the Tape Exchange before you consider purchasing them, with the aid of our new phone line

> service. It's quick and easy to use - just follow these instructions:

- Decide which tape you'd like to hear play through, and note which number (from 1-10) has been allocated to it.
- Dial the SOS Tape Exchange phone line number: 0891 424025.
- · You'll be asked to press the button marked with a star on your telephone. This will tell the phone line whether you have a touch-tone telephone or not.
- If you have a touch-tone phone, you will be able to select the tape you wish to hear simply by pressing the number on your telephone which is allocated to that tape on the Tape Exchange page. You may interrupt the tape at any stage by pressing any other key on your phone; you will then be returned to the main menu to make another selection if you so
- · If you do not have a touch-tone phone, you will hear the ten entries listed in sequence. Remain absolutely silent until the one you wish to hear is mentioned. then simply say "Yes". The track will then play through, after which you will be returned to the main menu to make a further selection if you wish.

Although all entries to the Tape Exchange must now be made on the new redesigned entry form, entries can still appear in the magazine without appearing on the phone lines - there's a box to tick on the form if that's what you'd prefer.

Calls are charged at 39p per minute the Livewith Communications Car CR2 N. R.

readers' tape exchange



CONTINUUM by Active Loop Zone. ALZ have gigged with Zion Train, Children Of The Bong, Timeshard and μ -Ziq. This is an excellent 90-minute 12-track CrO2 cassette of ambient

dub trance. Only £4.75 from: Rick Lomas, 48 Old Mill Gardens, London Road, Berkhampstead, Herts, HP4 2NZ.

· Well-produced trance with superb analogue-style effects (mostly produced using the filters of the group's Akai 2800). The stated dub influence is not actually that evident - this is pretty much undiluted techno, but very accomplished .



2 REALMS OF THE CLOUD KING by The Amulet. 57 mins of fantasy rock, II diverse tracks. each one an emotional trip from acoustic to full-blown, with atmospheric keyboards, soaring

guitars, and powerful vocals. CrO2 tape, £5 from: Two Rivers music, May Cottage, Church Lane, Hampton Bishop, Hereford HR1 4JY.



3 MORNING FLIGHT by Brian Marshall. Nine very melodic tracks, featuring voices. guitar, piano and synths. Laidback grooves, subtle and memorable themes. Evocative.

atmospheric, relaxing, uplifting. A must for any collection. 45 mins, CrO2 tape, £5 to: Brian Marshall, Sutton Court, Tenbury Wells, Worcs WR15 8RJ.



THE VIEW 4 FROM MY WINDOW by Emily's Chair. 4 songs, 26 minutes, CrO2 tape of ambient music tinged with moments of

serenity and intensity. Cheques for £3.50 payable to: Jeff Knightly, 14 North Road, Bosham, Sussex PO18 8NL

· Lad-back rock with washes of Leyboards. The tape's been well produced and the colour coler is very attractive, but the tape's annity hissy in parts. Worth a listen though .



5 MAGIKO by Aquabats. Natural ambiences with improvised percussion, voices and flute makes earth music. 73-

minute CD £10, CrO2 cassette £6. 14 excursions. SOS Demo Doctor's top tape, March '95. Like nothing you've ever heard before. Cheques to: Aquabats, 6 Peel Place, Oxford OX I 4UT.

· Highly unconventional improvised recordings based around unorthodox ethnic percussion ambient 'found' recordings, flute, and vocal chants. Intriguing and diverting, and superbly recorded •



6 THE THORN by Kate Campbell. 4-track CD, 20 mins. Heart- and soulbaring songs, extensive radio play and

considerable following. £4 payable to: Kate Campbell, PO Box 407, Cambridge

· Folk-tinged MOR rock centred on Kate Campbell's powerful expressive voice Interesting blend of instrumentation,

noluding acoustic suitur, programmed grums, sax and mandoin .

TRANCE FOR A PROBLEMATIC 7 TRANCE FOR A PROBLEMAT WORLD by DSP. Trippy tribal trance dance. C60 CrO2, Dolby 'B' £3.50 each (inc p&p) from: C Medd, Jah Cottage, 2 Kirby's Lane, Canterbury, Kent CT2 8AG

8 RAW ELEMENT by Mankhwala. Ambient global techno grooves. Six choice tracks on a CrO2 C40. The real stuff - highly original, unusual rhythms. £4 (inc p&p) from: A Scott, clo 13C Goldsmith Rd, Hove, East Sussex

· E ocat le electronica blending North African samples (percussion and chants) with synths.



