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# Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

JULY 1992

£1.75



## ROLAND R70

*reintroducing the 808*



### ON TEST

*MOTU Composer Mac Software*

*Cheetah MS800 Synth Module*

*ART Multiverb LTX Multi-fx Unit*

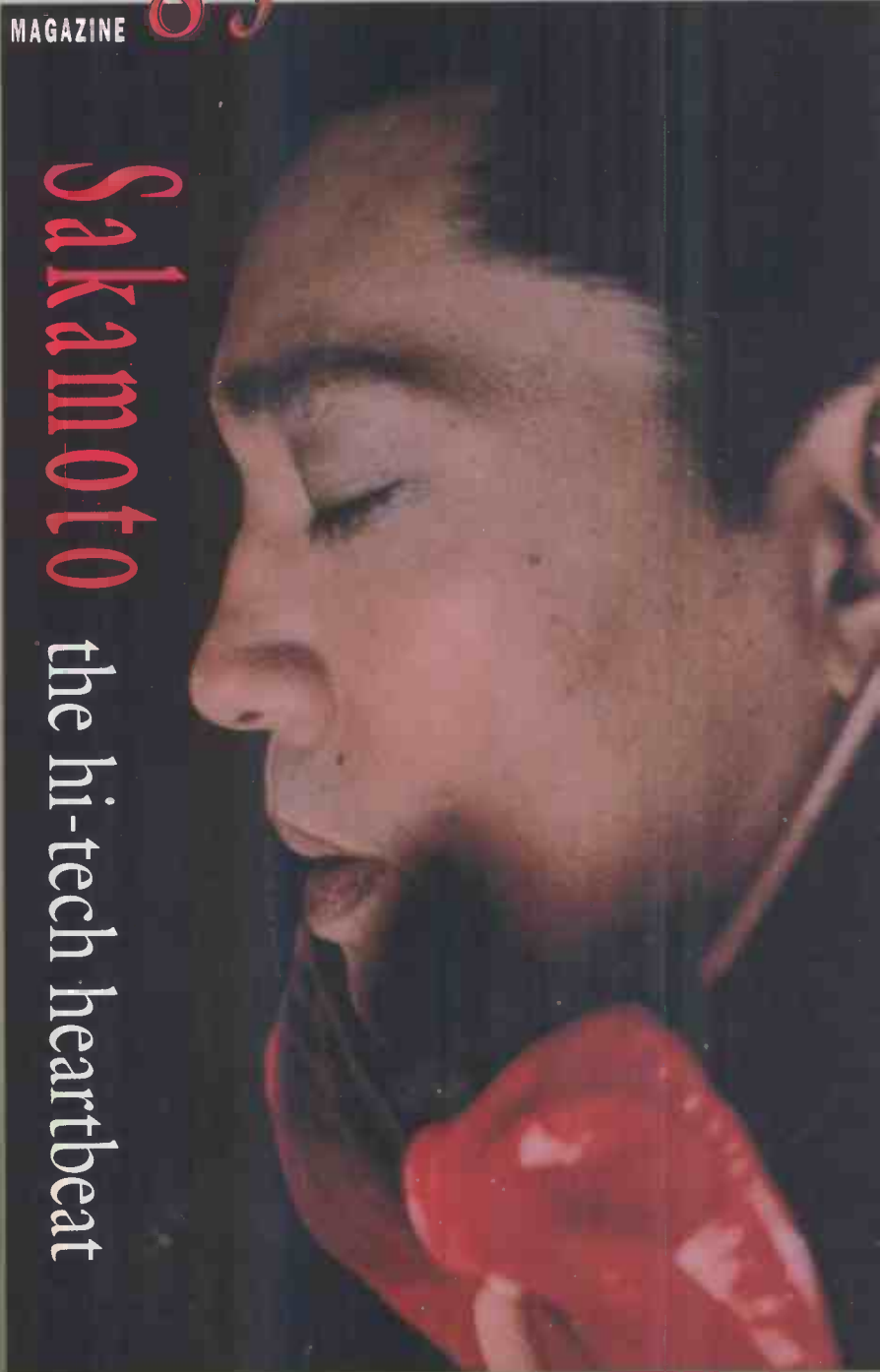
*Design Labs 256-R RAM Cartridge*

*Gajits Sequencer One Plus Software*

*Computer Resource SongRep  
Atari Software*

*Dangerous CD Company  
Danger 1 Sample CD*

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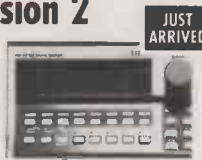
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When you gotta go, says the old adage, you gotta go. And so it is that MT's editor of some five years signs off and moves into the world of pro audio publishing. MT enters a new era...

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Readers' tips on sequencing, rants about musical snobbery and queries about the best gear for the job all help make this month's open forum a spiritually fulfilling experience.

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*Kick out the gloom/Kick down the blues/Tear out the pages/With all the bad news...* A Cure for those Doing The Unstuck.

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MT's latest exclusive competition is especially for reptile lovers - Lizard is a brand new synth editor/librarian from across the Channel and it can be yours in return for a little smart thinking.

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Like a hi-tech version of the stock exchange, there are stories of peoples' musical fortunes being made and lost in MT's Readers' Ads - all you have to do is choose the right gear and the A&R man is at your mercy.

---

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After being quiet for a while, Kurzweil are stirring up quite a storm with their latest synth. MT grabbed one for review only to find it had been sold to New Order - consequently, Nick Batzdorf reports from the US.

### ROLAND R70

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And the beat goes on - not least with Roland's latest drum machine, the R70. Simon Trask checks the pulse of the company that gave us the TR808, and are now giving it to us again.

### MOTU COMPOSER

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One of the leaders of the Mac Pack is Mark Of The Unicorn's Professional Composer. Ian Waugh reports on the latest version of one of the leading Macintosh scorewriters.

### GAJITS SEQUENCER ONE PLUS

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Gajits popular entry-level Sequencer One gets a face lift. Ian Waugh looks into cost effective music making the Manchester way.



---

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## CHEETAH MS800

48

Cheetah's latest synth had already been axed and revived before the public got a glimpse of it. Simon Trask gets his hands on one of the cheapest, oddest and most intriguing modules on the market.

## COMPUTER RESOURCE SONGREP

70

Organising song files seems tedious - until you can't find the patterns you need. Vic Lennard boots up a program which makes housekeeping Creator/Notator files easy.

## Music

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Fusing jazz with rap and feel with technology are second nature to Ronny Jordan - whose cover of Miles Davis' 'So What' recently made the pop charts. Simon Trask talks to the man on the "jazz tip".

### RYUICHI SAKAMOTO

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Ryuichi Sakamoto was a founder of the YMO before becoming one of David Sylvian's favoured partners. Now, fresh from a Japanese and a series of film scores he tells Tim Goodyer about his latest LP.

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The question remains: are you taking your life in your hands when you submit a demo tape to Skum, or is MT's infamous reviewer risking life, limb and sanity trying to listen to it? The clues are all there...

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ART's ever-expanding range of signal processors is intended to cater for musicians of all styles and financial means. Nicholas Rowland test drives a new effects unit whose price belies its power.

## Technology

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Most of us have bought CDs bearing the label "digitally remastered", but how many of us appreciate what's happened to the music in the process. Tom Doyle exposes the power behind the remastering button.

### COME IN NO.7

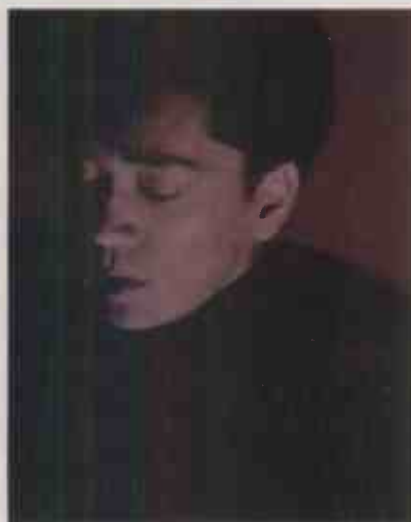
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In the days before Roland established their reputation for consistently delivering the goods, they turned out some weird and wonderful synths. Peter Forrest lifts the dust cover on the old SH7 monosynth.

### PATCHWORK

68

A long-awaited replacement for Roland's discontinued M-64C RAM cartridge joins the Dangerous CD Company's Danger 1 sampling CD on the spot in this month's Patchwork.



# SAYONARA

HERE IT IS: this issue of Music Technology will be my last as the magazine's Editor. After a little over seven years first as MT's Music Editor, then as Editor proper, the time has come for me to move on. This move will take me to the editorship of Studio Sound, the flagship magazine of the pro audio industry, but I also hope to continue to contribute to MT from time to time – with the added perspective which my new position will give me. I'll also be reading MT in order to keep my ear to the ground where musical developments and "street-level" technology are concerned.

My time with MT has been memorable, to say the least. I've witnessed the evolution of MIDI from a keyboard players' "toy" to an integral aspect of music technology at almost any level; I've seen the meteoric rise of the computer as a popular music aide and I've seen the ethical and legal wrangles which have been thrown up by the popularisation of sampling causing all sorts of trouble. It's been a fast ride.

With the benefit of hindsight I feel that I can safely say that MT has achieved its goal of bringing you the very best coverage of music and technology. No other magazine has come close in keeping up with the crucial issues – MT's reviews have been the most informative and objective and MT's music coverage has kept its readership closer to what's

been happening than any other source. On top of these there has been a good spread of coverage in all areas: instruments, music, related technology, educational articles... Let me put it like this, if I hadn't been writing MT, I'd certainly have been reading it.

Of course, I haven't done all this on my own. I've had the support of the best technical writer in the field in the (unmistakable) form of Simon Trask, the unfailing enthusiasm and technical insight of the UKMA's director, Vic Lennard and the ingenuity of Nigel Lord, as exemplified by his seminal On The Beat series, to name just three. The illustrations contributed by my brothers Clive and Toby, and Andrew Kingham have also helped shape MT's character, and I've been served by one of the best teams of contributors available, to all of whom I owe my thanks.

But this isn't the end – far from it. For MT, it marks the start of a new era. The magazine is soon to undergo a re-design to give it a fresh visual appeal, an expanded team of contributors is currently being assembled to bring you (and me) more of MT's authoritative and informed articles. And with every new editor come new ideas, new directions and perspectives. I'd strongly advise you to watch this space.

From me, for now, it's sayonara. *Tg*

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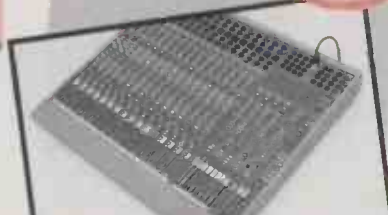
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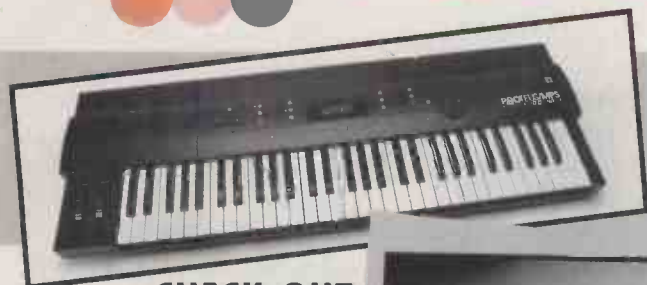
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## MIDI-to-sanity interface

Having just purchased an Alesis sequencer, I have been discovering the hard way what a total son-of-a-bitch it is to get a decent drum track by "tapping in" from my Roland Juno 6.

The keyboard in question has been kitted out with a Groove MIDI interface which has an arpeggio system built in – and, most importantly, the ability to trigger this from an external device. Even after buying a Roland sound module I resisted the temptation to trade in my old TR707 for cash – which is just as well because this is the beat that's kept me out of the home for the incurably insane. Let me explain.

After sorting out a rhythm part in the TR707, I write each instrument (bass drum, snare drum, hi-hat and so on) in turn to the rimshot line – which also appears on the rear panel as a 5-volt trigger. Connecting this to the Juno's arpeggio Trigger In and the MIDI Out from the Juno to the In of the sequencer, I set the TR707 to receive MIDI sync code from the Alesis, switch in the arpeggio and hold features and put the sequencer into record. Recording each part of a rhythm pattern in turn into the sequencer, it's a simple matter to transfer a rhythm from drum machine to sequencer.

It's possible that lots of MT readers with similar equipment sussed this one out ages ago. Then again, maybe there are

some that haven't. Hopefully, then, this will be of more use to them than the recent round of bickering – about whether Phil Collins is a boring old fart (he is) or whether Lowell George's Little Feat were the best band in the universe (they were). Goes without saying, really.

**Ian Nicol**  
Dorset

*Think about it. Tg*

## house building

Please can you advise me on what sort of gear I would need to arrange and play music ranging from hardcore techno to happy house and maybe mellow music. I've read your Readers' Ads and they have given me an idea of what's available secondhand. But as there aren't many retail outlets in Lincoln, I would appreciate it if you could tell me the makes and models of synths, samplers, drum machines and maybe MIDI computing gear that would be suitable for me.

**L Brown**  
Lincoln

*So, you're just a stupid kid – you don't know any kung fu, eh? Well, I could tell you that the "standard" house beatbox is the Roland TR909, that Rhythmic rely on the distortion of mis-used Akai samplers for many of their sounds and the sub-bass on Baby Ford's 'Oochy Koochy' came out of an old Oberheim Matrix 6 and you'd probably be fairly happy. I could even point out that MT's interviews regularly carry just this sort of information – there's even a comprehensive gear listing*

*included in our interviews which will give you so much of the information you crave that you'll gag on it.*

*But I'd rather point out that it's not really the specifics of the gear that matter, it's the attitude that defines the music. Buy what you can afford; record what you can imagine. Tg*

## starwars

I've had it up to the eyeballs. I don't understand. We all read Music Technology because we're technology freaks to some degree. We are all involved in using or experimenting with electronic gadgetry. Why then, when we open MT's Communiqué page every month, find that someone is slagging off someone else's music, or that someone is slagging someone off because of the music they listen to?

What does it matter what each of us uses the technology for? Isn't it sufficiently interesting and useful to delve into each others' experience and technique for something that might have reference to us rather than dismissing them outright because they have the wrong drumbeat?

Why do we have to be so protective over our music that we rip each other apart in doing so? It seems to me that by dismissing each others' music we all lose out. "Technology musicians" (as I've been described) are a small enough caste as it is, without us tearing each other apart into even smaller cliques and throwing silicon chips at each other. It seems so narrow minded and childish of us to live this way.

Maybe we all need to open our eyes a little.

Andrew Hill and Howard Naylor (see debate in recent MT Communiqué pages) aren't alone. And if I look back over past years of MTs, there appear to be hundreds of people doing exactly the same thing. Why, why, why?

Anyway, that's my philosophy lecture for today. Keep up the good work in the mag; it's worth every penny. Loads a love,

**Gavin Ling**  
Nottingham

*I'd wholeheartedly agree that you don't have to sympathise with someone's musical ideology or working methods to learn from what they have to say or do. In fact, that's one of the policies which has allowed MT to be so flexible in its music coverage since its inception in 1981.*

*I would accompany this endorsement with a word of warning however: while music is a highly personal and subjective matter, it's essential that we all retain a musical perspective when dealing with technology. Put another way, while technology can form common ground between differing musical interests and disciplines, it should never become more important to a musician than the music itself.*

*I would freely acknowledge that possibilities opened up by technology have played as important a part in the development of certain musical styles as any aspect of the music itself but let's not pretend that music serves technology in any way – technology is still the means to a musical end. Someone else want the soapbox? Tg*



# Sample This!



## The Peavey DPM® SP/SX Sampling Combination

*"The Peavey DPM SP has enough sound-processing power to generate incredible sounds.... Overall, the SP represents tremendous value for the money....The engineers at Peavey are to be commended for building a highly capable sound module into a cost-effective, upgradable package."*

Electronic Musician  
May 1992 Issue

*"The SP offers ambitious programmers the potential for creating new signature sounds. Particularly considering its low price, expandability and first-rate storage and loading capabilities, the SP gives a musician more than just an introduction to sampling. With the SP, Peavey moves the flexible-architecture philosophy to new frontiers."*

EQ Magazine  
February 1992 Issue

The DPM® SP/SX sampling system is a phenomenal value. Costing thousands less than comparable units from our competitors, and hundreds less than most low end systems, the SP/SX combination represents the most powerful, yet affordable, full-featured 16-bit sampling system on the market today!

The DPM® SX Sampling Xpander module allows you to digitally record your own 16-bit samples and send them over SCSI to the SP or in the standard SDS format to your DPM 3 or other compatible instrument.

The DPM® SP rack-mount sample playback module offers 16-bit resolution and 44.1 kHz stereo sample playback rate for industry standard sonic quality that is without equal.

Up until now, high-quality sampling has been something that was out of reach for most people. Not only because of the expense, but because of the tedious time and effort required to create good samples. The union of the SP/SX finally brings together high-end full-featured sampling with ultra affordable pricing for the working musician.

The SP is capable of handling up to 32 megabytes of internal sample memory! The sample RAM is expandable with low-cost industry standard SIMMs expansion boards.

Sample the new DPM SP and DPM SX sampling system today! Be sure to ask about the new DPM SP sample library available now at your nearest Peavey dealer!

The Monitor® magazine from Peavey is a publication filled with the latest info musicians want to know. Included are interviews with today's hottest players. You also get the latest news on Peavey equipment. To receive 4 issues for only \$5.00\*, send check or money order to Monitor magazine, Peavey Electronics / 711 A Street / Meridian, MS 39302-2898  
\*Prices good in U.S. only.



Latest in the long, long line of Yamaha goodies is the RM50 Rhythm Sound Module. The evocatively-named RM50 is described by the Big Y as "a high-performance AWM2 sound module" and features a phenomenal 1100 voices and 128 drum kits. And if that isn't enough to satisfy your thirst for sounds percussive, the RM50 will accept samples in Sample Dump Standard (SDS)

## YAMAHA BEATEN

format and house an expansion board for sample storage. Four card slots are also provided for storage of voice data and waveforms.

Yamaha's new beatbox will handle 16 simultaneous sounds, has six individual audio outputs, sits neatly in 1U of rack space and offers a 48-character LCD for ease

of programming. Additionally, the RM50 boasts digital filtering of its sounds and six channels of audio triggers should you want to fire it from external sources such as drum pads, other drum machines or from tape. The cost is set at £599 and it should be available as you read this.

On a less hi-tech but very practical note, Yamaha also have a new line in custom-made instrument bags. Made from 3mm nylon laminated material, these come in four models suitable for Yamaha's smaller items such as the RY10, QY10, RY30 and MT120. Prices range from a modest £9.99 to a modest £17.99. All bags sport the unmistakable Yamaha logo for that final touch of hi-tech class. **Tg**

## ROCK 'N' ROLAND

Imagine this: you're playing keyboards in a band which is touring abroad, and a couple of hours before a gig your Roland master keyboard suddenly decides it's not going to master anything but the art of not working. What can you do?

Well, from now on you can consult a rather valuable book entitled *Rock 'n' Roland Around The World* which contains 24-hour emergency telephone numbers for Roland product specialists and engineers in all the countries throughout the world to which Roland distribute their wares.

The book has already proved its worth on several occasions. For instance, when Simply Red played in Munich recently, they had a problem with an A80 controller keyboard - so they contacted Roland Germany's product specialist in Hamburg. Within an

hour, an engineer had appeared and fitted a replacement main board, and also organised the loan of a spare A80 from a local Munich dealer as a stand-by.

When one of Seal's road crew dropped a D50 at 3.15pm in Amsterdam, breaking the bender lever, Roland Benelux staff were able to fit a new lever in time for the gig that evening. And when Swing Out Sister had problems in Manila when their MC500 data wouldn't load into a hired Rhodes MK80, Roland Japan were able to supply them with a different version piano through an agent in the Phillipines.

The idea for the book came from Roland UK's Chris Simpson, who also compiled the information. Bands likely to be touring abroad can obtain a copy by calling Chris at Roland (UK) Ltd. on (0252) 816181 ext 2230. **St**

## COMPUTERS AT HOME

The International Computer Show, now in its sixth year, will be held this year at Wembley on July 10-12, and will be focussing on developments in home computing. The ICS, which incorporates the 16-Bit Computer Show, will have over 180 exhibitors who will be showing software and peripherals for the Atari ST, Commodore Amiga and IBM PC

and clones. The Show will highlight applications in the fields of multimedia, the home office, and leisure and entertainment (in particular, hand-held games consoles, currently the fastest-growing computer market).

For more information, contact the organisers, Westminster Exhibitions on 081-549 3444. **St**

## PRO SONGS

MIDI Songfile providers Pro Music are launching a new series called Guitar Classics, and have what they claim is a new angle on MIDI Songfile programming in that all of the guitar parts including solos are played in on a MIDI guitar by a professional guitarist. The guitar was fitted with the same gauge strings to avoid any triggering discrepancies, while, to minimise MIDI delays, solos were played up an octave and then transposed down within the sequencer.

Songs in the Guitar Classics series include Led Zeppelin's 'Stairway To Heaven', Boston's 'More Than A Feeling', AC/DC's 'Highway To Hell' and Jimi Hendrix's 'Red House'. Pro Music see these Songfiles as being

useful for vocalists and for guitarists who want to learn solos or rehearse to a backing.

The company have over 300 Songfiles, and now provide a service whereby you can order Songfiles mixed down onto cassette as ready-made backing tracks; price per cassette is £5.95, which includes customisation of songs to your wishes.

For their next project, Pro Music will be developing '60s and MOR Songfiles. Is there no area of music where they fear to tread?

The Guitar Classics Songfiles are priced at £4.95 each, the same price as the company's Chart Hits Songfiles.

To find out more about Pro Music's catalogue of songs, you can contact them on 071-252 8573. **St**

## RETURN TO BASE

It has come to the attention of Fostex UK that a few "rogue" X18 Multitrackers from the initial shipment from Japan have found their way into the shops. As a precaution, therefore, the company are offering a free testing service to any X18 owners who feel that their machine isn't performing quite as they'd like. All X18s delivered to the Fostex Service Department by

their owners will be fully tested and returned as quickly as possible. What's more, the company will be providing a free booklet on four-track recording to anyone who does return their machine for the once-over.

If you think your X18 is doing things it shouldn't, you can call Fostex' Service Department on 081-893 5111. **St**

## MPPS

The MPPS - or Music Programmers' Protection Society - is a newly-formed body with the declared aims of looking after the interests of "programmers and companies selling MIDI sequences".

Of particular concern to the MPPS and its potential members is

the issue of other parties pirating legitimately marketed MIDI sequences. These, of course, are subject to legal protection under the copyright laws, and the MPPS is working with the MCPS (Mechanical Copyright Protection Society) to see that the legislation is respected.

Further information on the MPPS is available from Gillian Savage (president) on (0602) 633908. **Tg**



## ANDERTONS' LATEST

Andertons Music, first established in the Guildford area more than 25 years ago, have recently opened a new musical instrument store in Guildford's Woodbridge Road. The new store, which is carrying over 6000 musical instrument lines housed in 6000 sq ft premises, has had nearly one million pounds invested in it by the company. Soundproofed demonstration and practice rooms, a massive retail area, and head office quarters are all features of the building, which also has its own car park. **St**

## ADULT EDUCATION

As part of their Adult Education prospectus, West Sussex County Council are to launch an evening course entitled *Recording and Music Technology* under the guidance of professional composer/programmer Paul Rogers.

No previous technical knowledge is necessary in order to join the course, although the intention is that it will also be suitable for those wishing to further explore the potential of their existing MIDI setup.

Further details can be obtained from Carlemi Music on (0903) 219999, or fax (0903) 210628. **St**

## THE MISSING LINK



As this issue of MT was going to press, news of an incredible scientific discovery was breaking.

In a glacier high in the French Alps, an American scientific party have, apparently, discovered human remains older than any so far discovered. The three bodies are already forming the basis of radically new theories concerning the evolution and diaspora of humankind.

What makes this news of such importance to musicians is that the bodies were found to be carrying the remains of very early musical instruments - specifically, a guitar, bass and drum kit. These alone are a remarkable discovery - doubly so as they are not significantly different

from those used by the majority of rock bands today. Perhaps most important of all, however, is the fact that the remains of the musicians show their physical form to be identical to that of drummers today. Interestingly, however, there is no evidence to support the supposition that these proto-musicians worked with a keyboard player - these, it seems, could not have evolved for thousands of years hence.

Should the find be authenticated and accepted by the scientific world, it will conclusively prove that musicians - with the notable exception of keyboard players - have not undergone significant development since the dawn of man. **Tg**

## THE PRICE IS WRONG

Confused? Confused by the clash of prices in the Time & Space sampling CD ad in last month's MT?

Those of you eager to devour every last byte of sample material (you know who you are) will certainly have noticed the inconsistency of price in the sample CDs advertised on page 61

- specifically the Bizarre Planet, Science Fiction, Sound Fx Collection and Looping sound effects discs from Germany. Sadly, the higher of the two prices quoted in each case is the correct one. The good news is that the higher price makes the discs actually sound better... **Tg**

There's been of positive flood of press releases from MCM this month. Let's start with one for a cheap Apple Mac MIDI interface from Passport - a one-in/three-out affair like Opcode's MIDI Translator, it costs £69.95 including VAT.

Moving a rung or four up the ladder, for those of you who have drooled over Opcode's Studio 5 SMPTE/MIDI synchroniser and 16:16 MIDI patchbay, but reluctantly had to pass on actually buying it, the company's new Studio 4 could be the answer. Expected to retail at £399.95, it combines a SMPTE/MIDI synchroniser with an 8:8 MIDI patchbay, and, used in conjunction with OMS (Opcode MIDI System) software, it can be used to add filtering, channelisation, note-range splitting, controller mapping, and velocity and control value modifications in real time. Incidentally, OMS compatibility has been announced by Digidesign and Steinberg for Cubase Audio. The Studio 4 is also able to fully emulate the MIDI Timepiece, and apparently works with all MTP-compatible software.

Still with Opcode, the US

## MCMINENCE

company's Audioshop software allows you to sequence and play not only Mac sampled sounds but also CD audio tracks. These sounds can be assembled into a collection of tracks known as a Playlist, which can be edited simply by clicking and dragging, or by using a Sort function.

Editing of digital audio tracks involves familiar cutting and pasting techniques, and allows you to add effects such as reverb and echo which are provided with the software. Some music and sound effects are included with Audioshop, while of course you can record your own sounds using the built-in microphone found on the newer Macs or another input device such as MacRecorder. Digital audio tracks are played direct from disk, and can be loaded and saved in a number of formats, including Audio IFF, Hypercard (resource), Macromind and System (resource).

Audioshop features CD-style controls such as Repeat Playlist, Rewind, Fast Forward, Play, Pause and Record. It also has the ability to play a CD playlist and record it onto

hard disk at the same time. And the price of this unusual piece of software? A mere £69.95.

MCM also handle Coda's MusicProse and Finale notation software packages, and have just added MusicProse for Windows along with what they call "Academic" versions of both Finale and MusicProse, running on PC and Mac, to their roster.

As many of you will already appreciate, MCM don't only handle software, however. There's the Voce DMI64 MkII organ module, which improves on its MkI predecessor by providing a more user-friendly front panel display, adding simulated overdriven tube amplifier distortion and providing 35 additional presets. Features of the DMI include 64-voice polyphony, 16-part MIDI multitimbral reception with voices being assigned dynamically across the parts, 64 waveforms of which eight are user-programmable, waveform generation performed by an additive synthesis method similar to using drawbars on an organ, and built-in digital effects (vibrato, chorus, rotating speaker,

key click, analogue distortion, and tone wheel organ percussion). The retail price on the DMI64 MkII is £649.95.

MCM are also taking on distribution of the Audix range of microphones, studio monitors and wireless microphone systems, along with the Anatek range of Pocket MIDI processors. The latter includes a 16-track Pocket Sequencer (£179.95) a two-way Pocket Merge (£89.95), a 15,000-event Pocket Record, a Pocket Mac MIDI interface (£89.95) and Pocket Plus merging MIDI interface (£89.95), a one-in/three-Thru Pocket Thru (£29.95). The delightfully-named Pocket Panic sends out MIDI All Notes Off commands, while the two latest units in the ever-growing series are the Pocket Curve, which provides velocity scaling control, and the Pocket Mapper, which remaps MIDI controllers; both cost £89.95. Picking pockets takes on a whole new meaning with these units.

For more information on these and any other MCM-distributed products you can call the company on 081-963 0663, or send 'em a fax on 081-963 0624. **St**

# K2000 SYNTHESISER



PHOTOGRAPHY: MATT JOHNSON

**Kurzweil instrument launches are few and far between – but they're well worth waiting for, as the new K2000 demonstrates.**  
**Review by Nick Batzdorf.**

**K**URZWEIL HAVE, IN part, established their reputation as a manufacturer of high-quality, professional instruments. This approach to "quality" is also demonstrated by the fact that their models remain current for far longer than is usual in modern synthesiser marketing – their K250 keyboard, for example, is still a popular choice (with those who can afford it). When Kurzweil do release a new keyboard, then, it's an "event" in its own right. Make no mistake about the new K2000 – it's set to be a major instrument.

## DESCRIPTION

THE K2000 IS a 24-voice, sample-based, multitimbral synthesiser. Its five-octave, velocity, release velocity, and channel aftertouch-sensing keyboard can be programmed to send MIDI data on three overlapping zones, each with its own MIDI channel and control parameters. There's an onboard global multi-effects processor licensed from DigiTech – it's actually the same engine that's in their DSP 256XL.

The unit comes with 8Mb of ROM sounds. If you add sample memory you can load further samples from the onboard DOS format 3.5" disk drive, from a hard disk via the instrument's SCSI port or by using MIDI Sample Dump (more on this later). Space is provided inside the K2000 for an internal hard drive as large as 240Mb. (A stereo sampling option that will include AES/EBU, SPDIF digital ins and outs as well as optical ins will be available in the next few months.) There are four memory slots, so there's space for up to 64Mb of sample memory (you can fill the slots with 1Mb, 4Mb, or 16Mb SIMMS in pairs). This is not to be confused with the battery-backed program and sequencer memory.

I'm delighted to report that the onboard sequencer is rudimentary. It can record real-time, multichannel sequences as played from the K2000's own keyboard or imported via MIDI. It will play MIDI type 0 sequence files (one multichannel track; type 1 files have side-by-side tracks), but it has no editing functions. One of my current frustrations is that you seem to have to buy a sequencer with every piece of equipment – buy a patchbay, get a sequencer thrown in – and this seems to me to be the ideal compromise.

Amongst the buttons, knobs, and sockets is a ten-key pad that's also used to enter ASCII characters, an Alpha wheel, data in/decrement buttons, cursor navigation buttons, a programmable slider, a 240x64 character LCD with adjustable contrast, two programmable footswitch inputs, a control pedal input, a stereo headphone jack... And more, which I'll spare you.

## PROGRAM STRUCTURE

THE K2000'S SYSTEM structure is quite straightforward. You start with raw Sample Roots, which are mapped to the keyboard to form a Keymap of samples (or multisamples) that play within a prescribed range of velocities. The Keymap is processed through an Algorithm, which is a series of DSP functions.

A processed Keymap is called a Layer. The K2000 can play up to 24 simultaneous Layers (it's a 24-voice instrument), and the dynamic voice allocation works extremely well. Up to three Layers and an effects program may be assigned to a Program, and up to three Programs form a Setup. Each Program in the Setup can have its own keyboard zone (zones may be overlapped) and MIDI channel. There's also a



convenient Access mode in which to store lists of frequently-used Programs and Setups for quick access.

The exception to the three Layer limit is that one channel can be designated as the Drum Channel. Here up to 32 Layers can be independently processed. The idea is that you can give each drum its own EQ, for example – although there's no law saying that this multilayer program has to be used only for drums. Why only one Drum Channel? Because the K2000's CPU has "only" enough power to handle 15 three-Layer Programs and one 32-Layer Program.

## SOUNDS

THIS IS SIMPLY one of the best-sounding instruments I've heard in a very long time. It's clean, bright, and remarkably free of digital noise. It also sounds so warm and rich that the "analogue" sounds (which aren't, of course) are extremely convincing. The factory Minimoog bass preset is a good example of this.

If you're looking for the renowned K250 sounds (which are among the best acoustic instrument samples available), you may be a little disappointed, as the K2000 includes only a handful of them. The good news here is that Kurzweil intend to release them all at some point.

Actually, these are samples taken from the same orchestral instrument recording session that the K250 sounds came from, but they've been reprocessed for the K2000's improved 16-bit resolution. They will be included in the two 8Mb ROM block upgrades that have been announced (you'll also need an additional circuit board to hold the blocks). The instrument has room for a total of three of these blocks, for a total of 24Mb – the block that comes with the instrument, plus the two others. The K250 sounds will also be available individually on disc at some point.

Happily, the renowned Kurzweil grand piano sound is included, and it sounds brighter than it ever did on the K250 or 1000 modules. Other "real" instrument samples include a fabulous flute, good acoustic guitars (both steel and nylon string), a very usable electric jazz guitar (that's processed in various factory programs to sound like a distorted lead, a clean lead, a blues guitar, and so on), electric piano, trombones, electric basses, a string section that doesn't quite measure up to the original, an excellent trumpet, and trombones that are also processed into a convincing orchestral French horn section. Many of the above are velocity crossfaded.

Among the many percussion samples are ambient and dry drums (some of the toms sound a little rototom like to my ears), as well as some perky congas and other Latin percussion sounds.

In addition to the samples proper, the K2000 houses a number of attack transients (chiff, brass attack, wood bar attack, conga attack), short multisamples (wood bars, solo strings, and muted guitars), and single-cycle waveforms.

Many of the factory sounds are designed to show

off the instrument's versatility, rather than to be musically useful. Included among the demonstration sounds is a setup called 'Sell Your Old Gear' – well, you can't blame them for trying. The musically useful sounds include a full range of analogue-style synth sounds to various Indian Raga instruments (a very convincing sitar that's derived from the steel string guitar samples, tablas derived from the conga samples...). There are also 17 global alternative tuning presets, for those of you so inclined.

Will the presets sell the instrument, like they did on the K250 and 1000 series? I'm not sure, but it doesn't take much imagination to see that with a little bit of work you can make this thing sound just about any way you want it to. The situation is further diffused by the fact that the K2000 has already gained considerable third-party support. This includes synth sounds from Sound Source Unlimited and a series of samples from Stratus Sounds In the States (which may or may not find their way over here).

## VAST

VAST STANDS FOR Variable Architecture Synthesis Technology, and it's an extremely flexible and logical way to program and process sounds. Each block in the signal path has a number of available DSP functions (you choose one by scrolling down a list), and the horizontal arrows show the signal path. Some algorithms have two outputs, and each one can be routed to a separate stereo pair. This is where things start to get interesting. For example, let's say that you have selected a parametric EQ block. You can program the amount that the EQ will vary at different notes and velocities, and then you assign two different control sources to vary different EQ parameters by a prescribed amount. The list of control sources is long and comprehensive; it includes the gamut of MIDI controllers, three programmable envelopes, two LFOs, two ASRs (simplified envelopes), a square wave synchronised to the K2000's internal MIDI clock or an external one, and four Functions.

The idea behind the Function control sources is that you take the values of two other control sources and run them through one of 50 equations, starting with A+B and getting much, much more complicated. This sounds intimidating but all you really have to do is scroll through the list and see what happens. By using Functions, you can get interesting movement into the sounds, and control that movement in real time.

The list of DSP functions available includes a comprehensive filter and EQ selection, pan position, added waveforms (one use for these is to get very fat synth sounds; another used on one of the presets is an aftertouch-triggered sine wave that simulates guitar feedback), and several non-linear functions. The latter include a high frequency stimulator, distortion and others that can emulate FM synthesis. There's no question that this is an instrument worth sinking your teeth into. The EQ is calibrated by both frequency and note name – a great tool if you want to learn the audible effects of each frequency band.

**"If you run the signal through a filter, you're using subtractive synthesis; if you add a waveform, you're using additive synthesis; if you use a sampled attack..."**

➤ The K2000 has buttons for muting Layers in a Program, which is helpful when you're working on just one of them. Unfortunately, it's difficult to tell what's going on when you're working on a Drum Channel Program – you have to dig deep to find information about the current layer (other than its number), and there's no layer solo button. Kurzweil are aware of the problem and it's offset somewhat by the fact that Opcode have announced that there is soon to be a K2000 editor module for their Galaxy program. This isn't to say that the instrument



**“Because of the versatility and phenomenal sound quality of the K2000, I can't think of any single instrument that I'd rather have in my studio at the moment.”**

screams for a computer-based editor. On the contrary, one of its great strengths is how easy it is to get around.

The K2000 uses the DOS storage format with its rather archaic eight-character file name limit – hardly practical for cataloging a decent library of sounds. Kurzweil tell me that they're working with Passport Designs to make the Alchemy sample editing program speak to the K2000 over SCSI, and on the ability to dump individual samples over SCSI. This sounds like the solution.

Kurzweil claim that VAST is like having the complete history of synthesis in one machine. If you run the signal through a filter, you're using traditional subtractive synthesis. If you add a waveform, you're using additive synthesis. If you use a sampled attack transient with a synthesised tail, you're using LA or maybe AFM synthesis. And so on.

What VAST really means, though, is that it can create pretty much any kind of synth sound you've heard. On top of this you should consider that the K2000 is (or will soon be) a sampler. I find myself equally amazed at how versatile the synthesiser is, and how simple it can be to program. Want a filter sweep? Dial up a sawtooth wave, run it through a filter (you can try a number of different types), assign the filter's control to, say, aftertouch – and you've done it.

## SAMPLE EDITING

THIS SECTION OF the K2000 isn't really finished yet. Kurzweil acknowledge this and intend to have it ready when the sampling option becomes available. You will then be able to tune samples, set their relative levels, define start and end points, and specify an alternative start point.

It doesn't even bother me that the instrument only uses one loop (a sustain loop). Most of the time, you don't need to have the sample play to the end after it stops looping. What does bother me is that it doesn't recognise release loop points dumped via MIDI – which in effect means that loops aren't transferred. This would seem to me to be a serious oversight for an instrument of the K2000's level. On the sunny side, it's great that the K2000 can be used while it's receiving a MIDI sample dump.

One very useful feature is that the K2000 can read Akai S1000 disks. This means that it already has an extensive library, right? Inevitably there's a catch, but it's *not* that the K2000 won't recognise S1000 sample loops – it's keyboard mappings that aren't recognised. *C'est la vie.*

## EFFECTS

I HADN'T HEARD the DigiTech DSP 256XL before testing the K2000, so the synth's effects section was a revelation to me. I like the sound of the reverb algorithms. It's full, rich and warm and is free of the “fizz” at the tail end that's characteristic of cheap reverb.

Although you're offered a choice of about 26 combinations of effects, the processor appears to offer four stages of effect: parametric or graphic EQ; double delay (for flanging, chorus, and other delay-based effects); reverb (forward, reverse, or gated) or up to four-tap delay or delay-based effects; and a mixer – to combine the previous effects.

There are some combinations that aren't included (such as EQ + chorus + reverb + mixer), presumably because of the processor's limitations. Of course, not all of the combinations use all four stages. Also note that these combinations of stages are only basic building blocks – they're all completely programmable. In fact, the unit comes with 47 preset effects programs.

You can only wonder how good the effects would sound if they were fed digitally from the K2000, rather than going through an internal D/A conversion. When the digital outs become available with the sampling option, they'll include the output from the effects processor – which means that the signal will go through yet another A/D conversion. If I've lost you, don't worry – an explanation will follow.

The K2000's stereo output pair may include that of the onboard effects processor. You can bypass the effects on either channel, and if you want you can pan sounds hard right or left. By doing this, though, you'll be giving up all the panning options of the K2000. One of my favorite features (also included on the 1000 series modules) is auto pan, where notes are spread across the stereo spectrum according to their pitch.

There are also two stereo pairs of individual outputs that come before the effects processor in the chain. Sticking a plug into either pair breaks a “normal” connection to the mix outputs. But if you use a stereo plug, you can use the tip as an output and the ring as an effects return.

What's interesting is that the signal coming into the return can also be processed through the effects processor. This means a couple of things. Firstly, there's an internal digital-to-analogue conversion before the signal goes into the effects unit (I told you we'd get to this). Secondly, you can use the effects unit to process external instruments – so it could be said that you're also getting a DigiTech DSP 256XL processor into the bargain.

However, if you want to effect the K2000 sounds and an external input, you've got problems. You've



broken the normal connection to the effects processor so the internal K2000 signal is interrupted. There are a couple of solutions. In a studio, you'll probably want to have all the outputs from the K2000 wired to a patchbay, with each of the individual pair's sends normalled back to its returns (so the signal flows back in to the effects processor and the mix outputs).

If you want to use the K2000's effects section to process external sounds along with the K2000 voices, there is a solution: run individual K2000 outputs into your mixer, send them and the external sounds through one of your effects sends, and route the effects send to one of the returns to the K2000. If you don't have enough mixer inputs available (or if you have no reason to use the K2000's individual outputs), you'll need to use a "split lead" to route the K2000 outputs and the effects send back into the K2000. (You'll also need to put a 2K/0.25W resistor in-line with each signal.) This obviously isn't the way the system was designed to be used - the idea is just that in situations where extra mixer inputs are unavailable, you might want to mix the whole thing down to two outputs. Kurzweil chose to do things this way simply in the interest of keeping the costs down.

## VERDICT

THE K2000's KEYBOARD is quite playable but, given the personal nature of keyboard feel, I'd say that it has room for improvement. I'm happy to say that the

MIDI implementation is complete down to the last detail. Lots of nice features are included such as the ability to turn off program changes, have simultaneous transmission on three channels, programmable velocity response and transmission curves, hardware buttons to instantly transpose up or down by octaves, easily programmable sliders and foot pedals, and much more. In short, the K2000 makes a good MIDI controller.

The manual is not just good - it's great. OK, there are some "typos" but this is only the first version. The author did an excellent job of covering all the details of an extremely complicated instrument.

As this is only V1.0 of the software the minor frustrations I do have with the machine are likely to be addressed in future updates as the feedback reaches Kurzweil. Even so, because of the versatility and phenomenal sound quality of the K2000, I can't think of any single instrument that I'd rather have in my studio at the moment and I'll tell you why. The K2000 doesn't have "a sound" - instead it's genuinely capable of sounding like an awful lot of other instruments or none of them. For me it's a brilliant synthesiser that's only a couple of inches away from being an instrument for the ages. ■

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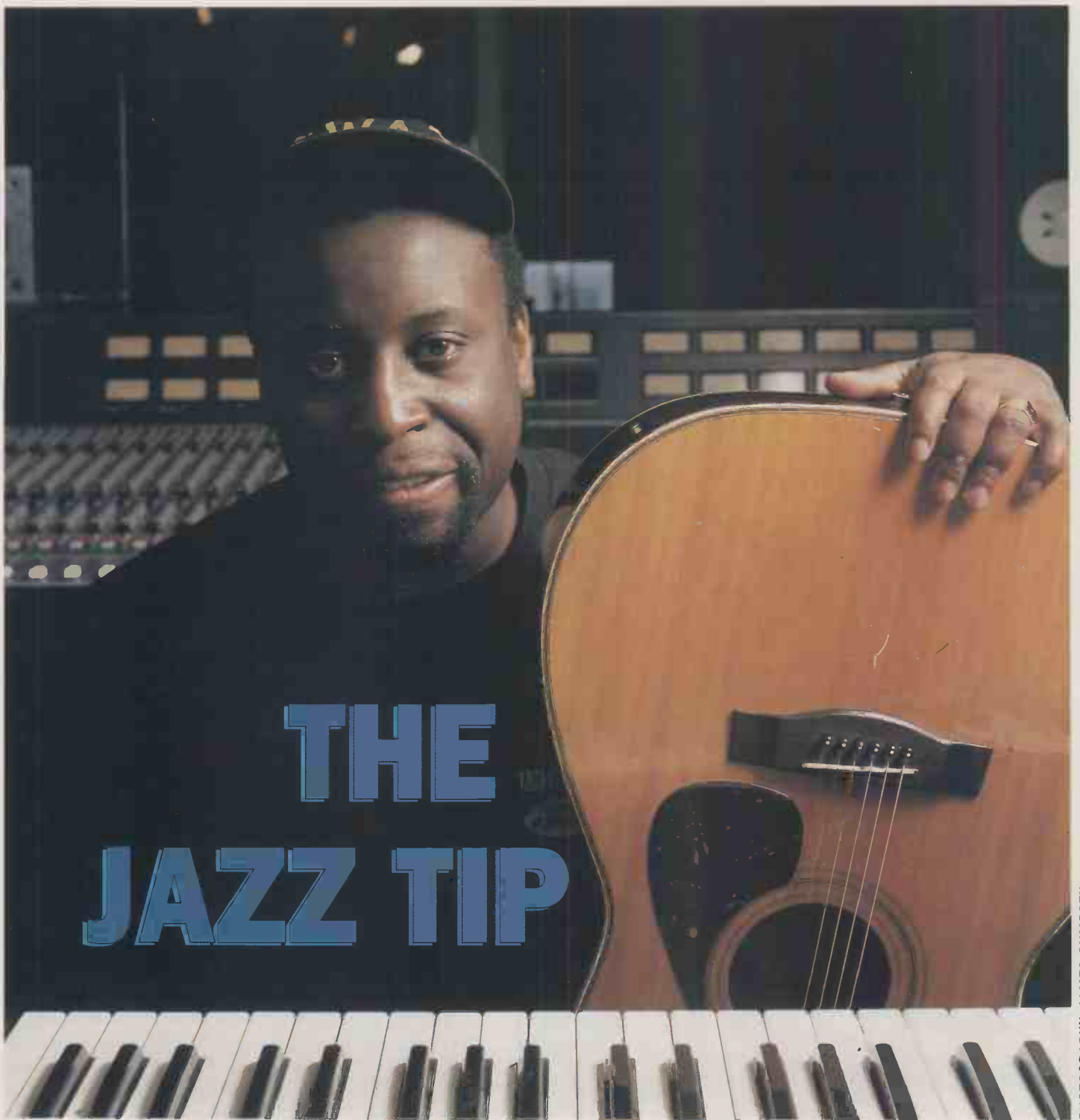
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# THE JAZZ TIP

PHOTOGRAPHY: JAMES CUMPSTY

***Ronny Jordan belongs to a fresh breed of technology-conscious musician – a new generation who have grown up with technology and make no distinction between old and new attitudes. Interview by Simon Trask.***

JAZZ GUITARIST RONNY JORDAN typifies a new breed of musician, equally at ease playing live on stage with a band and working in the studio with synths, samplers, sequencers and drum machines. His debut album, *The Antidote*, recorded last summer and

released earlier this year on Island Records, is a smooth combination of live playing and programmed drums and basslines. The result is a fusion of the cool, melodic jazz guitar of George Benson and hard-edged dance beats. On a couple of tracks there are also jazz



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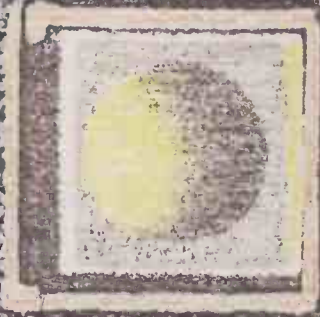


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➤ raps from British rapper IG of Dodge City Productions. Mellow, warm and tuneful yet also tight and punchy, *The Antidote* could be the summer sound of '92.

As well as producing and arranging the album, writing all but one of the tracks, playing guitar and contributing the occasional scat vocal, Jordan is credited with providing synth parts, basslines and additional drum programming, while the main drum programming credits go to co-producer Longsy D. Guest musicians add a further live element to Jordan's guitar playing on some of the tracks.

In its first eight weeks of release, *The Antidote* notched up sales in excess of 30,000 copies – impressive for an essentially instrumental jazz guitar album. Unusually, while the recorded versions of tracks like 'So What' and 'Get To Grips' have been firing up the clubs, Jordan has been out and about with his band playing the same music live in more traditional music venues.

'So What' (a brisk dance version of Miles Davis' classic jazz tune) was first released as Jordan's debut single, making waves in the clubs at the tail end of last year, when people were paying large sums of money for early white label pressings. On its official release, it crossed over from the clubs into the mainstream and the national charts.

"It was a new cool hip sound, and people were into that", comments Jordan as we sit in his management company's office on a suitably warm, summery day. "What I'm trying to do is update jazz. How I originally met my guys, my musicians, was we all played jazz together in clubs, and we shared this common goal of fusing jazz with modern funky beats. I wouldn't call it jazz funk, or acid jazz; 'jazz tip' is the term I like. What I'm basically trying to do is introduce jazz tip from a guitar angle, mix some of today's sounds with jazz guitar to give it a new identity for the '90s, make it hip again. The way I describe my music, it's music for the mind and the feet. You don't just listen

to it, you can groove to it, tap your feet to it. The whole idea is to make jazz appealing to a younger audience, introduce it to them and then they can discover the old masters and say 'Yeah, that's where it came from'."

So why did Jordan opt to use programmed drums and sequencing on the album rather than record with his band?

"I wanted to make the album as crossover as possible but at the same time still have that underground sound, and for me live drums weren't going to get that", he replies. "A lot of rap groups are doing the same thing – they use sample loops on record but live they use real drums, 'cos a lot of them now are turning to live bands to get the sound across."

In fact, Longsy D's drum programming on the album has a fluid, almost live quality to it, with a looser swing feel than the more formulaised American

swingbeat style, but also a precision you can only get from programmed drums. It turns out that the rhythm tracks were put together using a combination of Roland R8 and TR909 drum machines and sample loops triggered on an S900.

"A lot of people were surprised when I got Longsy to do the co-production and drum beats on the album", says Jordan, "but I've known him from school. What happened was I played 'So What' in a jazz club one night and I suddenly realised it could be a dance track, so the person I immediately thought of was Longsy. He was the kind of person who could listen to me and handle the technology as well. He's really on that tip when it comes to studio technology; he programs, he's an engineer, he knows how to tape op. He was able to take care of the engineering side while I concentrated on the music.

"But what I really liked about Longsy was his programming of drums, and the ingenious way he has of putting different drum loops together. When I had the idea of doing 'So What', I got him on the phone, said 'I need to use your studio for three hours, have you got the time?'. He said 'Yeah, no problem'. So I went down to his place, played him the original record and said 'Look, I want it this way'. So we got onto the computer and we had a tempo going which was around 111bpm, which was right, and I played guitar to it with just the metronome on the computer – nothing was laid yet. I said 'This is about right, let's find the drums for it'. He then went through about ten different loops and I just kept saying 'Nah, nah', and then he came to the one you hear on the record now and I thought 'Yeah', 'cos I was quite hip to the sounds that were around, and I thought 'That's kind of a today sound'. So he laid that down and then he laid a more 'bottomy' loop on top of that. Just that and the guitar you could dance to, it was great. Then we synced the sequencer to tape using SMPTE and I laid down the basslines and the guitar and keyboards, and, that was it.

"We did that track again when we came to record the album, as we'd advanced from 16-track to 24-track. Longsy did the first half, the programming stage, and I then took it to another stage, starting getting the musicianship into it. It was my idea to have a jazz section on it. He wasn't involved; I programmed the drums myself. Then it was just a question of finding where to put this jazz section. I thought it was fitting to include it out of respect to Miles, and I'm glad that I did record that section, because just as I finished it he died."

Was the recording process for 'So What' typical of the album as a whole?

"See The New' started off with just bass, and the drums came after", Jordan replies. "Sometimes I can go into a track and have a definite bassline in mind so I'll lay the bassline down and then find a drum pattern for it, and sometimes I hear a loop and it gives me ideas for the other parts. Or I might get the chords and the melody first. But the bass and drums have got to mesh together, otherwise it's not worth going on."

Typically, the acoustic bass parts on the album were actually sequenced, played in from the keyboard by

**"When I program  
drums I mainly  
program them with a  
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was playing that live  
he wouldn't have any  
problems."**



Jordan using a full-bodied double bass sound which is a combination of a Roland D110 patch and an Akai S900 double bass sample.

"I still use the double bass in the jazz sense, more to keep a bit of that old vibe there with the drums and the jazz guitar", he comments. "Any good bassist will be able to play those lines, 'cos of the choice of notes. I wasn't doing anything impossible, just what was needed for each track. It's the same with the drum programming. When I program drums I mainly program them with a drummer in mind, so that if a drummer was playing live he wouldn't have any problems. But a drummer will add to what's there when he's playing live."

The value of spontaneity. . .

"Absolutely."

Of his keyboard playing ability, Jordan says, "I can find my way around enough to get the ideas down. I only play to write, really. I'll show a real keyboard player the sort of thing I want and he'll play it but he'll take it further."

HYBRID ARTS' SMPTRACK WAS used for the sequencing chores on the album, while instruments included a D50, a Casio FZ sampler, the aforementioned D110, S900, R8 and TR909, the Fairlight, and an M1 and a Matrix 1000. Jordan plans to have his own 24-track studio at some point, and so feels that it's important that he understands the technology which goes with the modern recording studio. In fact, having been in and out of studios for years he's been able to pick up a fair amount of knowledge.

"You do sessions and you're producing, the engineer's by you, you're looking at what he's doing on the desk, after a while you get familiar with the gear and it just becomes second nature", he explains. "I even know how to operate an SSL 'cos I've worked with them so many times."

Jordan is also well versed in the ins and outs of MIDI sequencing – not to mention the ups and downs.

"Years back I used to use program on Pro24, and that crashed on me all the time", he recalls. "I'd go to a friend's and we'd do all this work on the sequencer, then it'd crash and it'd be six o'clock in the evening and I'm thinking 'No, I'm not starting again, we'll leave it until another day.'

"Now I've gotten into programming Cubase – I would say that I'm 75 per cent there. But it's difficult for me to be on that technical tip and still be a musician, because when I'm in the studio I have to have this tunnel vision regarding compositions and arrangements, what's going to go down and what will work on a track. That's why I rate certain musicians I know, who are on that music tip; they play their instruments well, they know all about the arrangements, but they're also up on the studio gear and they're taking full advantage of the technology. It's very important for today's musician, because then you have the best of both worlds, and you can acclimatise in any way. You get some players who are strictly studio players but can't seem to hack it live, and vice versa. I

want to be on that tip where I can survive both in the studio and live on stage."

For Jordan, playing live is an essential part of his musical life – an experience which gives him something he can't get from working in a studio.

"There's a whole magic about a band playing", he says. "You're feeding off the other musicians, and sometimes you do things you never really expected to do. Live playing is the ultimate because you have that human element there which is often missing in recordings. Also you have to put more movement and energy into playing live, 'cos you're being watched; when you do that, it's something the audience relate to and warm to. So I think you end up giving a little bit more live than on a recording."

Jordan can genuinely claim to have been playing music for almost all his life, having picked up his first acoustic guitar when he was just four years old. At the age of 12 he had his first electric, a Guild Starfire – just one of some 15 or 16 guitars bought for him by a supportive father over the years. A self-taught player, Jordan learnt his craft by playing gospel music every week in his local church. During this time he discovered jazz and in particular guitarist Wes Montgomery's album *West Coast Blues*, which opened his mind to a different musical approach. To this day, Montgomery remains his greatest hero; *The Antidote* is dedicated to Montgomery's "colossal genius", he comments.

It was George Benson's 1976 album *Breezin'* which showed Jordan the commercial possibilities of jazz guitar. During the '80s, while he played guitar for a range of singers, most of whom shared his gospel background (Paul Johnson, The Escofferys and Lavine Hudson). He also worked on his own funk-inspired demos and nursed a desire to be a jazz musician. As the '80s became the '90s, his own career as an artist began to take shape. Jordan's jazz and funk leanings converged and he began putting together the music for *The Antidote*.

Jordan's playing – live and on record – reveals his preference for playing within the texture of the music over-indulging in fretboard pyrotechnics.

"People are not really interested in blinding solos any more", he maintains. "They don't give a damn how fast you are. People like a good tune – do what you can do on that, but realise that less is more and you'll always leave them wanting more."

Although he may not aspire to "guitar hero" status, Jordan recognises that when he's playing live he must take on the role of musical frontman.

"At the end of the day the band's a unit – I don't want people to hear too much guitar. Of course I'm featured, but it's a band really and it's featuring Ronny Jordan, that's how I look at it."

Jordan gets a warm, mellow guitar sound on the ➤

**"Some players who are studio players but can't hack it live – I want to be on that tip where I can survive both in the studio and live on stage."**

➤ album - "warm as cognac", as he puts it. His is the traditional approach of shaping the sound through the fingers rather than relying on effects. It's an intimate relationship between player and sound which technology can destroy.

"I used a Gibson 175 semi-acoustic for the whole album", he reveals. "Everyone's telling me the guitar sound on the album is good. The sound I go for is not fussy, it tells no lies. And people will know it's guitar -

'cos some guitars now sound like synths.

"At one stage I owned about seven or eight effects, and at gigs I would spend all my time trying to get a sound, never mind playing", he recalls. "But that's all changed now. I quite like the use of quality reverbs and delays, but a lot of guitarists tend to hide behind effects. Even rock players rely a lot on sustain, but if you strip all

that away and put them on an acoustic...That's where you judge someone, that's their yardstick. Get 'em on an acoustic. Let your fingers do all the work, not the effects.

"It's the same with keyboard players and the piano. No matter how someone calls himself a keyboard

player, for me if he can't play acoustic piano then he's not a keyboard player at all. When someone's playing piano on their own, that's when you hear a keyboard player."

JORDAN'S NEXT STEP is to start work on the follow-up to *The Antidote*. He already has a working title for it, *Meant To Be*, together with some songs for possible inclusion and some ideas about the direction he wants to take with it.

"The next album will still be groove-based, but I'll be using more live musicians", he reveals. "A lot of emphasis will be on live feel. I'm not saying there won't be any technology, 'cos it's got its advantages. We'll just go with the flow, with what's going down. I don't regret how *The Antidote* was done, but you have to now approach each track according to what it is, according to the feel. For instance, with Tony, my drummer, sometimes I'll get him to play a few bars and I'll sample it and loop it, and it's like he's playing live but it's sequenced. Then sometimes I'll get him to play through the whole track 'cos there's different highs and lows. Both ways it's him, and so it'll be the same sound throughout the album.