9 SHABDA by Marcus Corbett. Highly original acoustic guitar-based hybrid folk with atmospheric strong tunes.

Indian-influenced vocal, genuine accompaniment, piano, flute, and percussion. 10 tracks, 53 minutes. CD £9.99, TDK SA cassette £7.50 from: Marco Music, 25 Dorchester Court, London SE24 9QX.

· Beautifull, packaged and produced CD featuring the unconventional folk style of Marcus Corbett. Vocals delivered in Indian Tyle but to a backdrop of off-the-wall acoustic

EAGLE EYE by Earthflow. New age songs of nature and dreams. Haunting, evocative soundscape of eagle, sea, river, wolf, spirit, land, beyond. Soothing, powerful. 7 tracks, 55 mins. CrO2 tape, £5.50. Cheques payable to: \$ Davies, 4 Oakwood Park, Nutley, East Sussex, TN22 3NB.

Over 100 copies of demo tape sold through this column Free T-shirt to first 10 orders received. 50 minute-CD, £10 to: lan Pearson ('Merge'), 78 Elgar Road, Reading, Berks, RG2 OBL



COMING OUT by Red Ash and the Love Commandos 10-track. 49-minute CD 'Not a different kind of cider it is Red and

there's a fair bit of (indie) rock in it. £6 (inc p&p), 14-day money back guarantee, Cheques to: *M. Rigler*, 35 Beresford Road, Poole BH12 2JR

THE STORM WITHIN by Secret Archives of the Vatican. Dark ambience based on 12th century Japanese court music. Isolationist electronics. Beautiful, strange world music. C60, 12 tracks, CrO2 tape, colour cover, £5, Cheques to: Vince Millett, 3 Royal Circus, London SE27 OLT.



EYES ROLLED BACK

by Harmonic 288. 45 mins of ambient dubscapes and organic textures 7 tracks, CrO2 tape, £3, available from: Chris Harrad, 85 Canbury Park

Road, Kingston, Surrey KT2 6LQ.

HALF LIFE by Phil Cory. 8 guitar/guitar synth rock songs influenced by Lou Reed, Steve Reich, Pink Floyd, 40 mins playing time, £3. Cheques payable to: P Cory, c/o Helen, 20 Freemans Close,

Hungerford, Berks RG17 OQR.



WARPED CD by Various, Over 77 mins of various indie, grunge, pop, ambient and techno artists

20 tracks for £5. Beautiful colour sleeve. Cheques/POs to: Purge Records, 38 Chancery Lane, Nuneaton, Warks CV10

GUILT EP by Viral Technology. Vicious techno metal. NIN, Krupps, Ministry, KMFDM with attitude. ADAT-recorded, DAT-mastered, pro-duplicated, CrO2 tape, 3 tracks, 15 mins, £2.50 from: P Davies, 13 Burnham Way, London W13 9YE. All previous titles now sold out - thanks!

THE DREAM by White. New age synth music on C60 Eight great tunes and a new cover, £7. Cheques to: DJ White,

53 Listowel Road, Kings Heath B14 6HH



NIGHT OF **PASSION** by Ricky Fentone and the Flat Top Cats. Country rock blues mix. 32 mins, 10 tracks, Fe tape, £3. Cheques

to: Harvey, 9 Kingsbury Place, Cwmaman, Aberdare, Mid-Glamorgan CF44 6LH

FRINGE FIDDLER by John and Nina Bennet. Violin, vocals, bodhran and keyboard. Popular classics and folk. Family fun music making, 48 mins playing time 19 tracks, CrO2 tape. £4.80 (inc p&p) Cheques to: John Bennet, 6 James Road, Wellingborough, Northants NN8 2LR.