"I feel that drum machines have brought the best out of drummers. You listen to a lot of '70s funk, the drums were a bit looser then! But because of the machines a lot of drummers have had to tighten up, they're more on cue now - necessarily so. Now I much prefer to get a drummer in the studio to play all the ➤

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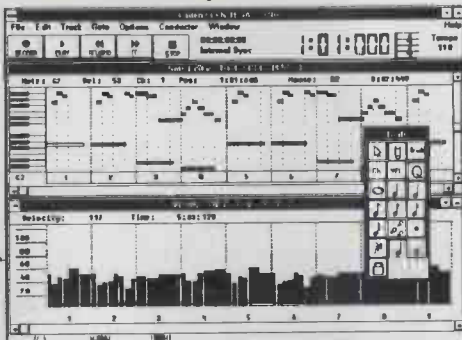
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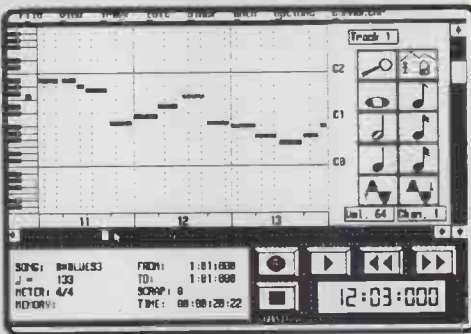
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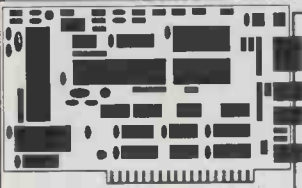
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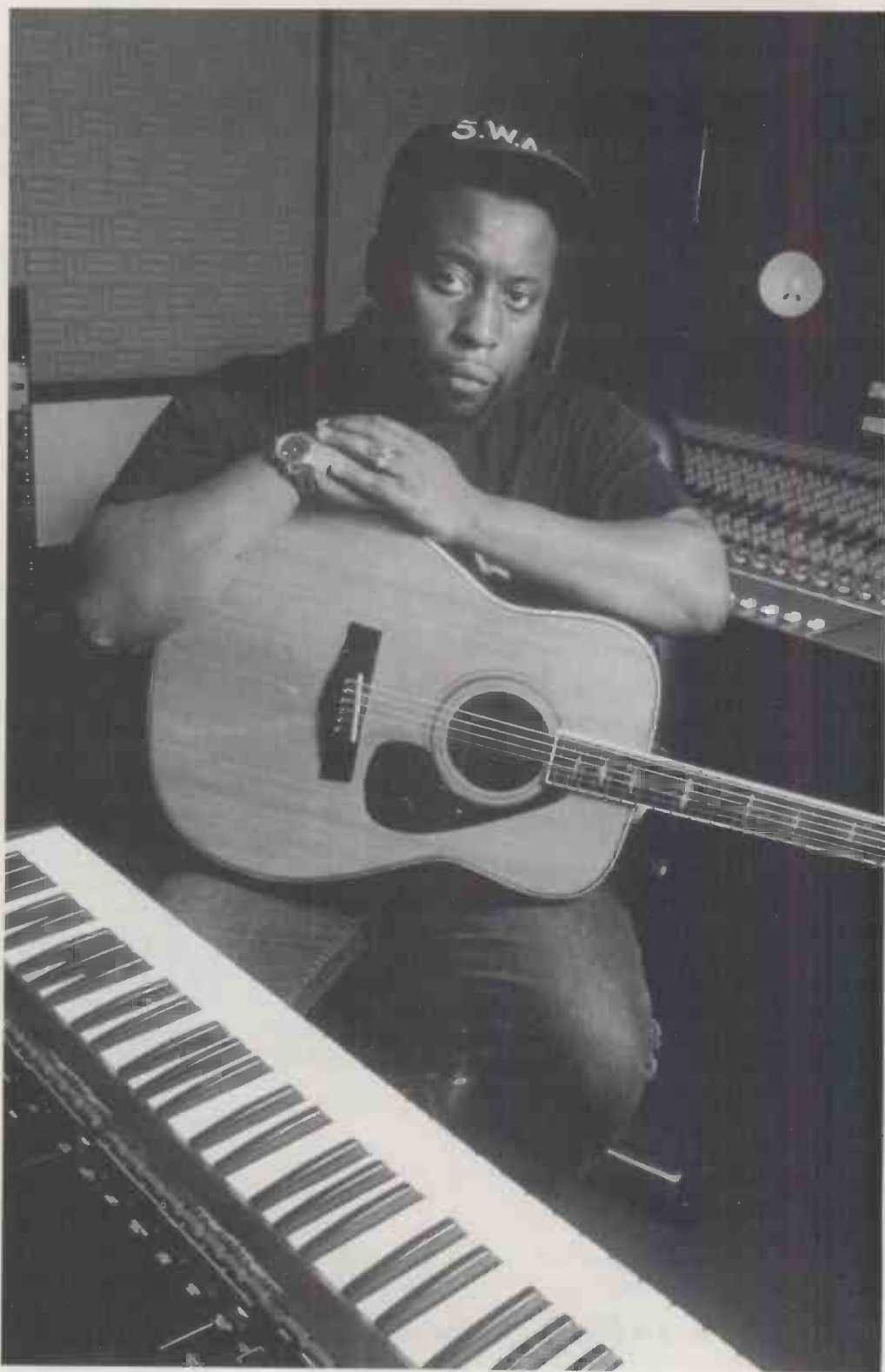
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FACE

***"I feel that drum machines have brought the best out of drummers - because of the machines a lot of drummers have had to tighten up."***



> loops, because with samples there's a lot of complications. A lot of people are using drummers to record loops now so the drummer's come back with an almighty bang. A few years ago it was just drum machines, or you'd find a smart drummer would be a programmer himself so he'd go in and combine the programming and the playing."

Amid the talk of drum programming, it's worth mentioning that it's the songs and arrangements as much as anything else which make *The Antidote* such a success. Models of clarity, simplicity and restraint, they exemplify Jordan's "less is more" attitude. But wasn't he tempted to indulge in the harmonic sophistication of jazz?

"I've been through that, playing so many chord changes, but at the end of the day no-one wants to know", he replies. "A lot of that is just musos showing off to other musos; it's all ego. Now I've gone past the days when I've played for musicians 'cos musicians ain't buying your records. A certain jazz musician has just done a jazz record and it's sold 3000-6000 copies. You've got to do music that people can understand. But also you have to try and be as honest as you possibly can with your music and not bullshit. 'Cos once you start doing that..."

"Music has a weird way of reflecting you as a person. I can only do music that relates to me 'cos I'm me, no-one else is me." ■



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# R70 DRUM MACHINE



Photography: James Cumpsty

Roland have a lot to live up to when they produce a new drum machine – maybe more than any other manufacturer. Does the R70 make the grade? Review by Simon Trask.

**D**URING THE PAST three years, the drum machine has undergone both a creative and commercial renaissance. Credit for starting the process of rebirth must go to Roland, who with the R8 and its cheaper companion, the R5, re-established the uniqueness of the drum machine at a time when its future was being challenged by the MIDI sequencer and sampler.

Other manufacturers have followed Roland's lead, and in the process made the drum machine exciting again. Alesis' SR16, Cheetah's MD16 and Yamaha's RY30 have all shown that the dedicated approach to rhythm programming still has much to recommend it, both in terms of facilities and presentation. The drum machine has also come to represent the affordable face of technology, with the post-R8 generation of beatboxes almost invariably costing under £500 – in some cases, well under.

Roland have a tradition of budget drum machines within their Boss Dr Rhythm range – which they're continuing with two new machines, the DR550 MkII and the DR660, which are set to compete for the budget territory held so successfully by Alesis' SR16. However, it's via the Roland R-series and the R70 that the company are hoping to recapture the >



With all these options and possible configurations, the Mackie CR-1604 is the perfect solution for MIDI, multi-track recording and live applications.

1. tabletop, jacks to front 2. tabletop plus XLR10 3. jacks up via RotoPod 4. 7-rack-space, jacks to rear plus XLR10 5. 10-rack-space, jacks to front via RotoPod 6. 10-rack-space, jacks to rear plus XLR10



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Widely acclaimed by the U.S. pro music press, the CR-1604 is in current use in thousands of production facilities, MIDI suites, broadcast studios and PA systems. A growing list of major-label album credits is rapidly adding to its already-established reputation for sound quality of a caliber previously found only in far larger, vastly more expensive mixing desks.

Built for constant hard use, the CR-1604 includes an all-steel chassis, double-redundant dual-wired sliders, sealed rotary pots, through-hole-plated fiberglass circuit boards and electronic input/output protection from power surges, mis-use, static discharges and impedance mis-match. Add built-in power supply, +48V phantom power for condenser mics, BNC lamp socket and expandability... to 16 mic inputs with the XLR10 or 48 channels via the MixerMixer... and you have the most versatile mixing system ever offered in the UK. Call or write for information today!

**AUX Returns.** 4 stereo inputs for effects, 2-tk. tape mon., extra line inputs. Mono-able in pairs for up to 8 inputs.

**AUX Outputs.** 1 pre-fader & 6 post-fader sends can drive multiple inputs w/22dB max out.

**Main Outs.** TRS output to bal. or unbal. inputs. Max bal out = +28dB, unbal. = +22dB drives multiple power amps, recorders, etc.

**Mono Output** is summed left + right.

**Main Buss Insert** for external processors can also be used as pre-master fader recording.

**7 Sends.** 4 knobs feed 7 separate outputs. Plenty of gain for effects w/center detent at unity gain. Use any 4 sends per ch.: Aux 1 switches to either pre (monitor) or post (effects). SHIFT changes AUX 3 & 4 to AUX 5 & 6.

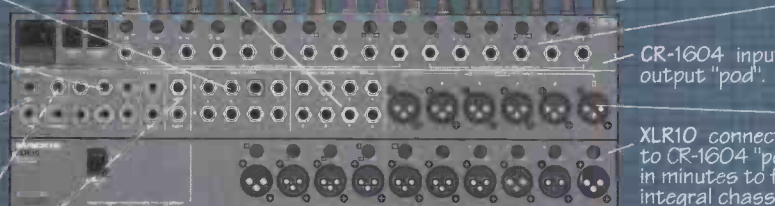
**3-band EQ.** Musically useful frequencies: 80Hz (more real thump than 100), 2.5kHz (much better control than 1k), 12kHz (more sizzle than 10k).

Muted channels are UNassigned from the main left-right output and REassigned to outputs 3 & 4.

**Stereo in-place solo** maintains stereo perspective for ALL soloed channels & returns.

**Peak LEDs** use multiple detectors to sense overload anywhere in input channel.

**Channel Access/Direct Out** combination TRS connectors provide direct outs for 8-track recording, channel patching for outboard gear like equalizers, etc.



CR-1604 input/output "pod".

XLR10 connects to CR-1604 "pod" in minutes to form integral chassis.



### CR-1604 Studio-Grade 16-Channel Mic/Line Mixer

MixerMixer Combiner joins all inputs of up to 3 CR-1604s. Remote Master Fader also available.



N°1 IN A SERIES

**THE CR-1604. SUPER-QUIET. TONS OF HEAD ROOM. AND YOU CAN EXPAND IT TO 48 CHANNELS LATER.**

**Trim** matches any signal, including instrument levels, -10 semi-pro & +4 pro gear.

**Line Inputs.**

6 studio-grade, discrete, balanced transformerless mic preamps with astonishing specs & headroom: E.I.N. = -129 dBm, 0.005% THD, +14dBv max input level. Optional XLR10 adds 10 more preamps on channels 7 to 16 (plus existing line inputs).

Silky-feeling, 3rd-generation rotary potentiometers throughout...sealed for protection from dust and liquid.

4 stereo AUX returns have enough gain to work with all levels, are ultra quiet with super-high headroom.

ALT Preview solos all muted chs.

Large, RUDE, distracting Solo light definitely lets you know you're in Solo.

High output Headphone driver pushes headphones to max level, or provides extra-clean signal to drive monitor amp.

UnityPlus faders minimize noise, maximize headroom, 20dB gain above unity reduces need to readjust trims.

Dual-purpose Headphone/Solo level control.

Inside: Less than 0.025% THD 20-20kHz; 90dB S/N ratio (ref +4dBu), super-quiet studio-grade mic preamps (E.I.N. = -129dB @ 150-ohms)

New MIDI option Muting & fader automation



> initiative at the "leading edge" of the drum machine market. Yet in designing the R70, Roland have had to balance the need for innovation and general one-upmanship in design with the need to compete in a market which is currently undergoing a general downward pressure on prices. So, have they produced a drum machine which will put them back in the leader's seat, or must they get used to playing second fiddle to Yamaha?

## THE NEW VIEW

ROLAND HAVE DESIGNED the R70 to meet an acceptable price for the upper end of the current market. As a result, they've effectively produced an R5 for 1992 rather than an R8, in that they've economised on some physical aspects of the new machine. It's a sensible enough calculation, given that Roland's priority must be to tackle the RY30 (reviewed MT, July '91) - a task for which a more expensive, R8-equivalent machine would have been less well suited.

In fact, the R70 lacks the high-quality pads and buttons used on both the R8 and the R5 in favour of less-expensive and less-responsive rubber ones. It also has two individual outs where the R5 has four and the R8, eight. But the new machine also improves on its predecessors by providing backlighting for its LCD and by adding an elongated pad called the Positional Pad which is Roland's response to the RY30's control wheel.

These losses and gains bring the R70 physically more into line with the RY30. However, unlike Yamaha's drum machine, the R70 doesn't have a sample card slot. Instead, it provides, via rear-panel Tape Sync II in/out connectors, an intelligent FSK tape sync facility (the type which embeds bar-number data in the sync code so that the slaved device can locate to song position off tape). And on the subject of physical differences, the R70 has 16 pads compared to the RY30's 12, and a 2 x 16-character LCD to the RY30 LCD's 2 x 24 characters.

Offsetting its lack of sonic expandability, Roland's new drum machine has a greatly-increased complement of onboard 16-bit samples compared to its R-series predecessors (210 to their 68), no doubt in response to the general trend for providing more and more onboard samples - a trend which Roland themselves kick-started with the R8 and R5 (remember when 68 samples seemed like an awful lot?). Other key new features of the R70 include a Rhythm Expert mode (which allows the drum machine itself to create new Patterns in various "genres"), Pattern-specific tempo settings, onboard effects processing, a Mixer section governing output and

effect send routings, an increased number of Pad Banks to handle the increased number of samples, nine preset and four user-programmable MIDI Drum Sets (including General MIDI- and GS-compatible

Sets), and a couple of functions which make it easy for you to identify and call onto the pads the samples used in a Pattern. Along with these new features, the R70 has benefitted from a redesigned user interface and a general streamlining of operation which make it more readily accessible than its R-series predecessors.

## SOUNDS & INSTRUMENTS

THE R70'S SAMPLES, or Sounds, are played via 210 pre-programmed Internal Instruments, each one of which uses a different sample, and 32 programmable User Instruments, each one of which can use any one of the 210 samples. Although you can edit the Sound parameters of an Internal Instrument, its Sound assignment is factory-fixed in order to guarantee the R70's GM and GS compatibility (an R70 Internal Instrument must be the type of sound which its MIDI note number assignment within a GS Drum Set says it is). If you want to use more than one version of an Internal Instrument, you can turn to the User Instruments to store the edited version(s); the R70 doesn't use these Instruments within its GS Drum Sets, so the compatibility issue doesn't arise. All the factory-programmed Instruments can be recalled at any time, either individually or in bulk, so you can edit them without fear of losing the original settings. You can also store all Instrument settings to a RAM card or via MIDI SysEx bulk dump to a remote storage device.

The R70's onboard sample ROM provides 28 kick drums, 45 snares and 36 toms and an assortment of electronic and acoustic hi-hats, cymbals, sidesticks, congas, bongos, cowbells, handclaps, claves, tambourines and maracas, and various acoustic percussion instruments including timbales, shaker, cabasa, pandiero, surdo, agogos, chekere, triangle, guiro and cuica. Where appropriate, there are high and low, open and mute, up and down, short and long, and open, slap and mute versions of the acoustic percussion instruments. In among the "real" instrument samples are some very well-known electronic sounds taken from the TR808, TR909, TR606 and CR78; well, if anyone has the right to plunder Roland's past (as many have done) it's the company themselves. Also included in the R70's sample ROM are seven reversed samples (kick, snare, tom, clap, and cymbals 1, 2 and 3), four reverb tail samples (kick, snare, tom and long) and four bass samples (finger, slap, acoustic and synth).

Sound edit parameters provided on the R70 are Attack Damp (0-31), Pitch ( $\pm 48$  semitones in 10-cent (1/10th-of-a-semitone steps), Decay ( $\pm 31$ ), Nuance ( $\pm 7$ ), Brilliance (0-15), Velocity-to-Pitch (0-15), Assign Group (Off, Exclusive 1-18), Polyphony (monophonic or polyphonic), MIDI Note Off receive (on/off) and Layer (any other Instrument).

Nuance was introduced on the R8 and R5 to emulate the subtle tonal changes produced by hitting different areas of a drum or percussion instrument's

**"Among the 'real' instruments are sounds taken from the TR808, TR909, TR606 and CR78 - if anyone has the right to plunder Roland's past it's the company themselves."**



playing surface. On the R70, where it's available on all the kicks and toms, virtually all the snares, some hi-hats, the ride cymbals, and a few percussion instruments, Nuance has been extended to purely electronic sounds. Although they may not have playing surfaces, some 808 and 909 sounds can have their tone and length changed. One of the problems with sampling these sounds is that you lose the programmability element; however, the R70's Nuance, Attack Damp, Brilliance and Decay parameters solve this problem – for instance, Attack Damp allows you to take the initial click off the R70's 808 kick drum sample, paralleling the Tone knob on the real instrument.

Four further Instrument-specific parameters, namely Volume (0-15), Output Assign (Left/Right/Individual1 or Individual2), FX1 Send Level (0-15) and FX2 Send Level (0-15), are programmed in the R70's Mixer mode, where they're presented graphically rather than numerically in the LCD, as if they were bargraph LEDs. Values for the 16 Instruments of the currently-selected Pad Bank are shown.

One significant advantage of using the drumkit section on a synth is that you get to take advantage of any onboard effects processing. Roland have followed Korg in implementing effects processing on their new drum machine. As on their synths, it's limited to reverb/delay (FX1) and chorus/flanger (FX2). For FX1 you get a choice of hall, room and plate reverbs, delay1 or delay2, with reverb time and pre-LPF (high-frequency damping) parameters for reverb, independent Left and Right delay time (1-450ms) and feedback amount parameters for the delays, and an output level parameter common to both. FX2 simply provides a choice of chorus or flanger effect, with delay time (1-30ms), mod rate, mod depth, feedback level and output level parameters. The R70 provides a cruel trade-off between using the effects processing and using the individual outs: FX1 or Individual1, FX2 or Individual2.

## PATTERNS

THE R70 ALLOWS you to create up to 100 Internal Patterns in its onboard RAM (which can store approximately 3700 notes) and a further 100 Card Patterns on an M256E memory card. Card Patterns can be played directly off the memory card, and incorporated into R70 Songs along with the Internal Patterns. Each Pattern can be given its own tempo (40-250bpm) together with a tempo switch on/off setting which lets you decide whether or not the tempo is to be applied.

R70 Patterns can be up to 99 bars long, allowing you to record extended performances (or maybe one extended performance) or Patterns which combine "through-performed" Instrument parts with shorter repeating parts of various lengths. Consequently the drum machine allows you to use all its memory on one Pattern if need be. As an instance of both this ability and the R70's record capacity, a 64-bar Pattern built up by means of the

drum machine's Pattern Append function from a busy four-bar Pattern containing real-time parameter edits galore took up 77 per cent of the total Pattern memory.

Patterns can be recorded in real and step time, both from the R70's drum pads and from a MIDI instrument. A Pattern's time signature can be anything from 1-8/4 to 1-32/16; and quantisation on record can be set to 1/8, 1/12, 1/16, 1/24, 1/32, 1/48 or High (1/384th note, the R70's maximum resolution), and changed at any point during recording. Post-record quantise is also available, with values ranging from 1/12 to 1/48 and an extra feature, Rate (1-10), which determines how accurately the quantisation will be applied – the lower the value, the less inclined the R70 is to pull notes onto the quantise locations. Another post-record function is Swing, which allows you to set which notes will be swung (8ths or 16ths) and how much they will be swung by (0-47 clocks for 8ths, 0-23 for 16ths); a third Swing parameter, Swing Window, lets you to set a timing window of up to  $\pm$ six clocks which allows notes not exactly on the 8th or 16th boundaries to be swung. There's scope for a lot more than "straight" swing here, you could say. Pattern Feel allows you to impose "human" fluctuations in the strength of pad hits onto a recorded Pattern by setting Feel Type (4/8/12/16 beat), Feel Variation (1-8) and Feel Depth (1-8). And if you want to completely turn a Pattern around, there's the Reframe function, which allows you to "rotate" a Pattern by any number of clocks so that it Starts at a different position. With all these post-record functions, if you want to focus on a particular Instrument part you need to copy it into a blank Pattern (using the Merge function, strangely enough), do whatever you want to it, and then Merge it back into the source Pattern.

Any number of Instruments can be used in a Pattern, within the practical limit set by the drum machine's 14-voice polyphony. In order to make all 242 R70 Instruments equally accessible on the R70's 16 pads, Roland have taken the Pad Bank (or virtual drumkit) concept of the R8 and R5 a stage further by providing three Groups of six Pad Banks each, giving a total of 288 virtual pads, each one of which has an Instrument assigned to it. At the same time, in order to make it easy to locate the Instruments used in an already recorded Pattern, Roland have included one function, Instrument List, which lists in the LCD all the Instruments used in the selected Pattern, and another function, Temporary Assign, which spreads any Instrument you select from this list across all the drum pads so that you can edit or erase its part without having to track it down through the Groups and Banks first.

Step-time recording allows you to record to any resolution from 8th to 384th notes, using the Zoom In and Zoom Out buttons to select the required resolution. The LCD window always displays 16 >

**“Roland have moved the programmable drum machine into new territory by allowing it to program itself – or by programming it to program itself.”**

➤ steps at the selected resolution, each step being represented in the LCD by a dot, which becomes a vertical bar when you program in a pad hit, with the height of the bar representing the strength of the pad hit. You can step-record in either of two ways: by using the FWD and BWD buttons to select a step and the Value slider to enter a pad hit complete with velocity amount, or by using drum pads 1-16 to

enter hits complete with velocity on the 16 steps displayed in the LCD window. You can listen to the Pattern playing in real time as you record in step time, so you hear it building up as you enter pad hits. To erase a hit, you either move the Value slider to its lowest position or hold down the Erase button and hit the relevant drum pad for the step in the LCD window. If you're unsure of your location at any time, all you have to do is press the Timing button and the location will be displayed in the upper line of the LCD – an invaluable feature.

The ability of the R8 and R5 to record parameter changes for every pad hit in a Pattern was perhaps their single most significant feature, as it gave the drum machine something which couldn't be duplicated by triggering drum and percussion sounds from a MIDI sequencer. The R70 has the same ability, allowing you to program Pitch, Decay, Nuance and Pan values for individual pad hits into its Patterns. You can do this in real time using the Multi Bank (each pad has different values assigned to it), the Positional Pad (hitting different areas of the elongated pad produces different values) and the Value slider. The first two allow you to record values for all parameters along with the pad hits, while the latter is used for overdubbing or editing values, one parameter at a time, for recorded pad hits and adds velocity, timing shift and flam on/off to the list of available parameters. Timing shift allows you to shift recorded pad hits by as little as one clock (1/384th note). Additionally, a Global Edit function allows you to edit all pad hits for a particular Instrument in a Pattern by a ± amount (so, for instance, you can time-slide an entire Instrument part, or pan it to a different position in the stereo image).

Step-time editing provides the finest degree of control over parameter changes, allowing you to focus in on individual pad hits and edit its parameters one at a time; again, you can listen to the Pattern playing in real-time as you do this, so you get instant aural feedback on any changes you make.





# AMPEX

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### 1) WHERE DO I GET 499 ?

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## SONGS

THE R70 ALLOWS you to program up to 20 Songs in its onboard memory and draw on a further 20 from a memory card. Each Song can consist of up to 999 Parts. A Song can be assigned an initial tempo (Off/40-250/Pattern) and an initial volume level (1-127); if Pattern is selected for the Song tempo, the

Pattern-specific tempo settings are used and any tempo changes programmed as part of the Song (see later) are ignored.

Each Part can be assigned a Pattern, a Start or End Repeat mark (with 1-99 repetitions specifiable as part of the End Repeat), a Tempo Change (specified as a percentage of the previous tempo, from 20-250 per cent, so if you alter the initial tempo all tempo changes during the Song will be altered relative to

the new setting), a Volume Change (specified in the same way as a Tempo Change) or a Mark (by Marking one or more Parts you can subsequently jump directly to them by holding down the Shift button and pressing the FWD or BWD button). Repeats can be nested up to eight deep.

Song Create mode, in which you piece your Song together Part by Part, eases the creation process by allowing you to hear the Pattern you've selected for the current Part. Press Start/Stop and the R70 will loop the Pattern in Play; select a different Pattern for the same Part, or move to the next Part (or previous Part, if you want) and select a Pattern for it, and the R70 will start looping the new Pattern at the end of the current pass. Press Start/Stop again and the R70 will of course Stop playing the selected Pattern. If you can literally keep one step ahead of the R70, you can construct a Song in real time using this method. Roland's new drum machine doesn't stop at playing back Patterns within Song Create mode: you can record and edit in both real time and step time whichever Pattern you select for the current Part.

Further Song edit functions allow you to Insert a Part, Delete and Copy a range of Parts, Clear and Copy entire Songs, and Name a Song (as with Patterns, up to a modest eight characters). You can also create a Song playlist by chaining Songs together, though this causes the chained Songs to play consecutively without a break.

## RHYTHM EXPERT

WITH THE R70'S Rhythm Expert mode, Roland have moved the programmable drum machine into new territory by allowing it to program itself – or rather, by programming it to program itself. The R70 lets you select one of 17 Genres: Rock1, Rock2, Rock3, Jazz1, Jazz2, Funk/Soul, R&B, Ballad, House/Rap, Dance, Shuffle, Waltz, Samba, Cha-cha, Bossa Nova, Reggae and African – together with a Pattern Type (Basic, Fill, Intro or Ending), Length (1-4 bars),

Variation (1-8), Idea (1-8) and Feel (Off, 1-8), and from this information it creates a rhythm, or Pattern Model. By selecting different Variations and Ideas you can get the R70 to come up with many different rhythms within each Genre; basically, the higher the value you select, the more sophisticated and detailed the rhythm becomes, with more Instruments being added. The Variations provide broad changes in rhythm, while the Ideas provide subtler changes within each Variation. Roland's new drum machine is also able to produce variations on a rhythm from the same set of parameter values, although sooner or later it comes back to its first offering.

When the R70 comes up with a Pattern that you like, you can either copy it into one of 16 memory locations, known as Memo Boxes, for temporary storage (lost on power-down) or Convert it across into the machine's RAM Pattern memory for more permanent storage. Once a Pattern has been Converted, you can edit it as you would any other Pattern, whether it be to add just one more bass drum hit, erase an Instrument part you don't like, change the Instrument assigned to a particular part, or add one or more parts of your own. The R70's Instrument List and Temporary Assign functions really come into their own here, allowing you to identify which Instruments the drum machine has used in the Pattern and get them onto the pads straight away for editing. However, I don't want to give the impression that you *have* to edit to get anything decent out of Rhythm Expert mode; the R70 comes up with plenty of very good rhythms all by itself – and no doubt a number of them will find their way onto records. But if you want instant spoon feeding of the kind served up by preset and auto-accompaniment machines, where you press a button labelled Electro or Salsa or Seventies Fusion and the machine plays a rhythm in that specific style, the Rhythm Expert mode's much more general approach will probably have you feeling a little uncomfortable.

Rhythm Expert mode can also create Song Models for you. You specify a Genre and a Feel for the whole Song, together with whether or not you want the R70 to come up with an Intro/Ending and Fill-ins, and program up to 16 Parts for the Song by assigning one of eight Sections to each Part. A Section is in effect a Pattern Model, with programmable Length (1-32 bars), Variation (1-8) and Idea (1-8) parameters. As with individual Patterns, a Song can be Converted across to RAM – though in this case both the Song and its Patterns are Converted – and edited if need be.

## MIDI

THE R70'S INSTRUMENTS are accessible over MIDI via two Instrument Sections and four Performance Sections, each one of which can be assigned to a different MIDI receive channel. This arrangement will be familiar to R8 and R5 users, the only difference being that the R70 can make all 242 of its Instruments accessible via MIDI at the same time (the MIDI note range being "only" 128 notes).

Each Instrument Section can be assigned one of

**"It has to be said that Roland have excelled themselves with the sonic versatility they've provided in the kicks and snares department."**



13 Drum Sets, or MIDI "drumkits": Standard, Room, Power, Electronic, TR808, Jazz, Brush, All1 and All2 (preset) and User 1-4 (programmable). The first seven of these are GS-compatible, with the Standard Set also being General MIDI-compatible; MIDI patch number assignments for remote selection of Drum Sets also conform to GS requirements.

Pad hits on the R70 are conveyed via MIDI using note numbers, with channel and note assignments matching those of each pad's Instrument on the MIDI receive side of the drum machine. For instance, if an Instrument is assigned to note number 54 in a Drum Set being used by Instrument Section one on MIDI Channel 10, these are the note and channel settings the R70 will use with pad hits for that Instrument; if an Instrument isn't assigned to either of the Instrument Sections, its pad won't transmit anything via MIDI.

Each Performance Section allows you to spread a single Instrument across the keyboard and set different Key Follow amounts for pitch, decay, nuance and pan centred around a programmable reference note number; nuance or decay amount can also be changed in real-time using MIDI modulation control. In this way, for four Instruments at least, you can effectively program real-time parameter edits for rhythmic and pitched parts triggered via MIDI - in fact, the Performance Sections are only intended for MIDI use.

For Instruments triggered via the Instrument Sections, selected real-time parameter edits can be conveyed via MIDI by means of the eight General Purpose MIDI controllers and Modulation; the drum machine allows you to assign an Instrument and either pitch, decay, nuance or pan to each controller. This works very well for GP controllers 1-4, but although the R70 transmits GP controllers 5-8 it refuses to respond to them.

The R70 can of course be set to internal or MIDI sync, and is able to transmit and recognise Song Position Pointer data. If you set MIDI Auto sync, you can use the drum machine as if it were set to internal sync, but as soon as it receives MIDI clocks it syncs to them instead of to its internal clock. R70 data can be transmitted and received via MIDI as SysEx dumps in All, Pattern & Song and Setup formats. One surprising omission from the R70's MIDI facilities is remote selection of Patterns via MIDI using patch and/or note numbers; as a result, you can't sequence Pattern changes within a MIDI sequencer, or select the R70's Patterns live from a remote MIDI instrument.

## VERDICT

THE R70 PUTS Roland back in contention for the heavyweight title of the drum machine world. But where they walked away with it when they brought out the R8 and the R5, this time round they've got a fight on their hands with Yamaha and the RY30, and the result will probably be decided on points rather than a knockout blow. I have a feeling that Roland may just edge ahead because the R70 has

more onboard sounds, more pads, more Pad Banks, its Positional Pad, Roland's unique Nuance parameter (now extended to more Instruments), onboard effects processing, a tape sync facility, a significantly higher record resolution, much longer Pattern lengths and no memory restrictions on individual Patterns, GM and GS compatibility, functions which allow you to call any Instrument from any Pattern onto the pads quickly and easily. But perhaps its single most significant advantage is Rhythm Expert mode. Plus, of course, it has the Roland name on it - the company have a lot of credit in the Bank of Goodwill when it comes to drum machines.

In a way it's disappointing that Roland haven't been a touch more original in their selection of instruments - providing more of the same isn't the most exciting use to make of the extra sample memory. Still, it's an understandable response to Alesis' SR16, which followed the same formula with great success. And it has to be said that Roland have excelled themselves with the sonic versatility they've provided in the kicks and snares department. The absence of onboard filtering is disappointing in the light of the RY30's inclusion of it - especially as Roland's digital filtering is better. Is it really a matter of costing? I could be wrong but I suspect there's another reason for its absence - that if you were able to apply filter cutoff and resonance to the Internal Instruments, the R70's GS compatibility would really be messed up. The limited effects processing (typical for Roland) makes it more a utilitarian than a creative feature; having FX1 and FX2 send levels for every Instrument helps to maximise the usability of the effects, having to choose between effects and individual outs does not. As for the R70's Rhythm Expert mode, a worthwhile addition yes, but the description Rhythm Expert is, perhaps, misleading. Rhythm Partner would be more appropriate, I think. To my mind, the word "expert" implies that the R70 "knows" a lot more about rhythms than it does; it's not going to teach you anything much about the rhythms of the world, for instance.

However, treat it as a creative partner and you're nearer the mark. Some of its Patterns you may well want to use as they come out, others you may well want to edit, whether just to tinker with them or to use them as a spur to your own creativity. The fact that you can edit a Rhythm Expert-created Pattern as little or as much as you want is where the real flexibility comes in.

All in all, the R70 is a drum machine with plenty to recommend it. ■

**Price £499 including VAT.**

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**"Perhaps the most significant development is Rhythm Expert mode but Roland also have a lot of credit in the Bank of Goodwill when it comes to drum machines."**

# Remastering



**THE PHRASE “DIGITALLY REMASTERED” IS SUPPOSED TO MAKE AN OLD RECORDING CD FRIENDLY, BUT HOW MUCH POWER DOES THE REMASTERING ENGINEER HAVE AND HOW IS IT EXERCISED? TEXT AND INTERVIEWS BY TOM DOYLE.**

WITH THE DEATH of vinyl, and the introduction of DCC (Digital Compact Cassette) and Minidisc (the Sony recordable CD format) imminent, the digital revolution is almost complete – as far as the average record buyer is concerned, anyway. And with the current emphasis on record companies capitalising on their back catalogues, the reformatting of past masters has become a more profitable business than ever before. Take last year's *Remasters* or the soon-to-be-released *Elvis – The King of Rock 'n' Roll (The Complete '50s Masters)* and you'll get some idea of the breadth of what's going on.

Since the introduction of CD, the skills

of the digital remastering engineer have sometimes come into question. Does digital processing of old masters actually improve the originals? If so, why do so many remastered albums seem to have “lost something” in the transfer? How much power does the digital engineer actually have to change the classics? And what of the technology involved?

Peter Mew has been an engineer at Abbey Road Studios for 27 years, working in post-production for the past seven. He has been using the American-developed Sonic Solutions system for the last two years, remastering everything from Josef Locke to the aforementioned Led Zeppelin. Some transfers are relatively >



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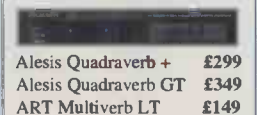


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➤ straightforward involving just a little equalisation being applied to the analogue audio signal as en route to the industry-standard Sony PCM1630 – as was the case with RCA's tribute to Elvis.

One of the more powerful alternatives is the system Mew uses – the American Sonic Solutions' NoNoise, which uses Sonic Solutions' hardware and software and an Apple Macintosh platform. The alternative is a British development, CEDAR (Computer Enhanced Digital Audio Restoration). As well as the DeScratch, DeNoise and Digital EQ features which CEDAR offers, NoNoise is a supremely

## **"IT'S NICE TO BE ABLE TO WORK WITH THINGS LIKE BEATLES TAPES BECAUSE THEY'RE A PART OF HISTORY AND A PLEASURE TO LISTEN TO."**

powerful editing tool with its 3.5 gigabyte hard disk memory (over four-and-a-half hours' worth of sound).

Originally Sonic Solutions' system was run on a mainframe system in the States, and if you wanted to do something with it you had to go there. And since all the functions needed one hundred times real time processing, you had a long wait... In contrast, CEDAR was developed in conjunction with the British Sound Archive at Cambridge University (see feature in MT, November '89).

Topically – since it is the 25th anniversary of *Sgt Pepper's Lonely Hearts Club Band*, Mew has recently finished remastering 13 mono Beatles EPs from quarter-inch tape. At the time when the entire Beatles album catalogue was mastered for CD a few years ago, Sonic Solutions hadn't been installed at Abbey Road.

"It'll be interesting to hear the difference", says Peter, "because obviously some of the tracks are the same versions as on the original albums. Most were in mono, but some of the later ones like 'Magical Mystery Tour' were in mono and stereo."

Part of the task of remastering is dictated by the original masters, part by the objective of the exercise – are you simply "tidying up" an old recording for modern consumption or are you trying to make it sound as if it was recorded yesterday? In the case of the Beatles, the objective was one of respectful realism.

"The masters were fairly hissy" says Mew. "There were a few dodgy edits and stuff to improve, but the idea was just to improve the overall sound quality, not to change the EQs or re-edit or anything drastic like that."

Often Mew works from old 78s. This afternoon he's completing a Josef Locke compilation for EMI Records, something which he likens to art restoration. He demonstrates how a heavily crackling 78 can be cleaned up using DeScratch, then reduces the background noise before doing an overall EQ. But how much of the demon equalisation is released in the remastering process?

"Depends what it is", comes the answer. "With old stuff like 78s, quite a lot, because you're trying to balance the amount of noise you can get rid of with still trying to retain an equal amount of high fidelity in the material. With more modern stuff like The Beatles, I won't use too much."

"Anything that you do you try to enhance rather than change. You have to look into the mind of the engineer who originally recorded the master, and think 'Did he actually want that to be bass light there or would have he preferred a bit more bass?'. So you think 'Well, what sort of speakers would have had – pretty thin sounding?', so you add a bit more bass in. It's effectively trying to get it to sound the way the original sounded."

Some of the work Mew does with 78s is for people with private collections. He remembers the ultimate challenge in this field – the broken record.

"We've literally had records which we've glued back together and they've went 'clunk' at every revolution. For the most part, the machine will automatically recognise something as radical as that, but sometimes it'll miss things and then we have to go and do it manually."

The clicks appear as dramatic peaks on the system's waveform editing page. Then if a section is irreparable it can be reprocessed using the Interpolation function.

"It's possible to tell the machine to rebuild this part of the sound based on the sound that's on either side. It thinks for a few seconds, and the spike is no longer there. Unfortunately this isn't a real-time process, it's about 15 times real time, so you have to set it to reprocess longer sections for a few hours. Usually overnight!"

OVER AT CEDAR in Cambridge, in-house remaster engineer Clive Osbourne is explaining what he sees as being the

differences between the two systems.

"I think essentially the Sonic has been designed primarily as an editor", he says, "and they've sold a whole lot of systems for that purpose. Cedar's angle is that we're mainly restoration. In fact we were basically a restoration service for record companies before we began selling systems – but we feature most of the same things as Sonic like scratch removal, crackle removal and noise removal which takes out hiss and any other hums or buzzes in the signal. The biggest difference, I suppose, is that our DeScratch and DeCrackle are both real time, and that isn't the case with Sonic. The DeNoising parts of the system are pretty much the same."

Osbourne thinks that remastering should be done as tastefully as possible. In fact, he very rarely uses EQ at all.

"We don't use much EQ because the record companies like to EQ to their own taste. The EQ we use here is to get rid of problems – for instance, you may be able to take a very narrow notch out just to remove a particular hum or something. We use EQ for restoration rather than colourisation. Also, when you use EQ in conjunction with the noise reduction, you're actually EQing noise-free, which means that if you're going to do a boost at 10k or something, you just boost the signal, you don't boost the hiss."

The length of time it takes to remaster an album obviously varies depending on the amount of work involved, but on average it takes around two-and-a-half days. While using DeNoise on Sonic Solutions, Peter Mew will take a sample of the noise he wants to remove for the left and right tracks of each passage he's cleaning up, and so albums with longer sections of music, like soundtrack or classical, tend to take less time than rock or pop.

In the case of the Josef Locke material, Mew is working from both 78 and tape. He talks about how, in some cases when remastering albums, sometimes the sound quality of a particular track may have to be slightly degenerated to make it fit into the collection.

"You have to, maybe, let some more noise through than you would otherwise to keep the high frequencies up on the stuff from disc, or degrade the tape stuff a bit, although that's obviously not the idea", he explains.

"I work from the point of view that sound comes first, and so if that means having more noise left in to keep the sound quality up, then that's the way it is. It does take something away if you try to



clean up these 78s too closely, because their dynamic range is so limited anyway."

"The worst thing we get from vinyl is a swishy sort of surface noise which is really hard to get out", explains Osbourne. "In fact there's no system which will totally remove that because it's not a constant sound, so we just have to take out as much as we can with the hiss reduction. We don't ever claim to get all of that out because it's incredibly tricky."

"The main thing is to try to keep certain frequencies upfront on certain sounds – for instance, with classical you get that very edgy sound with the violins that you must try not to lose. In the same way with jazz or blues you get those really sharp screechy tones on the trumpets and you mustn't lose the sharp brightness on those."

So what, exactly, does rock remastering involve?

"Lots of different things", says Osbourne. "For example, Virgin are putting together a compilation album of some old Brand X material, and there was one particular track they wanted to put on which was fairly rare, and that was a monitor mix straight from the desk at a soundcheck. It was from a cassette, so it was incredibly hissy, and it was my job to get rid of that."

"Sometimes I'm doing stuff which is already out-like this punk compilation CD which had been in the shops for a while but the quality wasn't very good, so we cleaned it up. It was all Sham 69, X-Ray Spex and stuff, but it was all pretty ropey. The X-Ray Spex track was live and it was awful."

"Often people come in just to assemble albums rather than do it on a conventional digital editing machine", adds Mew. "Sometimes I'll be asked to de-noise stuff which is relatively recent. I did a couple of Squeeze and Joan Armatrading albums, just getting rid of analogue tape hiss. Some people are looking for the editing facilities – like we can do up to one hundred second crossfades and stuff. So it all varies."

With the Sonic Solutions system Mew uses a Drake 20-bit convertor, a Lexicon 480L for touches of reverb (which he rarely uses) and Sony 1610 Digital mastering. In his opinion, DAT is an unsuitable format for professional mastering.

"Totally unsuitable", he asserts, "never in a million years. One of the big drawbacks is that most of the DAT machines don't tell if they're throwing up errors. A 1610 will tell you because it has an analyser. I think DAT is a format which

hasn't been proved basically. Tapes which we recorded on 1610 ten years ago, some of them won't play. Now that's on three-quarter inch tape, professional standard, so what's going to happen to a DAT in ten years? In a way, I suppose it's not too bad because pretty quickly the company will get a CD of the work, but then the same thing applies with a CD; it's not a perfect medium by any means. I think some people are going to get a shock in ten years time when they try to remaster stuff from DAT."

There are still those who feel that the digital format lacks warmth in the sound, and that certain remastered albums simply aren't as good as the original vinyl releases. Often though, this is entirely the fault of the engineer. Mew agrees: "I've heard a lot of things done by other people on these systems and they do sound terrible because they overdrive the functions to the point where you just lose the sense of what's going on. You can get rid of the noise, but at what cost?"

"There's a lot of user-colourisation involved in these systems sometimes", Osbourne adds. "With the de-noise and de-scratch functions, the process is almost automatic – you just sit back and let the computer get on with it. But the hiss reduction is where the real talent comes in. We've had people at exhibitions come up to us and say 'Oh CEDAR, I've heard some stuff done on that that's rubbish', and really we can't help it if someone's used the system and done a bad job. There are some engineers working with this stuff who don't have very good hearing basically!"

There is, it seems, a certain amount of rivalry between remaster engineers. In Mew's opinion, the demonstration discs that CEDAR and Sonic Solutions supplied when they launched the systems were wildly over-enthusiastic in their use of the functions, making certain demo tracks sound hard and unappealing.

Does he think the original "harshness" of digital has put a lot of people off?

"Definitely. It can sound harsh but it really depends on which convertor you use. People have always levelled that accusation at 1610 – that it sounds harsh. Which it does to a certain extent, but when you compare the benefits... For instance the amount of digital copies you can do, with only a slight amount of difference is much more useful than doing analogue copies. You listen to the master copies of some albums I've had to work on and it's just 'ssssssssssssssss'. That's why they bring them along to me, and that doesn't happen with digital."

"You're not getting an unbiased opinion here because I prefer digital, but it does take a lot of getting used to. I also think it's taken engineers a long time to get used to the different techniques required. A lot of it is the fault of the manufacturers because – equalisation particularly – doesn't behave in the same way that analogue does. So your immediate reaction if you're used to analogue EQ is that digital EQ doesn't sound as good. Once you've mastered it, you'll realise that it's just as good, if not better. Had the people who developed the equipment told us how different from analogue it was,

## **"HAD THE PEOPLE WHO DEVELOPED THE EQUIPMENT TOLD US HOW DIFFERENT FROM ANALOGUE IT WAS, THEN PEOPLE MIGHT HAVE REACTED BETTER TO DIGITAL."**

then people might have reacted better to digital."

But the digital medium is here to stay. Which of course makes the likes of Osbourne's and Mew's jobs all the more important.

"Everything's a challenge", says Osbourne. "You've got to view every job in a different light. If you felt that it was like a sausage machine and you were just rushing things through, then it would be terrible. It's nice to be able to work with things like Beatles tapes because they're a part of history and a pleasure to listen to. You learn something different about sound with every new job you take on."

Osbourne remembers a time when he introduced NoNoise to a rather sceptical Jimmy Page. The initial Led Zeppelin CD reissues had been a disaster and the legendary guitarist was wary of the digital domain.

"He brought in this old Led Zeppelin track that had been done for a BBC radio session in the '70s" Osbourne recalls, "so we cleaned it up, and afterwards he said 'Aww, if only I'd known about this sooner, because we've just finished doing a boxed set of all the old stuff. And this is the last track, so it's too late!'. I think that taught him to keep up with the changes in technology. . ."

You see, keeping abreast of high technology is really just a matter of teaching an old Black Dog new tricks. ■

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# PROFESSIONAL COMPOSER

Following the reappraisal of MOTU's revamped Performer Mac sequencer last month, it's the turn of the Composer scorewriter on the MT test bench. Review by Ian Waugh.

**T**HIS IS GOING to be the year of the Mac. Over one million Classics were sold worldwide in 1991, and the installed Mac user base has risen 42% between 1990 and 1991. Even the Japanese market share doubled from '90 to '91. In the UK, Mac music software is getting a higher profile - Mark of the Unicorn's top-flight Performer sequencer got the MT treatment last month, now it's the turn of their Professional Composer. And if you haven't already guessed, it's a scorewriter.

Like Performer, Professional Composer (review v2.3M) requires a minimum of a Mac Plus and a 800K disk drive. But let's not beat around the bush; as mentioned in the Performer review, any halfway serious Mac user will have a hard disk and at least 2Meg of RAM. Anyone running System 7 will need 4Meg minimum to stay sane.

Also like Performer, Composer is copy-protected. You can either use the program disk as a key disk or do a hard disk install and risk losing it if your machine goes down. It's key disks for me - until MOTU follow companies such as Passport (and even Electronic Arts) and take the copy-protection off.

Composer was reviewed on a Mac IIsi running under MultiFinder 6.07 along with a wordprocessor on which this is being written.

The "M" in the version number stands for MIDI and this version supports input and output via MIDI. A separate 40-page booklet deals with this. Most of the new functions are in a new MIDI menu so it's no major problem. However, it's worth skimming through the booklet as you work through the main manual so you can compare the input and playback options.

## IT'S A SETUP

UNLIKE SOME SCOREWRITERS, Composer doesn't use a page format, rather you enter music on several long staves. The page formatting comes later. I prefer this method, as it lets you concentrate on getting the

score right without worrying about the page layout.

The first step is to set up the staves, clefs, key and time signatures, which is easily done from various menus. You can add and delete staves so you can add more parts as you go (again, without worrying at this stage about page format).

There isn't a "move stave" option so it's best to get them in the right order to start with, but there's always the copy function if you don't (although text has to be handled separately). Staves with braces, brackets, stave and bar lines can all be connected.

You can insert clefs, key and time signatures at any point in the score. Time signatures affect all staves, whereas a key signature affects only one stave. This is unlikely to worry the majority of users but it may restrict *avant-garde* composers, and even some classical music uses mixed time signatures.

However, it is possible to *display* different time signatures on different staves, but you have to adjust the layout yourself. Changing time signatures within a score won't automatically readjust the bar lines for you. There is a Rebar function and a Check Rhythm function, but these don't always quite put back together again that which you so easily managed to take apart. Don't know why. This is one area in which the computer should help us mortals out of the holes we bury ourselves in.

You can add bar numbers and specify how often they appear, and enter rehearsal marks too. If you're working on a large score, there are options to take you to a rehearsal mark and bar number.

Each stave may have an instrument assigned to it. This doesn't simply give it a name, it gives it an associated note range and transpose setting. These are used with Check Range and Transpose Part functions, which check to see if you've written something the instrument can't play. You can redefine any of the supplied settings and create your own. Very nice.

Composer also facilitates assignment of MIDI channels to staves for playback (more in a moment).



## OLD PALETTE MINE

SCORES MAY BE entered in three ways - with the mouse, from the Mac's keyboard and via MIDI - although you can't enter symbols via MIDI. There are nine palettes - Notes, Rests, Dynamics, Ornaments, Special, Articulation, Barlines, Jazz and Clefs. These sit to the left of the staves and you may have as many on screen as you wish.

A vertical line cursor on the score indicates the horizontal position and a small rectangle on the line indicates the current vertical position. To enter a symbol with the mouse, you click the line onto the required spot, drag the rectangle up and down the line to the required note pitch or symbol position and then click on the symbol in the palette. Easy.

For speed, you can select a note's duration by holding down one of a number of keys on the Mac's keyboard and then clicking (or dragging) its pitch on the stave.

You can move the insertion point using the Mac's keyboard but you'll have to learn the keys to use. They are grouped together but not mnemonically. The G and B keys move the insertion point up and down the stave, while the U, I, O and P keys move the cursor left, up, down and right (a throwback to the days before Macs had cursor keys?). I've never seen a set of cursor keys grouped in this way and it takes a little getting used to.

There are also keystrokes for notes so you can enter them using only the keyboard (for PC convertees?) but that's not my idea of a night out. What about support for cursor keys and/or a keyboard overlay?

The program will enter bar lines for you automatically(!) and even split and tie notes which are too long for the bar over a bar line. Fine.

MIDI input is accomplished by selecting a note duration on the computer's keyboard and hitting a key on a MIDI keyboard. You can't click on a duration on the palette and then play the MIDI keyboard, as the act of clicking on a note puts it on the stave.

The system works well and it's fairly quick, but it does mean you have to learn where the duration keys are on the Mac's keyboard. Why not let us click a duration on the palette and then play a note? And it would be nice if the currently-selected durations were highlighted on the palette.

## GROUPIES

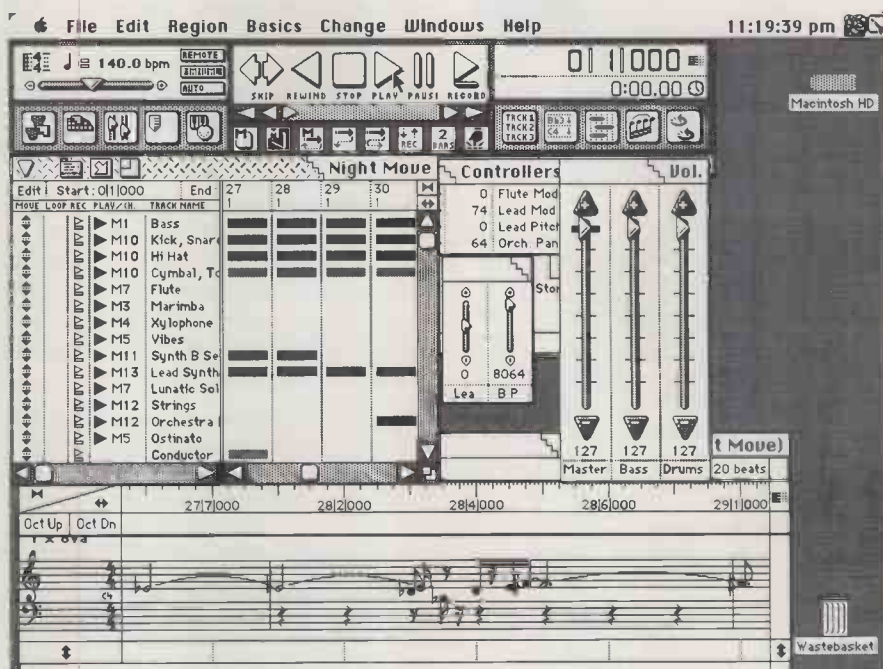
ENTERING THE NOTES is only a part of a scorewriter's job. It has to be able to cope with note groupings, beams, textual instructions and the myriad of other symbols music notation uses.

Accidentals, ornaments, dynamic markings and the like are selected from the palettes. Many symbols are attached to specific notes and are difficult to remove without removing the note also. The Undo Delete function doesn't always give you back what you took away.

To beam notes you highlight the group by clicking and dragging and select Beam from the Groupings menu. You can flip the stems, add slurs, ties,

crescendos and decrescendos, octave markings, trills, grace notes and glissandos. If you drag the mouse downwards or upwards during highlighting, you can place the slurs and ties under or over the notes. Neat. However, the program will tie notes of different pitches, which would have got its knuckles rapped at my music school.

There are also Second Slur and Tie marks which place a short slur over selected notes within a larger



slurred area. Triplets and tuplets are easy to create - highlight the number of notes you want to "uplet" and up pops the most likely configuration. You can alter it if it isn't what you want.

End bars may be specified from 0-9 (a zero ending bar?). The amazing Invisify Rests function makes rests invisible in printing: useful, the manual suggests, if you merge staves (coming up).

Clicking on an area to the left of a stave will select the entire stave and you can make regions remain highlighted with a toggle option in the Basics menu.

The symbols are placed at the insertion point and although they're generally in the right place, it's up to you to make sure they're aligned properly. It's possible for a hairpin, for example, to overlap a note beam or text if you're not careful.

There are global spacing settings for certain symbols such as crescendos, dynamic markings and so on but these affect *all* symbols throughout the score. It would be useful to be able to "pick up" symbols and drag them around the score. Generally you have to erase and replace.

The Special symbols palette includes movable rests which can be placed anywhere, a displacement character (which acts like an invisible rest to prevent the overlapping of notes which are a second apart when you merge staves), and a whitespace character >

**"Scores may be entered in three ways - with the mouse, from the Mac's keyboard and via MIDI - although you can't enter symbols via MIDI."**

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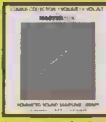
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These DATs contain well over 300 Megabytes of ready to use samples for your Akai S1000/S1100 fitted with the IB104 Digital IO board and any DAT player featuring digital output. Samples are quick to audition and use. Three volumes are now available - Each for the new low price of just £199, please call for more details on each of them.

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### Double Dutch's SAM-1 Sample Expander for Korg M1, WaveStation, M3R and T-Series

This new expander fulfills a range of important functions: ■ Primarily it is a sample expander that allows you to inject half a Meg (Soon expandable to a full Meg) of your own samples into most Korg synths. ■ It is also a MIDI Data Filter that allows you to save any SysEx info to disk, it even plays back MIDI Song Files! ■ Because it can load S1000, EPS, S330 and S550 disks and transfer samples via MIDI it can act as a sample converter - more formats will be supported in the near future. Call for more details.

### Musitronics D50 Expansions

If you own a D50 or D550 then these expansions are bound to interest you:  
 M.EX - Multi-Timbral Expansion offers ■ 8-tone multi-timbral operation with dynamic voice allocation ■ Additional MIDI transmit channel ■ Loads of new parameters ■ Optional 128 patch memory expansion ■ £199 or £245 with additional RAM  
 Speed System is an optional extra for the M.EX that makes your D50/S500 run up to 40%+ faster. Quicker responses from keyboard or over MIDI are now possible. The Speed System costs £45.  
 PCM.EX offers ■ 50 new waveforms including 3 complete drum kits and new piano waves ■ Accessible in addition to existing waveforms ■ £245 (not available for D550)  
 D50 Power Pack offers ■ M.EX with RAM ■ Speed System ■ PCM.EX ■ Usual price £535 - Special offer price £399



### Editing Software for the Atari ST from EMC - Einstein Music Software

The most up-to-date range of synth editors on the market today, also offering superb value for money. Synths supported include - SY55, U20/220, D10 Series, K4, M1, M3R, Proteus 1/2, D70, JX1, D50, K1, VFX, OBB, LXP5, PCM70, etc. with programs being added all the time!

"Impressive...it's a competent, comprehensive program which can be highly recommended to anyone...it could well be selling for two to three times the amount - it really represents excellent value for money. Buy it before they read this and put the price up." - Music Technology SY/TG55 Review, May 91.  
 ■ SY/TG55 Editor/Manager - £55 ■ K4 Editor/Manager - £55 ■ SY22/TG33 Editor/Manager - AVAILABLE NOW - £55 ■ U20/220 Editor/Manager - £55 ■ LXP1/5 Editor/Manager - £55 ■ D10/20/5/110 Series Editor/Manager - £55 ■ D70 Editor/Manager - £89 ■ M1/M3R Editor/Combi Editor - £55 ■ Proteus 1/2 Editor/Manager - £75 ■ Please call for full details and prices! ■ All programs run under M.ROS and SoftLink and require a hi-res mono monitors and at least 1 Meg (except the K1 Manager) of RAM.

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Eleven CDs featuring the most complete collection of acoustic samples ever compiled. Every instrument features full chromatic sampling and range of performance styles. Each CD comes with a manual that covers the entire series. Each CD costs £49. ■ 1 - 2 - 3 - 4 - Rock Drums & Tympani ■ 5 - 6 - 7 - 8 - Jazz Sounds ■ 9 - More of Vols 1-3 ■ 10 - Pipe Organ ■ 11 - Historical Instruments. Please call for full details.

### Sonic Images Sample CDs

Six CDs from Germany. Compiled in conjunction with Chris Frankes of Tangerine Dream. ■ 1 - Drums, Perc & Musical FX ■ 2 - Percussion Special ■ 3 - Stack Sounds A ■ 4 - Stack Sounds B ■ 5 - Musical Effects ■ 6 - Grand Pianos. CDs cost £25 each or buy the set of 6 for £125.

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 ENSONIQ - VFX: 2 sd disks - £40 each, 2 cartridges - £50 each.  
 ROLAND - D50, D10/520/110: 2 International Gold Cards plus Top 40, Orch, New Age, PCM, Analog, Digital, and Effects - £45 each. D70 - Top 40, New Age - £50 each. JD800 - Top 40, New Age - £50 each.  
 "...if you want to be inspired to greater heights of musical ecstasy, look no further...The amazing thing about these Valhala cards is that they sound completely different...all the voices here really do sound new...I am now assured that trying to do my own programming is a complete waste of time. To create anything like what we have here would take days and days of work...Well of course if you are at all serious then you'll buy all three!...don't take my word for it - try them out yourself! - M1 Card Review, SOS, Dec '91.  
 "The last time you heard sounds of this quality emanating from a single keyboard you were probably listening to an Emulator or a Fairlight...these cards will tempt you to make an M1 the major keyboard in your rig. If they don't I honestly don't know what will." - M1 Card Review, MT Aug 1990.  
 "...there's no company currently making a better name for itself than Valhala...I admit it, I'm impressed - a number of absolute gems - the overall impression is one that firmly lives up to Valhala's excellent reputation for quality...quality plus value - what more do you want?" - D50 Card Review, MT Nov 1990.



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### Uni-Man from Zadok

Uni-Man is probably the most universal generic editor/librarian ever developed for the Atari ST. It has proved a huge success in Europe and now as it's 1992 it's time we had it in the UK! Uni-Man comes with over 40 device adaptors (call for details of synths supported) and if you wish you can create your own. Uni-Man will edit any parameter from any MIDI device that you can save. Uni-Man costs just £219 including all the device adaptors. Join Uni-Maniacs and keep up to date with new device adaptors. Arranger ST the most advanced auto accompaniment program available should be released soon - we're working on the translation. Call for a demo disk for either program.

### TranTracks MIDI Sequences

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Musitronics SY/TG77 and SY/TG55 PCM.EX Expansions  
 New expansions for the SY/TG77 that add 4 Megs of new PCM samples doubling the total PCM memory to a staggering 8 Meg! The SY/TG55 version adds 2 Meg taking total memory to 4 Meg! Each also adds a new internal bank of programs that utilise these new PCM waveforms. Exact spec and prices TBC, please call for the latest information.

### New Synthesizer Sounds from the SoundFoundation

We are shortly going to be carrying a superb range of sound cards from some of the UK's finest programmers including the programmers of Valhala's International Gold Series. Watch over the coming months for D70, JD800, 01/W cards and many more. In the meantime there are two SoundFoundation disks available for the Korg T-Series at £45 each and a self-loading Atari ST disk of MKS70 sounds for £39. They set a very high standard that this series is certain to maintain over the years.

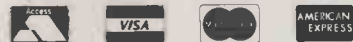


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- (which performs a similar function but which you might use to compensate for an offset produced by an accidental).

After entering one displacement character you have to enter others to readjust the following notes in the bar. Surely these lining-up functions are tasks the computer should be performing automatically?

## EXTRAS & VARIATIONS

COMPOSER DOESN'T SUPPORT multiple voices on a single staff but you can create multi-voice staves by merging them from the Variations menu. This is where the invisify rest command and the displacement character come in. You can't edit a staff after merging but there's an unmerge option to give control back to you. However, wouldn't it be nice if you could work with more than one voice on a staff in the first place?

Another option lets you double or halve the rhythmic values in a score, or you can select the lowest note value for the score, and scale all the other notes accordingly.

The Rebar function affects all staves and should be a universal panacea for all those odd time signatures you made a mess of. However, if you have different time signatures on different staves or odd numbers of beats in some bars, it may not work as you expect. It's not undoable (you do save regularly, don't you?) and it removes all text.

Check Rhythm and Check Range in the Extras

## TEXT CASE

SPACE BETWEEN STAVES can be inserted by increasing the number of leger lines they support in the staff's instrument menu. Use this to create space below a staff for lyrics. Text insert mode lets you Tab along the notes as you insert lyrics so each syllable is neatly centred under each note. They only space out when you finish entering the bar, so don't fret if it looks wrong during entry. If the words are too long for the bar, it makes the bar longer. That's the way it should be.