7 TRACKS TO HARD DISK MELTDOWN by Remote Control. Second demo tape with dance, techno and experimental tracks. 30 mins, CrO2 tape with Dolby. Send 10 Dutch guilders to: Vincent Cuijpers, Stiemensweg 193 PO code 6591 MD, Gennep, The Netherlands

SONG FROM THE BEST INTENTION by Various. First compilation from Infectious Brother Arts, includes work by Aphasia, Secret Archives, and more. CrO2 tape, 60 mins, 15 tracks. £3 to: AA Elsdon, c/o 486A Brighton Road, South Croydon, Surrey CR2 6AP



DREW by Drew. Commercial pop 48-track pro studio recording from singer/songwriter. 55 mins playing time 12 tracks, CrO2 tape, professionally duplicated, £5. Cheques to:

Ouidoza Music

Flat 3, 105 Onslow

Square, London SW7 3LU

OVER THE LIMIT by Frank Torpey Original guitarist with 'The Sweet 10 tracks on CD featuring Terry Sullivan on vocals. No frills rock/blues. guitar-based £8 (inc p&p). Cheques payable to: FE Torpey, 8 Hawthorn Drive, North Harrow, Middx HA2 7NX.

FRACTAL LAND by The End Quartet. New CrO2 tape, colour cover, 30 mins, string quartets with a difference. Cheques for £3 to: AA Elsdon, clo 486A Brighton Road, South Croydon, Surrey CR2 6AP

MAGIC MALVERN by Paul White and Mike Simmons (The Lentils Of Delirium). Guitar and synth instrumentals (thrash metal-influenced new age). 58 mins, 12 tracks CrO2 cassette, professionally duplicated with printed sleeve. All proceeds in benefit of local community care (via Malvern Arts Workshop). £5.75 (inc p&p). Cheques to: Jan McGuffie, Malvern Arts Workshop, Worcester Road, Malvern, Worcs WR14 1NY. Production details included.

LAF by LAF. Original and innovative pop music played on real instruments. Five go mad in the spare bedroom. 51 minutes playing time, CrO2 tape, £4 from: Phil Matthews, 8 Stanstead Road, Mickleover, Derby, DE3 5PP.



NATURAL **INSTINCT** by Elegant Simplicity. New album of prog rock in the vein of Camel Oldfield Ozrics Porcupine Tree Other albums available. Fe tape, 56 mins, colour cover, digitally mastered, £2.50 to:

Steve McCabe, 27 John's Avenue, Lofthouse, Wakefield, WF3 3LX

SET ME FREE by Solid State. 12-inch 4track vinyl EP. Happy house jungle rhythm by John Bunyan and Craig Easterbrooks. 22 mins, glossy cover, £4.99 payable to: Bayslip 251 Austin Crescent, Plymouth PL6 5QT.



FACE TO FACE by Coup D'Etat. Funky latin jazz, strong grooves, burning solos, 43 mins playing time 7 tracks, CrO2 tape, features silicon mallet, £5. Cheques to: Louis Borentius, 90 Bridge Lane, London NW11 0EL

he SOS Readers' Tape Exchange provides an enormously successful service for readers, allowing them to advertise tapes, CDs, or records of their own music in their favourite hi-tech recording magazine. Every month we devote a section of the Reader Classified pages to the Tape Exchange. Here, you can advertise your own material to other readers, free of charge. Not only can you discover what others are up to, the service opens up a whole world of new music that you certainly can't find in local record shops. Furthermore, the service provides a source of new material for the attention of producers and record companies. With the aid of the Phone Line service, you will now also be able to hear a selection of the tapes featured on the pages before you commit yourself to a purchase.

Ads are usually run for three months before re-application is necessary, but this may change at the discretion of the magazine publishers. SOS makes no guarantee as to the quality of the music sold through it. Material will normally also be run on the Phone Lines for a three-month period, but this is subject to demand for the service, and is at the discretion of the Publishers. SOS reserve the right not to run material considered unsuitable for inclusion in the Tape Exchange

It would be appreciated if anyone wishing to use the Tape Exchange page and Phone Line service could send a copy of their material to the SOS offices. Space permitting, we run mini-reviews of tapes that we find of particular interest. If you would like us to advertise your material, please bear in mind that:

- I Tapes should be recorded to the best possible standard and duplicated on good-quality cassettes
- 2. Although pricing is up to the individual, your work is more likely to sell if realistically priced.
- 3 Cost-effective duplication can be undertaken by many companies, the more astute of which advertise in SOS's Classified pages!
- 4 Unless your tapes contain all-orginal material, in order to sell your tapes legally to others you must obtain copyright clearance for any cover versions recorded. This costs a lot less than you might think and can be arranged through the Mechanical Copyright Protection Society (0181 769 4400). SOS cannot be held responsible for any violation of Copyright law. Note also that MCPS-protected material (for example, cover versions) cannot be aired on the SOS phone lines. The Phone Line service is strictly for the use of amateur musicians, and material will only be placed on the phone lines if the musicians who have sent it are the owners of both the song copyright and the sound recording copyright.
- 5. If possible, include a sheet with your tape giving recording and equipment details, as other readers are sure to be interested.
- 6 If you're concerned about the security of your studio (because of publishing your address), use a Post Office box number, or sell via a relative or finend's address.
- 7 Use the form provided on the Tape Exchange pages or a photocopy. See the sample entry for the format to follow. Please keep your entries to a maximum of 40 words, and include the following information: Tape title and artist name; style/type of music; playing time, number of tracks, tape type, e.g. Chrome (Type II) or Fe, pince, address. Send to SOS Tape Exchange at the Free Classifieds address. TAPE EXCHANGE ADS WILL ONLY BE ACCEPTED IF THE TAPE EXCHANGE FORM IS COMPLETED IN FULL

SAMPLE ENTRY: The Lentils Of Delirium by Paul White and Mike Simmons. Hybrid ambient synthesizer and thrash metal guitar music. 56 mins playing time. 10 tracks. CrO2 tape. £4.95. Cheques to; Dept PW1, PO Box 30, St Ives, Cambs PE17 4XQ.

If you wish to have your material included both in the Tape Exchange and on the Phone Lines, please read and fill in the declaration carefully, and, if you are in

agreement, sign and date in the space provided.
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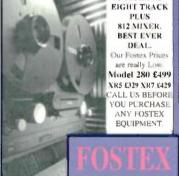


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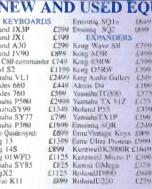
























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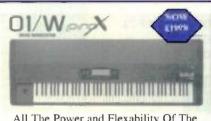
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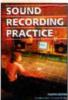
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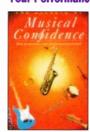
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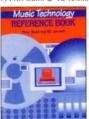
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by Joseph Rothstein, Product Review Editor, Computer Music Journal Series Editor: John Strawn

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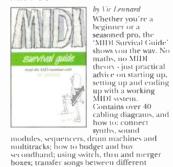
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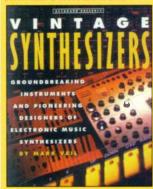
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glossy paper and contains full-colour pictures of a large selection of exhibits from the museum, together with some descriptive text and company backgrounders. The text reads a little like a fanzine, but the hardcore synth fanatic will want this book 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. £24.95, plus postage.

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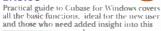
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museum has released a fascinating 50 minute promo video that features footage shot on the day as well as a lightning tour of the facility. The program is hosted by SOS contributor Julian Colbeck. The tape opens with synth pioneer Bob Moog making the 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 vintage synths, represents good value, and offers the perfect companion to the Museum's guide book, also available from SOS Bookshop.

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how to use them well. It also covers the do's and don't so ft 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.

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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

and are still in awe of power, this is the video to bring you down to earth. An introduction and 28 tutorislat sake 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.

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THE EMAGIC LOGIC **TUTORIAL VIDEO**

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 nore detailed and informative, but for now more detailed and informative, but for now Volume I 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, 37. Mac of 10. Trescritation 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

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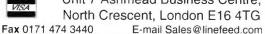
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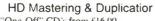
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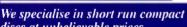
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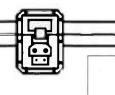
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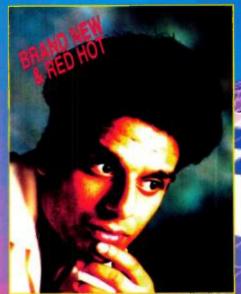
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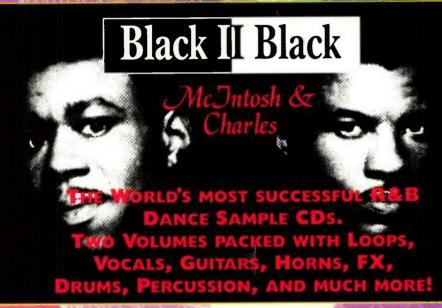


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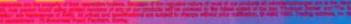
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s is immediately apparent (because I am most definitely not a celebrity record producer!), we are in the process of changing the format of our closing page. From now on, this page will take on the role of an open letter to product manufacturers or industry institutions, where professional producers, engineers, musicians and SOS readers can air their views on product design, services — or indeed just about anything connected with the music and recording business. To get the ball rolling on this column (whose working title, you may be interested to know, was The Ranter), I'll set out a few of my own pet

sounding OFF

In his inaugural speech to celebrate the opening of this new column, PAUL WHITE proves he can rant with the best of them...

whinges, just to get you into the mood.