You can change the text font, size and style and copy text from one region to another.

Composer uses a couple of specialist fonts for the music symbols - ChordFont and Sonata. Some Sonata fonts are supplied, but the manual suggests you may like to send a cheque to Adobe for the complete set. I'd rather have everything I need in with the program I buy.

ChordFont is used for entering chord names above the staff and includes some extra music symbols.

## WHAT A PERFORMANCE

MOTU'S PERFORMER HAS limited notation facilities and the company hope, I'm sure, that Performer users will rush out and buy Composer in order to print their music.

Performer has a Save as Composer option which saves a file in a format Composer can read. It can only save the currently-enabled sequence as a Composer file (although you can convert a song to a sequence in the Chunks window) and you are advised to give it a run through the quantise mill first.

However, as is the nature of MIDI, music timings and conversion programs, you'll be lucky if you get out the score you thought you put in. The Performer manual even suggests that for scorewriting purposes you should input notes in step time. Sort of defeats the object of the exercise. Performer can read Composer files, however, and this works rather better, as you might imagine.

Composer cannot read MIDI files, which restricts its usefulness in file conversion to Performer and limits its appeal to Performer owners. An insular standpoint, surely.

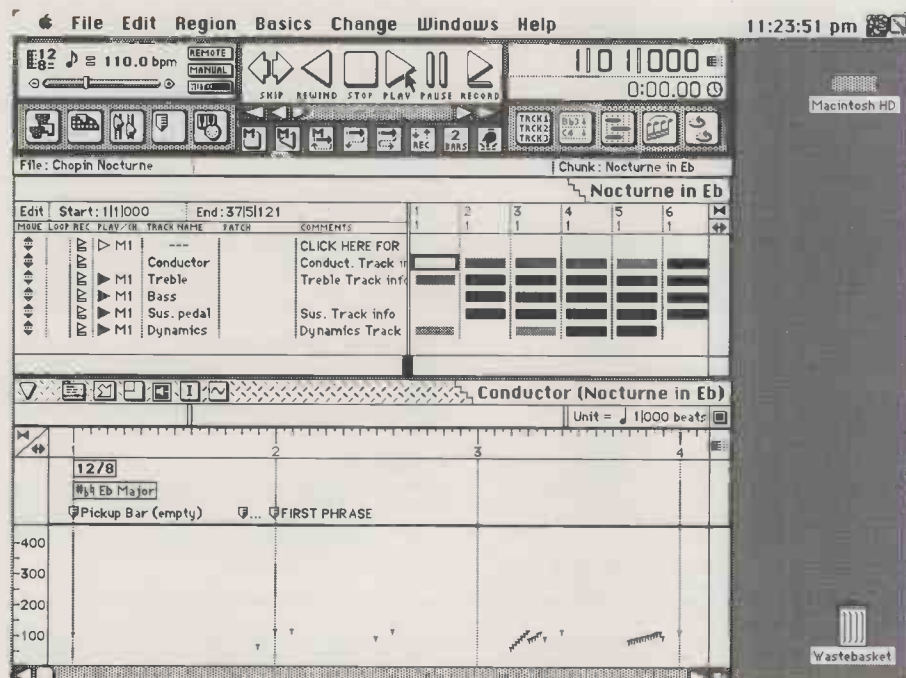
## PLAYBACK

ALTHOUGH COMPOSER ISN'T a sequencer, it has limited playback facilities. You can playback either through the Mac's speaker or via MIDI. Unfortunately, you can only hear the four topmost notes of the first four staves - even via MIDI - which restricts its use somewhat!

The MIDI section has a Thru function, mainly for use if you're using a separate expander, which sends incoming notes back out on a selected MIDI channel. Auto Patch Thru can automatically select a different MIDI channel for each staff, which is useful too.

## PRINTING

COMPOSER SUPPORTS A title page for the score along with page headers and footers with options to



menu will seek out and highlight any bars with an odd number of beats and any notes which are outside a staff's note range as defined by the staff's instrument setting.

You can transpose a part by key, interval or diatonic interval, and write parts for transposing instruments in concert pitch or their key and convert them from one to the other. A Chord Invert function will invert all chords in a selected region upwards or downwards. Cute.



flip them from one side of the page to the other when printing odd- and even-numbered pages. You have quite a degree of control over the printing. You can force a new page and a new line and indent the lines. There's a split rests option which prints a block rest with the figure 2 above it, which is common in band parts.

Some settings require your interaction, however. To force the last system to print across to the right of a page you have to add an extra bar to the score and insert a Force New Page command. Something else the computer could/should do?

You can print the entire score, a partial score or individual parts. Partial printing lets you select non-contiguous staves. You get a preview of the score before printing, which lets you go back and reformat if it's not right.

ImageWriter users can create special page sizes, otherwise the page setup routines are similar to those used for other applications. Even if you don't have an ImageWriter, if you select ImageWriter in the Chooser you get the option to save pages as MacPaint files. The file is a bitmapped image, however, and prints as such.

The printout from Composer itself is excellent - although it really should be on a 300dpi PostScript printer - and you won't get much better quality anywhere.

The manual is divided into three sections and is generally fairly clear. The first section is a short introduction. Follow this and you'll soon have entered the first four bars of 'Ja-Da' (this is well before your time, however old you are). The extra manual to accompany v2.3M explains how to enter four bars of a Bach minuet. The second section takes you through most of the functions in considerably more detail and this is followed by a reference section which explains all the menu options.

It's always good to see what a company can do with its own program so it was particularly disappointing not to see any demo files.

## VERDICT

I DON'T THINK anyone would argue with the fact that Coda's Finale is the premier scorewriter for the Mac, even though it's not quite as plug-in-and-go as Mac users like their software to be, and it does tip the scales at around 700 quid. Composer is more accessible, but there's still QWERTY keying involved which takes the edge off the instant access Mac users love and expect (but don't always get).

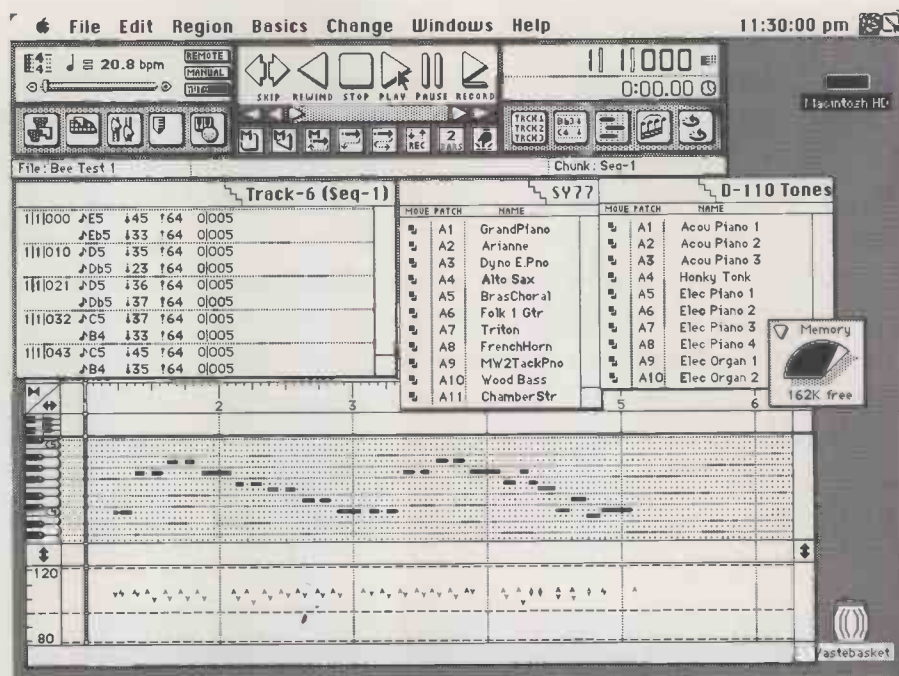
In keeping with Performer's approach to changing numeric values, you usually have to type these in rather than click on adjustor buttons. And, like Performer, you can't have more than one file open, which means global cut and pastes between files must be done via the Clipboard - inconvenient, to say the least.

A more comprehensive Undo function would be useful to undo the last copy, paste function and so on, as would more flexible symbol placement.

The program could also be more helpful by automatically adjusting the bar lines and notes

therein, and by sorting the spacing out without making you resort to the fudge of displacement and whitespace characters. Manual correction really shouldn't be necessary. If you want multi-part staves, you have to merge them, which limits its convenience for certain types of music.

While it's useful to find a scorewriter with the ability to playback via MIDI, Composer's four-note



restriction will, again, limit its usefulness in this area. The program, amazingly, doesn't support the MIDI File format. The only way to convert real-time sequences to a score is to use MOTU's Performer. But even this combination isn't ideal. Apart from the cost, it's a fuff running between the two programs and through the conversion process, and the result isn't always as you might like it. You can't beat a combined sequencer/scorewriter for this sort of work. These are observations rather than niggles and, being fair, many of them won't affect a large number of potential users.

Composer has lots of brilliant features, too. Assigning instruments to staves is a gem of an idea, lyrics are handled well and there's an excellent range of symbols. Page formatting is flexible and output is neat and impressive. It's fairly easy to get into the program (Mac keyboard commands notwithstanding), it's not overly complex and it is enjoyable to use.

All you have to do is count your pennies and make sure the limitations aren't going to affect your scores. If they aren't, then Professional Composer is well worth checking out. ■

**Price** £459 including VAT.

**More from Sound Technology plc, Letchworth Point, Letchworth, Herts SG6 1ND. Tel: (0462) 480000. Fax: (0462) 480800.**

**“Composer has lots of brilliant features: assigning instruments to staves is a gem, lyrics are handled well and there's an excellent range of symbols.”**

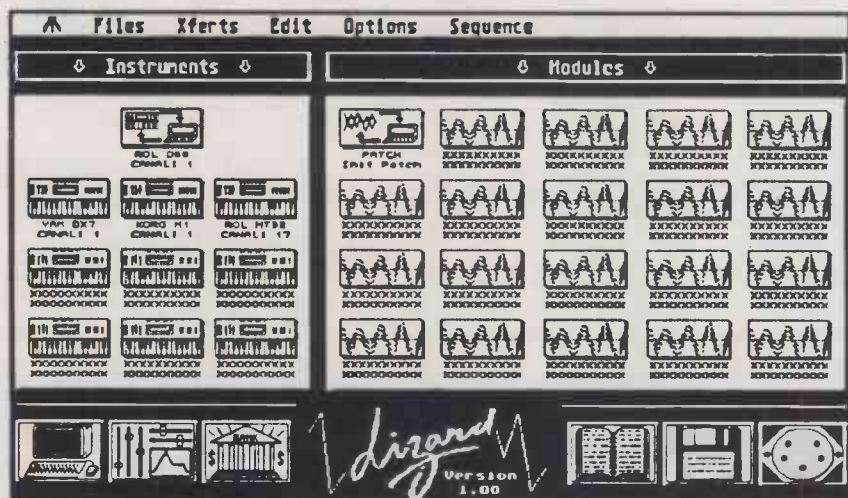
# competition

**S**OME PEOPLE HATE 'em – Lizards. They have this reputation for being somehow repulsive, you see, but I think there's more to it than that. I reckon the fear that certain present-day human beings exhibit for reptiles in general is based on primordial memories of days when dinosaurs preyed on early man... But I digress.

The lizard we should be discussing is a universal editor/librarian program for the Atari ST and which provides us with not one, but three, prizes for this month's competition. Lizard is a fully-professional program capable of supporting over 50 popular models of synthesiser including Roland's D-series, Korg's M/T-series, Yamaha's DX7s and SY-series, and Ensoniq's E/SQ synths—and the library of "drivers" is still growing. No less than ten synths' drivers

can be simultaneously resident in Lizard, making it possible to edit a large MIDI keyboard rig with a minimum of fuss. Lizard is also fully compatible with both Softlink and M.ROS, so you can incorporate it into a multi-program setup based around Creator/Notator, Cubase or any other sequencer which will run happily under M.ROS. It's got plenty of other neat features too – like offering the Atari's function keys as a means of auditioning sounds being edited and being able to take snapshots of your keyboard configuration to optimise setup routines. All in all, Lizard represents a significant addition to almost any Atari-based synth setup. You need a copy.

And to get a copy without forking out the £165 asking price, all you need to do is sort out the answers to a few questions and call them in on MT's Competition Hotline.



## Question 1

On which Brian Eno album does the track 'Lizard Point' come?

- a On Land
- b Taking Tiger Mountain
- c Another Green World

## Question 2

Which '70s progressive rock band produced the album *Lizard*?

- a King Crimson
- b Emerson Lake & Palmer
- c Jethro Tull

## Question 3

Which experimental jazz outfit produced the album *No Pain For Cakes*?

- a Lounge Lizards
- b Kitchen Lizards
- c Bedroom Lizards

OK, now call in your answers to the Hotline on (0891) 100768 no later than 31st July (calls cost 36p per minute cheap rate and 48p at all other times). Please speak clearly and remember to leave your name

and address with your answers. The editor's decision is final and no correspondence will be entered into. Thanks are due to Stephan Israel of Music Pro Import for providing this month's competition prizes.



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# GAJITS SEQUENCER ONE PLUS

DUE TO A combination of good reviews – deservedly so, too – and aggressive pricing, Gajits' Sequencer One has done very well for the boys from Manchester who wrote it. It appeared recently as the cover disk freebie of an ST mag which must have boosted its user-base somewhat, if miffing in the process anyone who had just paid full price for it. But time and Gajits stand not still and the reason for the giveaway was to make room for Sequencer One Plus. Sequencer One was reviewed back in MT March '90 and an updated version in August '91. The Plus version has more new features than we can list here so we'll look at the main goodies.

S1+ is available for both the ST and Amiga computers and the two versions are nigh on identical. It can play back four channels of samples (in mono on the ST but stereo on the STE and Amiga) and it supports the range of ST Replay cartridges. Sample replay ability was added to later versions of Sequencer One but Plus has better playback and improved sample handling facilities. It shows the pitch at which samples were originally made and supports various sample formats including SPL, AVR, SAM and other raw data formats as well as IFF.

New additions to the transport controls include Track Solo and Punch in. Solo works intelligently and does not affect any tracks which are muted. Although I'm sure some people find punch in and overdub useful, I prefer to record new material on a separate track and merge or replace it afterwards. Probably something to do with my distrusting nature.

Neat new features in the Step Editor screen include Diamond Drag. You may have seen grid editors which let you pick up the end of a note and drag it to alter its length or pitch. Diamond Drag does the same thing but it puts four big "drag diamonds" on the screen for you to aim your pointer at. No fiddling about looking for the start or end of a note even if it's a 64th. To edit a note, you hold down the left mouse button and move the pointer around the screen. It will latch onto a note as you move over it so it's easy to home in on and pick up the one you want.

There's a box below the note which accesses a mini menu offering Re-size, Copy, Snap (to grid), Interval, Control and Delete options. Control can turn a note into control data or a program change. And it's excellent – by far the easiest grid edit system I've seen although I couldn't find an Undo function to put back an edited note the way it was before I started messing around with it.

Gajits have also added tails to the notes to indicate velocity and retained and improved the Note Information box which

lets you edit notes numerically. For this sort of close work, however, I do prefer to see a run of notes together in an event list.

Step-time entry in keyboard mode has been improved so it's easier to tie notes and you can see where they're going to appear. For real-time recording you now get a count-in. Great.

Quantise has been given a Strength parameter and Full Quantise causes both Note On and Note Off events to be quantised.

Alter Notes now lets you change all occurrences of a particular note to any other note – useful for re-mapping drum sounds. There are also Scale and Shift Lengths which can make notes more legato or staccato.

A new Tempo Map screen lets you draw in tempo changes using Diamond Drag editing. Tempo tracks are a good idea and this one works particularly well. If you alter the tempo at the start of the piece, other tempo commands change by a proportional amount, effectively allowing you to make relative tempo changes.

The Juke Box screen is new. It allows up to 32 songs to be linked together and played in a predetermined or random order using CD-like controls. Plus will even load one song while another is playing. It's not quite fast enough to provide a seamless join but, memory permitting, the delay can be as short as a second or two. There are Pause and Skip functions and if you are wont to take your ST on the road, you could well use it live.

The MIDI Options lets data on all incoming MIDI channels except one to be filtered out. This is primarily for use with Yamaha keyboards such as the PSS790 and PSS590 which automatically retransmit data arriving at the MIDI In back through the MIDI Out (cunning designers at work here).

Plus can now save and load SysEx data to and from disk. You can arrange it to transmit data automatically when you load a specific song.

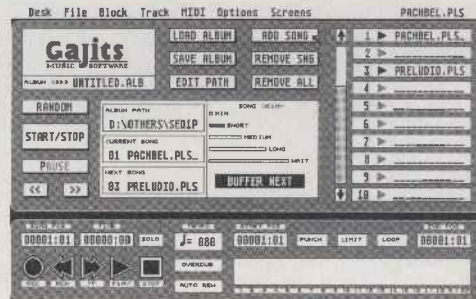
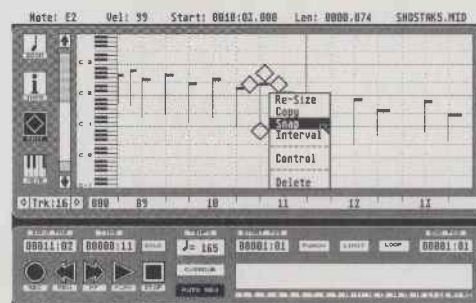
Plus offers a very tasty set of additions to what was already a good program. Although it doesn't quite compete with the big boys (and has no score page), it must be top of the list for anyone wanting an easy-to-use budget sequencer. Throw in Gajits' free telephone helpline service and the program has simply got to be the best value for money budget-priced sequencer on the market.

Currently the cheapest way to get Sequencer One Plus is to buy Sequencer One which is still available at £19.95 and an Upgrade Kit for £39.95. If you picked up the ST version of One from the cover disk, you can buy the One manual (the Upgrade Kit manual only details the new additions to One Plus) for £6.95 – a total price of £46.90. Note, however, that this is a limited offer and you must check with Gajits before ordering.

■ Ian Waugh

**Price:** Sequencer One Plus £129.95, Upgrade Kit from Sequencer One £49.95 or £39.95 (while the offer lasts).

**More from:** Gajits Music Software, 40 Princess Street, Manchester M1 6DE. Tel: 061-236 2515.





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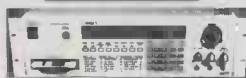
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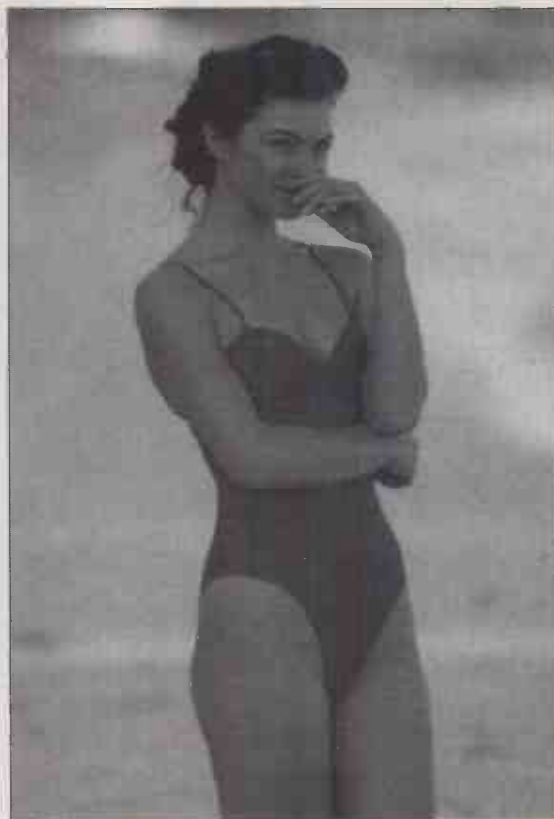
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# MS800 SYNTH MODULE



PHOTOGRAPHY: JAMES CUMPSTY

Cheetah's latest isn't quite what you'd expect of a '90s synth – it's cheap, hardly state-of-the-art and produces odd noises. It could be just what your setup needs.

Review by Simon Trask.

IN RECENT YEARS, precious few synths have dared enter the twilight zone of pure electronic invention. For the most part, manufacturers have opted to give their instruments broad appeal by using sample-based synthesis and by emphasising familiar, neatly-categorisable instrument sounds drawn from the "real" world. Waldorf's Microwave and Korg's Wavestation are both excellent sources of more abstract, off-the-wall sounds. But neither is cheap. Cheetah's genuinely quirky MS800 Digital Wave synth module at £199.99 is, therefore, to be welcomed. Or is it? Inexpensive it may be, but with cost savings come compromises, and the MS800 makes them in two key areas: sound quality and front-panel accessibility. At the same time, its programming structure at the deepest level is not the easiest to grasp. So have Cheetah come up with an instrument that musicians will want to own?

## OVERVIEW

THE 1U-HIGH HALF-RACK MS800 is 15-voice polyphonic, velocity-sensitive, and 16-part multitimbral via MIDI, with dynamic allocation of voices across the parts, MIDI overflow if you run out of voices (so you can hook up two units for 30-voice polyphony, three for 45, and so on), and the ability to sustain sounds over patch changes. It's also fully programmable from the front panel. A good start.

The instrument's rear panel provides MIDI In, Out and Thru connections, Left/mono and Right audio outputs (quarter-inch jacks) and a socket for the power lead (an external power adaptor is supplied).

The power on/off switch is located on the front panel along with a two-digit LED and ten buttons: Channel, Patch, Function, Param, Next Param, Enter, single-step value inc/dec and ten-step value inc/dec.

The top panel, meanwhile, helpfully provides a list of the ten Functions available on the MS800. These are: Patch Edit, Tone Edit, global Velocity on/off, MIDI Overflow on/off, global Pitchbend range (0-24), MIDI SysEx bulk dump Save and Load, MS800 data Reset, Patch Copy and Tone Copy. Like the Microwave and the Wavestation, the MS800 uses digital waveforms as its basic sound material and allows you to combine them into wave sequences in order to create a wider range of sounds; unlike them, it has no filtering.

An MS800 Patch consists of up to 14 Tones, with each Tone being a wave sequence constructed from the 21 waveforms provided; you can create slowly evolving sounds *à la* Microwave and Wavestation by programming crossfades between successive waveforms in the Tones. The synth provides 50 Patches and 50 Tones in ROM, and another 50 of each in RAM; you can of course program your own Patches and Tones into the RAM locations, and save and load the RAM data via MIDI SysEx as bulk dumps.

The MS800 uses eight-bit companded sample storage and playback, giving it a sound quality somewhere between eight-bit and 12-bit in practice. The result falls well short of the super-cleanliness we've come to expect from the average Japanese synth these days, but that's not necessarily a bad thing – the MS800's sounds have a digital >





➤ “grittiness” to them which can be quite appealing in the right musical circumstances. The bass end in particular has a nice bite to it though there's no great depth or fullness – you're not going to get earth-shattering dub bass sounds out of this instrument. Also, although the MS800 is velocity-responsive, it doesn't have a very great dynamic range. It is capable, however, of producing the sort of sounds which you won't find on your sample-based synth as well as some that you may and therein lies its value – as long as the sounds it produces appeal to you. It has a good range of more or less metallic timbres, from delicate chiming sounds to offbeat percussive sounds to a variety of drones, some of which are quite hypnotic and bewitching, some of which have a more raw, industrial quality.

The MS800 is manifestly an instrument which won't appeal to everyone. I can see some people giving it a listen and thinking “awful” and others coming away inspired.

## ON THE BUTTON

AT THE HIGHEST level of operation – namely assigning Patches to the 16 MIDI channels – the MS800 is very easy to use. You press the Channel button and use the inc/dec buttons to move up and down through MIDI channels 1-16, and press the Patch button and use the inc/dec buttons to move up and down through the Patches (0-99; 0 = no sound/channel off). Patches can also be selected remotely via MIDI using patch change commands, and the MS800 is able to respond to sustain pedal on/off on each channel.

The MS800's ten high-level Functions are accessed, logically enough, by pressing the front-panel Function button and using the inc/dec buttons to scroll through numbers 1-10. To enter each Function, you press the Enter button. With most of the Functions, once you've pressed Enter you use the inc/dec buttons to select a value for the parameter and then – the standard way of exiting Functions – press the Enter button again, at which point the MS800's two-digit LED displays 00.

Patch and Tone editing require an extra step, in that once you've selected the relevant Function you then have to select a parameter within that Function, after which you go on to the value-setting stage. To set values for more than one parameter without leaving the Function mode, you either press the Param button to take you back to the parameter-number stage and then use the inc/dec buttons to select the relevant parameter number and press Enter to take you to its value, or move directly to the value of the next parameter up by pressing the Next Param button. However, you may well want to exit the Function mode while editing (particularly at Tone level) because as soon as you press the Function button the MS800 mutes all notes and won't make another sound until you press Enter on a parameter value to take you to the 00 display. Only the MS800's price can justify such a shortcoming and even then it's hard to excuse. It certainly doesn't put the MS800 (or Cheetah) in a very good light. However,

you can move in and out of Function mode very quickly and it could be argued that this helps you to familiarise yourself with the editing process.

As you might imagine, none of this is a lot of fun. Frequent reference to the manual is essential, and even then using the MS800 beyond the basic Patch selection level can be confusing to begin with. More helpfully, the synth does display dots in its LED next to the left, right or both digits to help you orientate yourself – for instance, in Patch and Tone edit modes a left dot means the number is a parameter while a right dot means it's a parameter value. Still, I have to wonder how many people will have the time, patience or inclination to really get into an instrument which provides such a non-intuitive user interface.

## PATCH EDITING

PATCH PARAMETER 0 allows you to set the number of Tones to be used in the Patch, from 1-14; of course, the more Tones you use the less notes you have to play with. Just so life doesn't get too easy, the maximum number of Tones usable within a RAM Patch isn't the same for all Patches. For instance, RAM Patches 51-54 can have 14 Tones maximum, Patches 61-70 five Tones maximum, and Patches 81-99 a mere two. One advantage of this odd arrangement is that you can start by editing one of the two-Tone Patches and then progress to Patches containing larger numbers of Tones as you become more confident.

Parameters programmable for each Tone used within a Patch are: Output Number (1 or 2), Detune, Velocity Response Curve (0-4, one of which is a negative response curve, allowing you to create velocity crossfades between Tones), Volume (0-99), Transpose ( $\pm 49$ ) and Tone number (1-99). Obviously the more Tones you have in a Patch, the more parameters there are, because the above parameters are duplicated for each Tone added – the maximum is 85. The Parameter Matrix list on page 19 of the manual is essential reading whenever you use more than one Tone, as it shows you at a glance which parameter number you need to call up in order to edit a parameter for a particular Tone (number 71 to edit the transpose value for the 12th Tone in the Patch, for examples). In fact, Cheetah could usefully have printed this list on the MS800's top panel along with the Function list.

## TONE EDITING

ALTHOUGH TONE LAYERING at the Patch level provides many sonic possibilities, if you want to get the most out of the MS800 you have to edit at the Tone level. You're also forced to edit at the Tone level if you want to change the attack and/or release times applied to Tones, because these are Tone rather than Patch parameters. If you want to use the same Tone in two or more settings which require different envelopes, you'll need to Copy the Tone and give each version different attack and release settings. However, you can't copy any Tone to any RAM Tone location, because, as with the Patches, not all Tone

“The MS800 won't appeal to everyone – I can see some people giving it a listen and thinking ‘awful’ and others coming away inspired.”



numbers can have the same number of parameters – for instance, Tones 1-10 can each have up to 60 parameters (the maximum number allowable), while Tones 31-50 can have only 20.

Partly because of the general obfuscation of the synth's user interface and partly because it's difficult to know what some parameters represent without referring to other parameters which come before them, Tone editing can be *really* confusing. If you change the wrong parameter to the wrong value, which isn't too difficult to do when you're not too sure what you're doing in the first place, you can mess up the whole Tone, or perhaps end up with hung notes. If this happens, the silencing effect of selecting Function mode turns out to be a blessing.

The best way to keep track of what's what is to note down your parameter settings together with what function each parameter has. Unfortunately, Cheetah don't provide blank Patch and Tone charts in the manual for you to photocopy, nor do they provide charts giving the settings for the factory-programmed ROM and RAM Patches and Tones to help you find your way around them.

Basically, Tone editing allows you to specify a sequence of waveforms together with crossfade times (1-99 60ths of a second) between consecutive waveforms. Parameter zero lets you set an initial volume for the Tone, which is set as an attenuation or gain level. Parameters one and three are both reserved for future expansion, while parameter two allows you to set a parameter number to go to on note release. The trouble is that you don't know what it should be until you've programmed the rest of the Tone which comes before the release stage.

Parameter four lets you set the initial waveform. From here on, things start to get a bit more complicated. If you set parameter five to a value of zero, it assumes a Goto Next Waveform function, in which case the next two parameters let you specify respectively the next waveform and the crossfade time to it from the current waveform. If you set parameter five to a value of one, it assumes a Goto Parameter function and the next parameter lets you specify which parameter to go to. You'd normally use this to loop back to an earlier waveform, allowing the MS800 to cycle round a series of waveforms until the note is released.

A third option is to set parameter five to a value of two, in which case it assumes a volume change function and the next two parameters allow you to specify the volume step size (1-49 represent an attenuation, 50-99 represent a gain) and the duration of each step (1-99 60ths of a second); these two parameters allow you to create a wide variety of volume changes, from instantaneous to slow, smooth to coarse steps, and even to create clicking effects which can be used rhythmically. Obviously, the volume changes themselves can be used for rhythmic purposes.

If you set to parameter five to zero or two, parameter eight becomes the next point at which you select Goto Next Waveform, Goto Parameter or Volume Change; if you set it to one, parameter seven takes on that role. You carry on building up the Tone

in this way, leaving room to set four Note Release parameters, starting with the parameter number set in parameter two. To create a fade-out on release, these must be the three Volume Change parameters plus a final End Of Tone parameter (which must always be set to 99).

All in all, there's a lot of scope for creating interesting evolving and rhythmic timbral textures, but I'm not at all sure that many people are going to be prepared to put in the effort needed.

## VERDICT

THE MS800 IS not an instrument which is going to appeal to everyone, but in a way that's no bad thing. In fact, Cheetah are to be congratulated for going with something different – we need instrument manufacturers to go out on a limb more often. However, I wonder if their propensity for sacrificing front-panel accessibility in pursuit of a budget price tag, while at the same time trying to cram in as much programmability as possible hasn't got the better of them in this instance. To be fair to Cheetah, the MS800 has had a long gestation period (it was originally intended to be a digital counterpart to their MS6 analogue expander, before problems with the original designers saw it put on ice for a while) and so it can't be taken to reflect their current design thinking or the level of technology they're currently working with. In fact, it's unlikely that the company will produce an MS800 again, which could be a good thing or not, depending on your point of view.

So is the MS800 worth even a relatively modest £200? Personally I have to give it a qualified thumbs up; it only really makes the grade on the basis of its price and the fact that it's offering something different from the pack. As most people aren't going to be bothered with editing the MS800 at the Tone level, Cheetah would do well to make further banks of Patches and Tones available on disk as SysEx dumps. As (almost) always, you get what you pay for. What you could do is use the MS800 purely as a source of sounds for a sampler, and do all your filtering and so on within the sampler.

The MS800 doesn't have that super-clear, super-dynamic sound quality which is almost taken for granted on today's synths, though you could construe that as a strength rather than a weakness. In fact, a touch of digital grittiness suits the sort of sounds that it produces. I would say the MS800's sounds are best suited to ambient, industrial and techno applications, and are probably best used as an additional sound colouring rather than to carry the main body of the music. Don't expect too much from it, use it for its strengths and the MS800 could be a worthwhile addition to any setup. You certainly can't knock the price. . . ■

**Price** £199.99 including VAT.

**More from** Cheetah International Ltd, Cheetah House, Bedwas Business Park, Bedwas, Gwent NP1 8DU. Tel: (0222) 867777. Fax: (0222) 865575.

**“The result falls well short of the super-cleanliness we’ve come to expect from the average Japanese synth, but that’s not necessarily a bad thing.”**

# NEWS *of the* WORLD



***A leading light of  
Japanese pop music,  
Ryuichi Sakamoto is  
also a master of high  
technology, founder  
member of the seminal  
Yellow Magic Orchestra,  
and acolyte of the world's  
diverse musical cultures.  
Interview by Tim Goodyer.***



**JUST A WEEK BEFORE A LOW-KEY GIG IN** London's West End that will mark the release of his seventh solo album, Ryuichi Sakamoto grants a rare series of interviews to the UK press. The performance is to take place at an exclusive West End art gallery and involve Sakamoto's long-time friend and musical partner David Sylvian along with his wife, French singer Ingrid Chavez. The album, entitled *Heartbeat*, features both Sylvian and Chavez (on 'Tainai Kaiki II - Returning to the Womb' and 'Cloud #9') as part of a string of varied and prestigious musicians - Senegalese vocalist Youssou N'Dour, *avant-garde* jazz saxophonist John Lurie, American harmonica player Magic Dick, Dee Lite's Super DJ Dimitri and Jungle DJ Towa Towa to name a few. Similarly, it's style swings wildly between moody introspection, ethnic and dance music. Anyone familiar with Sakamoto's previous release, *Beauty*, will recognise the format.

The concert is short comprising just three pieces, two of which are performed by Sakamoto alone on a Yamaha MIDI Grand piano. The piano is linked via MIDI to a Korg T2 and Yamaha SY99. Additionally there is a DAT backing tape carrying parts of the music and vocal harmonies. The venue is badly suited to live music and the sound crew have problems with the balance and feedback during the sound check - to the concern of Sakamoto's press people. Their worries prove unfounded however, as the gallery fills to capacity and the additional bodies make it more workable. Better still, the music scores highly with the wide range of people in attendance - an indication of the largely unacknowledged popularity of the artist.

Ryuichi Sakamoto has a long and distinguished history in popular music of one kind or another. In '78 he founded the bizarre Yellow Magic Orchestra, in the '80s he worked extensively with David Sylvian's Japan, in '83 he composed music for and starred opposite David Bowie in Nagisa Oshima's film *Merry Christmas Mr Lawrence* and in '86 performed the same duties in Bernardo Bertolucci's *The Last Emperor*. More recently, he's been involved in Bertolucci's *The Sheltering Sky*, Pedro Almodovar's *High Heels*, Peter Kosminsky's *Wuthering Heights* and Kevin Godley's *One World One Voice* project. He has also just completed a tour of Japan and has composed a piece for the opening of the Barcelona Summer Olympics ('El Mediterranean'). And this is just a sample of his work. The Sakamoto I spoke with a week earlier is quietly-spoken yet responsive. In the interests of our conversation he works his passable English to the full to discuss his music, his philosophy and his equipment. Yet the conversation is cautious: at times I am uncertain of exactly how well he understands my questions; at others, he is uncertain how well I understand his answers.

Leaving aside the subtleties of music and culture, we begin by establishing Sakamoto's current equipment line-up. It transpires that he uses three racks which he takes almost everywhere with him. These contain the nucleus of the hardware. On top of these, he favours a Macintosh IIfx running Mark of the Unicorn and Opcode sequencing software in conjunction with Opcode's Studio 5 synchroniser/MIDI patchbay.

"I'm using Performer and also, sometimes, Vision",

he explains. "For hard-disk recording I'm using Studio Vision because Digital Performer isn't working so well yet. It's going to be better but it just came out - I've got the 1.01 version, so it's too young."

He's also using a Roland JD800, Korg T2 and Yamaha SY77 and SY99 - a nice selection of electronics, if you can afford it. But then, all the above keyboards come from Sakamoto's homeland, where they often become available before they reach Western shores. They're also free of the import taxes levelled on them by Western governments. It sounds like a cosy arrangement from here; Sakamoto, however, isn't so sure.

"I always find that engineers and musicians outside of Japan use the equipment more deeply", he observes. "They approach it on a deeper level. New equipment is always around in Japan - they can always get the new stuff first but they don't use it deeply. I don't know why but perhaps it's because the new equipment always keeps coming."

That Japan is one of the world's leading consumer societies isn't in doubt. There are even stories of Westerners living in Japan being able to furnish their homes from the mountains of Japanese cast offs. When you consider the role currently played by Japan in the development and production of hi-tech music equipment, however, it's disturbing to recognise how small is the contribution of their musicians to the world music market.

"That's true", Sakamoto concedes, "I never thought of it like that."

He pauses to consider the proposition. "OK", he says with a laugh, "equipment comes from Japan but music doesn't. They're not aware of that."

Another emerging development of the Japanese music scene is the attention being focussed on old analogue synths. MIDI retrofitted Prophet 5s and Minimoogs command a good price in the land of the rising yen.

"All those old synthesisers are coming back in Japan", Sakamoto confirms. "It's been happening over the last one year, two years or so. It started when we got bored of FM synthesisers. We got tired of FM sounds so we were looking for more natural sounds. Then PCM became popular but beyond that, we're still looking for more analogue sounds. There's a revival of old technology - the DX7 is almost an antique and it's kind of hip to use it."

Moving on to Sakamoto's working methods, his computer comes to the fore. For the *Wuthering Heights* score, the music was composed in Performer and then transferred to Coda's Finale scorewriter in order to be printed out for the orchestra to follow. For less formal projects, he concentrates on recording "sketches" in Performer.

"I often just sit at the keyboard and play but everything I play I save into Performer", he reveals. ➤

**"In Japan there's a revival of old technology - it started when we got bored of FM synthesisers - the DX7 is almost an antique and it's kind of hip to use it."**

➤ “Sometimes I just leave those sketches for a while and sometimes, after I’ve played something, I edit them and make them into a song. When I started writing *Heartbeat* it was all done with sketches of just two or four bars. Then I found new lines like a bass line or voice playing a counter melody - I sample my own voice. It’s a kind of spontaneous way of writing.

“Sometimes I play around with the sounds - when I was writing I was hearing, let’s say, a piano sound, then

seems that advancing technology has made it largely redundant.

“These days sampling machines have improved so much that I almost control all the instruments myself”, he says, “but there are still some instruments I can’t imitate completely. For example, I worked with a musician called Magic Dick, a harmonica player from the J Geils Band. I have got some good harmonica samples and the T2’s harmonica is pretty good, but his breathing and timing are still different from what I can do with technology.

“Obviously all the people I collaborate with have different musical backgrounds from mine and they all have what I call noises - sounds that are not notes. These are things like breath noise, a slide on a guitar or harmonica, even a chair noise is part of the ‘presence’ of a performer. I *could* do it with a sampler but it takes time. Timing is also an important thing, differences in timing are very personal.

“In my case I haven’t to study how to play each instrument. When I hear the way a particular instrument sounds I copy its playing. I can’t play guitars but I know what a guitar is, so when I hear a guitar sound I automatically play it like a guitar. It’s not only the physical conditions, it changes the way I phrase and my articulation. It changes me automatically. When I hear string sounds the phrases and articulation start working straight away.”

Sakamoto’s samplers are also applied to the modern vogue of sampling other artists’ work - ‘Rap the World’ features a sample of Hendrix’ ‘Third Stone From The Sun’ (which also provided the guitar riff for Cozy Powell’s ’70s hit ‘Dance With The Devil’) while ‘Tainai Kaiki II’ draws on ‘Mureau’ - the work of one of Sakamoto’s early influences: John Cage.

**IT WAS CAGE AND JAZZ** saxophonist John Coltrane who helped push Sakamoto’s early musical studies out of the mainstream. Having majored in music composition at Tokyo’s University of Art, he released his first solo long player, *Thousand Knives* in 1978 - the same year he formed the Yellow Magic Orchestra with Yukihiro Takahashi and Haruomi Hosono.

“We wanted to make music that was like Kraftwerk’s ‘iron’ beats. . .” responds Sakamoto when challenged to explain their manifesto. “Simply, we wanted to be a Japanese Kraftwerk. It was also kind of a black joke about the Japanese, so we were using the Western view of the ‘typical’ Japanese image. We wanted to laugh at both Westerners and the Japanese; both sides of the cliché. So we were using typical images: cameras, bowing, even switching name cards. We even wore Chinese suits in red - which don’t actually exist in China. Red is the colour of



***“I don’t want to see the world lose its treasures like traditional cultures - that’s part of the reason I’ve been using traditional musics in my own music.”***

afterwards I will play back with a drum sound. Sometimes I also play just with beats and different drumsets.”

What then of the Akai S1000 and Roland S770 samplers which grace Sakamoto’s racks of equipment? During the ’80s he was one of the fortunate few who were able to make use of the Fairlight CMI - now it



communism but they don't exist in China; the design was just the Chinese peoples' suit."

The music of the YMO was typified by their 1980 instrumental, 'Computer Game (Theme From Invaders)', a weirdly successful attempt to fuse noises of the then-popular Space Invaders arcade game with pop music which charted at No.17 in the UK. The other side of the YMO was the technology that made it all possible. One of the images they presented to their public was that of inscrutable Japanese working feverishly at the walls of machines that helped them make music.

"That was the time disco music was booming. Also, future music was around and Roland's MC8 - the first music computer - had come out and the three of us all liked Kraftwerk - actually, I started using the MC8 before YMO did, on my first solo album. The engineer and I found a way of using the metronome click in the music. Also there was the timing: the MC8 used 48 ticks for a quarter beat, so a triplet is 16 and eight ticks. But sometimes I divided an eighth note into 13 and 11 ticks so that it would give a timing swing."

But the pioneering technological outlook of the YMO wasn't without its drawbacks - a phenomenal amount of equipment was required to perform what, today, would be regarded as relatively simple tasks.

"The heaviness of the equipment was a problem", agrees Sakamoto. "We were always carrying a big Moog 'wall' - a System 3C. It has the flashing lights on the sequencer - we didn't use it as a sequencer, just for the lights. Also the sequencer didn't memorise the music when you powered down, so we were using two MC8s on stage - while we were using one, we had a programmer who was putting programs for the next song into the other."

The situation will be all too familiar to anyone who has experienced yesterday's synth systems. But the improvements in technology invite the question: could the YMO have anything more to say through it?

"The YMO lasted for four, five years but it could have lasted longer", Sakamoto says thoughtfully. "It's possible we might get back together even if it's only for a short time - for a festival, perhaps, or an album. A lot has changed: equipment, music, personalities. . ." Whatever the future holds, it's clear to me that it's not the first time he has considered the question.

The issue of personalities is one that also arises with the contributors to Sakamoto's solo albums. On one hand there's the "spiritual" approach adopted by Sylvian, at the other there's the radical attitude of the producer Bill Laswell.

"The people I work with are not just chosen for my musical development. For instance, Sylvian and I are like brothers. Even at a time when we don't communicate, I can still feel what he feels. In each case it's different. Bill Laswell inspires me because of his unique ideas and his relationship with all kinds of musicians, not his personality. In Sylvian's case, what he's searching for - his spiritual journey - is like mine."

A strange observation, given the Japanese

reputation for spiritual awareness and the contrasting British ignorance. It seems that the two nations' cultures have been juxtaposed through the two musicians.

"Musically that's true also", comments the Japanese, "because the band Japan was much more oriental than the YMO at the time.

"We don't have any real traditional Japanese influence in the country", he continues, "You can't hear any traditional Japanese music in Japan, you just hear Westernised Japanese pop or Eastern music. All the real traditions were destroyed more than a hundred years ago when the Americans opened the country to the rest of the world - the Americans didn't destroy them, the Japanese did. But the same thing is happening all over the world; Africa has such wonderful and different cultures but they're being destroyed - they're all listening to Michael Jackson. It's destroying their own culture.

"Obviously, I didn't know the old days myself; when I became conscious of myself I was already Americanised. I still don't have a real knowledge of Japan's traditional music. You said that I bring Japanese influences to Western music - I do and I don't. That's not real traditional Japanese music you hear. It's Okinawan music and it's different from traditional Japanese. Okinawa is a series of Japanese islands which have their own language, music and dance cultures. I have used Okinawan music but it's not really Japanese. I know that most Western people can't tell the difference so I knew they would misunderstand - and that's OK. We cannot tell the difference between the music from Bali and the music from Chad but they have their own cultural histories. Similarly, the older generation of Japanese people probably can't tell the difference between English and French. It's like that."

Given Sakamoto's use of ethnic music from around the world, it seems peculiar that he should have neglected the music of his home.

I'm interested in Japanese traditional music and it's something I am interested in learning about in the future", he explains. "But it's part of my interest in world ethnic music. In general I want to keep away from having a nationality. I've been trying - it's an old expression but I'd rather be a citizen of the world. Obviously the world is becoming smaller and we can share all the different cultures. Certainly we use the same systems of computers so we kind of use the same language. I think it's silly if I push my own nationality too much and I think that, in the future, it will be silly for any of us to have a nationality.

"But on the other hand, I don't want to see the world lose its treasures like traditional cultures - that's part of the reason I've been using traditional musics in my own music.

"It's also because I like all different styles of music. I listen to something by Wagner, then something by Soul II Soul, then David Byrne. In the pop area I can't use all my musical skills. On the other hand, pop music has been kind of expanded, it's become musically wider, but it's still limited and that's why I use a wider musical vocabulary. I'm trying to help expand pop music." ■

## EQUIPMENT LIST

Akai S1000 Sampler  
Apple Macintosh IIx Computer  
Korg M1R Synthesiser Module  
Korg T2 Synthesiser  
MOTU Performer Sequencing Software  
Opcode Studio Vision Sequencing/  
Hard Disk Recording System  
Opcode Studio 5 Synchroniser/MIDI  
Patchbay  
Opcode Vision Sequencing Software  
Roland JD800 Synthesiser  
Roland S770 Sampler  
Syquest 44Mb Removable Hard Drive  
Yamaha DMP11 Mixer (x2)  
Yamaha SY77 Synthesiser  
Yamaha SY99 Synthesiser

# Come In, No 7

**ROLAND'S OLD SH101  
MONOSYNTH IS STILL A POPULAR  
SYNTH SOME TEN YEARS AFTER  
ITS LAUNCH, BUT THERE WERE  
OTHER SH SYNTHS BEFORE IT -  
LIKE THE SH7. TEXT BY  
PETER FORREST.**

BACK IN THE days when polyphony meant Hammonds, Clavinets and Solina String Ensembles, a new Japanese company called Roland started making a range of self-contained monosynths with the prefix SH. First came the SH5 and SH3A, and two preset monophonics, the SH2000 and SH1000. You can tell these four apart from later SH models by the oval-headed slider buttons similar to those on Roland's System 100 modular system (not to be confused with the slightly later and much dinkier 100M).

Then came a small brother and big sister (with slightly more up-to-date slider tops) in the shape of the SH1 and SH7, and these were followed by the SH2, the SH09, and finally, as a last fling, the SH101, which brings us up into almost living memory. (There are rumours of an SH10 somewhere, but I've never seen any evidence.) Some of the numbering makes sense - the SH2, for instance, is a two-oscillator offshoot from the SH1; and there's a definite increase in complexity, facilities and price from 3A to 5 to 7. But some doesn't follow that sort of logic at all - the SH09 is a cross between the SH1 and SH2, and the SH101, resplendent in its choice of colours and sling-on-ability, had nothing at all to do with the modular 101 keyboard.

The SH7 was definitely designed to be the flagship of the range. Not only did it have a duophonic capability, it also had no less than 40 sliders, 14 rotary knobs, and 22 switches. And it has a place in my heart as the first synthesiser I ever owned.



The duophony wasn't exactly original, as ARP had introduced it with the Odyssey, and the Octave Electronics Cat was around at the time with the same function. But it was useful, in the days when the only way to go for any genuine synthesiser polyphony was by splashing out well over £3500 (equivalent today to around £11,000) on an Oberheim 4-Voice. The trouble was that the keyboard contacts weren't particularly reliable. Roland always seemed so good at producing solid, well-made instruments, even in those early days, that I suspect the need for a slightly

more complicated switching system may well have caused the problems. When it was on form, though, it was a pleasure to be able to play non-consecutive thirds, fourths and fifths without needing two keyboards to do it.

You could, of course, switch to monophonic playing, in which case one key triggered both oscillators - and when you used the Sample and Hold facility or another synth or sequencer to trigger the notes, you had no choice in the matter - one (two VCO) note or nothing. Each oscillator could be switched independently >



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> to triangle, sawtooth, or square wave, and to 2', 4', 8', 16' or 32'. The pulse width on the square wave could be altered on either or both VCOs by a slider, or by modulation from the LFO or Envelope 1. That wasn't quite the end of it, either. Oscillator 1 had a second section of five square waves from 2' to 32', which you could bring in on sliders, giving a little bit of the feel of drawbar manipulation to organ-type sounds.

Each oscillator's pitch could then be modulated by LFO, sample and hold, or Autobend. Every good synth has at least one thing that sets it apart from the competition, and with the SH7, Autobend was one of those things. All it meant was that you could program in a little pitch

oscillators so tightly together that not half as much happens as, for instance, on a Moog or a Prophet. Whatever the technical reasons, it just doesn't sing like an American synth - or, by all accounts, like Roland's own SH5.

The two independent oscillators, though, did provide another of the SH7's unique selling points. Using them independently, you could do amazing things with the built-in ring modulator. Because it produces new frequencies, this rarely harmonises with conventional melodies or chord sequences, but it's great for adding colour and effects. You can also combine one of the VCOs in the ring mod with whatever's plugged into the external input - to usually disastrous but occasionally brilliant effect.

Along with the two VCOs come two full ADSR envelope generators - a cut above all its rivals like the Odyssey and Cat, which have one ADSR but one AR envelope. When I bought the machine, I felt absolutely sure that you'd

be able to set one ADSR to control one of the oscillator outputs, and one to control the other, so that you could (in monophonic mode) have a second sound coming in over the top of the first. It's not so and it's a big disappointment. (I had to wait another six years for a Poly 800 to get what I wanted.) There was a way round it, using the CV and gate out sockets on the SH7 to control another synth; but in those days even tiny monophonics cost several hundred pounds.

Other sound-making facilities onboard the SH7 include pink and white noise, and the ability to put the VCF into self-oscillation for a pure sine-wave. There's also the external audio input, for mucking about with electric guitars, Wurlitzers, string machines and the like.

But right now, filters. The SH7 was reasonably well-endowed in this department, with a high-pass filter as well as low-pass. The filters don't sound anywhere near as powerful as Moog filters - or Oberheim or Prophet, or Roland's own SH5, come to that - and the suspicion is that they are two-pole 12dB/octave rather than meatier four-pole 24dB/octave jobs. But they do a reasonable job, and the low-pass filter comes with a magnificent assortment of modulation possibilities. Here we go: you can modulate the filter with: envelope 1, positive or inverted; the LFO or S/H; the keyboard voltage or a pedal; VCO2 or noise; and an envelope

follower positive or inverted. This envelope follower takes the sound coming into the external signal input, and sends a proportional voltage to the filter. Good for auto-wah, and also some other interesting effects using speech.

Back to the filter: you couldn't sensibly ask for a more comprehensive set of modulation possibilities. What Roland did was provide practically all the useful routings from a modular synth in a simple and reliable form - the amount of each of these modulations can be set by just five sliders. It's just a shame the filter wasn't powerful enough to take full advantage of 'em.

Tucked in the corner next to the VCF section come the VCA controls: a couple of sliders to control how much the LFO modulates the VCA for tremolo effects, and how much of a constant level there is on the VCA (as on the ARP Odyssey and System 100M). This is useful not just for drones and when you're processing an external sound source, but also to boost general level if you've got the low-pass filter way down. There's also a switch for selecting which of the envelope controls works the VCA. With Env 1 selected, the same envelope controls the VCA and VCF, while with Env 2, the VCF is still controlled by Env 1, but the VCA is controlled by Env 2 - useful, for example, for trumpet-like sounds, where the filter envelope voltages should be different from the amplifier envelope voltages.

Moving from the bottom right-hand corner of the panel to the top left, the sample-and-hold section can sample voltages from a sawtooth, triangle or random source (the noise generator, in fact), and you can smooth off the voltage changes with an output lag slider. Next to this you can set the LFO to sawtooth, square, or sine-wave, and the sine-wave has a dedicated slider for controlling delay. This is basically for delayed vibrato, which at the time was a pretty good thing to have. Thinking about it, there are a lot of otherwise good synths that came along in the 15 years following the release of the SH7 which either didn't have the facility for delayed vibrato at all, or are a bit of a pain to set up for it.

What else does the SH7 have to justify its original list price of around £1170 (present-day equivalent over £4000)? Not much, really. A decent array of input/output sockets; a somewhat subdued colour scheme involving grey and a sort of tasteful khaki (if such a thing is possible); a transposition switch - one octave up or down from normal; a total volume control sensibly placed for routine

## **"WHAT GIVES ANALOGUE SYNTHS THEIR PLACE IN TODAY'S WORLD IS THE FACT THAT EVERY CONTROL IS CONTINUOUSLY VARIABLE IN REAL TIME."**

variation at the beginning of each note - either a swoop up, or an overshoot before settling down to the correct pitch. A global control knob affected the autobend time, and you could switch between swoop or overshoot. The amount by which each oscillator was affected by this was set by two sliders, and you were away, with some good human voice and whistling effects, but also with some other useful sounds - these were admittedly the days when any lifelike imitation of real instruments was out of the question, but you could still get some flute, trumpet and fretless bass-like sounds more easily with autobend than by manipulation of the mod wheel. One of the few useful modulation features that Roland chose not to implement on the SH7 was envelope control of pitch, but the autobend feature goes a long way to making up for that.

You can also alter the pitch of VCO 2 relative to VCO 1, for ready-made musical intervals, or to thicken the sound. Plus there's a sync switch, which I must admit on my SH7 is a bit of a disappointment. I love classic sync sounds, where (in a typical case) one VCO is set an octave higher than the other, and then sync'd to it. The result should, with some strategic knob-twiddling, be that amazing sweeping phasey sound with different harmonics being picked out in turn. On my SH7, the damn switch seems to take its sync job too seriously, and ends up pulling the





and/or emergency use; and just two other unique selling points.

First, a portamento control that works on either upward or downward intervals, as well as on both - very impressive at the time. And second, a well-specified "bender" section. Bender is one of those unfortunate terms which Roland have persevered with over the years; what it meant in 1977 was "all-purpose modulation control". The way this is achieved is a model of brilliant design - one modulation lever, click-stopped in the middle and spring-loaded, along with three rotary controls for the amount of the modulation effect on the VCO, VCF, and VCA, and three-way switches for each of these, to affect either CV or LFO, or neither. This means that one lever has a lot of possible uses - or, as the excellent manual puts it, "Bender effects on the VCO, VCF and VCA may be used completely independent of each other, or simultaneously in any combination". As with filter modulation, Roland spared no expense to produce an easily-worked version of modular synth capabilities. (It's a great shame that the SH2000's touch-sensitivity didn't have the same sort of flexibility of control.)

Talking of the manual reminds me to say thanks to Roland UK. Nine years ago, my manual lost itself in the deepest recesses of Exeter University. Frantic calls

to Roland UK at the time met with no response. When I came to write this article, I thought I'd give them another ring, just in case. I don't know if the air down in Wales is more invigorating than Brentford exhaust fumes, but I ended up with a pristine copy of the owner's manual of this rare old synth by first class post. To be truthful, there isn't a great deal that anyone who was brought up on subtractive

**"THE SH7 WAS THE FLAGSHIP OF THE RANGE - NOT ONLY DID IT HAVE A DUOPHONIC CAPABILITY, IT ALSO HAD 40 SLIDERS, 14 ROTARY KNOBS AND 22 SWITCHES."**

analogue synthesis would need the manual to explain, because the SH7 is logically laid out. But as an introduction to all that old-fashioned stuff, it is exemplary.

The synth itself is really recommendable as a learning tool as well. It has practically all the modulation possibilities it's worth experimenting with, in an easy-to-use form; it's extremely solidly made, with components of high quality. And if the keyboard itself is a bit suspect, you can always run it with a MIDI/CV box, like the Roland MPU101. I'm sure Kenton Electronics could fit up an internal MIDI

interface if you require - they have certainly retrofitted the SH5.

The SH7 is also a good buy as a source of interesting and usable sounds, and if you want polyphony it's easy to set up a good sound on the SH7 and then sample it. Things it does well are bright modulations (as on the Korg MS20 but with subtle variations much more easily achievable); elaborate sample-and-hold doodles; classic early '70s sequencer sounds (more mid-range than chunky bass, but usable nevertheless); and reasonable brass sounds which get more than reasonable and positively good when you get to the French horn and tuba end of the spectrum. All the wind sounds are usable, especially when doubled with an FM, LA, sampled or AWM sound - maybe just taking one line of a chordal

brass pad, or doubling a trumpet part.

Like all early synths, the lack of memories is both a pain and a blessing. You have to fiddle for a long time with analogue sliders to duplicate the precise mix of control voltages that produced last week's killer sound but you're a lot more likely to go for the exact sound you want for a particular piece of music, instead of going through presets or memories and sticking with the one which does a decent job - even if you've used that sound any number of times before. What gives non-memory-equipped analogue synths their special place in today's world is the fact that every control is continuously variable, that it's intuitively easy to vary them, and that you can do it in real time while the sound is actually coming out of the speakers.

It's hard to place the SH7 in a league table of monophonic synths. It's a long way from being the most characterful or smooth-sounding instrument ever, but it is solidly made, intelligently designed, and presents an Aladdin's cave of analogue possibilities. All I can do is make a comparison with cars from an earlier era. If the Minimoog was like an XK Jag, and the ARP Odyssey like a '60s Porsche, then the SH7 was like a two-tone Ford Zodiac with radio, sunroof and every other conceivable extra thrown in as well. ■

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# MULTIVERB LTX



Whether you're looking to bring signal processing to your music on a budget or looking to supplement your main processor with a second unit, the ART LTX has a lot going for it. Review by Nicholas Rowland.

**D**EMARCATION IS ONE concept which the musical march of progress has long consigned to the waste bin. Take effects units for example. Not too long ago, if you wanted to simultaneously add chorus, reverb and echo to your Minimoog, you'd have needed a battery of individual sound processors – and a correspondingly large wallet.

These days, your workstation (which in itself combines a sequencer, sampler and synth) probably has all the above effects onboard. And to deal with anything else, you need look no further than the burgeoning range of multi-effects processors which are currently flowing onto the market.

For a processor to cover every conceivable angle, though, you'll still need a well-filled wallet. All-singing, all-dancing effects units are affordable, but only relatively so.

Which brings us to ART's latest contender for the budget effects crown, the 16-bit Multiverb LTX. Weighing in at just over £200 (including VAT), this 1U-high rack unit packs in 250 reverbs, choruses, flanges and delays along with the facility to use up to three of these simultaneously – the catch being that both single and multiple effects are all preset. The brochure tells us that it means there's "No programming necessary". Read "none possible" and look at it as a kind of Matrix 1000 of the effects world.

Launched at this year's NAMM show, the LTX is essentially a bigger and better version of ART's LT – which had "only" 192 presets. The LTX has gained not only from more effects combinations but also a rejigging of many of the algorithms to give what ART describe as some of the "lushiest" and "densest" effects around. We shall see.

ART were one of the first companies to introduce an affordable multi-effects processor and have

continued to be in the forefront of this particular branch of technology – although they've never enjoyed the profile of their nearest competitors, Alesis. The LTX represents the bottom end of ART's comprehensive if confusing range of effects gizmos. Higher up the range, programmability and flexibility quotients become higher, but the LTX is intended to get you on the map with a good selection of usable treatments and the minimum of fuss. And certainly the surf junkie looks of the unit could launch a thousand reviews – not this one though. Instead, let's concentrate on the (16) bits that matter.

## INS & OUTS

FIRST, THE CUSTOMARY travelogue of sockets, switches and functions. The power supply is internal and there's no on/off switch, so it's plug in and away. All audio connections are made via the rear panel on quarter-inch jack, and the LTX accepts a stereo input as well as delivering a stereo output. It comes set up for line-level inputs – but can be set to Instrument for Dling a guitar. This involves opening the unit and moving four jumpers, so it's not something you want to do mid-gig. Other connections include MIDI In and a footswitch jack.