By no means at the top of my list is the continuing insistence of some manufacturers to emboss the rear panel legend on equipment cases, rather than print it. It all started off as black on black, but I've also seen (and bought) examples of beige on beige, which isn't a great deal more legible. This reprehensible practice is particularly prevalent in the keyboard, computer and budget sound module market, where a lot of plastic gets used, and I find it quite unacceptable that I should have to use a halogen torch or a gynaecologist's illuminated headband just to find out which socket is MIDI In, and which is MIDI Thru.

So, what else irritates me — apart from the occasional considerationally-challenged SOS reader who phones me up on Sunday night after

I've gone to bed, and asks me which of two competing reverbs he

should buy the next

weekend? Well, I don't
much care for computer
manufacturers who tell
me that a minor raster
fault on my black and
white monitor can only
be fixed by replacing
the entire circuit board,
which costs — yes you've
guessed it — almost as
much as a new black and

white monitor. And no, they

won't let you buy a circuit diagram to fix it yourself. When you do finally manage to track down an engineer who's sawy enough to actually find the fault without any technical help other than a forked hazel twig and half a joss stick, the company in question refuse to sell you the replacement transistor! Far be it from me to mention any names, but the monitor in question is named after a fruit that I hear is very popular in cider making! If you buy something as basic as a

monitor, you should have an automatic right to service information — and how 'green' can it be to chuck away the entire inside of a unit for the sake of a 50p transistor?

You may not be surprised to know that there are several other things that wind me up, and high up the list are software designers who continue stuffing new and esoteric (and memory gobbling) features into their products without paying any attention to those facilities that the user actually needs. For example, I use a well-respected, and admittedly very good, hard disk recording system, but when I first used it to do a commercial job, three of the features I needed weren't included, even though they were so obvious that I never even dreamed that they wouldn't be in there somewhere. On calling the manufacturers, I was told that nobody else had asked for them — yet these things were so basic that anyone doing dialogue editing would expect them. This situation would surely be unthinkable in other industries — just picture the following unlikely telephone conversation:

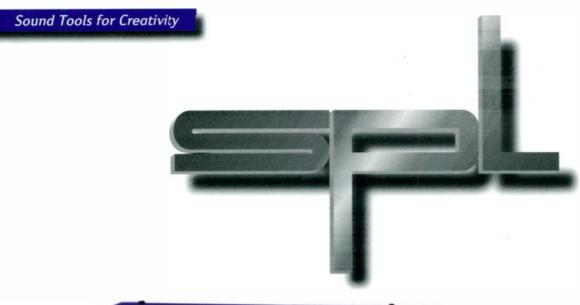
"Excuse me, I've just bought a car — yes, the electric windows, CD player and air conditioning all work fine, but I can't seem to find the brakes or steering wheel in the manual — or a reverse gear come to that."

"Ahh, yes — we're thinking about putting a reverse gear in the next software upgrade, but frankly, there's no real demand for the other features you've mentioned."

The same hard disk recording package also sits happily pretending to record material for as long as you like, and after waiting an hour to input a client's album, you press the stop button, and up pops a dialogue box to tell you that you ran out of hard disk space 56 minutes ago, because the system defaults to your internal drive and you didn't remember to change it. (Parkinson's Law states that no matter how big an internal drive you have, there will only ever be 4.9Mb of free space on it.) Why couldn't it have given me that information an hour ago, when it ran out of space? Why does it have to wait until I've wasted an hour watching it? And why can't it warn me when a client slips me a 44.1kHz DAT tape with a couple of 48kHz tracks in the middle somewhere?

This time, I haven't named names, but I'm sure that future contributors to this page won't be so reticent to point the finger at the cause of their misery. Before I go, just one finale whinge; when the Apple keyboard was designed, who was the mindless loon that placed the Help key next to the backspace key? About every quarter of an hour, you go to delete something, hit the wrong key, and then have to sit gnashing your teeth as reams of uninvited Help text crawls down the screen at the pace of a slug with arthritis! I want that man found, and I want him bound, chained and subjected to a year of listening to readers' demos over particularly nasty loudspeakers. That'll teach him to mess up my life! 505







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