Although certain of the presets (such as Ping Pong) are optimised for stereo output, a stereo input isn't essential as everything comes out stereo imaged. In fact, there are a number of "image programs" in the LTX' vocabulary. These are extremely effective – a wider stereo image, for example, greatly enhances a mono acoustic piano.

Alternatively, using one output gives you a summed signal from both channels.

Input and output level setting must be achieved by manipulation of the gear surrounding the LTX since the unit has no level controls of its own. The only ➤

control available is a slider to balance the dry and effected content of the output signal – an essential inclusion.

The Bypass button on the front panel serves to defeat any active effect. Otherwise, front panel control extends to just three further buttons: two up/down incremental buttons for stepping through the presets, and one to program MIDI functions.

## PRESETS

THE LTX OFFERS 250 presets based around four basic effect types – reverb, chorus, flanging and delay. While some presets give you variations on these themes, others combine up to three of them.

The first 30 presets open the door to the world of multiple effects with what the manual calls “The top 30 sounds”. I suspect that, since they’re the first 30 a prospective purchaser is likely to hear, they’ve been selected partly to show off the potential of the LTX – which they do admirably.

The mixed ‘n’ matched introductory assortment of effects includes such programs as ‘Fast Ping Pong Delay’, ‘Well-rugged Walls’, ‘Thick Slow Chorus’, ‘Inverted Flanger with Regeneration’ and so on. Some

of the programs are pretty impressive, even dramatic. How usable some of the more extreme effects are is personal.

Further groups of programs are divided rather more logically. The largest single group is of 50 “natural” reverbs, each offering different combinations of decay, damping and predelay times. Decay times range from 0.2s to 23s – the latter ideally suited to Gregorian chants.

The next 75 programs combine various depths and speeds of chorus or flanging with reverb. Here I felt the LTX really began to show its mettle with effects which worked wonderfully with lead and backing vocals.

A further 24 chorus and flange programs come without reverb. Amongst these you’ll find the most amazing Arpeggiated Flanging presets. These make individual notes sound as if they’re walking up and down the scale and incorporate wide stereo imaging and dramatic panning. Great for those soon-to-be-stereo TV commercials.

Next up are 35 gated reverbs offering sloped, flat and reverse decays – clearly devised with the rhythm section in mind.

Other groups include ten slapback echoes, nine tapped delays (each with either two or three taps and various delay times from 80ms to 300ms), eight of the stereo imaging programs mentioned earlier, four reverbs with long predelays, 19 echoes (12 stereo, seven mono) and a couple of choruses – one entitled ‘Thick’, the other ‘Thickerer’ (yes, really).

It’s on these types of effect – choruses and doublers – that the LTX really scores. While it delivers

an excellent performance in virtually all areas, it’s here that it comes closest to ART’s hyperbole of “larger than life”, “million dollar” sounds.

Within most of the LTX’ program groups, there are enough variations on a theme to meet most situations. Surprisingly perhaps, the echo programs are the exception. It’s nothing to do with sound quality, reliability or even the standard of programming – but because using delays often involves fine tuning delay times and repeat numbers to the specific requirements of a track.

## MIDI

THE LTX WILL happily receive on all or any of MIDI’s 16 channels. Presets are then accessed via MIDI program changes – only there’s a slight problem. While MIDI gives you 128 program numbers to play with, the LTX has 250 presets. The errant 122 have to be accessed manually.

Don’t blame the piano player, blame the people who devised the MIDI spec. But all is not lost.

As it comes out of the box, the LTX is set up so that the first 128 programs correspond to the 128 program numbers. In order to grant accessed to any of the other via MIDI, the assignment must be changed – a job which can be done either from the front panel; buttons or with the aid of a MIDI controller. Either way, the process is fairly straightforward; the only problem stems from the fact that the unit’s display only shows two digits at a time. Like the presets themselves, numbers over 99 are identified with letter/number combinations which necessitate frequent reference to the manual.

Better news, though, is that whatever assignment changes you make are retained by the LTX’ internal battery during power down.

Presets can also be organised into a sequence which you can step through using a footswitch – a particularly useful facility for live work. Presets can be arranged in any order and you can include the same preset more than once into a sequence – up to a total number of 128 steps. You can put the unit into Bypass mode during a sequence by entering preset Y9, which is effectively blank.

The footswitch can be programmed to perform another function: that of toggling between any chosen preset and Bypass mode.

## VERDICT

IN TERMS OF its sound and the range and combination of its effects, the LTX put in an excellent performance. If money’s tight and you need an easy-to-use unit capable of performing a variety of processing tasks, it has to be considered. It’s worth mentioning that the LTX’ present asking price of £219 is due to rise imminently. You have been warned.

I would, however, criticise the LTX’ user interface – which is a long-winded way of saying that a two-character display is not a comprehensive way of relaying information. A three-digit display would have made a lot more sense and one capable of displaying a name and any program details (as appears on

**“The brochure tells us that it means there’s ‘No programming necessary’ - read ‘none possible’ and look at the LTX as the Matrix 1000 of the effects world.”**



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➤ ART's more upmarket processors) would have been almost ideal.

At this level, a lot of compromises have to be made. The most obvious of these is the LTX' lack of programmability but there are other casualties - performance MIDI, for example. Your mission, should you decide to accept it, is to weigh up these shortcomings against the unit's plethora of presets and relative ease of use. The equation should be a pretty simple one to balance.

Compromises aside, if you're looking for a high-

quality, good-sounding effects unit capable of handling multiple effects, the LTX fits the bill admirably. And if it's simply a question of quality and sheer number of presets against extra knobs and switches, I know which way I'd vote. ■

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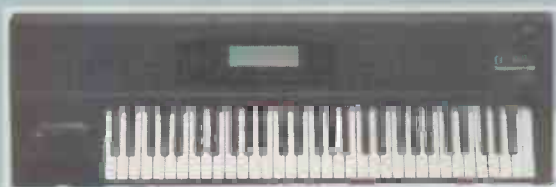
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# demo takes

LAUGHED UNTIL THE music started, I did - as the leader tape passed the replay head I was reading the part of Brian Eyles' account of how three members of his band had left "to form a goth band", and then. . . Well, then 'Emotional Vampires' erupted from the speakers and I was stopped mid guffaw. So to speak.

Since the departure of the goths, keyboardman/vocalist Eyles has continued with his guitarist partner Paul Adkins as **Split the Difference**. Their nine-track (!) tape has its origins as far back as 1987, even though circumstances have conspired to keep it away from the public until now. (Don't you believe in fate, guys?) The opening track passed without making any lasting musical impression as I was still coming to terms with the lacklustre recording and lackadaisical vocal. The second, 'The Ultimate Game', however, soon set the sadly sub-Gary Numan scene. And from there it submerged further, coming to rest on the bottom with 'Girl of Your Dreams'. Even making allowances for it having left the starting line in 1987, someone should have pulled this from the race. Quite why it was permitted to limp around the course until now, I dread to think.

According to the notes, *The Greatest Near Mix*, for that is the name Eyles and Adkins have bestowed on this crime, was recorded onto a Fostex A8 eight-track and then mastered to a Teac A108 cassette. Which goes precisely nowhere in explaining why it sounds as if it was recorded in SARM West while the band were playing the Budokan. The instrumentation includes a Korg Mono/Poly, Korg MS10 and EDP Wasp synths, Yamaha RX11, Soundmaster ST305 and Korg

KR55 rhythm units, Yamaha CX5 computer and a couple of guitars. As all of this gear is capable of producing bright and lively sounds, I have to conclude that it's Split the Difference who ain't.

I'm not trying to suggest that the gear list here reads like the shopping list from the new Air Studios refurbishment, but I've heard far better recording come out of a lot less. Someone desperately needs to check on the condition of the two recorders or book themselves on a course in basic audio engineering.

Moving over to the music, it's equally puzzling to consider that although there's a computer in the gear list, all the sequenced work sounds as if it's played by hand - badly. Instead of doing what computers do well - helping to rob music of its humanity - the CX5 has been used to produce proto-FM piano and vibes sounds. We all know that the CX5 was one of Yamaha's mistakes, but did Eyles and Adkins have to make it one of theirs too? I think not.

Advice to the misguided duo must follow the lines of using their curious old Wasp synth, Korg drum machine and MSX computer to start that old synth museum we'd all like to visit one day. How about it?

This tape from **Oliver Freke** has been rolling around in the back of my Porsche with a couple of pounds of Semtex and a few boxes of .768mm armour-piercing shells for months and months now because... Well, because it seemed impossible to think it would be anything but utter crap. So I was wrong - it's not the first time, it's just that I rarely admit to it.

Anyway, Oliver is 16 and had only just taken delivery of C-Lab's

Notator to accompany his Yamaha B200 synth when he ran these five tracks off onto his hi-fi cassette deck. The tape's a mess, the recording's accompanied by mains hum, one of the pieces is unfinished and I like it. It defies musical description somewhat - there are some fast 'n' furious atonal bits that could be related to acid house or rave but almost certainly aren't. There are slow string-based pieces that could be related to Rain Tree Crow but almost certainly aren't. There are some ungainly melodies which could have been inspired by Vangelis but almost certainly aren't.

Instead, I suspect I've been listening to the output of a mind largely uninfluenced by personal heroes or genres of music. I think young Oliver's simply been enjoying himself as he's experimented with the language of music and the possibilities offered by technology - why else would anybody shell out for Notator when they've only got one synth (a Yamaha B200 at that) to use with it?

Realistically, there's nothing here that could be presented to an A&R man, publisher or pub landlord (to secure a gig, not a pint) with much hope of success. But there's every indication that Ollie will have something interesting to offer in the future. Even his song titles are intriguing - 'Envocal', 'Devolution', 'Melancholia'. If I have to pretend to take another track called something like 'A Face in the Crowd' or 'Hildegard's Song' seriously again, there will be bloodshed. You'll hear nothing but encouragement from me, Oliver. I just wish I could work out the significance of this demo having been recorded over *Tubular Bells*.

The opening track on **Unit 731's** dancefloor-targeted *Limited Edition* tape sounds rather like Paul Hardcastle and The Prodigy after being trapped in an elevator together. A furious, up-tempo backing blessed with some of the tightest bass sounds and breathy sequences a Roland W30 has to offer play a supporting role to sampled vocals describing scenes from an air raid. Fortunately, the music in no way resembles being caught in the real thing - perhaps a better line in samples could have been gleaned from police radio communications during a rave drugs bust. Just an idea.

The same musical format forms the basis of much of the remainder of the demo which certainly shouldn't disappoint if it were delivered through a serious PA system in the early hours of the morning to a suitably receptive crowd. There's even an acceptable cover of Kraftwerk's 'The Model' tucked away here. It's a nice touch but it says more about the quality of the song than the end to which it's been put. And wouldn't it have been better to leave the original title - or are you just trying to find out if I know my music?

The real trick the Unit need to master is having the energy and enthusiasm to take their music to the people - but I would expect them to know that already. They hail from "London and Brighton", so they should be well placed to break into the underground dance scene. The gear lineup is straightforward enough to make gigging viable - W30, Yamaha R100 reverb and Vestafire multitrack. Can't really see why you shouldn't be doing it already. What's that? Three members have just left to form a goth band. . . **Skum**



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# patchwork

## DESIGN LABORATORIES

### 256-R RAM Card

Ask Roland UK for which deleted product most often gets asked and for you'll learn that it's not the TR808 or 909, or even the Jupiter 8. It's actually the M-64C cartridge. It's years since Roland gear made use of the M-64C, but there are so many revered synths and rhythm units with early or incomplete MIDI Dump specifications that use them, that the demand for these RAM cartridges has never abated. And the last of the M-64Cs disappeared from Roland's shelves over three years ago.

Until now, owners of JX10s (whose synths are unable to bulk dump from internal memory) of MKS20s and MKS80s (who are hardly spoilt for choice of editors or librarians) of TR707s and TR727s, and many other items bearing the Roland logo, have had to learn to do without.

The Design Laboratories are a spin-off from The Synthesiser Service Centre, whose address and staff they share. Having a little time on their hands between Prophet 5 and PPG repairs, they decided to produce a range of small items which make life that little bit more pleasant. This range now includes RAMs for Yamaha and Roland gear, MIDI retrofits, and CV/Gates.

The RAM cartridges are clearly hand assembled, and the cases are made from the stuff used for printed circuit boards, so they lack the gloss of a large manufacturer. But what you lose in chic you gain in spec. Where the M64-C offered a single bank of memory suitable for, say, one JX10 or two Super Jupiter patch/voice dumps, the 256-R carries four times that amount of storage (hence the name) arranged as four M-64C cartridges in a single case. Selecting between memory banks is simple—two DIL switches offer four possible bank settings. A further DIL acts as a write/protect switch.

I tested the 256-R in a Super JX10 and, following formatting (which must be requested three times), it worked without error. Having formatted the first two banks for the JX, I tried the cartridge in an MKS80 Super Jupiter module. Formatting the third bank on the MKS enabled me to save two standard memory dumps per

RAM bank. Removing the cartridge from the Jupiter and returning it to the JX, I tried to load banks 1 and 2. No problem whatsoever.

Each memory bank is entirely independent of the other three, so the real value of the cartridge becomes clear—not only can you save four banks of one synth's sounds on a single cartridge, but one cartridge will enable you to back-up four different Roland synths' internal memories on a device not much bigger than a custard cream. Useful or what?

The Roland M-64C typically sold for around £70, and now change hands for about £25-£30. The 256-R retails for £79.95—it's not only cheaper than four secondhand Roland RAMs, but a good deal more convenient as well. And, since the battery life of the originals is limited (the battery can be replaced, but at the cost of losing your patches) a newer cartridge is a good idea. So there you have it: it's jerry-built, but with a great specification and at a bargain price. Only time will tell if a 256-R is going to be reliable, but let's face it, there isn't much to go wrong.

Gordon Reid

## DANGEROUS CD COMPANY

### Danger 1 Sampling CD

Unlike most bandwagon jumping, the boom in sample CDs has brought some of the best—instead of just second best—material into the open. Ed Stratton's Datafile series actually got the ball rolling—Stratton being the brains behind Jack 'n' Chill and Man Machine. Pascal Gabriel soon followed up with his selection of dance samples fresh from his production work with S'Express and Bomb the Bass. Soon to come are sample discs from the likes of Beats International's Norman Cook and the Art of Noise's JJ Jeczalik. It's hardly the usual pattern of bandwagon jumping. And the Dangerous CD Company's Danger 1 is a further case in point: it's certainly not the first on the starting blocks but certainly not one of the also rans.

Danger 1, then, is a sample CD in the tradition of the Datafile series containing 70 tracks of

drum and percussion loops and fills. And as each track contains five loops, that's some 280 breaks' worth of samples. On top of these are tracks dedicated to the drum sounds of the TR808, TR909, Alesis HR16 and Korg M1. Then there are those featuring more eclectic selections of bass drums, snares, hi-hats, percussion, fx and stabs. On top of these are two tracks of dance kits, bass tones, and strings. Be in no doubt, Danger 1 is another contender for the cash and sample memory of the dance music fraternity.

So, what do we get? Well, we got some old favourites like 'Funky Drummer' as well as some good stuff that's fresh to these ears. If you've got other sample CDs, you're likely to recognise some of this. But certainly not all. The standard of recording is variable—some of this is due to the quality of the source material but I suspect some of it has been accrued during the compilation of Danger 1. Let's just say that if you're in the market for a good crunchy loop, Danger 1 will oblige.

One area that marks Danger 1 out as a serious piece of work is the inclusion of datastreams allowing you to transfer complete sets of samples into an S1000 (and its direct relatives) as digital data. It's not the first time that this facility has appeared on a sample CD, but I believe it's the first time it's actually worked. And it certainly makes light of the worst aspects of using sampling CDs.

In the beginning it was easy—samplists everywhere were eager to bag the sorts of sample which were filling dancefloors and making dollars; sample sources were a closely-guarded resource. What could have been more popular than a CD full of these one-shot gems? But as the selection has grown, it's become harder to make a judgement on which discs are *the* discs. Danger 1 wouldn't be the single sample CD I'd take onto a desert island, but then I suspect a good few samplists would—partly because of the loops and partly because it gives you full access to the most important beatboxes in dance music. Then there are those datastreams...Tg

Price £49.95

More from *The Dangerous CD Company*, P.O. Box 2545, London, N11 1TS. Tel: 081-368 8271 or 081-361 6089.



# TDM RAVE

YOU CAN'T KEEP a good sequencer down – or so it seems. While neither Virtuoso nor Prodigy have become the high-profile sequencer The Digital Muse would have liked (largely a result of “too late” with a dash of “too little”), they are, nevertheless very capable programs with a lot of satisfied users. Prodigy in particular is amazingly powerful for the price.

Just as Virtuoso begat Prodigy, so Prodigy begat Rave. The new sequencer is aimed at the first-time buyer on a budget, and although the review version was for the ST, I'm informed an Amiga version is also available.

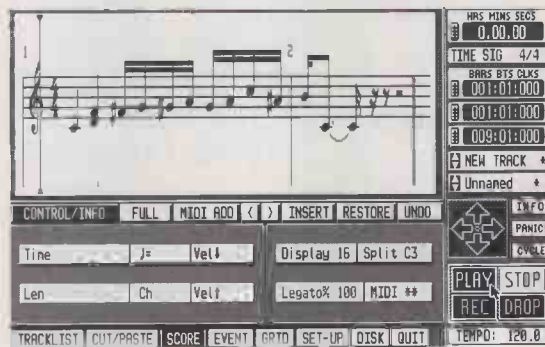
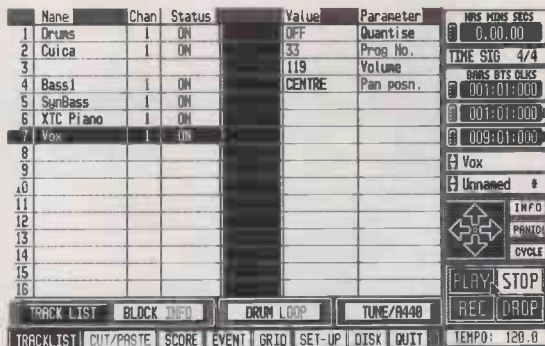
The program disk is heavily copy-protected. You can copy it but the original acts as a key disk and makes a horrendous gurdging noise as the program checks it out. Rave will run on any ST and is available for mono and colour systems.

Layout and operation are similar to Prodigy with menu options along the bottom of the screen and the transport controls, and track markers down the right-hand side of the screen. You can cycle between the markers, drop in between them and use them to isolate sections of the music for editing. Diamond scroll arrows are used to scroll through anything which needs scrolling through – such as the track list, the grid editor, the music and so on.

One of Rave's major features is that, like its forefathers, it's written in machine code. Screen updates are nigh on instantaneous and all operations are amazingly fast. When you go back to GEM everything seems to run at half speed. The payoff is that, although Rave is mouse-driven, having its own operating system means that it doesn't support ST desk accessories.

Rave has 32 tracks which can be named (12 characters) and a collection of 32 tracks forms a Block or song. Blocks, however, are a left-over from the other programs (there, perhaps, for upgrade compatibility – coming up) and are redundant in Rave as it only supports one Block at a time. Recording and playback is pretty straightforward. Each track has its own MIDI Channel, Quantise, Program Change, Volume and Pan parameters which are easily altered. You can edit the notes in a piano roll Grid Editor and change the on and off (esoteric for a beginner's program?) velocities.

There's little editing available in the Score Edit page, which really only displays the score in notation form a track at a time (although you can change the key signature). It retains the edit boxes and symbols, notes, and



dynamics menus although they have no effect. The Event Editor, however, lets you get down to serious editing. It contains a visual filter so you can concentrate on one type of event at a time. There's a useful Chord mode which shows which notes occur at the same time.

The Disk page lets you save a Song (a Block) or Tracks – useful – but the program doesn't support MIDI files. These are sure to be missed, especially by beginners on the move upmarket. The whole world and his missus seem to be producing MIDI files and they are useful for transferring data between other programs.

Rave's manual is a dinky 50-page 5" x 5.5" affair which manages to integrate a basic “my first sequencer” approach with a description of Rave's major functions. However, there are many topics not at all adequately covered, especially for the raw beginner which both program and manual seem aimed squarely at.

What is the Gate box, for example (OK, you may know, but would a beginner?), and how do you get the Score editor window back to a half display after setting it to full? I still don't know. And where is the Super Mouse in the Setup page referred to in the manual? Removed, that's where.

There's no index although it could be argued that the manual is so short it hardly needs one. To my mind, a more complete set of instructions is required, especially for the beginner. I'll gloss over the typos.

With at least three other sequencers currently available at around the £50 mark,

Rave won't be an automatic budget choice (as it might have been at the beginning of '92). I wonder if TDM haven't cut down the program rather too much, and being a great believer in good manuals (if you choose not to read it, that's your problem), I did find Rave's rather thin.

However, one of the program's major attractions is the ability to upgrade it by adding extra modules such as score printing, score editing, and full Grid, Tracklist, Arrange, Process and Disk pages. Nevertheless, it's worth considering your future plans carefully for at between £20-40 per add-on, it could be cheaper going straight for Prodigy at £135 which, amongst other things, a nice fat explanatory manual. **Ian Waugh**

**Price Rave £39.99**  
**More from The Digital Muse, 82 Tachbrook Street, London SW1V 2NB.**  
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# SONGREP

SONGREP: Song Reporting Program

24 MAR 92

12:57

<b>SONG FILE ACTIONS</b>		<b>Output</b>	<b>FILE</b>	<b>Track Event Options :</b>	
S	Display Songs	Printer	ASCII	-----	
L	Display List	Page Size	66	TRACK LOOP	= N
D	Display Disks	Song Disk List	Y	P_USER	= Y
F	Song File Spec	Song File List	Y	NOTE OFF	= N
A	Add Song List	Global Instr	Y	NOTE ON	= N
X	Delete List	Notepad Text	Y	POLY PRESSURE	= N
<b>REPORTING ACTIONS</b>		Arrangement	Y	CONTROL CHANGE	= N
R	Run Report	Patterns/Tracks	Y	PROGRAM CHANGE	= Y
P	Pause Report	Drum Map	Y	CHANNEL PRESSURE	= N
<b>MISC ACTIONS</b>		Instruments	Y	PITCH WHEEL	= N
H	Display Help	Pattern Zero	Y	SYSTEM EXCLUSIVE	= N
C	Save Config	Empty Tracks	N		
		Hidden Tracks	N		
		Unnamed Tracks	N		
Q	Quit Program	Track Events	Y		

Unless you've got an eidetic memory or a miniscule song repertoire, you'll know the frustration caused by errant files and patterns – and the potential value of SongRep. Review by Vic Lennard.

**R**EMBER THAT GREAT drum riff you programmed last year? Now, where did I use it? Two hours and 137 song disks later you finally find it – you think. As for the creativity which you had at the start of the session...

How often has that happened to you? It happened once too often to Nigel Hooton of Computing Resource who decided to write a program which would sift through all of the information that his C-Lab Creator sequencing program uses in a song file and print it out in an orderly fashion for reference purposes. The result is the SongRep(ort) piece of software.

## OVERVIEW

BY SPECIFYING THE information that you wish to incorporate into a report either as a disk file or output to printer, SongRep will search through a C-Lab Creator (or Notator) song file and create a report. Most aspects of a file can be reported on and selections are made by moving through data fields onscreen.

SongRep uses a small start-up program in an Auto folder which checks the status of the system; if you're running from a hard drive, it logs the partitions along with the current version of TOS for the host computer. While the use of this program is not



essential, it forces you to type in the current date and time which will then reset the Atari's system clock. Any alterations to disk files from this point on will write the correct date and time to the file; a useful point when you start looking for files at some time in the future.

SongRep only uses one main screen which is split up into five main areas. The right-hand half of the screen is the Window Display box which shows information that you request – the list of songs, monitoring the report run and so on. And the 17 lines by 40 characters display makes it easy reading.

On the extreme left-hand side of the screen is the Action Field column from which you select what you want SongRep to do – display songs or disks, run the report and so on. You can also invoke Display Help which then brings up an onscreen help file (in the Window Display). The column next to this has the Option Fields from which you can designate what aspects of the song file will be reported and how it will be outputted (disk file or printer with the latter's characteristics).

At the foot of the screen are two lines. The upper of these, Edit Field, allows you to input and change names and numbers when required. For example, you would use this line to set the file path for the current disk (disk drive, folder and file name) or to select a pattern number. The bottom line of the screen is the Confirm Field where you answer Y(es) or N(o) to the various decisions that have to be made.

Now you're asking why I haven't mentioned the ST's mouse – that's because the mouse isn't used. Instead, all movements around screen involve the four cursor keys and the Tab key. While most programs use mouse-driven screens, a well-written, non-graphic program doesn't need them. The actual working of SongRep doesn't suffer through this lack of the rodent, and it benefits from the writer having carefully thought out the default Y/N values for option answers; moving around and selecting options is very swift as executed from the keyboard.

## SESSION WORK

IF YOU'RE RUNNING from a floppy disk drive, then the SysLog program in the Auto folder causes no

problems; you simply copy all of the contents of the SongRep disk to another floppy and use this as your working copy. If you're working with a hard drive, then there is a problem. By placing the SysLog program in an Auto folder on the hard drive, it is accessed every time, and the date settings it creates have to be saved to floppy – there is no option for saving to hard drive, and if you try to ignore its request for a floppy, the program crashes. Consequently, you're better off ignoring SysLog if your ST uses a hard drive.

All options have "hot keys"; From the Action Fields, S, L and D take you to Display Songs, List and Disks respectively. Trying to access any of these immediately after loading will give you an empty screen since you have to direct SongRep as to which disk (and folder on that disk) to look at to find C-Lab song files. Hitting the F key takes you to the Song File Spec option where you set the path in the form:

a:\folder\name.son

If you're working via hard drive or floppy disk B, then the letter for the disk drive needs to be changed. If you want to print a report on all songs in a particular location then you can use \*.son instead of name.son. It would be useful to get a standard File Selector up to search through for song files; by using a file path, you have to know exactly where your song files are kept. Once typed in, the right-hand window details all songs at that location. By then moving to A (or Add Song List), the disk that you accessed can be named and added to the internal list (the name of the disk is saved to the disk as a special file called SR-DISK), as can the songs you have detailed.

Once the songs which have to be reported on have been selected, you must decide which details you require the report content to hold. This takes you to the Option Fields where you can isolate the particular aspects that you need information on, the choices are as follows:

**Song File Data:** File name and size in bytes, date and time created and disk name.

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➤ **Song Global Data:** Tempo, time signature, time format and resolution.

**Notepad Text:** Up to 16 lines x 64 characters of text.

**Arrangement:** Arrange Mode and 16/32 patterns per mode (Global). ›Position, name, pattern name/number, upbeat, transpose (per entry).

**Pattern/Track Data:** Pattern number/name (per pattern). Track number/name, port, MIDI channel, filters, loop, transpose, ghost pattern/track, event data by type (per track).

**Drum Map:** The drum assignment for each MIDI note.

**Instruments:** MIDI channel name/number/port (per instrument).

List of program change numbers and track names used.

Additionally, you can print out lists of Song Disks and Song Files which have been included in the internal list and a Global Instrument Summary for all included songs. This is useful if you're listing all songs from an album and need to ensure that you have all the necessary MIDI equipment for the final mastering at a different studio.

There are a few other Y/N choices concerning pattern and track options:

**Pattern Zero:** Most people simply leave this as the default C-Lab end pattern. If this is the case, you would not want it printed out each time.

**Empty Tracks:** If you have merged data or simply trashed a track, it will still have a MIDI channel and port assigned to it. Again this would not be needed in a print out.

**Hidden Tracks:** You have the option of printing the information for these or not.

**Unnamed Tracks:** Similar comments as for Empty Tracks.

**Track Events:** If you have selected Pattern/Track Data, you can select which type of events are to be listed. For instance, you may simply choose note on/off events or even text events; C-Lab pseudo-user (P-User) events are also supported.

Finally, you have to select the type of output; file or printer. This is one area where SongRep is limited. If you select "printer", you then have the options of ASCII, Epson FX (nine-pin), Epson LQ (24-pin) or IBM ProPrinter – there's no mention of any inkjet, bubblejet or laser printers, although some of these may be able to emulate one of the four choices. Page size can be set as 66 lines (continuous printout) or 70 lines (A4 sheetfeed).

Having made all selections, and saved the configuration to disk to make life easier next time, Run Report sets SongRep into motion.

## PRINTING OUT

IF YOU CHOOSE to save the file to disk, SongRep keeps you informed of the current position in the file – an admirable attribute as the writing of the file to disk can take some time if you have included the printing of track events and the player was a manic pianist. The file I created from a single pattern with two such tracks of piano was 390 KBytes long.

Printing directly to a Hewlett Packard LaserJet III as ASCII left far too large a left-hand margin, which could not be adjusted. There's no option to set printer commands (which are stored in the preset SONG REP.PRT file) such as margins and character spacing and size, but the way around this is to save the file as an ASCII file to disk (which SongRep saves as a \*.TXT file), load it into a word processor and then print out from there. The character spacing needs to be set to Elite (78 characters per line).

The printout has been well arranged. It starts with a block giving info such as program version and serial number and follows this with the Selected Report Options which basically tell you what was selected for printout. This includes the selected patterns and which tracks were selected for those patterns. Next come the Song Disk and Song File lists followed by the individual song reports with the various chosen aspects.

The layout is in tabular form and easy to read, but there is one alteration that I would like to see made. The positions of MIDI events in tracks are given in bars, beats, 16ths and 768ths as in the C-Lab display, but while the display can be altered to show events in milliseconds, SongRep cannot. I would think that this is due to the fact that C-Lab data is always saved in terms of bars and beats and that SongRep is simply printing out the translation of that data.

Following on from this, a Sync Reference is created when Creator or Notator are locked via SMPTE and the Unitor box, and this reference gives the Song Start Time from which the MIDI events take their timing. It would also be useful to have a print out of MIDI events with their respective Sync Reference times; a friend of mine required this for a project where much of the mix information had been put in via text events.

## VERDICT

SONGREP IS A unique program and only came about through one person's frustration with a particular program – it certainly isn't the kind of program that the software manufacturer would have spent time on. However, it works well and is certainly one of the most stable programs I've seen in a while. It didn't crash once during the two months or so I used it. While the mouse-less user interface will not be to everyone's taste, it is perfectly functional and very fast to use. At £99 it may be a little pricey, but that depends on your point of view.

Now, who's going to write a similar program for Cubase? ■

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**CASIO HP2000**, with editable voices, and rhythm patterns, velocity sensitive kbd, £300. Or will swap or p/x for Korg DS8. Andy. Tel:(0532) 772543.

**CASIO VZ1**, immac cond, boxed with RAM/ROM cards, £250 ovno. Richard. Tel:(0536)746113.

**CHEETAH MS6** synth module, fat sounds, very good cond, £250 ono.

Paul. Tel:(0302) 538304.

**COMPLETE HOME MIDI** studio to go: M1R, D110, PR505, Microverb, Proverb 200, MX8 SR mixer, Cheetah 5E, Atari 1040 STFM with Pro 24 and voice editors, all in good cond. Neil. Tel:(0494) 443983.

**EMU EMULATOR 2** plus HD, 20 meg hard disk, 47 sendbacks, 2 x internal memory, manuals and immac cond, £1300. Don. Tel:031-441 3948, between 6-11pm.

**ENSONIQ SD1**, very good cond, 1 year old, home use only, boxed with manuals, £1500 ono. Tel: 051-924 3999.

**ENSONIQ SQ80** with cartridge, exc cond, £650 ovno. Jason. Tel:(0482) 648846.

**GEM WS2** kbd/workstation, £995 ovno, first come first served, immac cond. Mark. Tel:021-561 2339.

**GEN FX1000** rare analogue mono synth, £60; Casio CZ101 polysynth, £100. Nick. Tel:(0603) 713754.

**KAWAI K1**, RAM card, £220; Roland E110, £300. Both with editing software. Tel:(0782) 396766.

**KORG ANALOGUE**, model 3100, 8 note polyphonic with patchbay 4 octave kbd, very rare, £280; Yamaha SK10 analogue string machine, £130. Steve. Tel:081-868 9727, North West London.

**KORG M1**, almost new, £700; Kawai K1, £200; John. Tel:(0703) 555252. KORG M1, immac, boxed, manuals, stand, home use only, £795; Korg Poly 800, boxed, manual, £155. John. Tel:(0203) 418088.

**KORG S1** Workstation, absolutely immaculate, with f/case, plus Atari synth editor, plus hundreds of extra sounds, £775 ovno. John. Tel:(0253) 873716.

**KORG T3** piano module + 2 ROM

cards, boxed, mint, unrigged, £95. Mike. Tel:(0272) 633296.

**KURZWEIL K250** bass block plus sound block A, good cond, must sell, £1099. Tel:(0733) 894348.

**KURZWEIL K1000** 76 note kbd, includes fully fitted f/case. If the best is what you want this is it. £800. Tel:(0628) 2826.

**MOOG ROGUE**, boxed with manual, immac, with MIDI/CV converter, complete with S trigger + CV date cables, home studio use only, £145. Ian. Tel:(0308) 25819.

**OSCAR SYNTH COMP**, Oscar MIDI synth, £250 ono; Casio Caesar 1000, £75 ono; Boss DR220E, £65 ono; Boss Sampling delay RSD10, £100 ovno; Matal Sinsonic drums, £25 ono. Graham. Tel:(0302) 739511, Doncaster area.

**ROLAND A80** master kbd, very versatile, 880 piano action kbd with full f/case, 6 mths old, £800 for quick sale. Tel:(0942) 323127.

**ROLAND D5**, as new, complete with manuals, £310 ovno. Tel:(0873) 830904.

**ROLAND D5**, exc cond, home use only, 2 MIDI leads, manuals, £275; Casio CT660, mint cond, £150 ono. Tel:(0628) 471047, anytime.

**ROLAND D10**, £300; Yamaha QX5, £130. Yamaha MT2X, £250. All in exc cond. Mark. Tel:(0747) 54406.

**ROLAND D10**, home use only, as new, £350 ovno. John. Tel:(0252) 523975.

**ROLAND D10** with f/case and manuals, £425; Yamaha TQ5, £145. Tel:(0209) 216088.

**ROLAND D50**, exc cond, manuals, pedal, RAM cards, £550 ovno. Fredrick. Tel:041-353 3731.

**ROLAND D50**, full f/case, 5 Roland drums, boxed, manuals, mint cond,

£600. May swap for Korg DH3 organ; Roland D70, superb buy, mega sound, full f/case, boxed, manuals, guaranteed, mint cond, £950. Tel:031-441 3948, 6pm-11pm.

**ROLAND D50**, very good cond, home use only, as new, £550 ovno. Ken. Tel:(0482) 27648.

**ROLAND D70**, £1150 ovno; Yamaha DX5, £700 ovno. Steve. Tel:061-226 0147. Manchester.

**ROLAND D110** with Steinberg editor, £300; Akai ME25S 1U rack to turn MIDI kbd into master, £60; Outer MT55 master kbd with extras, £300. Gordon. Tel:091-271 6403.

**ROLAND JUNO 60**, exc cond, £295; Alesis SR16 d/machine, £185. Martin. Tel:(05242) 41619, eves.

**ROLAND JUNO 60** with MIDI retro fit case and manual, £350. Tel:(0353) 661425 or (0832) 734017, eves.

**ROLAND JUPITER 6**, very good cond. Tel:(0527) 401388.

**ROLAND JX80**, good cond, with 2 RAM cards, £295. Dave. Tel:(0274) 616107.

**ROLAND MT32**, exc cond, £210 ovno. Tel:(0483) 505314.

**ROLAND MT32** multitimbral sense module with manual and psu, £200; Roland D110, 8 part multitimbral rack mount LA synth £250; Yamaha DX7 synth with f/case, 2 ROMS, £400. Tel:(0295) 257062.

**ROLAND MT100** multitimbral sound module and sequencer, boxed, manuals, application books plus disks and Atari bass sounds, £350. Paul. Tel:(0536) 761014.

**ROLAND P330** piano module, much sought after, boxed, with manual, £450. Tel:(0353) 661425 or (0832) 734017, eves.

**ROLAND SH101** with convertor, £170; TR505 d/machine, £90; SD10



sampling delay, £70; Korg DRV 1000 reverb, £100. Duncan. Tel:(0661) 843053, Northumberland area.

**ROLAND U20** R5CCN multitimbral kbd, as new, boxed, £500 ono. Tel:(0273) 410909.

**RUBEN 101** with f/case, £120. Tel:091-263 5135.

**TECHNICS PX7** digital piano with 88 weighted keys, MIDI compatible and 2-track sequencer, £675 ovno; Yamaha DX27, £200. Ron. Tel:(0272) 86171 ext. 3540.

**YAMAHA DX5**, 76 note bi-timbral synth, 32-note polyphony, semi weighted action, RAM and ROM cartridges, very good cond, £650 ovno; Yamaha DX1, classic synth, 73 note wooden piano action kbd, LED matrix, bi-timbral, 32 note polyphony, immac, cost £10,000. Selling for £1250 ovno; Roland U110 sample playback module with soundcards, £290 ovno. Guy. Tel:(0276) 21647.

**YAMAHA DX7**, pristine cond, never giggered, £1000+, sounds on ROM & RAM cards, incl stand + f/case; Roland sustain + vol pedals, h/phones + manuals, £550. John. Tel:081-802 5960.

**YAMAHA DX11** synth, £220; Roland CM32P sample player with orchestral strings card and ST software, £200. Both in mint cond and boxed. Brian. Tel:(0752) 550199.

**YAMAHA DX27**, 216 onboard sounds, 800 classic basic set sounds, breath controller and manuals, £180 for quick sale. Pete. Tel:061-477 9687.

**YAMAHA DX27**, boxed with manuals, £180; Yamaha FB01 module, boxed with manuals, £90; Casio FZ1, offers. JSH echo unit, £20. Gary. Tel:(0296) 29766.

**YAHAMA EMT10** expander, home use only, £125. Robert. Tel:(0726) 64809. Cornwall area.

**YAMAHA FB01 FM** multitimbral expander, 240 preset sounds, incl some great rave/dance basses, immac cond, manual, £100 ovno. Tel:(0384) 410853.

**YAMAHA FE01** 8 voice multitimbral synth, exc cond, any reasonable offer accepted. Pete. Tel:(0337) 31172.

**YAMAHA HS4**, great unit to play, very good cond, £900 ono. Tel:(0386) 765402.

**YAMAHA PSF280** kbd, 5050 voice combinations plus drum patterns, ideal for beginner, exc cond, boxed with psu, £45. Tel:021-382 7944.

**YAMAHA PSR3500** MIDI kbd, built-in sequencer rollbar modulation, custom drummer, very impressive looking, 5 octave kbd with manuals, £275. Tel:(061) 973 2114.

**YAMAHA SY77**, £995; Yamaha MS100 speakers and A100 amp, £300. Total £1295, exc cond. Tel:(0733) 252629.

**YAMAHA TG55** with SY77 impressions pad, exc cond, £450; Proverb effects machine, in good working order, £160. Tel:(0722) 326057.

**YAMAHA TG67** plus sounds on disks, immac, as new, bargain, £750; Korg M1 + case, vgc, £775. Alex. Tel:(0926) 337438.

**YAMAHA TG77**, incl sounds on card and Atari disk, £750; Korg Wavestation with 2 RAM cards of sounds, £775. Both as new, boxed with manuals. Colin. Tel:081-878 051.

**YAMAHA TX802**, £450 ovno. Or swap for Roland D50 in similar cond. David. Tel:(0606) 77823.

**YAMAHA TX802**, perfect cond, £550 ovno. Chris. Tel:081-748 4631.

**YAMAHA YS100** synthesizer, good cond, FM synth with 8-note multitimbral, good for any beginner, £200. Tel:081-597 4845.

**YAMAHA YS200** for operator SM synth, only ltd number made, good cond, with manual, £250. Martin. Tel:(0865) 863718.

**YAMAHA YS200** kbd, 200 programmable sounds, built in effects, and 8-track sequencer, £300; Evolution EVS1 module, 16 note poly, plus sample drums, £180; Yamaha RX7 d/machine, 100 programmable sounds, £180. Talk TK50 kbd amp, £90. All in exc cond, boxed with manuals. Tel:(0794) 68328.

## SAMPLING

**650 MEGABYTE** SCSI hard drive, black case, rackmounted with quality power supply, fast and reliable with library, ideal for S750 sampler or similar, £600 ono. Tel:(0753) 575506 after 6.30pm.

**AKAI 612** plus MV280 d/drive plus disks, £280 ovno. Or swap for Akai X7000 kbd with cash adjustment. Sean. Tel:051-521 5213.

**AKAI S100**, as new, V2 software, £675. Tel:081-642 7884.

**AKAI S950**, small library, mint cond, £825. Tel:(0942) 620363.

**AKAI S1000** sampler, brand new, home use only, plus 5 sample CD, exc machine, £1950 ono. Tel:(0977) 601692, anytime.

**AKAI S1000-S1100**, sonic images, CD ROM volume 2 stack sound, £250 ono. Chris. Tel:081-748 4631.

**AKAI X7000** with memory expansion and disks, exc cond, boxed, £450 ovno. Tel:(0483) 505314.

**AKAI X7000**. Will swap for S700 or sell for £350. Steve. Tel:(0733) 241516.

**BOSS RSD10** sampler delay unit, psu, very good cond, £150. Wayne. Tel:(0253) 873606.

**CHEETAH SX16** 16 bit sampler, 48 kHz sampling, 1/2 Megabyte on memory, boxed, as new, will deliver within limits, cost £800. Sell for £350 ovno. Tel:(0695) 23741.

**ENSONIQ EPS**, 4 x memory expansion, featuring 31 seconds sampling time at 32 kHz, or 23 sec at 44 kHz and independent A2000 note 16-track sequencer, exc sample workstation in exc working cond, as new, with manuals, £1000. No offers. Shaun. Tel:(0277) 722369.

**ENSONIQ ESQ1** music workstation, 16-track sequencer, 24 bit effects, £700; Alesis SR-16 d/machine, £200; Akai S612 sampler and disc drive, £200; Akai S1000, 2 megabyte memory expansion board, £100. Or £1050 the lot. All boxed and in immac cond. Tel:081-500 5287, eves.

**ENSONIQ MIRAGE** rack unit, vgc, full library, never giggered, £400 ovno. Mike. Tel:(03779) 31172.

**ENSONIQ MIRAGE** sampler/kbd plus library and full f/case, £450. Tel:(0295) 257062, eves.

**KORG DS8** digital synth, £400. Or swap for Kawai K1 MkII; Korg DD5 d/machine with 6 RAM cards, including orchestral hits, sound effects, rock drums and bass guitar, £200. Or swap for Roland R5. Daniel. Tel:(0889) 583347.

**KORG DSS1** with sound discs and manual, hardly used, still boxed, £695. David. Tel:(0223) 893668, Cams area.

**KORG VOCODA** VC10 with manual and microphone, £150. Tel:(0223) 276311, Cams area.

**ROLAND DD30** music workstation, good cond, £999. Paul. Tel:(0302) 538304.

**ROLAND W30** sampling kbd, 25 disks, never giggered, immac cond, £925. Dave. Tel:(0299) 404197.

**SAMPLE CDs** and tapes for swapping for other sample CDs etc, or sale. Tel:071-511 1120.

**SEQUENTIAL CIRCUITS** Prophet 2000, f/case, 50 disks, £300. Mike. Tel:(0252) 23036.

**YAMAHA TX16W**, 4.5 megs with large library of sound, good cond, £700 ono. Jason, Tel:(0252) 725272.

## SEQUENCERS

**ALESIS MMT8** hosted by Atari, boxed etc, 6 mths guarantee, £150. Tel:(0308) 25819.

**ALESIS MMT8** sequencer, psu and manual, £140, Tel:(0295) 257062, eves.

**ALESIS MMT8** sequencer, psu, manual, boxed, £85. Terry. Tel:(0270) 666615.

**ALESIS MMT8** sequencer, boxed with manuals, £130. Oily. Tel:(0602) 482889.

**ALESIS MMT8**, boxed, mint, home use only £125. Mike, Tel:(0702) 633296.

**ALESIS MMT8**, good cond with psu and manual, £130. Mark. Tel:(0772) 722722, days.

**ATARI 1040** plus Atari monitor, £350. John. Tel:(0453) 826129.

**ROLAND MC202** micro composer, good cond, boxed, manuals, £80. Tel:021-453 3606.

**ROLAND MT100**, multitimbral, fine module and sequencer, 128 sounds plus drums and reverb complete with manuals, sound list and psu, £300. Tel:021-382 7944.

**STEINBERG PRO 24** sequencer, original with manual, £35. Tel:(0223) 212226.

**YAMAHA EMQ1** data disk, 3 boxes of disks, £100. Charles, Tel: Coventry 663716.

**YAMAHA Q110** workstation, take it anywhere, less than 1 year old, hardly used, psu and Atari ST Librarian, only £180. Martin. Tel:(0274) 564301.

**YAMAHA QX21**, £110. Tel:081-642 7884.

**YAMAHA QX5FD** 8-track, 32 macro-track digital MIDI sequencer, built in 3.5" d/drive, vast editing facilities, sing to tape etc, boxed, £250. Tel:(0384) 410853.

**YAMAHA QY10** pocket sequencer

workstation, boxed, under guarantee, hardly used with utility disk and extras, £200. Tel:071-435 5143, eves or 071-490 7024, days.

## DRUMS

**AKAI MTC60** d/machine, f/case, £1200 ovno. Tel:031-225 1198.

**ALESIS 16:22**, brilliant mixer, as good as Mackie, £475. Tel:081-642 7884.

**ALESIS HR16** d/machine, boxed, as new, £240. Graham. Tel:(0202) 397697.

**ALESIS HR16** d/machine with manual and psu, £40 ono. Tel:(0507) 606956.

**ALESIS HR16** digital MIDI d/machine, with adaptor, manual, immac cond, £175 ono. Tel:(0384) 410853.

**ALESIS HR16**, boxed, mint cond, home use only, £160. Mike, Tel:(0272) 633296.

**BOSS DR550** Dr Rhythm d/machine equipped with PCM sound source that provides 16-bit dynamic range with 48 different sorts of high quality sounds, £110 ovno. Andy. Tel:(0582) 487003.

**DRAWMER AX20** dual gate & compressor & manual, £135; XRI Systems, XR300 Symphony code synchroniser + manual, £150; Roland R3 delay and radar unit + manual. Martin. Tel:031-226 2369.

**PEARL 100** 4-track workstation, very good cond, £120. Wayne. Tel:(0253) 8735606.

**ROLAND PR505** digital d/machine, 16 sampled sounds, mint cond, boxed, £80 ovno. Pete. Tel:081-342 0078, eves. (0268) 702490, days.

**ROLAND R5** d/machine, 1 year old, £250 ovno. Barry. Tel:091-262 4007.

**ROLAND R5** d/machine, mint cond, boxed with manuals, £220. Steve. Tel:(0705) 817577.

**ROLAND R8** d/machine with electronic and ethnic percussion cards, £400, no offers. Tel:(0227) 722369.

**ROLAND R5** d/machine, 1 year old, £250 ovno. Barry. Tel:091-262 4007.

**ROLAND R5** d/machine, mint cond, boxed with manuals, £220. Steve. Tel:(0705) 817577.

**ROLAND R8**, boxed with manuals, exc cond, as new, with ethnic percussion card and 808 card, £360, no offers. Sean. Tel:(0227) 722369.

**ROLAND R8** d/machine with

electronic and ethnic percussion cards, £400, no offers. Tel:(0227) 722369.

**ROLAND TR505** rhythm composer, exc cond, boxed, £95. Pete. Tel: 061-477 9687.

**ROLAND TR606**, drumatics, exc hip hop/house d/machine. Simon. Tel:(0209) 714258.

**ROLAND TR707** d/machine, perfect cond with manuals, £140. Jay. Tel:081-785 2440.

**ROLAND TR606**, drumatics, exc hip hop/house d/machine. Simon. Tel:(0209) 714258.

**ROLAND TR707** d/machine, perfect cond with manuals, £140. Jay. Tel:081-785 2440.

**ROLAND TR808**, exc cond. Alesis SR16, boxed with manuals, mint cond. Will swap for Roland TR909 d/machine, must be in mint cond. John. Tel:031-443 8543.

**ROLAND R70** human composer, boxed, manual, only two weeks old, immac cond, 209 amazing sounds, TR808, TR909. Cost £500, £300 to you! Colin. Tel:(0203) 412977.

**ROLAND TR626**, exc cond, boxed, with manuals, £160. Gary. Tel:061-422 5516.

**ROLAND TR808** d/machine, good cond with manuals, £250. Tel:(0742) 424381, anytime.

**YAMAHA RX5** d/machine, 72 great sounds, 12 separate outs in readable editing features, and full MIDI specification, the absolute best, £220 ovno; SY22 Victor synth, £350 ovno. Michael. Tel:081-291 2039.

**YAMAHA RX21** d/machine with manuals, £90 ovno. Julian. Tel:(0484) 540190, eves.

## RECORDING

**ACES B18** 16:2 in-line console, 3 band parametrics, and patchbay, £595 ovno; D110, £250; Atari with C-lab, £400; Vestafire Midi to CV, £50; Tascam 8-track, £850. Teac noise reduction, 8-channel, £200. Tel:(0634) 379242.

**FOSTEX 160** professional 4-track recorder, many impressive features and in exc cond, boxed, as new, £240 ovno. Michael. Tel:081-291 2039.

**FOSTEX 280** multi-tracker, exc cond, recently serviced, brand new heads, £495 ovno; Alesis Microverb II, exc cond, £75; 3-tier aluminium kbd

stand, £85; Mic lead, as new, £8. Write to: Mr S. Leadson, 18 Central Avenue, Eccleston Park, Prescot, Merseyside, Liverpool, L34.

**FOSTEX A8** 8-track reel-to-reel with remote; Allen and Heath 16:8:2 mixing desk, 8 auxiliary sends; Sony DT55ES DAT machine with remote control, as new, still boxed; 300 watt stereo power amp; A pair of Boss CL50 compressor limiters; Yamaha FX500 multi effects unit, leads and various other items. Please phone for prices. Barry. Tel:091-262 4007.

**FOSTEX X15** plus MM15 mixer/comp + mics, boxed, mint cond, home use only, £150. Mike. Tel:(0702) 633296.

**REEL TO REEL** tape, 7" spools available, majority used once, £1 each. Douglas. Tel:081-807 5483, London area.

**SOUNDTRACKS** PC MIDI 16-channel desk. George. Tel:081-444 8599.

**STUDIOMASTER** Proline, 16:8:16:2 with MIDI muting, cost about £850; Tascam TSR8 8-track tape machine, as new, £1400. Tel:(0453) 826129.

**TANNOY DTM-8** studio monitors, unused, £325 ovno; Roland PAD-5, £90 ovno; Korg SE6 foot controller, £100 ovno. Pete. Tel:(0503) 220 762.

**TASCAM 2A62** mixer, meter bridge, £130. Robert. Tel:(0726) 64809.

**TASCAM 388** recording studio with reel answer in combined unit, £1350; Yamaha QX7 sequencer, £60; Akai S612 sampler and d/drive, £250; Roland TR707 d/machine, £130. Lee. Tel:(0532) 646151.

**TASCAM M30** mixer, 8:4:2, as new, £269. Tel:(0473) 254150.

**TASCAM MF4-24**, mint cond, hardly used, £5000 ovno. Suzanne. Tel:(0803) 557856.

**YAMAHA MT44** 4-track porta studio, exc cond with patchbay, cassette storage, Dolby C, £120 ono. Tel:021-449 7938, eves and w/e only.

## AMPS

**LANEY** Session 40 bassman, good cond. Josh. Tel:(0777) 228277, anytime.

**PEAVEY** Renound guitar amp, 120 watts, twin input, reverb, parametric EQ, foot switch, never been gigged, £20 for quick sale. Pete. Tel:(0708) 474740.

**PEAVEY TB100** with full f/case £200. Tel:(0295) 257062, eves.

**ROLAND CUBE 40** kbd amp, very compact, exc cond, £95. Chris. Tel:(0707) 54771.

## PERSONNEL

**BAND LOOKING** for manager/promotor. Tel:(0533) 870698.

**FEMALE VOCALIST** needed for pop dance act with home studio and record deal. Gary. Tel:(0705) 872128.

**FEMALE VOCALIST** with kbd skills required by Bristol based Techno duo with label interest to produce kickin' rave songs. Jim. Tel:(0272) 557091.

**HOUSE & JACK MASTERS**. Send your cassettes in if you want a track to be released to:ROR Ltd, Seventh floor, 15 Hanover Sq, London, W1.

**KEYBOARD PLAYER** wanted, MIDI sampler orientated, Glasgow area, no imposters. Blair. Tel:041-882-2240 after 6pm.

**KEYBOARDIST** required to join Hull based techno outfit, must have own equipment, no toys please. Mark. Tel:(0964) 622638, anytime.

**KEYBOARDIST** required urgently for sleek indie pop band. Must be creative and committed. Enthusiasm compulsory. Experience a bonus. North London/Herts area. Live work soon! Colin. Tel:(0992) 461368, eves.

**PERSON FOR STUDIO** wanted, must have equipment, songwriting experience and be self motivated. Ruel. Tel:(0203) 503072.

**SESSION GUITARIST** available. Styles include blues, rock, metal. Own gear. Paul. Tel:(0427) 510310 ext 221. Midlands area.

**SYNTH PLAYER**, 22, big Vince Clark fan, Soft Cell, OMD, Pet Shop Boys, seeks one synth player male/female aged 18-24, gigs to be arranged, consider moving to area if partnership looks promising. Alan. Tel:051-677 8696.

**VOCALIST** needed to collaborate with kbd player with record deal to work on garage tracks, male or female. Mark. Tel:(0733) 66973.

## MISC

**19" EQUIPMENT RACKS**, one 18U on wheels, one 18U front, one 0U slope top, £40 each; 2 sound cards for Kawai K1, loaded with great sounds, £15 each; Yamaha CS01 analogue mono seat, £50; Simmons SDS8 blane + 2



pads, £70 each. Rob. Tel:(0223) 872326.

**ACOUSTIC PIANO**, upright, one careful owner, beautiful condition throughout, moving home forces reluctant sale, offers welcome. Alison. Tel:(0403) 271889.

**AKAI 7000** plus disk, psu and manual, good cond, £375; Roland SH101, with dust cover, psu and manuals, very good cond, £100; Atari SM124 monitor and Atari 520ST, single sided d/drive plus manuals and software etc, good cond, £325; Dynamix Series III mixer, 10-channel, plus 2 stereo-effect channels, nice sound, very robust, as new, £200; 3 tier "A" frames, £75; 2-tier "X" stands, £20; 1-tier "X" stand, £5. All new. Gary. Tel:(0277) 218217, after 5pm.

**AKAI R50E** d/machine, mint cond, boxed, manual, £100. Or swap R50E and £20 for Bose ER550. Graham. Tel:041-632 2713.

**AMEGA 1.0** megabyte, external floppy, monitor, perfect sounds, Sequencer 1, complete package, cost £800. Sell for £500 ovno. Chris. Tel:(0707) 54771.

**ATARI 1040 STE** with monitor plus C-Lab creator, £400. Kevin. Tel:(0438) 35209.

**ATARI 1040 STF** with modulator upgrade and FM124 monitor, boxed, manuals, vgc, £299 ovno; Band In A Box V4, boxed with 5 disks and manual, £50 ovno; Sound Source D20 disks, 2 of, £10 each. John. Tel:(0483) 32802.

**ATARI 1040 STFM**, second drive, loads of software including sequencer 1, £250. Tel:(0223) 276311, Cambs area.

**ATARI 1040ST** plus monitor plus creator software all in immac cond and boxed, £500. Andy. Tel:(0923) 670566.

**BOSS ME5** guitar multi-effects processor, exc cond, £230 ovno. Chris. Tel:081-748 4631.

**BOSS, ROLAND EE-5** guitar effects unit, chorus, delay, distortion and

compression, immac cond, £110. Steve. Tel:(0895) 441513, Middlesex area.

**C-LAB CREATOR** version 3.1, dongle, manual, £130. Dave. Tel:(0639) 845768.

**COMMODORE AMIGA**, 1 Meg upgrade, seq 1, KCS, sampler, Zero G datafile samples, word processing and games software, perfect cond. Reza. Tel:081-471 0855.

**D10 FLIGHTCASE**, offers welcome. Glenn. Tel:(0329) 663238.

**DOCTOR T** copyist/apprentice score writing software for Atari ST, £39. Roy. Tel:071-831 0901.

**DOCTOR T'S** KCS, version 3.5 for Amiga 500, unused, £90. James. Tel:(0978) 351230.

**DOES ANYONE** out there like The Cocteau Twins? I'm selling a limited edition CD box set, brand new and unused, genuine reason for sale, £60 ovno. Tel:(0908) 669648.

**FLIGHTCASE**, suits kbd or DJ, new cond, only £85. Wayne. Tel:(0253) 873606.

**KORG M1** librarian/editor with 3000 sounds on Atari disks, £30. Tel:(0223) 212226.

**KORG M1** librarian/editor, with 3000 sounds for Atari. Tel:(0223) 212226.

**MACINTOSH SE 240** system, seven MIDI interfaces, Passport software. Will swap for Atari Stacey or sell for £695. Tel:(0532) 400621/700858.

**MAIN FRAME "A FRAME"** 3-tier stand, home use only. Mike. Tel:(0272) 633296.

**MAINFRAME**, 3-tier kbd stand, absolutely exc cond, £75; Altimate keyboard/computer workstation stand, £65. Tony. Tel:(0702) 219723.

**MIDI FILE FORMAT**, spot famous songs, any format, Amiga, inc Music X ST, TC no high density disks. Tel:051-521 2013.

**MUSIC AXE** software, manual and interface for Amiga, £70. Tel:(0602) 259869.

**MUSIC PRINTER PLUS** score writing and MIDI performance software for PC with Voyetra OP 4000 MIDI interface, £250. Tel:(0983) 294517.

**MUSICMAN** Silhouette guitar, translucent cherry red, with white scratch plate, 3 single coil pickups, none tremolo version, incl case, £450 ono. Tel:(0628) 28626.

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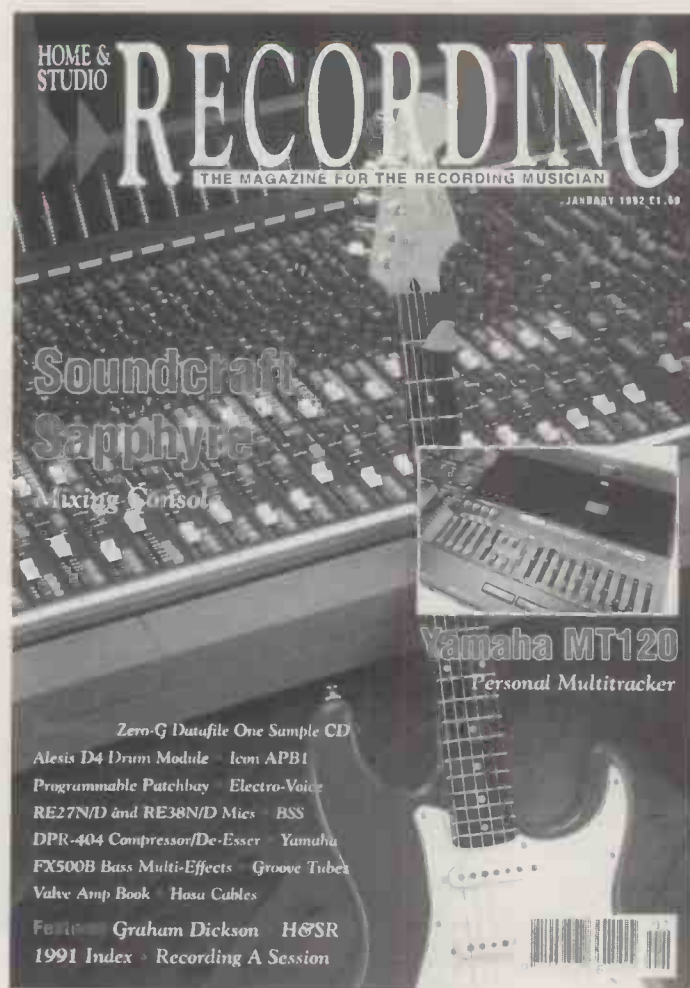
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